Attachment 4

RESPONSE TO COMMENTS DOCUMENT AND FINAL ENVIRONMENTAL IMPACT REPORT

GILMAN GATEWAY REZONE PROJECT

BERKELEY, CALIFORNIA

SCH# 2022120549

LSA

March 2025

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GILMAN GATEWAY REZONE PROJECT

BERKELEY, CALIFORNIA

SCH# 2022120549

Submitted to:

City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, California 94704

Prepared by:

LSA
157 Park Place
Pt. Richmond, California 94801
510.236.6810

Project No. CBE1906.09

March 2025

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/m^3	micrograms per cubic meter
AAA	All Ages and Abilities
AB	Assembly Bill
AUP	Administrative Use Permit
CTC	County Transportation Commission
BAAQMD	Bay Area Air Quality Management District
BMC	Berkeley Municipal Code
BMPs	best management practices
CPUC	California Public Utilities Commission
California Register	California Register of Historical Resources
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
City	City of Berkeley
CMP	Congestion Management Program
conceptual development project	Potential Berkeley Forge Development
COA	Condition of Approval
DOT	Department of Transportation
DRC	Design Review Committee
DTSC	Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
EHD	Environmental Health Division

EV	electric vehicle
GHG	greenhouse gas
HRA	Health Risk Assessment
HRE	Historical Resources Evaluation
LOS	level of service
LCI	Land Use and Climate Innovation
LID	Low Impact Design
M	Manufacturing
M-RD	Manufacturing - Research and Development
MRP	Municipal Regional Stormwater Permit
National Register	National Register of Historic Places
NOP	Notice of Preparation
NOA	Notice of Availability
NWIC	Northwest Information Center
OSHA	U.S. Department of Labor Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
proposed project	Gilman Gateway Rezone Project
Proposed TDM Plan	Transportation Demand Management Plan for the Gilman Gateway Rezone Project
R&D	research and development
RCRA	Resource Conservation and Recovery Act
RTC Document	Response to Comments Document
SB	Senate Bill
TAC	toxic air contaminant
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
UP	Use Permit
USA North 811	Underground Service Alert
VMS	vapor intrusion mitigation system
VMT	vehicle miles traveled

VOC	volatile organic compound
WSA	Water Supply Assessment

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1.0 INTRODUCTION

1.1 PURPOSE OF THE RESPONSE TO COMMENTS DOCUMENT

This document has been prepared to respond to comments received on the Draft Environmental Impact Report (EIR) prepared for the proposed Gilman Gateway Rezone Project (herein referenced as the "proposed project"), and a conceptual project (herein referred to as the "Potential Berkeley Forge Development" or "conceptual development project"). The Draft EIR identifies the likely environmental consequences associated with development of the proposed project and conceptual development project and recommends mitigation measures to reduce potentially significant impacts. This Response to Comments Document (RTC Document) provides responses to comments on the Draft EIR and makes revisions to the Draft EIR, as necessary, resulting from those comments or to clarify material in the Draft EIR. This document, together with the Draft EIR, constitutes the Final EIR for the project.

1.2 ENVIRONMENTAL REVIEW PROCESS

According to the California Environmental Quality Act (CEQA), lead agencies are required to consult with public agencies having jurisdiction over a proposed project and to provide the general public with an opportunity to comment on the Draft EIR.

On December 21, 2022, the City of Berkeley (City) circulated a Notice of Preparation (NOP) notifying responsible agencies and interested parties that an EIR would be prepared for the proposed project and indicated the environmental topics anticipated to be addressed in the EIR. The NOP was mailed to public agencies, organizations, and individuals likely to be interested in the potential impacts of the proposed project. The NOP was also submitted to the State of California Governor's Office of Land Use and Climate Innovation State Clearinghouse, formerly known as the Office of Planning and Research, the State's repository for distribution of environmental documents. Scoping sessions were held as public hearings before the Berkeley Planning Commission on February 1, 2023, and the Landmarks Preservation Commission on February 2, 2023, to solicit feedback regarding the scope and content of the EIR. Verbal comments received during the scoping session from the Planning Commission, Landmarks Preservation Commission, members of the public attending commission meetings, and the three written comment letters provided by agencies and organizations on the NOP were considered during preparation of the EIR. Copies of the NOP, the comment letters, and a summary of the verbal comments received are included in Appendix A of the Draft EIR.

The Draft EIR was made available for public review on October 21, 2024, and was distributed to local and State responsible and trustee agencies. The Notice of Availability (NOA) for the Draft EIR was provided to all individuals and organizations who made a written request for notice and was filed with the Alameda County Clerk-Recorder's Office.

The NOA stated that the review period would take place over a duration of 45 days, as mandated by CEQA and specified that the review period would close on December 5, 2024. The City held a public hearing on the Draft EIR with the Planning Commission on November 6, 2024 and the project was presented to the Landmarks Preservation Commission on November 7, 2024. The City received a total of five comment letters from State and local agencies, organizations, and individuals during the

comment period. Copies of all written comments received during the comment period and transcripts of the verbal comments received at the public hearings are included in Appendices A through C of this document.

1.3 DOCUMENT ORGANIZATION

This RTC Document consists of the following chapters:

- **Chapter 1.0: Introduction**. This chapter discusses the purpose and organization of this RTC Document and the Final EIR, and summarizes the environmental review process for the project.

- **Chapter 2.0: List of Commenters**. This chapter contains a list of agencies, organizations, and individuals who submitted written comments during the public review period or provided verbal comments at the public hearings on the Draft EIR.

- **Chapter 3.0: Comments and Responses**. This chapter presents written responses for each CEQA related comment received during the public review period. Each response is keyed to the corresponding comments included in the appendices.

- **Chapter 4.0: Draft EIR Text Revisions**. This chapter contains corrections and edits to the Draft EIR that are necessary in light of the comments received and responses provided or are necessary to amplify or clarify material in the Draft EIR. Double underlined text represents language that has been added to the Draft EIR; text with ~~strikeout~~ has been deleted from the Draft EIR.

- **Appendices**. Appendix A includes verbal comments given at the Planning Commission hearing on November 6, 2024, Appendix B includes verbal comments given at the Landmarks Preservation Commission hearing on November 7, 2024, and Appendix C includes all written comments submitted on the Draft EIR.

2.0 LIST OF COMMENTERS

This chapter presents a list of comment letters received during the public review period and describes the organization of the letters and comments that are addressed in this document.

2.1 ORGANIZATION OF COMMENT LETTERS AND RESPONSES

This section lists all public agencies, organizations, and individuals who submitted comments on the Draft Environmental Impact Report (EIR), including those that provided verbal comments at the public hearings held on November 6, and 7, 2024.

Table 2.A lists the names of the commenters, along with the corresponding commenter codes used in Chapter 3.0, Comments and Responses, to denote each set of comments received by category and the date they were received by the City of Berkeley. Verbal comments given at the Planning Commission hearing on November 6, 2024, are included in Appendix A, and verbal comments given at the Landmarks Preservation Commission hearing on November 7, 2024, are included in Appendix B. All written comments submitted on the Draft EIR are included in Appendix C.

- Comments from public agencies are designated by “A-“ and the agency's name or acronym.
- Comments from organizations are designated by “O-“ and number.
- Comments from individuals are designated by “I-“ and number.

Table 2.A: Persons Commenting on the Draft EIR

Comment Letter Code	Name and Title of Commenter	Commenter Affiliation	Comment Format	Comment Date
Public Agencies				
A-GHOSH	Vice Chair Ghosh	Planning Commission	Transcript	November 6, 2024
A-MONT	Chair Montgomery	Landmarks Preservation Commission	Transcript	November 7, 2024
A-FIN	Vice Chair Finacom	Landmarks Preservation Commission	Transcript	November 7, 2024
A-ORB	Commissioner Orbuch	Landmarks Preservation Commission	Transcript	November 7, 2024
A-EBMUD	David J. Rehnstrom, Manager of Water Distribution Planning	East Bay Municipal Utility District (EBMUD)	Letter	December 2, 2024
A-CTC	Colin Dentel-Post, Principal Transportation Planner	Alameda County Transportation Commission (CTC)	Letter	December 4, 2024
A-Caltrans	Yunsheng Luo, Branch Chief, Local Development Review, Office of Regional and Community Planning	California Department of Transportation (Caltrans) District 4	Letter	December 5, 2024
Organizations				
O-1	Allan C. Moore	Law Office of Allan Moore, A.P.C.	Letter	December 2, 2024

Table 2.A: Persons Commenting on the Draft EIR

Comment Letter Code	Name and Title of Commenter	Commenter Affiliation	Comment Format	Comment Date
Individuals				
I-1	Public Speaker 1	–	Transcript	November 6, 2024
I-2	Public Speaker 2	–	Transcript	November 6, 2024
I-3	Public Speaker 3	–	Transcript	November 6, 2024
I-4	Allan Moore	–	Transcript	November 6, 2024
I-5	Scott Robinson	–	Transcript	November 6, 2024
I-6	Tim Southwick	–	Transcript	November 6, 2024
I-7	Jai Jai Noire	–	Letter	December 5, 2024

3.0 COMMENTS AND RESPONSES

3.1 INTRODUCTION

Pursuant to Public Resources Code (PRC) Section 21091(d) and *State CEQA Guidelines* Section 15088, a Lead Agency is required to evaluate comments received during the noticed comment period and prepare a written response for each comment relating to any significant environmental issues raised in the Draft Environmental Impact Report (EIR). This chapter provides written responses to the comment letters received on the Draft EIR during the public review and comment period. Verbal comments given at the Planning Commission hearing on November 6, 2024, are included in Appendix A and verbal comments given at the Landmarks Preservation Commission hearing on November 7, 2024, are included in Appendix B. All written comments submitted on the Draft EIR are included in Appendix C. The comments and responses are organized by subject and generally appear in the same order as presented in the Draft EIR. Table 3.A shows the order of the comments and responses in this chapter, along with the corresponding section number, the prefix to the topic code, and the page numbers of this chapter on which the comments and responses begin.

Table 3.A: Comment Organization

Section	Topic	Topic Code	Page No.
3.2	EIR Organization and Content	EIR	3-2
3.3	Project Description	PROJ	3-8
3.4	Cultural Resources	CUL	3-9
3.5	Transportation	TRA	3-13
3.6	Air Quality	AIR	3-16
3.7	Greenhouse Gas Emissions	GHG	3-19
3.8	Hazardous Materials	HAZ	3-20
3.9	Hydrology and Water Quality	HYD	3-23
3.10	Biological Resources	BIO	3-24
3.11	Geology and Soils	GEO	3-24
3.12	Population and Housing	POP	3-25
3.13	Utilities and Service Systems	UTL	3-27
3.14	Alternatives	ALT	3-29
3.15	Non-CEQA	NON	3-30

Within each topic, similar comments are grouped together under subheadings, designated by a topic code and sequential number. For example, the comments in Section 3.4, Cultural Resources, coded as “CUL,”, are organized under subheading CUL-1.

Under each subheading, the applicable comments are listed by comment code, as described in Chapter 2.0, List of Commenters, with the full comment letters provided in Appendix A. A comprehensive response is provided to address environmental issues raised in the comments and clarify or augment information in the Draft EIR, as appropriate. Response numbers correspond to the topic code (e.g., the response to Comment CUL-1 is presented under Response CUL-1). The responses may clarify the Draft EIR text or revise or add text to the Final EIR.

New or revised text, including text changes initiated by City of Berkeley (City) staff, is double underlined; deleted material is shown in ~~strikethrough~~ (also refer to Chapter 4.0, Draft EIR Text Revisions).

3.2 EIR ORGANIZATION AND CONTENT

The comments and corresponding responses in this section cover the Draft EIR organization and content. The comment topics relate to:

- **EIR-1:** Size of the Proposed Project and EIR
- **EIR-2**: Proposed Project vs. Conceptual Development Project
- **EIR-3:** Conceptual Development Project Analyzed as a Reasonably Foreseeable Project
- **EIR-4:** Environmental Setting
- **EIR-5**: Mitigation Measures

3.2.1 Comment EIR-1: Size of the Proposed Project and EIR

This response addresses the following comment:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-2, EIR-1)

3.2.1.1 Response EIR-1

The project described in Chapter 3.0, Project Description, of the Draft EIR consists of two elements: (1) the proposed Gilman Gateway Rezone Project (proposed project), which is evaluated at a programmatic level, and (2) the Potential Berkeley Forge Development (conceptual development project), which is evaluated at a project level to the extent feasible. Refer to pages 3-1 through 3-2 of the Draft EIR, which clearly describe the potential actions and future project improvements and activities evaluated in the Draft EIR and to what level of detail those elements are analyzed.

The proposed project would aim to facilitate the future development of the entire 11.54-acre project site, up to 1,005,266 square feet of non-residential space. The Potential Berkeley Forge Development consists of a conceptual future development plan, which would be facilitated by adoption and implementation of the Gilman Gateway Rezone Project and would develop 10.26 acres of the project site.

The Draft EIR evaluates the maximum development potential of the project site as facilitated by the proposed new zoning district (i.e., up to 1,005,266 square feet of nonresidential space) to ensure that all potential impacts of future projects facilitated by the proposed project would be analyzed. Under the California Environmental Quality Act (CEQA), evaluating the maximum development scenario of a project is essential to ensure a comprehensive understanding of its potential environmental impacts. This approach aligns with CEQA's mandate to disclose significant environmental effects and to mitigate those impacts to the extent feasible. Specifically, analyzing the maximum development scenario allows lead agencies to ensure full disclosure of potential impacts, avoid piecemeal review, and allow for review of future phases that are reasonably

foreseeable.[1] As such, the Draft EIR made certain assumptions regarding development scenarios and includes mitigation measures that would allow for future phasing.

Because the Potential Berkeley Forge Development is reasonably foreseeable and would be facilitated by the proposed rezoning, the Draft EIR also evaluates the potential impacts of this project to the extent that project details are known, in order to streamline future environmental review of this project once the development application is submitted to the City. The Draft EIR differentiates between the impacts of the programmatic rezoning project and the conceptual development project. Refer to Table 2.A, Summary of Impacts and Mitigation Measures from the EIR, in Chapter 2.0, Summary, of the Draft EIR (pages 2-7 through 2-18).

3.2.2 Comment EIR-2: Proposed Project vs. Conceptual Development Project

This response addresses the following comments:

- Allan Moore, Planning Commission Transcript, 11/6/24 (I-4-2, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-6, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-9, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-11, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-15, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-17, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-20, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-22, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-25, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-27, EIR-2)
- Allan Moore, Letter, 12/2/24 (O-1-32, EIR-2)

3.2.2.1 Response EIR-2

As discussed in Chapter 1.0, Introduction, of the Draft EIR, the Draft EIR is both a “program EIR” and a “project EIR.” Implementation of the proposed zoning district, rezoning action, General Plan amendment, and West Berkeley Plan amendment (which is referred to throughout as the “Gilman Gateway Rezone Project” or the “proposed project”) is evaluated at a program level. The reasonably foreseeable conceptual development project (which is referred to throughout as the “Potential Berkeley Forge Development” or the “conceptual development project” is evaluated at a project level (refer to Draft EIR pages 1-1 through 1-2). The Draft EIR describes the potential environmental impacts of both elements of the project, including (1) the proposed new zoning district, rezoning, General Plan amendment, West Berkeley Plan amendment, and (2) the reasonably foreseeable conceptual development project.

Potential impacts associated with the new zoning district, rezoning action, General Plan amendment, and West Berkeley Plan amendment are discussed at the programmatic level, meaning the maximum buildout potential for the project site based on the development standards of the

[1] *South of Market Community Action Network v. City and County of San Francisco* (2019) 33 Cal.App.5th 321 (“*South of Market*”).

new zoning district is analyzed. Later activities in the program (i.e., future development at the project site facilitated by the proposed rezoning action) must be examined in light of the program EIR at the time a development project application is submitted for future projects to determine whether additional environmental review is required. The conceptual development project is evaluated at a project level. The City received a conceptual plan, referred to as the conceptual development project, with the zoning map amendment application. The conceptual development project is consistent with the Gilman Gateway Rezone Project; however, no formal development application has been submitted as of the date of Draft EIR publication. Thus, detailed project plans and supporting documentation are not available.

The conceptual development project, as presented in the conceptual plan included in the zoning map amendment application, is described in Section 3.4.2 of the Draft EIR. This section explains that the conceptual development project would "include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, research and development (R&D), laboratory, and office uses, consistent with the uses allowed in the proposed Manufacturing - Research and Development (M-RD) zoning district" (refer to Draft EIR page 3-45). The Draft EIR then describes the approximate area of development; conceptual open space and landscaping; conceptual access, circulation, and parking; utilities and infrastructure; and demolition, grading and construction work (refer to Draft EIR pages 3-46 through 3-47).

It is anticipated that, once a development project application is submitted for the conceptual development project, the City would conduct an environmental evaluation of the project after accepting the application as complete and determining that the project is subject to CEQA, pursuant to *State CEQA Guidelines* Section 15060. The evaluation process will include consideration of a tiering approach, as described in *State CEQA Guidelines* Section 15168. As provided in *State CEQA Guidelines* Section 15168, a program EIR may be prepared on a series of actions that can be characterized as one large project and are related. The concept plan for the conceptual development project was included as part of the zoning map amendment application, which is consistent with the Gilman Gateway Rezone project. As the City has determined the conceptual development project is a known and reasonably foreseeable project, and is consistent with the Gilman Gateway Rezone project, the conceptual development project can be considered ready for review and consideration by the City, and thus it is appropriate to evaluate the potential effects of the conceptual development project to the extent feasible in this program EIR pursuant to CEQA.

As described in Draft EIR, Section 3.5 Permits and Approvals, the proposed zoning and General Plan/West Berkeley Plan amendments are subject to action by the City's Planning Commission and City Council (refer to Draft EIR at page 3-47). If the proposed project is approved, future development projects, including the conceptual development project, would be evaluated for consistency with the newly established zoning and General Plan/West Berkeley Plan designation and for consistency with the development assumptions evaluated in this EIR. Future development projects could be subject to further environmental review, which would be determined at the time that individual applications are received. Any future development project application, including for the conceptual development project, is subject to approval by the Zoning Adjustments Board and is appealable to the City Council.

The Draft EIR defines the scope of both the proposed project and the conceptual development project in Chapters 1.0, Introduction, 2.0, Summary, and 3.0, Project Description, and re-defines these elements at the beginning of each section of the Draft EIR. In addition, where potential impacts differ between the proposed project and the conceptual development project, the Draft EIR includes separate impact statements and mitigation measures, as necessary (see Draft EIR pages 4.2-19 through 4.2-23 where the potential cultural resource impacts of the Gilman Gateway Rezone project are evaluated separately from the potential impacts of the conceptual development project and a different significance determination is reached for each).

Proper use of the terms “proposed project” and “conceptual development project” are implemented throughout the Draft EIR. In addition, the fourth, fifth, sixth, and seventh columns of Table 2.A, Summary of Impacts (page 2-7 of the Draft EIR), identify whether the proposed mitigation measure would be applicable to the Gilman Gateway Rezone Project and/or the Potential Berkeley Forge Development. The Draft EIR clearly defines the project and clearly differentiates the resulting impacts and mitigation measures that apply to each element of the project. Specifically, impacts and mitigation measures are identified for either the proposed project or conceptual development project, or as applicable to both, and are further identified as applicable to either the construction or operational phases, where necessary.

3.2.3 Comment EIR-3: Conceptual Development Project Analyzed as a Reasonably Foreseeable Project

This response addresses the following comments:

- Allan Moore, Planning Commission Transcript, 11/6/24 (I-4-4, EIR-3)
- Allan Moore, Letter, 12/2/24 (O-1-10, EIR-3)
- Allan Moore, Letter, 12/2/24 (O-1-26, EIR-3)

3.2.3.1 Response EIR-3

As discussed in Chapter 3.0, Project Description, although the City has not received a formal application for the conceptual development project, the City anticipates the submittal of a formal application once the proposed Gilman Gateway Rezone Project is approved and the Final EIR is certified.

A “project” is defined as a “whole action” subject to a public agency's discretionary funding or approval that has the potential to either (1) cause a direct physical change in the environment or (2) cause a reasonably foreseeable indirect physical change in the environment (*State CEQA Guidelines* Section 15378). As described in Response EIR-2, above, as the City anticipates the submittal of a formal application for the conceptual development project and implementation of the conceptual development project would cause a reasonably foreseeable indirect physical change in the environment, it is a reasonably foreseeable project and is evaluated in the Draft EIR at the project level to the extent feasible.

The concept plan for the conceptual development project was included as part of the zoning map amendment application, which is consistent with the Gilman Gateway Rezone project. As is typical of zoning map amendment applications, this application, which is currently under review by the City,

did not include a detailed site plan, specific locations of proposed buildings, or a circulation plan. The purpose of a zoning map amendment application is to request an amendment to the zoning ordinance, while a development project application is used to request a change to a land use, existing structure, or to construct a new building. A zoning map amendment application is often submitted prior to the submittal of a development project application.

As described in Response EIR-2 above, once a formal application is submitted for the conceptual development project, or any other project that would seek approval within the project area, the City will determine whether additional environmental review is needed pursuant to the relevant CEQA provisions and guidelines.

3.2.4 Comment EIR-4: Environmental Setting

This response addresses the following comment:

- Public Speaker 3, Planning Commission Transcript, 11/6/24 (I-3-4, EIR-4)

3.2.4.1 Response EIR-4

When evaluating the proposed project and conceptual development project, the Draft EIR considered the existing environmental setting within which the project area is located, including the specific geographic context of the project site, including the project site's geologic, biologic, and cultural sensitivity, hazardous conditions, proximity to transit facilities, including the Union Pacific Railroad and Amtrak heavy rail corridor to the east, and the surrounding land uses. These conditions form the baseline environmental setting of the project area, against which the impacts of the project are evaluated in the Draft EIR, as required by CEQA. In addition, project site-specific technical studies were prepared, including a Cultural Resources Evaluation, Historical Resources Evaluation, Transportation Impact Analysis, noise measurements, numerous hazardous site assessments, and air quality, energy, and greenhouse gas emission analyses. As such, the Draft EIR considered the geographic conditions and scope of potential changes that would be facilitated by approval of the proposed project that are specific to the project site.

3.2.5 Comment EIR-5: Mitigation Measures

This response addresses the following comments:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-3, EIR-5)
- Vice Chair Finacom, Landmarks Preservation Commission Transcript, 11/7/24 (A-FIN-1, EIR-5)
- Commissioner Orbuch, Landmarks Preservation Commission Transcript, 11/7/24 (A-ORB-2, EIR-5)

3.2.5.1 Response EIR-5

When imposing mitigation measures, lead agencies must ensure that there is a "nexus" and "rough proportionality" between the required mitigation measure and the significant environmental effect of the project (*State CEQA Guidelines* Section 15126.4(a)(4)(A-B). Mitigation measures cannot be required when a significant impact has not been identified based on the established significance thresholds. The City may decide to impose additional conditions of approval separately from the

environmental review process (i.e., not required or authorized under CEQA), but the need for these conditions must also be supported by evidence in the record, such as demonstrated requirements for compliance with City standards, policies, and regulations and to support making the findings required by the municipal code for project approval. The mitigation measures described in the Draft EIR have been recommended to reduce the identified potential physical environmental impacts of the project to the extent feasible and as authorized under CEQA.

As previously discussed, no formal application was submitted for the Potential Berkeley Forge Development; as such, phasing information is not yet available. Therefore, the analysis did not assume phasing, as it would be speculative. Furthermore, evaluation of a single phase of development is the conservative approach, as potential impacts would be concentrated into a single phase and not spread out among phases. As provided in *State CEQA Guidelines* Section 15145, lead agencies must make a reasonable effort to assess potential impacts based on available data. If there is insufficient information to evaluate a particular environmental impact, CEQA does not require agencies to conduct a speculative evaluation. Project phasing information will be submitted as part of a future development application. Because there is no "essential nexus" between a potential project impact and project phasing, the City cannot prescribe a mitigation measure requiring specific project phasing.

The historic eligibility evaluation performed as part of the Historical Resources Evaluation indicated that only one property, 1306 Third Street, meets the criteria for listing in the California Register and as a City of Berkeley Landmark. Therefore, only this property meets the definition of a historical resource pursuant to CEQA, while the remainder of the properties on the project site are not considered historic resources for the purposes of this analysis or otherwise. There is thus no basis under CEQA to impose mitigation measures (such as Historic American Building Survey-like documentation) for the other industrial buildings that could be demolished as a result of the project.

The Draft EIR has prescribed all feasible mitigation measures to address potential significant impacts with implementation of the proposed project, including the conceptual development project, pursuant to *State CEQA Guidelines* Section 15126.4.

3.3 PROJECT DESCRIPTION

The comments and corresponding responses in this section cover Chapter 3.0, Project Description, of the Draft EIR. The comment topics relate to:

- **PROJ-1:** Proposed Development Standards

3.3.1 Comment PROJ-1: Proposed Development Standards

This response addresses the following comment:

- Allan Moore, Letter, 12/2/24 (O-1-23, PROJ-1)

3.3.1.1 Response PROJ-1

Section 3.4.1, Proposed Manufacturing, Research and Development Zoning District of the Draft EIR, states that the "maximum building height within the M-RD zoning district would be 55 feet, unless a modification is sought via a Use Permit (UP), in which case the maximum building height would be 105 feet." Table 3.E explicitly states the proposed height standards of 55 feet and the allowance of building heights up to 105 feet, the increase in building heights proposed as part of the project is disclosed and properly evaluated in the Draft EIR (Chapter 4.0, Draft EIR Text Revisions, of this RTC document).

3.4 CULTURAL RESOURCES

The comments and corresponding responses in this section cover Section 4.2, Cultural Resources, of the Draft EIR. The comment topics relate to:

- **CUL-1:** Other Cultural Resources at the Project Site
- **CUL-2**: Native American Resources
- **CUL-3:** Impacts on Historic Resources (1306 Third Street)

3.4.1 Comment CUL-1: Other Cultural Resources at the Project Site

This response addresses the following comment:

- Chair Montgomery, Landmarks Preservation Commission Transcript, 11/7/24 (A-MONT-1, CUL-1)

3.4.1.1 Response CUL-1

To characterize the setting for cultural resources at the project site, in-person records searches of the California Historic Resources Information System archives were conducted at the Northwest Information Center (NWIC), geotechnical borings and soil samplings were completed to identify the potential presence of buried cultural resources, and the existing buildings on the project site were evaluated to determine their eligibility for listing in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), and the City of Berkeley Landmark and Structure of Merit criteria. The NWIC database indicates there are no previously recorded cultural resource studies of the project site. In addition, few cultural resources, primarily consisting of modern and historic material found within disturbed/artificial fill nearest the ground surface, were noted during boring recovery and field analysis. No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified during boring excavation. One fragment of burned bone of potential prehistoric-period archaeological interest was recovered. However, in the absence of any cultural context or association, the bone fragment cannot be interpreted as a cultural resource. Coal and charcoal associated with the adjacent midden deposits were sampled from fill layers and it was determined that the recovered coal and charcoal have no prehistoric cultural associations.

The eligibility evaluation performed as part of the Historical Resources Evaluation (HRE) indicated that only one property, 1306 Third Street, meets the criteria for listing in the California Register and

as a City of Berkeley Landmark. Therefore, only this property meets the definition of a historical resource pursuant to CEQA.

The commenter included a reference to the potential presence of a workshop for Pete Engelhart on the project site. Based on the research conducted for the proposed project, and as presented in the HRE and the Draft EIR, no such resource was identified at the project site.

Therefore, the Draft EIR identified all existing cultural resources, including historical resources, at the project site.

3.4.2 Comment CUL-2: Native American Resources

This response addresses the following comment:

- Vice Chair Finacom, Landmarks Preservation Commission Transcript, 11/7/24 (A-FIN-2, CUL-2)

3.4.2.1 Response CUL-2

Sections 4.2, Cultural Resources, and 4.3, Tribal Cultural Resources of the Draft EIR, discuss the project site's sensitivity for tribal cultural (i.e., Native American) resources (refer to Draft EIR pages 4.3-2 through 4.2-7 and 4.3-1 through 4.3-3). As previously discussed under Response to CUL-1, above, the NWIC database indicates there are no previously recorded cultural resource studies of the project site. In addition, no trace of intact or disturbed midden or any other conclusively prehistoric cultural materials were identified during boring excavation. Even though no trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials have been identified on the project site, the project site is close to the Schoolhouse Creek site and West Berkeley Shellmound complex, both of which are considered highly significant precontact resources. Given the project site's proximity to known sites, including a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound complex, and the project site's location atop alluvial deposits, the project site is considered sensitive for buried prehistoric cultural resources and undiscovered tribal cultural resources. Therefore, the proposed project could result in a potentially significant impact to tribal cultural resources if previously undiscovered tribal cultural resources were to be unearthed during ground-disturbing activity, including human remains of Native American origin. Therefore, the proposed project and conceptual development project shall implement Mitigation Measures CUL-2a through CUL-2d, which require an archaeological testing plan, sensitivity training, and cultural resources monitoring plan for future site development and detailed procedures for the accidental discovery of resources.

In addition to Mitigation Measures CUL-2a through CUL-2d, the proposed project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains*, which have been revised to incorporate recommendations provided by the Confederated Villages of Lisjan Nation during the consultation process as required by Assembly Bill (AB) 52 and Senate Bill (SB) 18. Implementation of prescribed mitigation measures and compliance with City Conditions of Approval would ensure that (1) if tribal cultural resources are identified during excavation, and avoidance is not feasible, a mitigation plan shall be prepared and outline appropriate treatment of the resource in coordination with the consulting tribe and, if applicable, a qualified archaeologist, and (2) human remains would be treated in a culturally appropriate manner and in accordance with the consulting tribe.

Therefore, implementation of these mitigation measures would reduce potential impacts to tribal cultural resources to less than significant with mitigation.

3.4.3 Comment CUL-3: Impacts on Historical Resources (1306 Third Street Building)

This response addresses the following comments:

- Allan Moore, Planning Commission Transcript, 11/6/24 (I-4-3, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-3, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-4, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-7, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-8, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-13, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-14, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-16, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-18, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-19, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-21, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-29, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-30, CUL-3)
- Allan Moore, Letter, 12/2/24 (O-1-33, CUL-3)

3.4.3.1 Response CUL-3

As discussed in Section 4.2, Cultural Resources of the Draft EIR, the Rosebloom Building at 1306 Third Street meets the criteria for listing in the California Register for Historical Resources, the criteria for designation as a City of Berkeley Landmark, and the definition of an historical resource pursuant to *State CEQA Guidelines* Section 15064.5. For the proposed project to have "a substantial adverse change" in the significance of a historical resource, it would have to demolish, destroy, relocate, or alter the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*State CEQA Guidelines* Section 15064.5(b)). Generally, for purposes of CEQA, the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historical Resources (California Register) or an officially recognized local register of historical resources, or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g). According to the HRE prepared for the proposed project, the existing building at 1306 Third Street meets the criteria for listing in the California Register and as a City of Berkeley Landmark due only to its association with American master artist and sculptor Peter Voulkos. Potential impacts to the building due to loss of light and air, and those related to aesthetics, noise, and transportation, would not "alter[]… the physical characteristics" of the Rosebloom Building at 1306 Third Street in a way that would undermine its connection to Peter Voulkos, and therefore would not affect its eligibility as a historical building. As a result, such impacts would not result in "a substantial adverse change" in the significance of the Rosebloom Building as a historical resource. Further, because the conceptual development project would redevelop the surrounding parcels with light industrial uses, which are similar to the existing

industrial uses present on the parcels, implementation of the conceptual development project would not affect the setting of the Rosebloom Building and thus would result in less than significant impacts to the Rosebloom Building as a historical resource. As such, the Draft EIR does not defer analysis of these impacts on the building's eligibility for listing.

The proposed project would not result in any physical alterations to the project site; however, implementation of the proposed rezoning could facilitate future development of the entire project site, including the Rosebloom Building at 1306 Third Street. No application to demolish the Rosebloom Building has been submitted to the City and implementation of the proposed project as described in the Draft EIR would not directly result in the demolition of the building. Nevertheless, it is reasonable to assume that changing the zoning for the site of 1306 Third Street could eventually result in the future demolition of the Rosebloom Building. As provided in *State CEQA Guidelines* Section 15144, a lead agency must use its best efforts to find out and disclose all that it reasonably can. Because it is reasonable to assume that a future project sponsor could acquire the 1306 Third Street property and redevelop the parcel consistent with the proposed project, it is reasonable to assume that demolition of the Rosebloom Building at 1306 Third Street could take place. The Draft EIR analyzes this maximum buildout scenario on the project site, even if the maximum buildout scenario never occurs.

The conceptual development project would not include redevelopment of the 1306 Third Street property and therefore would not have the potential to result in the demolition of the existing historical building. The significance of a historical resource is "materially impaired" when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register or an officially recognized local register of historical resources, or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g). According to the HRE prepared for the proposed project, the existing building at 1306 Third Street meets the criteria for listing in the California Register and as a City of Berkeley Landmark due only to its association with American master artist and sculptor Peter Voulkos. As such, the aesthetic character of the surrounding area will have no impact on the building's association with Peter Voulkos and therefore will not affect the property's eligibility for listing. Therefore, redevelopment of the surrounding parcels would not substantially affect the Rosebloom Building or its eligibility for listing in the California Register. Further, because the conceptual development project would redevelop the surrounding parcels with light industrial uses, which are similar to the existing industrial uses present on the parcels, implementation of the conceptual development project would not affect the setting of the Rosebloom Building and thus would result in less than significant impacts to the Rosebloom Building as a historical resource.

The potential impacts of the conceptual development project are analyzed and discussed throughout the Draft EIR consistent with the level of detail provided for the conceptual development project. This project-level analysis is based on information provided in the conceptual development plan included as part of the zoning map amendment application submitted to the City for the conceptual development project. As discussed in Chapter 1.0, Introduction, of the Draft EIR, future development at the project site facilitated by the proposed project, including the conceptual development project, must be examined in light of the program EIR to determine whether an

additional environmental document must be prepared. Once a formal application is submitted for the conceptual development project, or any other project that would seek approval in the project area, the City will determine whether additional environmental review is needed pursuant to the relevant CEQA provisions and guidelines (refer to Draft EIR page 1-2).

The Draft EIR also analyzes the potential impacts of full build out of the project site that would be facilitated by the proposed project on the Rosebloom Building and prescribes Mitigation Measure CUL-1, which requires documentation of the historic resource in accordance with the Historic American Building Survey standards, which would reduce, but not avoid, adverse impacts to the historical resource. Implementation of Mitigation Measure CUL-1 would require documenting this resource, but it would not avoid demolition of the resource. Therefore, any future development facilitated by the proposed project that would demolish the Rosebloom Building would "materially impair" the building as a historic resource and impacts to built-environment historic resources as defined in *State CEQA Guidelines* Section 15064.5 would be significant and unavoidable. As such, the Draft EIR adequately discusses potentially significant impacts of the proposed project and the conceptual development project on the Rosebloom Building and proposes appropriate mitigation to retain information about the Rosebloom Building in the event there is an application to demolish the structure in the future.

The Draft EIR does not propose to include new setback requirements as mitigation for either the proposed project or the conceptual development project. As discussed above, allowing development consistent with the proposed project adjacent to 1306 Third Street would not have significant cultural resource impacts for two reasons: (1) the building is eligible for listing solely due to its association with the artist and sculptor Peter Voulkos and (2) redeveloping the adjacent area with light industrial uses would not change the setting for the building. Moreover, as provided in Table 3.E, Manufacturing, Research and Development Zoning District Development Standards, of the Draft EIR (page 3-43 of the Draft EIR), Berkeley Municipal Code (BMC) Section 23.304.030, Setbacks, provides supplemental development standards applicable to the proposed M-RD zoning district, including setbacks for development adjacent to residential uses. Because the development standards for the proposed M-RD zoning district are included as part of the new zoning district and the rezoning of the project site, no mitigation measure related to buffers or setbacks from the Rosebloom Building are required. Further, potential impacts to light and air would be evaluated as part of the City's development review process when a formal development application is received. Specifically, the findings for approval of any zoning permit required in BMC Chapter 23.406 include non-detriment.

3.5 TRANSPORTATION

The comments and corresponding responses in this section cover Section 4.4, Transportation, of the Draft EIR. The comment topics relate to:

- **TRA-1:** Vehicle Miles Traveled (VMT) and Transportation Demand Management (TDM) Measures
- **TRA-2:** Bicycle, Pedestrian, and Transit Planning
- **TRA-3:** Cumulative Transportation Impacts

3.5.1 Comment TRA-1: VMT and TDM Measures

This response addresses the following comments:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-6, TRA-1)
- Alameda County Transportation Commission (CTC), Letter, 12/4/24 (A-CTC-3, TRA-1)
- Alameda CTC, Letter, 12/4/24 (A-CTC-4, TRA-1)
- California Department of Transportation (Caltrans), Letter, 12/4/24 (A-Caltrans-3, TRA-1)
- Caltrans, Letter, 12/4/24 (A-Caltrans-4, TRA-1)
- Caltrans, Letter, 12/4/24 (A-Caltrans-5, TRA-1)
- Public Speaker 1, Planning Commission Transcript, 11/6/24 (I-1-3, TRA-1)

3.5.1.1 Response TRA-1

The vehicle miles traveled (VMT) analysis for the proposed project, including the conceptual development project, used the latest version of the Alameda CTC Travel Demand Model and was undertaken in a manner consistent with the State of California Governor's Office of Planning and Research's Technical Advisory. Based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker of 18.1 in 2040, or 18.2 in 2040, which would require a home-work VMT per worker of 15.4 in 2020 and 15.5 in 2040. Although the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1 under both 2020 and 2040 conditions, which exceeds the adopted VMT threshold, implementation of the Proposed Transportation Demand Management (TDM) Plan would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. The Alameda CTC VMT Reduction Estimator Tool was used to calculate VMT reductions derived from the implementation of different strategies detailed in the Proposed TDM Plan.

Future development of the project site facilitated by the proposed project would be required to implement the Proposed TDM Plan with similar measures, as required by Mitigation Measure TRA-1, which as added to the Draft EIR and replaces the City's *Condition of Approval: Transportation Demand* Management as explained in Chapter 4.0, Draft EIR Text Revisions, of this RTC Document. Implementation of the Mitigation Measure TRA-1 would include measures that would reduce the usage of personal vehicles and VMT impacts consistent with the Alameda CTC VMT Reduction Estimator Tool. One of the identified TDM measures would require future development of project site facilitated by the proposed project to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.).

Therefore, with implementation of Mitigation Measure TRA-1, future development facilitated by the proposed project, including the conceptual development project, would result in a less than significant impact associated with VMT.

As requested by Caltrans, the City will require annual monitoring reports during project operation to ensure that the proposed VMT reduction measures detailed in Mitigation Measure TRA-1

adequately reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1. If the annual monitoring reports determine that the proposed TDM measures cannot adequately mitigate the project's VMT impact to below the established threshold, the City will consider other VMT mitigation options, such as the VMT-based Transportation Impact Fee program, VMT Mitigation Exchange program, and VMT Mitigation Bank. Such measures would supplement the TDM measures put in place as required by Mitigation Measure TRA-1 to ensure that the threshold is not exceeded.

3.5.2 Comment TRA-2: Bicycle, Pedestrian, and Transit Planning

This response addresses the following comments:

- Allan Moore, Letter, 12/2/24 (O-1-7, TRA-2)
- Allan Moore, Letter, 12/2/24 (O-1-29, TRA-2)
- Alameda CTC, Letter, 12/4/24 (A-CTC-5, TRA-2)
- Alameda CTC, Letter, 12/4/24 (A-CTC-6, TRA-2)

3.5.2.1 Response TRA-2

Future development at the project site facilitated by the proposed project would improve the circulation network within the project vicinity by providing sidewalks along the project frontages as well as connections to the existing pedestrian facilities in the project area. Project sponsors for future development at the project site would coordinate with the Alameda CTC to ensure implementation of high-quality bike access from surrounding bicycle facilities to the project site, which would adhere to the All Ages and Abilities guidelines adopted by the Alameda CTC for recommended bicycle facilities that include target speed limit, traffic volume, and other operational considerations. In addition, project sponsors for future development at the project site would coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project, if feasible, as provided in the Proposed TDM Plan and required by Mitigation Measure TRA-1.

In addition, future development on the project site, including the conceptual development project, would be required to implement Mitigation Measure TRA-2, which requires a circulation plan be prepared and approved by the City to ensure that future development would not substantially increase hazards due to a design feature. Implement of Mitigation Measure TRA-2 would also ensure that access to the 1306 Third Street building would not be substantially impeded.

3.5.3 Comment TRA-3: Cumulative Transportation Impacts

This response addresses the following comment:

- Alameda CTC, Letter, 12/4/24 (A-CTC-7, TRA-3)

3.5.3.1 Response TRA-3

As discussed in Section 4.4, Transportation of the Draft EIR, the proposed project, in combination with cumulative projects, would have a less than significant cumulative impact with respect to conflicts with applicable plans, VMT, hazards, and emergency access with implementation of

prescribed mitigation measures (Mitigation Measure TRA-1 and TRA-2) see Draft EIR pages 4.4-26 through 4.4-27.

3.6 AIR QUALITY

The comments and corresponding responses in this section cover Section 4.5, Air Quality, of the Draft EIR. The comment topics relate to:

- **AIR-1**: Cumulative Air Quality Impact
- **AIR-2:** Sensitive Receptors
- **AIR-3**: Odors

3.6.1 Comment AIR-1: Cumulative Air Quality Impact

This response addresses the following comment:

- Public Speaker 1, Planning Commission Transcript, 11/6/24 (I-1-1, AQ-1)

3.6.1.1 Response AIR-1

Section 4.5, Air Quality, of the Draft EIR presents a project-specific air quality analysis that provides an evaluation of potential air quality impacts associated with construction and operation of the proposed project, including the conceptual development project. This air quality analysis included evaluation of potential air quality impacts associated with vehicle emissions based on the anticipated number of vehicle trips to and from the project suite during construction and operation.

As discussed in Section 4.5, Air Quality, of the Draft EIR, with implementation of Mitigation Measures AIR-1 and AIR-2 (which require the implementation of Bay Area Air Quality Management District [BAAQMD] enhanced best management practices [BMP]s for future development located within 500 feet of sensitive receptors and limits architectural coatings to 50 grams per liter or less of volatile organic compounds [VOCs]), future development envisioned under the proposed project and the conceptual development project would not generate construction or operational emissions that exceed established thresholds (refer to Draft EIR pages 4.5-29 through 4.5-33). As shown in the project-specific air quality impacts discussion in Section 4.5, which includes analysis of potential air quality impacts from vehicle emissions, the proposed project would not result in individually significant impacts and cumulative regional air quality impacts of the proposed project would also be less than significant.

However, even with the implementation of Mitigation Measure AIR-3 (which describes off-road construction equipment requirements), health risk levels to nearby residents (i.e., residents from the 1306 Third Street building) from construction-related emissions of toxic air contaminants (TACs) associated with construction of the conceptual development project or any future projects that would not include the demolition of the structure at 1306 Third Street would exceed the BAAQMD's thresholds. In addition, because information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis, it is assumed that cumulative growth within the city could result in potential TAC health risks that could cumulatively contribute to elevated health risks in the city. Therefore, in an

abundance of caution, potential TAC health risks are considered a significant impact, even with implementation of mitigation measures. Therefore, the Draft EIR determined cumulative TAC health risk impacts would be significant and unavoidable.

It should be noted that Mitigation Measure AIR-4 requires the project sponsors of future development that does not include demolition of the structure at 1306 Third Street include detailed construction plans and submit a project-specific technical Air Quality Assessment and a Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the BAAQMD in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units at 1306 Third Street.

3.6.2 Comment AIR-2: Sensitive Receptors

This response addresses the following comment:

- Public Speaker 3, Planning Commission Transcript, 11/6/24 (I-3-5, AQ-2)

3.6.2.1 Response AIR-2

According to the California Air Resources Board (CARB), residents, schoolchildren, the elderly, and hospital patients are all considered sensitive receptors.[2] The Draft EIR analyzes potential impacts, including those associated with air quality, on all sensitive receptors; however, a focus has been placed on sensitive receptors immediately adjacent or in close proximity to the project site as air quality impacts are typically localized in nature. As more distance is placed between the source of the air pollutant and the sensitive receptor, the impacts of the air pollutant are diffused, reducing the severity of the impact.

As described in Chapter 4.5, Air Quality, Section 4.5.2.1 Significance Criteria, the following criteria were used to determine the area of study for sensitive receptors in the project area:

- Local Community Risk:
    - Be subject to but not comply with a qualified risk reduction plan;
    - Result in an excess cancer risk level of more than 10 in 1 million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 within a 1,000-foot radius; or
    - Result in an incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average particulate matter less than 2.5 microns in size ($PM_{2.5}$) within a 1,000-foot radius.

[2] California Air Resources Board (CARB). 2025. Sensitive Receptor Assessment. Website: https://ww2.arb.ca.gov/capp/cst/rdi/sensitive-receptor-assessment (accessed February 2025).

- In combination with other projects within a 1,000-foot radius of the project site, would result in the exposure of sensitive receptors to TACs resulting in an increased cancer risk greater than 100 in 1 million, an increased non-cancer risk of greater than 10 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis.

In addition, Mitigation Measure AIR-1, BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors, outlines BAAQMD's enhanced best management practices to control fugitive dust emissions for any sensitive receptors within 500 feet of a construction site. Adherence to BAAQMD's air quality thresholds for sensitive receptors, as required by Mitigation Measure AIR-1, is a best industry practice and was prescribed in the Draft EIR.

3.6.3 Comment AIR-3: Odors

This response addresses the following comment:

- Public Speaker 3, Planning Commission Transcript, 11/6/24 (I-3-1, AQ-3)

3.6.3.1 Response AIR-3

As discussed in Section 4.5, Air Quality, of the Draft EIR, Mitigation Measure AIR-6 would require an odor control plan for future development that would include any odor-generating uses, such as Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants (refer to Draft EIR page 4.5-52). With implementation of Mitigation Measure AIR-6, the proposed project, including the conceptual development project, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

If there is an odor during project operation, residents of West Berkeley would be able to report the issue to the applicable regulatory authorities (e.g., the City or BAAQMD). Potential odor violations are investigated and violators are subject to fines and other regulatory sanctions, if necessary. In addition, the City's Environmental Health Division (EHD) oversees various programs to protect public health, which may encompass addressing complaints related to odors, especially if they pose health risks. Residents and business owners are encouraged to report concerns related to odors or other environmental health issues to the EHD. The division provides consultation and inspection services to address these concerns and works collaboratively with the community to resolve issues that may pose health risks. Contact information for the EHD is available on the City of Berkeley's official website.

3.7 GREENHOUSE GAS EMISSIONS

The comments and corresponding responses in this section cover Section 4.6, Greenhouse Gas Emissions, of the Draft EIR. The comment topics relate to:

- **GHG-1**: Mitigation Related to Greenhouse Gas (GHG) Emissions

3.7.1 Comment GHG-1: Mitigation Related to Greenhouse Gas (GHG) Emissions

This response addresses the following comment:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-5, GHG-1)

3.7.1.1 Response GHG-1

GHG emission impacts are inherently cumulative, as individual projects contribute incrementally to the global concentration of GHGs in the atmosphere. Unlike localized air quality impacts, which can be attributed to a specific project's direct emissions in a confined geographic area, GHG emissions have a diffuse, global effect on climate change. Therefore, under CEQA, the evaluation of GHG emissions is based on a project's contribution to the cumulative global emissions rather than a localized threshold of significance.

No single project, by itself, can produce GHG emissions on a scale large enough to result in a significant and unavoidable impact on global climate change. Instead, CEQA analysis focuses on whether a project's GHG emissions, when combined with other sources, cumulatively contribute to climate change in a way that would conflict with state or regional reduction goals established under AB 32, SB 32, and Executive Order S-3-05.

When determining significance, *State CEQA Guidelines* Section 15064.4 directs lead agencies to consider whether the project's GHG emissions are consistent with an applicable Climate Action Plan (CAP), regional GHG reduction plan, or other regulatory framework designed to meet GHG reduction targets. Projects that align with these plans are typically considered to have a less-than-significant cumulative impact, as they contribute to an overall strategy for reducing GHG emissions on a regional or state level.

As described in Chapter 4.6, Greenhouse Gas Emissions, of the Draft EIR, the proposed project, including the conceptual development project, would not include electric vehicle charging stations. Therefore, it would not comply with BAAQMD standards of "achieving compliance with electric vehicle requirements in the most recently adopted version of CALGreen Tier 2." As such, Mitigation Measure GHG-1 requires future development facilitated by the proposed project, including the conceptual development project, to meet all electric vehicle charging requirements. In addition, Mitigation Measure TRA-1, which requires implementation of a TDM Plan, would reduce VMT impacts such that the proposed project and the conceptual development would meet the BAAQMD's recommended project design thresholds related to VMT.

Due to the proposed use of the project site as research and development campus, it is reasonable to assume that future development at the project site facilitated by the proposed project could

propose natural gas usage. Therefore, the proposed project would not be consistent with the BAAQMD design threshold recommending natural gas prohibition, because natural gas may be included in the project design for certain uses allowed under the proposed M-RD zoning district. The City has determined that requiring compliance with the BAAQMD design threshold that completely prohibits natural gas usage is infeasible due to cost-effectiveness considerations, based in part on 2022 studies conducted by the California Public Utilities Commission and the California Energy Commission.[3] Furthermore, in 2023 and again in 2024, the Ninth Circuit Court of Appeals held that a City ordinance prohibiting natural gas infrastructure in new construction was preempted by the federal Energy Policy and Conservation Act and was therefore unlawful.[4] For these reasons, the City, as lead agency for the environmental review of the proposed project, has found that requiring mitigation to prohibit the usage of natural gas in future projects is not feasible. If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. Therefore, the Draft EIR found this impact to be significant and unavoidable.

Based on information provided by the project sponsor for the conceptual development project, the Draft EIR assumes that the conceptual development project would be all electric, and therefore would meet the BAAQMD design thresholds related to electric building standards and electric vehicle (EV) infrastructure requirements.

3.8 HAZARDOUS MATERIALS

The comments and corresponding responses in this section cover Section 4.9, Hazards and Hazardous Materials, of the Draft EIR. The comment topics relate to:

- **HAZ-1**: Risk of Release of Hazardous Materials
- **HAZ-2:** Sea Level/Groundwater Rise and Remediation Methods

3.8.1 Comment HAZ-1: Risk of Release of Hazardous Materials

This response addresses the following comments:

- Public Speaker 1, Planning Commission Transcript, 11/6/24 (I-1-4, HAZ-1)
- Public Speaker 3, Planning Commission Transcript, 11/6/24 (I-3-1, HAZ-1)

3.8.1.1 Response HAZ-1

Section 4.9, Hazards and Hazardous Materials, discusses and addresses potential impacts associated with the risk of release of hazardous materials with implementation of the proposed project and conceptual development project. Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of

[3] Southern California Edison (SCE). 2022. *2019 Reach Code Cost-Effectiveness Analysis. Full Service and Quick-Service Restaurants.* February.

[4] United States Court of Appeals for the Ninth Circuit. Filed April 17, 2023. *California Restaurant Association v. City of Berkeley*, (9th Cir. 2023) 65 F. 4th 1045, amended and superseded by (9th Cir. 2024) 89 F.4th 1094. https://cdn.ca9.uscourts.gov/datastore/opinions/2023/04/17/21-16278.pdf (accessed June 2024).

polychlorinated biphenyls (PCBs) into the environment from potential PCB contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project. However, adherence to *COA: Toxics* would require that a hazardous building materials survey be conducted and that plans for hazardous waste or hazardous materials removal, reuse, or disposal procedures be prepared by a qualified professional. In addition, implementation of Mitigation Measure HAZ-1 would require that sampling and analysis for PCBs in concrete in certain areas of the project site be included in the hazardous building materials survey. Implementation of Mitigation Measures HAZ-2a through HAZ-2f, which require additional site characterizations and the development of a response plan, detail requirements for vapor mitigation systems (VMS) and utility designs and require avoidance of petroleum fuel pipelines, would control the risk of releasing hazardous materials into the environment during construction and operation. In addition, compliance with *COA: Toxics* and existing regulations, including Occupational Safety and Health Administration and California Occupational Safety and Health Administration regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, California Code of Regulations, Department of Transportation, Resource Conservation and Recovery Act, and other federal, State, regional, and local regulations, would ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of the proposed project, including the conceptual development project, would be less than significant. Therefore, the Draft EIR addressed the risk of release of hazardous materials associated with future development on the project site and determined that impacts would be less than significant.

3.8.2 Comment HAZ-2: Sea Level/Groundwater Rise and Remediation Methods

This response addresses the following comments:

- East Bay Municipal Utility District (EBMUD), Letter, 12/2/24 (A-EBMUD-6, HAZ-2)
- Public Speaker 1, Planning Commission Transcript, 11/6/24 (I-1-6, HAZ-2)
- Public Speaker 2, Planning Commission Transcript, 11/6/24 (I-2-2, HAZ-2)

3.8.2.1 Response HAZ-2

As discussed in Section 4.9, Hazards and Hazardous Materials, of the Draft EIR, a Response Plan will be prepared for future development on the project site to address the existing hazardous conditions (see Draft EIR page 4.9-5). The Response Plan is anticipated to rely on a number of different remedial and mitigation approaches to protect future users of the project site from environmental exposure, including source reduction (e.g., excavation and off-site disposal, in-situ groundwater treatment, and use of a pugmill or other temporary treatment unit to stabilize environmental constituents in soil), engineering controls (e.g., capping of residual soil contamination and vapor intrusion mitigation systems), and institutional controls (e.g., land use covenants, operational and maintenance plans, and agreements and associated financial assurance) to ensure the long-term protectiveness of the environmental remedy. Once drafted, the Response Plan would require that Department of Toxic Substances Control (DTSC) review and approval prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

As such, remediation at the project site would not only rely on "capping" as a site remediation method.

Section 4.9 of the Draft EIR also indicates that groundwater contamination in areas of known free product[5] may undergo treatment that would likely involve excavation to expose free product and then pumping free product from the excavation for disposal and subsequent application of oxygen release compound to facilitate source reduction (see Draft EIR page 4.9-43). The risk of vapor intrusion into future buildings would be mitigated by a passive VMS that is capable of functioning as an active system, if necessary. The passive VMS would allow sub-surface vapors from beneath the building slab to be vented outside the building, and would be composed of a vapor barrier membrane, crushed rock venting layer, a network of vapor collection piping, fresh air inlet vents at the perimeter of each building to facilitate air flow, and ventilation risers that would terminate and exhaust at the roof level. If required, the passive VMS could be converted to an active system with the addition of inline, electric blowers.

Groundwater has been identified to be as shallow as 1.5 feet below the ground surface at the project site, and there is anecdotal evidence of Second Street flooding during periods of intense rainfall. Sea level rise could contribute to a rise in the already shallow groundwater levels at the project site and could also increase the flooding risks at the project site. The design of a VMS typically includes sub-slab venting systems; however, shallow groundwater and flooding could interfere with the functionality of a VMS, because a sub-slab venting system would not function properly if it is beneath groundwater or flooded by surface water. If the shallow groundwater conditions and potential for flooding at the project site are not accounted for in the design of a VMS, then future occupants of the project site could be exposed to vapor intrusion, which would be a potentially significant impact. As required by Mitigation Measure HAZ-2d, any development on the project site that includes a VMS as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater and flooding conditions in the VMS design. With preparation of a Response Plan as discussed above in this response, future development would adequately address the risk of release of hazardous materials associated with sea level and groundwater rise.

As discussed above, mitigation measures have been prescribed that require additional testing (Mitigation Measure HAZ-1) and site characterization of the project site to determine the extent of on-site contamination (Mitigation Measures HAZ-2a and HAZ-2b), and the implementation of a Response Plan (including a Vapor Mitigation System) that would be approved by the DTSC (Mitigation Measures HAZ-2c through HAZ-2e). All known information regarding soil and groundwater quality and the DTSC-approved Response Plan will be submitted to EBMUD.

[5] Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

3.9 HYDROLOGY AND WATER QUALITY

The comments and corresponding responses in this section cover Section 4.10, Hydrology and Water Quality, of the Draft EIR. The comment topics relate to:

- **HYD-1**: Stormwater

3.9.1 Comment HYD-1: Stormwater

This response addresses the following comments:

- Caltrans, Letter, 12/4/24 (A-Caltrans-6, HYD-1)
- Caltrans, Letter, 12/4/24 (A-Caltrans-7, HYD-1)

3.9.1.1 Response HYD-1

Section 4.10, Hydrology and Water Quality, provides a discussion of stormwater management with implementation of the proposed project. Stormwater runoff during operation of future development facilitated by the proposed project, including the conceptual development project, would be subject to the requirements of the San Francisco Bay Municipal Regional Stormwater Permit (MRP). Any development on the project site that would replace more than 5,000 square feet of impervious surfaces would be required to implement post-construction stormwater management and treatment measures to reduce pollutant loads in runoff in accordance with Provision C.3 of the MRP, which would include the use of Low Impact Design (LID) measures that may include bio-retention treatment areas; flow-through planters; tree wells with media filters; open spaces; catch basin filters; rainwater harvesting, with on-site re-use; and green streets, to reduce runoff pollutant loads. As such, all stormwater runoff from future development at the project site facilitated by the proposed project that may discharge to State Drainage Systems or Facilities in the project area would be treated and managed such that runoff is reduced to preconstruction levels. In addition, future development at the project site facilitated by the proposed project that may discharge stormwater runoff to State Drainage Systems or Facilities in the project area would prepare a drainage design memo that would be provided to Caltrans.

3.10 BIOLOGICAL RESOURCES

The comments and corresponding responses in this section cover Section 4.11, Biological Resources, of the Draft EIR. The comment topics relate to:

- **BIO-1**: Wildlife Protection

3.10.1 Comment BIO-1: Wildlife Protection

This response addresses the following comment:

- Public Speaker 2, Planning Commission Transcript, 11/6/24 (I-2-3, BIO-1)

3.10.1.1 Response BIO-1

Section 4.11, Biological Resources, discusses and addresses potential impacts of the proposed project and conceptual development project on wildlife. As discussed in Section 4.11, the project site is in an urban area of the city and is entirely developed with industrial buildings with manufacturing and warehouse uses. In addition, the project site is not considered an established native resident or migratory wildlife corridor. Common wildlife species that have adapted to urban environments would continue to use the project site after redevelopment. In addition, the project site does not contain any native wildlife nursery sites. Therefore, implementation of the proposed project, including the conceptual development project, would not create substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or native wildlife nursery sites. In addition, implementation of Mitigation Measures BIO-1a through BIO-1f would address potential impacts on bats that may be present on the project site. Further, compliance with all applicable City requirements, including BMC Section 23.304.150 (bird safe building requirements) and *COA: Avoid Disturbance of Nesting Birds*, would ensure that all impacts on wildlife from future development on the projects site would be less than significant.

3.11 GEOLOGY AND SOILS

The comments and corresponding responses in this section cover Section 6.3.3, Geology and Soils, of the Draft EIR. The comment topics relate to:

- **GEO-1**: Geologic Hazards

3.11.1 Comment GEO-1: Geologic Hazards

This response addresses the following comments:

- Public Speaker 1, Planning Commission Transcript, 11/6/24 (I-1-5, GEO-1)
- Public Speaker 3, Planning Commission Transcript, 11/6/24 (I-3-2, GEO-1)
- Jai Jai Noire, Letter, 12/5/24 (I-7-2, GEO-1)

3.11.1.1 Response GEO-1

Section 6.3.3, Geology and Soils, of the Draft EIR discusses and addresses potential impacts of the proposed project and conceptual development project on people and structures related to fault rupture at the site (refer to Draft EIR pages 6-9 through 6-11). The project site is generally level with no steep slopes. Therefore, no impacts associated with the topography of the project site are anticipated to occur with development of the project site. The Preliminary Geotechnical Investigation identified the project site as within a liquefaction zone as designated by the California Geological Survey. Final grading, foundation, and building plans must be designed in accordance with the 2022 California Building Code (CBC). These designs would include measures that would address the potential for differential settlement related to liquefaction. Therefore, compliance with the CBC would ensure that the potential impacts associated with liquefaction would be less than significant. Therefore, the Draft EIR addressed impacts related to liquefaction on the project site and determined that impacts would be less than significant.

A significant earthquake on one of the regional faults near the project site, such as the Hayward, Calaveras, San Andreas, San Gregorio, Greenville or Monte Vista-Shannon faults, would likely produce strong to violent ground shaking during the life of the project. Accordingly, the Preliminary Geotechnical Investigation recommends that a site-specific study of how the ground at the project site would respond to seismic activity across a range of frequencies or periods be developed as part of the design-level geotechnical investigation. This would be used to tailor project specific seismic design parameters in accordance with the 2022 CBC. The design and construction of the proposed project is required to conform with, or exceed, current best standards for earthquake-resistant construction in accordance with the 2022 CBC and with the generally accepted standards of geotechnical practice for seismic design in Northern California. Therefore, compliance with the CBC would ensure that the potential impacts associated with ground shaking from an earthquake would be less than significant.

3.12 POPULATION AND HOUSING

The comments and corresponding responses in this section cover Section 6.3.5, Population and Housing, of the Draft EIR. The comment topics relate to:

- **POP-1**: Impacts to Housing

3.12.1 Comment POP-1: Impacts to Housing

This response addresses the following comment:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-4, POP-1)

3.12.1.1 Response POP-1

As described in the Chapter 3.0, Project Description, of the Draft EIR the project site is currently primarily occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. However, the 1306 Third Street building currently contains seven non-conforming commercial tenant spaces and four non-conforming residential units, three of which are occupied by 11 individuals; the fourth is currently vacant. No other housing is within the project site or immediately adjacent to the project site. The dwelling units were constructed without proper zoning approvals or building permits. Implementation of the proposed project would facilitate development of the entire project site and the analysis in the Draft EIR assumes demolition of all existing structures on the project site. Therefore, implementation of the proposed project may result in the displacement of people and housing.

However, any future development that eliminates the non-conforming residential units would be required to facilitate the relocation of the current residents and would have to comply with City regulations addressing replacement of occupied residential structures as specified in BMC Chapter 23.326 (Demolition and Dwelling Unit Controls). As required by BMC Section 23.326.030(B), demolition of one or more residential units is allowed subject to approval of a Use Permit. To approve the Use Permit, the Zoning Adjustments Board must find that (1) the building containing the residential units is hazardous or unusable and is infeasible to repair, (2) the building containing the residential units will be moved to a different location in the city with no net loss of units and no

change in the rent levels of the units, or (3) the demolition is necessary to permit construction approved pursuant to Chapter 23.326 of at least the same number of residential units. However, BMC Section 23.326.030(B)(3) provides that, in the event of a demolition of a residential unit created without proper zoning approvals or building permits, as with the dwelling units at 1306 Third Street, the Building Official, Zoning Officer, or Fire Marshal may determine that the replacement of such a unit is infeasible and not required. The determination must include a finding that the replacement of the unit could not take place in compliance with the Zoning Code, Building Code, Fire Code, or other regulations related to public health and safety.

As required by BMC Section 23.326.030(E), the project sponsor shall provide all sitting tenants and the Rent Stabilization Board notice of the application to demolish the building, including notice of their rights under BMC Section 13.76 (Rent Stabilization and Eviction for Good Cause Program), Chapter 13.77 (Requirements, Procedures, Restrictions and Mitigations Concerning the Withdrawal of Residential Rental Accommodations from Rent or Lease), 13.79 (Tenant Protections: Automatically Renewing Leases and Buyout Agreements), and 13.84 (Relocation Services and Payments for Residential Tenant Households), and shall provide moving and relocation assistance equivalent to the requirements set forth in BMC Chapter 13.84 or Government Code section 66300.6(b)(4)(A), whichever requires greater relocation assistance to displaced tenants. The project sponsor shall subsidize the rent differential for a comparable replacement unit until the new units are ready for occupancy. Therefore, the proposed project would not result in the displacement of substantial numbers of people or housing requiring the construction of new housing elsewhere in the city, as the 11 existing residents at 1306 Third Street could be accommodated in the existing housing stock within the city. With compliance with City requirements found in the BMC, impacts related to the displacement of people and housing through demolition of the existing structure at 1306 Third Street would be less than significant.

The 1306 Third Street building is outside the boundaries of the conceptual development project; therefore, implementation of the conceptual development project would not include any removal or alteration of the existing building associated with 1306 Third Street. Consequently, demolition and construction associated with the conceptual development project would not displace any people or housing.

During construction of the conceptual development project and future projects that would not include the demolition of the structure at 1306 Third Street, health risk levels to residents from the 1306 Third Street building from construction-related emissions of TACs would exceed the BAAQMD's thresholds, even with the implementation of Mitigation Measure AIR-3 (which details off-road construction equipment requirements). It should be noted that Mitigation Measure AIR-5 requires the project sponsors of future development that meet certain thresholds to submit a project specific technical Air Quality Assessment and an HRA evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors to pollutant concentrations in exceedance of the cancer risk threshold established by the BAAQMD in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants impacted.

3.13 UTILITIES AND SERVICE SYSTEMS

The comments and corresponding responses in this section cover Section 6.3.8, Utilities and Service Systems, of the Draft EIR. The comment topics relate to:

- **UTL-1**: Water Supply and Service
- **UTL-2:** Wastewater Service
- **UTL-3:** Natural Gas Infrastructure

3.13.1 Comment UTL-1: Water Supply and Service

This response addresses the following comments:

- EBMUD, Letter, 12/2/24 (A-EBMUD-3, UTL-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-4, UTL-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-5, UTL-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-9, UTL-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-10, UTL-1)

3.13.1.1 Response UTL-1

A Water Supply Assessment (WSA) was submitted and approved by EBMUD on May 23, 2023 (provided as Appendix K of the Draft EIR). The WSA indicated that EBMUD would have adequate water supply to provide water service to development facilitated by the proposed project, including the conceptual development project. Therefore, EBMUD's WSA requirement was met. Further, future users of the site would be required to comply with Policy EM-26 of the City's General Plan that promotes water conservation through City programs and requirements, including cooperation with EBMUD to make recycled water available for irrigation and other uses. Future development facilitated by the proposed project would comply with General Plan Policy EM-26 by incorporating water conservation measures into the design of future development facilitated by the proposed project, including the conceptual development project, which would ensure efficient use of water at the project site, and minimize the potential water demand. In addition, the individual project sponsors would also be required to comply with the *COA: Water Efficient Landscaping*, which requires compliance with the State's Model Water Efficient Landscape Ordinance and meets EBMUD requirements.

Water service to future development facilitated by the proposed project would be individually metered in compliance with Section 537 of California's Water Code and Section 1954.201-219 of California's Civil Code. Future development on the on the project site that would be subject to Section 537 of California's Water Code and Section 1954.201-219 of California's Civil Code would provide evidence to the EBMUD that these requirements would be met. In addition, project sponsors of future development at the project site would contact EBMUD's New Business Office once development plans are finalized to request a water service estimate and to determine conditions for the provision of water service.

3.13.2 Comment UTL-2: Wastewater Service

This response addresses the following comments:

- EBMUD, Letter, 12/2/24 (A-EBMUD-7, UTL-2)
- EBMUD, Letter, 12/2/24 (A-EBMUD-8, UTL-2)

3.13.2.1 Response UTL-2

As discussed in Section 4.9, Hazards and Hazardous Materials, of the Draft EIR, mitigation measures have been prescribed that require the Response Plan for remediation of the site prior to development of the project site to include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) (Mitigation Measure HAZ-2e). In addition, future development would not use any of EBMUD's wet weather treatment capacity and the property owners would be responsible for maintaining their private sewer laterals and site plumbing to ensure no water infiltration and inflow enters the sewer system pursuant to BMC Sections 17.24.030(A)(2), 17.24.030(A)(3), and 17.06.020. Further, all proposed construction activity within the Second Street right-of-way would be coordinated with EBMUD so that the integrity of the existing pipeline within the Second Street right-of-way is maintained, and no permanent acquisition of Second Street would be required. With implementation of Mitigation Measure HAZ-2e, EBMUD's mitigation requests have been met.

3.13.3 Comment UTL-3: Natural Gas Infrastructure

This response addresses the following comment:

- Public Speaker 3, Planning Commission Transcript, 11/6/24 I-3-3, UTL-3)

3.13.3.1 Response UTL-3

Future development at the project site would be required to provide connections to surrounding utility infrastructure, including natural gas, if proposed, and to demonstrate that development would not impact this existing infrastructure. Therefore, future development facilitated by the proposed project would not impact the existing gas line within the Eastshore Highway right-of-way. In addition, before undertaking any digging or excavation projects contractors would use the Underground Service Alert (USA North 811) service to prevent accidental damage to underground utilities such as gas, water, electrical, and telecommunication lines

3.14 ALTERNATIVES

The comments and corresponding responses in this section cover comments related to project alternatives. The comment topics relate to:

- **ALT-1:** Alternative Selection Process

3.14.1 Comment ALT-1: Wildlife Refuge Area

This response addresses the following comment:

- Jai Jai Noire, Letter, 12/5/24 (I-7-3, ALT-1)
- Commissioner Orbuch, Landmarks Preservation Commission, 11/7/24 (A-ORB-1, ALT-2)

3.14.1.1 Response ALT-1

Chapter 5.0, Alternatives, of the Draft EIR analyzed potential alternatives to the proposed project. PRC Section 21100(b)(4) states that an EIR shall include a detailed statement setting forth alternatives to the project. Under the *State CEQA Guidelines*, the range of alternatives to the proposed project should include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more significant effects. The following alternatives to the project were evaluated in the Draft EIR: No Action alternative, General Plan Compliant alternative, and Reduced Development alternative. These alternatives represent a reasonable range of potential alternatives to the proposed project in light of the objective of avoiding or reducing the severity of significant and unavoidable impacts and/or impacts identified as less than significant with mitigation. Four alternatives, including off-site locations, a reduced parking alternative, the relocation of the existing structure at 1306 Third Street, and a historic preservation alternative were considered but ultimately rejected from further analysis.

Under the *State CEQA Guidelines*, the Lead Agency must consider a reasonable range of alternatives that would feasibly attain all or most of the project objectives but would avoid or substantially lessen any of the significant impacts of the proposed project. An EIR need not consider *all* potential alternatives to the project. Rather, CEQA requires that the EIR discuss only a “reasonable range” of alternatives.

CEQA does not require that the EIR study every specific alternative proposed by the public or other agencies. The Lead Agency must make a good faith effort to identify and study a reasonable range of appropriate alternatives to the proposed project.

To summarize, the Draft EIR must include alternatives that are:

1. Potentially feasible,
2. Attain most of the basic objectives of the project, and
3. Avoid or substantially lessen any of the significant effects of the project.

Under CEQA, a Lead Agency may structure its alternatives analysis around a reasonable definition of a fundamental underlying purpose, and need not study alternatives that cannot achieve that basic purpose. An EIR need not consider alternatives that are infeasible (*State CEQA Guidelines* Section 15126.6).

CEQA establishes no legal imperative as to the scope of alternatives to be analyzed in an EIR, and there is no set number of alternatives that must be analyzed to fulfill the requirements of CEQA. Rather, as stated in Section 15126.6 of the *State CEQA Guidelines* and supported by abundant CEQA

case law, the range of alternatives required in an EIR is governed by the "rule of reason," which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.

In summary, the Draft EIR followed the requirements of CEQA in identifying a range of reasonable alternatives to the project, or to the location of the project, that feasibly attain the project's basic objectives while avoiding or substantially lessening significant adverse environmental effects of the project for consideration by City decision-makers.

Regarding the suggestion that the site be considered for reclamation as a wildlife refuge, the site is currently zoned for industrial, manufacturing, and warehouse uses and the proposed project evaluates the potential environmental effects of rezoning the site to allow a different, but substantially similar type of use (R&D). Although the suggested alternative would presumably reduce or avoid some of the significant impacts of the project, including those related to project construction (building) activities, it would fail to meet all of the basic objectives of the project. Specifically, the project site would not be revitalized into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that add significantly to the City's economic base and facilitate job creation.

3.15 NON-CEQA

The comments and corresponding responses in this section cover non-CEQA related comments. The comment topics relate to:

- **NON-1:** Introductions and Conclusions
- **NON-2:** Development Agreements for Future Development Projects
- **NON-3**: Need for Biotech Campuses in the City
- **NON-4:** Parking
- **NON-5:** Congestion Management Program (CMP) Analysis
- **NON-6:** Allowable Uses in the Proposed M-RD Zone

3.15.1 Comment NON-1: Introductions/Conclusions, Background of the Commentor, and Summary of the Project

This response addresses the following comments:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-1, NON-1)
- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-9, NON-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-1, NON-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-2, NON-1)
- EBMUD, Letter, 12/2/24 (A-EBMUD-11, NON-1)
- Alameda CTC, Letter, 12/4/24 (A-CTC-1, NON-1)
- Alameda CTC, Letter, 12/4/24 (A-CTC-8, NON-1)
- Caltrans, Letter, 12/5/24 (A-Caltrans-1, NON-1)
- Caltrans, Letter, 12/5/24 (A-Caltrans-2, NON-1)

- Caltrans, Letter, 12/5/24 (A-Caltrans-8, NON-1)
- Public Speaker 2, Planning Commission Transcript, 11/6/24 (I-2-1, NON-1)
- Public Speaker 2, Planning Commission Transcript, 11/6/24 (I-2-4, NON-1)
- Public Speaker 3, Planning Commission Transcript, 11/6/24 (I-3-6, NON-1)
- Allan Moore, Planning Commission Transcript, 11/6/24 (I-4-1, NON-1)
- Allan Moore, Planning Commission Transcript, 11/6/24 (I-4-5, NON-1)
- Scott Robinson, Planning Commission Transcript, 11/6/24 (I-5-1, NON-1)
- Tim Southwick, Planning Commission Transcript, 11/6/24 (I-6-1, NON-1)
- Jai Jai Noire, Letter, 12/5/24 (I-7-1, NON-1)
- Allan Moore, Letter, 12/2/24 (O-1-1, NON-1)
- Allan Moore, Letter, 12/2/24 (O-1-5, NON-1)
- Allan Moore, Letter, 12/2/24 (O-1-35, NON-1)

3.15.1.1 Response NON-1

These comments are introductory, provide the background information of the commenter, briefly summarize the proposed project, and conclude the comment or comment letter. As these comments do not contain any substantive comments or questions about the environmental analysis or conclusions contained in the Draft EIR, no further response is required.

3.15.2 Comment NON-2: Development Agreements for Future Development Projects

This response addresses the following comment:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-7, NON-2)

3.15.2.1 Response NON-2

As discussed in Section 3.3, Project Background and Objectives, of the Draft EIR, the City Council referred to the Planning Commission the creation of a zoning overlay at the project site to facilitate redevelopment that would contribute to the City's tax base and the vitality of the local economy (refer to Draft EIR pages 3-33 through 3-34). Accordingly, the City developed the proposed project to provide a new set of zoning regulations as part of a new district that meet the Council objective and revitalize the underutilized project site. Further, one objective of the proposed project is to establish an M-RD zoning district to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office. Therefore, the proposed project evaluated in the Draft EIR would facilitate redevelopment of the site in furtherance of the project objectives and would require implementation of a TDM Plan (Mitigation Measure TRA-1), which includes shuttle service. The use of a Development Agreement[6] as part of any future development project is at the discretion of the future project sponsors.

[6] Berkeley Municipal Code Chapter 22.16.

3.15.3 Comment NON-3: Need for Biotech Campuses in the City

This response addresses the following comment:

- Vice Chair Finacom, Landmarks Preservation Commission Transcript, 11/7/24 (A-FIN-5, NON-3)

3.15.3.1 Response NON-3

The Draft EIR evaluated two project elements: the Gilman Gateway Rezone Project (proposed project), which would establish a new zoning district (M-RD), rezone the project site, and amend the Berkeley General Plan and West Berkeley Plan, and the Potential Berkeley Forge Development (conceptual development project), which could result in the development of a portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses. Although the proposed project and conceptual development project could facilitate development of a new biotechnology campus on the project site, future development of the project site could consist of any of the identified allowable uses for the new M-RD zoning district, as provided in Table 3.C, Allowed Uses in Manufacturing Districts, in Chapter 3.0, Project Description, of the Draft EIR (refer to Draft EIR pages 3-40 through 3-42).

Under CEQA, the environmental review process focuses on evaluating the specific project as proposed by the applicant or lead agency. CEQA's purpose is to assess the potential environmental impacts of the project and to identify feasible mitigation measures or alternatives that can reduce or avoid significant impacts. However, CEQA does not dictate or require changes to the underlying land use or the proposed nature of the project, nor does it require agencies to approve or deny a project based on potential alternative uses.

The *State CEQA Guidelines* emphasize that the environmental review should analyze the project as defined by the applicant while ensuring that its impacts are fully disclosed and mitigated where feasible. This means CEQA evaluates how the project's design, scale, operations, and location interact with environmental factors such as air quality, water resources, biological resources, and traffic, rather than imposing specific mandates on what the project should be used for.

3.15.4 Comment NON-4: Parking

This response addresses the following comment:

- Public Speaker 1, Planning Commission Transcript, 11/6/24 (I-1-2, NON-4)

3.15.4.1 Response NON-4

As discussed in Section 4.4, Transportation, the proposed project would facilitate future development of up to 1,005,266 square feet of non-residential space. Based on comments received on the Draft EIR and proposed M-RD zoning district, the City has revised the M-RD zoning district standards to remove the minimum off-street parking requirement (refer to Chapter 4.0, Draft EIR Text Revisions, of this Final EIR). The conceptual development project would continue to result in up to 1,900 automobile parking spaces on an approximately 10.26-acre portion of the site.

Although the proposed M-RD district would no longer require off-street parking, it should be noted that the district would not include a maximum parking requirement, and future project sponsors would likely provide the amount of parking demanded by the type of use constructed. Even though the conceptual development project would exceed the minimum parking requirement in the M-RD zoning district, the additional parking would not result in any secondary environmental impacts beyond those described in this Draft EIR. With implementation of Mitigation Measure TRA-1, which requires implementation of the Proposed TDM Plan, and Mitigation Measure TRA-2, which requires project-specific circulation plans be developed for individual development projects in coordination with the City, the proposed project and the conceptual development project would result in a less than significant impact associated with secondary effects from parking implementation.

3.15.5 Comment NON-5: CMP Analysis

This response addresses the following comment:

- Alameda CTC, Letter, 12/4/24 (A-CTC-2, NON-5)

3.15.5.1 Response NON-5

Although VMT (not level of service [LOS]) is the only legally acceptable threshold for analyzing the transportation-related environmental impacts of land use projects pursuant to CEQA, the Alameda County CMP legislation requires project sponsors to evaluate the effects of the project on the CMP network of roads outside of CEQA. The CMP analysis performed as part of the Transportation Impact Analysis (TIA) used volume-to-capacity (V/C) ratios to assess the impact of vehicle volumes on roadway segments. The results of the CMP analysis determined that buildout of the conceptual development project would not result in a substantial effect on the analyzed CMP roadway segments because it would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the V/C ratio by 0.03 or more on segments that operate at LOS F under existing conditions. The TIA can be found as Appendix E, Transportation Impact Analysis, of the Draft EIR.

3.15.6 Comment NON-6: Allowable Uses

This response addresses the following comments:

- Scott Robinson, Planning Commission Transcript, 11/6/24 (I-5-2, NON-6)
- Tim Southwick, Planning Commission Transcript, 11/6/24 (I-6-2, NON-6)
- Tim Southwick, Planning Commission Transcript, 11/6/24 (I-6-3, NON-6)
- Allan Moore, Letter, 12/2/24 (O-1-2, NON-6)
- Allan Moore, Letter, 12/2/24 (O-1-31, NON-6)

3.15.6.1 Response NON-6

The project site is currently designated as Manufacturing (M) in the City's General Plan. Table 3.C, Allowable Uses in Manufacturing Districts, lists the allowable uses within the existing M zoning district, the proposed M-RD zoning district, and other manufacturing zoning districts in the city. As shown in Table 3.C, vehicle wash is not permitted under the existing M district or the proposed M-RD district. In addition, standalone food service establishments under 20,000 square feet and

incidental food service establishments under 5,000 square feet would be allowed within the proposed M-RD district, subject to approval of an Administrative Use Permit, incidental food service establishments over 5,000 square feet would be allowed subject to approval of a Use Permit, and standalone food service establishments over 20,000 square feet would not be allowed. Although the proposed M-RD district would prohibit certain land uses, existing legal uses at the project site would be able to continue to operate under the proposed new zoning district pursuant to BMC Section 23.324.040, Nonconforming Uses, as they would have been lawfully established before the effective date of the M-RD zoning district.

3.15.7 Comment NON-7: Community Character

This response addresses the following comments:

- Vice Chair Ghosh, Planning Commission Transcript, 11/6/24 (A-GHOSH-8, AES-1)
- Allan Moore, Letter, 12/2/24 (O-1-28, AES-2)
- Allan Moore, Letter, 12/2/24 (O-1-34, AES-2)

3.15.7.1 Response AES-1

As stated in Section 6.3.1, Aesthetics, of the Draft EIR, an evaluation of aesthetic impacts, including the proposed project's potential impact related to community character, is not required under CEQA pursuant to PRC Section 21099(d)(1) as the proposed project, including the conceptual development project, meets the definition of an "employment center project" on an infill site within a transit priority area in an urbanized area (refer to Draft EIR page 6-8). Under CEQA, potential aesthetic impacts of projects in urbanized areas are determined by consistency with zoning or other regulations governing scenic quality, not views from private buildings (*State CEQA Guidelines* Appendix G, Aesthetics (c)).

Future development on the project site facilitated by the proposed project, including the conceptual development project, would obtain the proper zoning and design review permits, as required by BMC Chapter 23.406, Specific Permit Requirements, and would be subject to the applicable development standards and zoning requirements related to light and glare in the BMC, including a finding of non-detriment. For these reasons, redevelopment of the project site would not result in substantial impacts related to aesthetics, and the proposed project would be consistent with the surrounding community character, and the greater West Berkeley area.

3.15.8 Comment NON-8: Design Standards for the Proposed Project

This response addresses the following comments:

- Vice Chair Finacom, Landmarks Preservation Commission, 11/7/24 (A-FIN-3, AES-2)
- Commissioner Orbuch, Landmarks Preservation Commission, 11/7/24 (A-ORB-4, AES-2)
- Allan Moore, Letter, 12/2/24 (O-1-12, AES-2)
- Allan Moore, Letter, 12/2/24 (O-1-24, AES-2)

3.15.8.1 Response NON-8

As previously discussed under Response AES-1, an evaluation of aesthetic impacts is not required pursuant to PRC Section 21099(d)(1) as the proposed project, including the conceptual development project, meets the definition of an "employment center project" on an infill site within a transit priority area. Proposed project elements that relate to changes to aesthetic conditions at the project site and vicinity, such as proposed building heights, architecture, and the design of the development, among others, will, however, be considered as part of the zoning permit approval process, including through design review. Pursuant to BMC Section 24.406.070, the design review process ensures that new developments and significant remodels are consistent with the City's Design Guidelines and other applicable City design standards and guidelines. The Design Review Committee (DRC) conducts the process, which evaluates proposed projects for building and site design. Projects subject to design review typically include those located in commercial districts or subject to discretionary approvals. Public input is encouraged during the review process to promote transparency and community engagement. The DRC may suggest design changes or conditions to ensure that projects contribute positively to the city's urban landscape.

3.15.9 Comment NON-9: Project Signage

This response addresses the following comments:

- Vice Chair Finacom, Landmarks Preservation Commission, 11/7/24 (A-FIN-4, AES-3)
- Commissioner Orbuch, Landmarks Preservation Commission, 11/7/24 (A-ORB-3, AES-3)

3.15.9.1 Response NON-9

As previously discussed, an evaluation of aesthetic impacts is not required pursuant to PRC Section 21099(d)(1), as the proposed project, including the conceptual development project, meets the definition of a "employment center project" on an infill site within a transit priority area. Proposed project elements that relate to changes to aesthetic conditions at the project site and vicinity, such as proposed size and location of signage, would, however, be considered as part of the planning approval process, including through design review. In addition, all future development at the project site would be subject to the provisions of Title 20, Signs, including Chapter 20.32, Manufacturing District Regulations, which include regulations related to the type, size and number of signs that can be constructed in Manufacturing districts.

4.0 DRAFT EIR TEXT REVISIONS

This chapter presents specific changes to the text of the Draft Environmental Impact Report (EIR) in response to comments on the Draft EIR that are being made to clarify and supplement materials in the Draft EIR. The revised text does not provide new information that would result in any new significant impact not already identified in the Draft EIR or a substantial increase in the severity of an impact identified in the Draft EIR that cannot be mitigated to a less than significant level with implementation of mitigation measures agreed to by the project sponsor. Thus, none of the text revisions would require recirculation pursuant to *State CEQA Guidelines* Section 15088.5. The Draft EIR and this response to comments document together constitute the Final EIR for the Gilman Gateway Rezone Project. In the revisions shown below, added text is indicated with double underlined text. Text deleted is shown in ~~strikeout~~.

4.1 REVISIONS TO CHAPTER 2.0, SUMMARY

Upon further review, the City *Condition of Approval (COA): Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the Gilman Gateway Rezone Project (proposed project), including the conceptual development project, could result in impacts related to vehicle miles traveled (VMT), or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, Mitigation Measure TRA-1, which requires the implementation of the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan), has been prescribed and the numbering of the mitigation measures has been revised.

Section 2.3.1, Significant Impacts, Page 2-3

- Transportation (VMT, transportation hazards and emergency access)

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR, Page 2-9

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
4.1: LAND USE AND PLANNING						
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	S~~LTS~~	~~No mitigation required.~~ **Mitigation Measure TRA-1.** (see below)	Yes~~-~~	LTSM~~-~~	Yes~~-~~	LTSM~~-~~
4.4: TRANSPORTATION						
Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LTS	No mitigation required**.**	-	-	-	-
Impact TRA-2: The proposed project, including the conceptual development project, ~~would not~~ could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	S~~LTS~~	~~No mitigation required.~~ **Mitigation Measure TRA-1: Transportation Demand Management Plan.** Prior to occupancy, the project sponsor shall submit evidence to the City that the future development implements the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan). As detailed in the Proposed TDM Plan, the following TDM strategies shall be implemented: ● Shuttle Service: Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley.	Yes~~-~~	LTSM~~-~~	Yes~~-~~	LTSM~~-~~

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		• Extend or Provide New Bus Service: If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area. • Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists: Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site. • Bikeshare Station: Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area. • Carpool/Ride-Matching Service: Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools. • Free Parking for Carshare: Future development facilitated by the proposed project would be required to provide free parking to carshare companies. • Preferential Parking for Carpools: Future development facilitated by the proposed project would be required to include free parking for carpoolers. • Transit Subsidy: Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers. • Pre-tax Commuter Benefits: Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers.				

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		• Ongoing Marketing and Information: Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit. On an annual basis for ten years thereafter, the project sponsor shall submit a report that demonstrates the project complies with the applicable requirements. After three years of timely compliant submittals, the City has the option to accept less frequent submittals (minimum one every three years).				
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	S	**Mitigation Measure TRA-~~2~~1: Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location,	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.				
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	S	**Mitigation Measure TRA-2~~1~~.** (see above)	Yes	LTSM	Yes	LTSM
4.5: AIR QUALITY						
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	S~~LTS~~	~~No mitigation required.~~ **Mitigation Measure TRA-1.** (see above)	Yes~~-~~	LTSM~~-~~	Yes~~-~~	LTSM~~-~~
4.6: GREENHOUSE GAS EMISSIONS						
Impact GHG-1a: ~~If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.~~ **The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD. As a result, it would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. The proposed project does not**	S	**Mitigation Measure GHG-1**: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.	Yes	SU	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces.						
Impact GHG-1b: ~~The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.~~ **The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and therefore could generate GHG emissions, either directly or indirectly, during operations that would have a significant effect on the environment. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with the specific project design threshold recommended by the BAAQMD.**	S	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)	Yes	LTSM	Yes	LTSM
Impact GHG-2a: ~~If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.~~ **The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing**	S	**Mitigation Measure GHG-1.** (see above)	Yes	SU	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
and therefore would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in Assembly Bill (AB) 32, Senate Bill (SB 32), Executive Order (EO) B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces.						
Impact GHG-2b: ~~The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.~~ **The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. However, the conceptual development project would not include natural gas appliances or**	S	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
plumbing, and therefore would be consistent with that project design thresholds recommended by the BAAQMD.						
4.7: ENERGY						
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	S~~LTS~~	~~No mitigation required.~~ **Mitigation Measure TRA-1.** (see above)	Yes~~-~~	LTSM~~-~~	Yes~~-~~	LTSM~~-~~
4.9: HAZARDS AND HAZARDOUS MATERIALS						
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	S	**Mitigation Measure TRA-2~~1~~.** (see above)	Yes	LTSM	Yes	LTSM
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	S	**Mitigation Measure HAZ-2b: Additional Site Characterization For The Project Area Not Previously Characterized ~~the Potential Berkeley Forge Development~~.** The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs, as attached to the Draft EIR, that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater	~~No~~ Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. The project sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within ~~the conceptual development~~ project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of future development projects. ~~the conceptual development project~~ if determined to be necessary by DTSC, additional investigation and characterization of ~~the conceptual development~~ project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required ~~for the conceptual development project~~ by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.				

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
	S	**Mitigation Measure HAZ-2c: Subsurface PCBs Contamination at the ~~Potential Berkeley Forge Development~~ Project Site.** The Response Plan for ~~conceptual development project~~ any future development shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the ~~Potential Berkeley Forge Development~~ project site. As part of the environmental clearance required for any ~~the conceptual development~~ future development by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.	~~No~~ Yes	LTSM	Yes	LTSM
4.10: Hydrology and Water Quality						
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding. *(Less than Significant with Mitigation)*	S	**Mitigation Measure HYD-3: Hydraulic Study of Drainage during Construction and Operation for the Proposed Project and the Potential Berkeley Forge Development.** The project sponsor for the conceptual development project and any other future development on the project site that has the potential to alter drainage patterns at the project site shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of future projects, including surface runoff flow directions,	~~No~~ Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that future projects would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), future projects design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.				

Source: Compiled by LSA (2024).

AB = Assembly Bill
AST = above-ground storage tank
BAHP = Bureau of Architecture and Historic Preservation
BAAQMD = Bay Area Air Quality Management District
BMC = Berkeley Municipal Code
CALGreen = California Green Building Standards Code
CEQA = California Environmental Quality Act
City = City of Berkeley
CHRIS = California Historical Resources Information System
dBA = A-weighted decibels
DTSC = California Department of Toxic Substances Control
EBP = Santa Clara Valley Groundwater Basin, East Bay Plain
EIR = Environmental Impact Report
EO = Executive Order
ESA = Environmental Site Assessment
GHG = greenhouse gas
LTS = Less Than Significant
LTSM = less than significant with mitigation incorporated
NWIC = Northwest Information Center
PCB = polychlorinated biphenyls
PM_{10} = particulate matter 10 microns or less in diameter
PRC = Public Resources Code
project = Gilman Gateway Rezone Project
S = Potentially Significant
SB = Senate Bill
SGMP = Soil and Groundwater Management Plan
SU = Significant and Unavoidable
TAC = toxic air contaminant
TMD = City of Berkeley Toxics Management Division
UST = underground storage tank
VMT = vehicle miles traveled

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4.2 REVISIONS TO CHAPTER 3.0, PROJECT DESCRIPTION

Based on comments received, the City has revised the proposed Manufacturing, Research and Development (M-RD) zoning district to remove the off-street parking requirement.

Section 3.4.1, Proposed Manufacturing, Research and Development Zoning District, Page 3-39

While the proposed rezoning and General Plan/West Berkeley Plan amendments would not result in any physical alterations to the project site, implementation of the proposed M-RD zoning district would facilitate development of the entire project site and assumes demolition of all existing structures on the site. Chapter 23.206 of the BMC would be amended to include the proposed M-RD zoning district to establish regulations for any potential redevelopment project. Accordingly, Table 23.206-1 and Table 23.206-2 of the BMC would be amended as shown in double-underlined text below in Table 3.C. As shown in Table 3.C, the M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D.

As shown in Table 3.G, with a 2.0 floor area ratio, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would not ~~also~~ require any ~~approximately 1,300~~ off-street automobile parking spaces. Approximately 470 bicycle parking spaces would be required. The maximum building height within the M-RD zoning district would be 55 feet, unless a modification is sought via a Use Permit (UP), in which case the maximum building height would be 105 feet.

Table 3.E: Manufacturing, Research and Development Zoning District Development Standards, Page 3-43

Table 3.E: Manufacturing, Research and Development Zoning District Development Standards

Basic Standards		Supplemental Standards
Lot Area, Minimum	No minimum	BMC Section 23.304.020 – Lot Requirements
Usable Open Space Per	–	–
Dwelling Unit, Minimum	N/A	–
Floor -Area Ratio, Maximum	2.0	–
Main Building Height, Maximum	55 ft. 105 ft. [1]	BMC Section 23.204.050 – Building Height
Lot Line Setbacks, Minimum		BMC Section 23.304.030 - Setbacks
Front	No minimum	
Rear	No minimum	
Interior Side	No minimum	
Street Side	No minimum	
Building Separation, Minimum	No minimum	–
Lot Coverage, Maximum	80 percent	BMC Section 23.304.120 - Lot Coverage
Off-Street Parking, Minimum	No minimum	BMC Section 23.322.040 – General Requirements
Non-Residential Bicycle Parking	1 per 2,000 sf	BMC Section 23.322.090 - Bicycle Parking

Source: City of Berkeley (2024).
Note: [1] Maximum Main Building Height of 105 feet may be allowed pursuant to Section 23.206.100(D)(1) (Modification of Development Standards on Large Sites).
BMC = Berkeley Municipal Code sf = square feet
N/A = not applicable

Table 3.F: Manufacturing, Research and Development Zoning District Development Off Street Parking Standards, Page 3-44

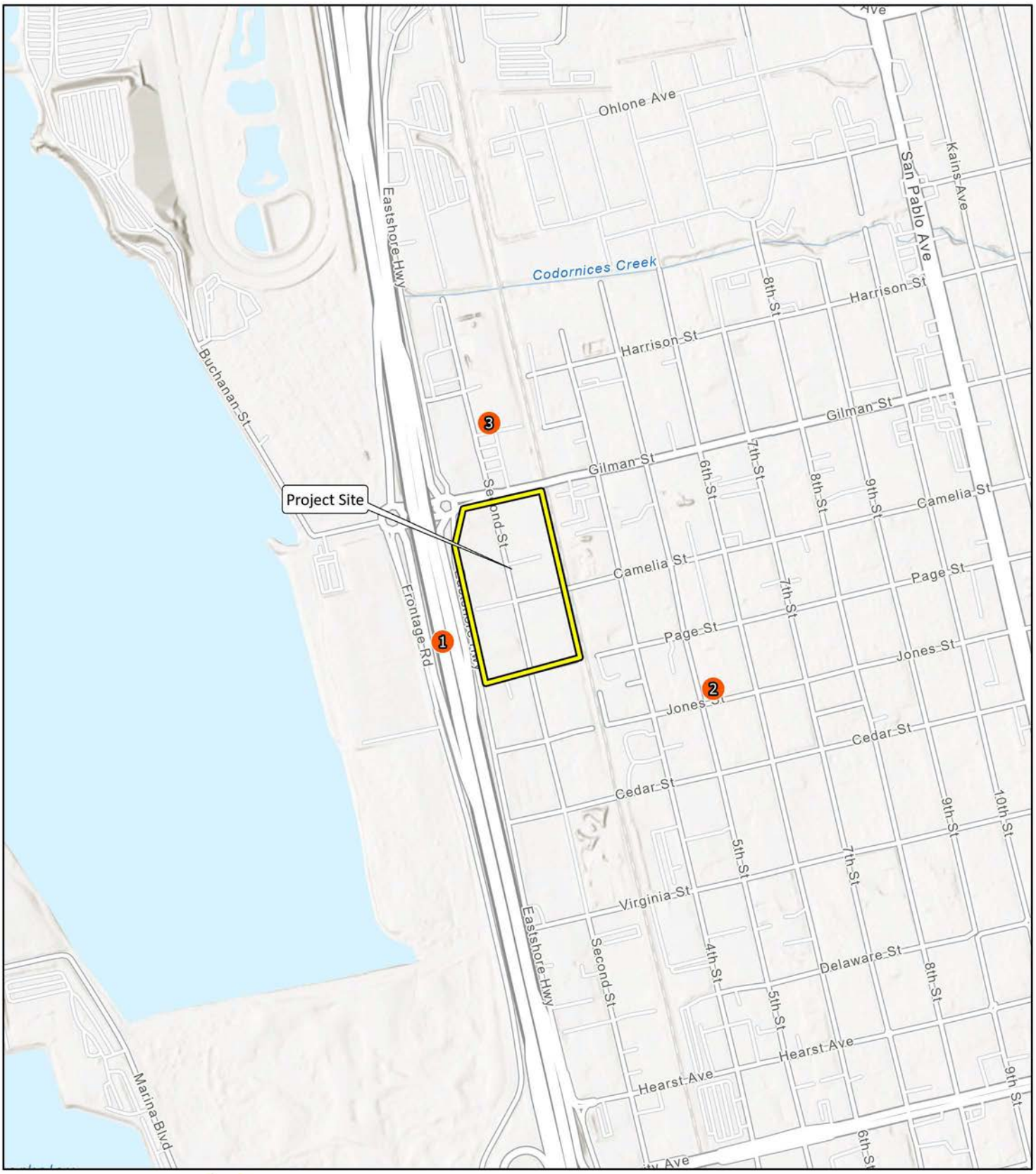
~~Table 3.F: Manufacturing, Research and Development Zoning District Off-Street Parking Standards~~

~~Land Use~~	~~Minimum Required Parking Spaces~~
~~Non-Residential Uses~~	
~~All non-residential uses except uses listed below~~	~~1 per 1,000 sf~~
~~Art/Craft Studio~~	~~1 per 1,000 sf~~
~~Food Service Establishment~~	~~1 per 300 sf~~
~~Laboratories~~	~~1 per 1,000 sf~~
~~Manufacturing~~	~~1 per 1,000 sf for spaces less than 10,000 sf;~~ ~~1 per 1,500 sf for spaces 10,000 sf or more~~
~~Storage, warehousing, and wholesale trade~~	~~1 per 1,000 sf for spaces less than 10,000 sf;~~ ~~1 per 1,500 sf for spaces 10,000 sf or more~~

~~Source: City of Berkeley (2024).~~
~~sf = square feet~~

4.3 REVISIONS TO CHAPTER 4.0, SETTING, IMPACTS, AND MITIGATION MEASURES

Figure 4-1, which provides a map of the cumulative projects has been revised to match the list of projects provided in Table 4.A.



LSA

Project Site

Cumulative Projects

1. I-80 Gilman Interchange Improvement
2. 805 Jones Street
3. 1201 Second/669 Gilman Transfer Station

0 400 800
FEET

SOURCE: Esri World Terrain Base (2024)

FIGURE 4-1

Gilman Gateway Rezone Project EIR

Revised Cumulative Projects Map

I:\C\CBE1906.09\GIS\Pro\Gilman Gateway Rezone Project EIR\Gilman Gateway Rezone Project EIR.aprx (1/13/2025)

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4.4 REVISIONS TO SECTION 4.1, LAND USE AND PLANNING

City *Condition of Approval (COA): Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan, has been prescribed and the discussion under Impact LU-2 has been revised to reference Mitigation Measure TRA-1. As further discussed in Section 4.1.4, below, because Mitigation Measure TRA-1 outlines the same requirements as *COA: Transportation Demand Management* that were presented in the Draft EIR, and provides the same amount of VMT reduction, there is no change in the information provided in the Draft EIR and this is not a substantially different mitigation measure and does not require recirculation of the Draft EIR pursuant to *State CEQA Guidelines* Section 15088.5.

Section 4.1.2.2, Project Impacts, Page 4.1-10

Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050. (*Less than Significant with Mitigation*)

The proposed project, including the conceptual development project, would be generally consistent with the land use and planning related policies in the City's General Plan, and no adverse physical environmental effects would result from any policy inconsistencies. The proposed project would be generally consistent with the policies found in the Land Use Element by maintaining the community character of the surrounding (predominantly industrial) area consistent with Policy LU-1 and Objective 4, encouraging infill development consistent with Policy LU-3, and undergoing discretionary review consistent with Policy LU-4, and would be generally consistent with the policies found in the Transportation Element because compliance with the City's COAs and implementation of Mitigation Measure TRA-1 requiring implementation of the Proposed TDM Plan, as described further in Section 4.4, would ~~y~~ encourage the use of alternative transportation and transit consistent with Policy T-10, ~~including a transportation demand management program,~~ and would encourage~~]~~ the maintenance of streets, sidewalks, and other public infrastructure to reduce long term replacement costs consistent with Policy T-25. Encouraging improvements to transit, bicycle, disabled, and pedestrian access in the vicinity of the project site consistent with Policy T-29 would also render the proposed project generally consistent with the Open Space Element and maintaining the community character of the area and site would render the proposed project generally consistent with the Urban Design and Preservation Element. The proposed project would also be generally consistent with the policies found in the Disaster Preparedness and Safety Element through identifying, avoiding, and minimizing natural and human-caused hazards in the development of property consistent with State and local building regulations, and would be generally consistent with the policies found in the Environmental Management Element through compliance with City and State-mandated Green Building Standard Codes and federal, State and local regulations protecting groundwater water quality. Therefore, with implementation of Mitigation Measure TRA-1, impacts related to consistency with General Plan policies adopted to

mitigate adverse environmental impacts ~~the proposed project and the conceptual development project~~ would be ~~result in a~~ **less than significant with mitigation.** ~~impact related to consistency with General Plan policies adopted to mitigate adverse environmental impacts~~.

Impact LU-2 Summary: With implementation of Mitigation Measure TRA-1, ~~The~~ the proposed project, including the conceptual development project, would be consistent with the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050. Therefore, impacts associated with potential conflicts with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation an environmental effect would be **less than significant with mitigation**.

4.5 REVISIONS TO SECTION 4.4, TRANSPORTATION

City *COA: Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, *COA: Transportation Demand Management* has been removed from the regulatory setting, Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan, has been prescribed, and the numbering of the mitigation measures has been revised. The addition of this mitigation measure does not meet the thresholds outlined in *State CEQA Guidelines* Section 15088.5, which sets forth the rules for recirculating a Draft EIR when "significant new information" is added after the draft has been released for public review but before the final EIR is certified. If changes—such as the presentation of a markedly different alternative or mitigation measure—alter the environmental analysis in a way that could affect public understanding and comment, the lead agency must recirculate the revised portions of the EIR. However, if the changes only clarify or make minor adjustments to the existing analysis, recirculation isn't required. As Mitigation Measure TRA-1 outlines the same requirements as *Condition of Approval (COA): Transportation Demand Management* that were presented in the Draft EIR, and provides the same amount of VMT reduction, there is no change in the information provided in the Draft EIR and this is not a substantially different mitigation measure.

In addition, the City has revised the provisions of the proposed M-RD zoning district to remove the minimum off-street parking requirement.

Section 4.4.1.2, Regulatory Setting, Page 4.4-16

> ~~COA: Transportation Demand Management (*at all times*). A Transportation Demand Management compliance report shall be submitted to the Zoning Officer, on a form acceptable to the City, prior to occupancy, and on an annual basis for ten years thereafter, which demonstrates that the project complies with the applicable requirements. After three years of timely compliant submittals, staff has the option to accept less frequent submittals (minimum one every three years). Property owners may be required to pay administrative fees associated with compliance with this Condition, pursuant to BMC Section 23.334.040(B).~~

Section 4.4.2.2, Project Impacts, Page 4.4-20

Impact TRA-2: The proposed project, including the conceptual development project, ~~would not~~ could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). (*Less than Significant with Mitigation*)

Based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker of 18.1 in 2040, or 18.2 in 2040, which would require a home-worker VMT per worker of 15.4 in 2020 and 15.5 in 2040.

Proposed Transportation Demand Management Plan. The proposed creation of a new zoning district would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the conceptual development project. The project sponsor for a future development project, including the conceptual development project, would be required to implement the proposed TDM Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan) in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Based on the VMT analysis presented below, both the 2020 and 2040 home-work VMT per worker for the proposed project would be above the threshold of significance (i.e., 15 percent below the regionwide Bay Area average) by about 5 percent, without a TDM Plan. Accordingly, any future development, including the conceptual development project, would be required to implement the Proposed TDM Plan described in Mitigation Measure TRA-1.

Table 4.4.C summarizes the VMT estimates for the proposed project, including the conceptual development project under 2020 and 2040 conditions as estimated by the Alameda CTC Model. Under both 2020 and 2040 conditions, the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1. ~~The proposed project's TDM Plan as required by *COA: Transportation Demand Management* and described below, would achieve a reduction in VMT between 6 and 10 percent.~~Because the VMT estimates for the proposed project, including the conceptual development project, would exceed the City's thresholds, impacts would be **potentially significant**. Therefore, Mitigation Measure TRA-1, which requires future development at the project site implement of the proposed TDM Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan), is prescribed.

Mitigation Measure TRA-1: **Transportation Demand Management Plan.** Prior to occupancy, the project sponsor shall submit evidence to the City that future proposed development implements the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan). As detailed in the Proposed TDM Plan, the following TDM strategies shall be implemented:

- Shuttle Service: Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday

peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley.

- Extend or Provide New Bus Service: If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area.

- Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists: Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site.

- Bikeshare Station: Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area.

- Carpool/Ride-Matching Service: Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools.

- Free Parking for Carshare: Future development facilitated by the proposed project would be required to provide free parking to carshare companies.

- Preferential Parking for Carpools: Future development facilitated by the proposed project would be required to include free parking for carpoolers.

- Transit Subsidy: Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers.

- Pre-tax Commuter Benefits: Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers.

- Ongoing Marketing and Information: Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about

various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit.

On an annual basis for ten years thereafter, the project sponsor shall submit a report that demonstrates the project complies with the applicable requirements. After three years of timely compliant submittals, the City has the option to accept less frequent submittals (minimum one every three years).

Table 4.4.C Vehicle Miles Traveled Summary

Geographic Area	Home-Work VMT Per Worker (2020)	Home-Work VMT Per Worker (2040)
Bay Area Regionwide Average[1]	18.1	18.2
Bay Area Regionwide Average minus 15% (i.e., threshold of significance)	15.4	15.5
Project (TAZ 79)[1]	16.1	16.1
Below Threshold without TDM?	No	No
Project with TDM[2]	14.5 to 15.1	14.5 to 15.1
Below Threshold with TDM?	Yes	Yes

Source: Fehr & Peers (2022).
[1] Based on the results of the Alameda CTC Countywide Travel Demand Model.
[2] See Table 4.4.D for TDM Plan details and effectiveness.
TDM = Transportation Demand Management
VMT = vehicle miles traveled

~~**Proposed Transportation Demand Management Plan.**The proposed creation of a new zoning district would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the conceptual development project. The project sponsor for a future development project, including the conceptual development project, would be required to implement the proposed TDM Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan) in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Based on the VMT analysis presented below, both the 2020 and 2040 home-work VMT per worker for the proposed project would be above the threshold of significance (i.e., 15 percent below the regionwide Bay Area average) by about 5 percent, without a~~

~~TDM Plan. Accordingly, any future development, including the conceptual development project, would be required to implement the Proposed TDM Plan.~~

The potential effectiveness of the TDM measures for the proposed project was evaluated using the Alameda CTC VMT Reduction Calculator Tool, which is a tool that accounts for the particular location of a development project and quantifies the effects of various strategies in reducing VMT consistent with the research compiled in the *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers* prepared by the California Air Pollution Control Officers Association (CAPCOA).[1] The quantification methods provided in the CAPCOA report are based on an extensive literature review and are appropriate for use in this project-level analysis. Based on this assessment, the Proposed TDM Plan could reduce the project-generated VMT by between 6 and 10 percent as ~~Proposed TDM measures are described below and~~ summarized in Table 4.4.D.

Table 4.4.D: Preliminary TDM Plan VMT Reduction Estimates

TDM Strategy	Description	Estimated VMT Reduction[1]
BART Shuttle	Provide peak commute period shuttle service to BART and Amtrak.	3%–6%
Bus Service Extension	Extend AC Transit bus service into the project area.	N/A[2]
Bicycle Amenities	Provide secure bicycle parking, showers and lockers, and repair station.	< 1%
Bike Share	Allow and facilitate installation of a potential bikeshare station in the project area.	
Carpool and Ride-Matching Assistance	Assist project area employees in forming carpools and provide preferential carpool parking spaces.	1%
Carshare Parking Spaces	Dedicate on-site carshare parking spaces.	< 1%
Transit fare Subsidy	Require tenants to provide transit subsidies.	1%–2%[3]
Pre-Tax Commuter Benefits	Require tenants to provide pre-tax commuter benefits.	
Marketing and Education	Active marketing and education of employees on various commuting options.	N/A[4]
	Total Estimated Vehicle Trip Generation Reduction	**6%–10%**

Source: Fehr & Peers (2024).

1 Primarily based on the results on the Alameda CTC VMT Reduction Calculator Tool.

2 Since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, effectiveness of this strategy cannot be quantified at this time.

3 Assuming a transit subsidy of about $2.50 per day per employee (value to transit user and not necessarily the cost) available to all employees.

4 The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that existing literature does not provide a robust methodology for calculation of its effectiveness. In addition, many of the strategies referenced in Table 4.4.E are complementary to each other and isolating their specific effectiveness may not be feasible.

AC Transit = Alameda-Contra Costa Transit District
Alameda CTC = Alameda County Transportation Commission
BART = Bay Area Rapid Transit
TDM Plan = Transportation Demand Management Plan
VMT = vehicle miles traveled

1 California Air Pollution Control Officers Association. 2021. *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers.* December.

- ~~**Shuttle Service:** Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley.~~

- ~~**Extend or Provide New Bus Service:** If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area.~~

- ~~**Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists:** Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site.~~

- ~~**Bikeshare Station:** Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area.~~

- ~~**Carpool/Ride-Matching Service:** Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools.~~

- ~~**Free Parking for Carshare:** Future development facilitated by the proposed project would be required to provide free parking to carshare companies.~~

- ~~**Preferential Parking for Carpools:** Future development facilitated by the proposed project would be required to include free parking for carpoolers.~~

- ~~**Transit Subsidy:** Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers.~~

- ~~**Pre-tax Commuter Benefits:** Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers.~~

- ~~**Ongoing Marketing and Information:** Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit.~~

As shown in Table 4.4.D, implementation of the Proposed TDM Plan, as required by Mitigation Measure TRA-1, would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Future development of project site facilitated by the proposed project would be required to prepare and implement the Proposed TDM Plan with similar measures. Therefore, with implementation of ~~the Proposed TDM Plan~~ Mitigation Measure TRA-1, future development facilitated by the proposed project, including the conceptual development project, would not conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). ~~result in a~~ Impacts would be **less than significant ~~impact~~ with mitigation** ~~associated with VMT rates~~.

Impact TRA-2 Summary: With implementation the Proposed TDM Plan, future development facilitated by the proposed project, including the conceptual development project, would not result in VMT impacts or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). Impacts would be **less than significant with mitigation**.

Section 4.4.2.2, Project Impacts, Page 4.4-24

Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature. (*Less than Significant with Mitigation*)

However, future project operations would potentially propose changes to the existing circulation system. If the circulation plans include proposed changes that would result in hazardous traffic conditions, project impacts would be **potentially significant**. Therefore, Mitigation Measure TRA-2~~1~~, Circulation Plan shall be required.

Mitigation Measure TRA-2~~1~~: **Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.

Impact TRA-3 Summary: With implementation of Mitigation Measure TRA-2~~1~~, which requires project-specific circulation plans be developed in coordination with the City, circulation modifications associated with future development facilitated by the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature or incompatible use. Impacts would be **less than significant with mitigation**.

Section 4.4.2.2, Project Impacts, Page 4.4-25

Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access. (*Less than Significant with Mitigation*)

If proposed circulation changes would result in inadequate emergency access, Mitigation Measure TRA-2~~1~~, as detailed above, shall be required. In addition, as part of the City's project approval process, the proposed project and the conceptual development project would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access.

As required in Mitigation Measure TRA-2~~1~~, the conceptual development project and any additional development that would be facilitated by the proposed project would be required to implement the recommendations provided in the proposed circulation plan as refined as part of the future application submittal. Implementation of project-specific recommendations relating to emergency access would ensure that implementation of the proposed project and the conceptual development project would not result in inadequate emergency access and impacts to emergency vehicle access would be **less than significant with mitigation**.

Impact TRA-4 Summary: With implementation of Mitigation Measure TRA-2~~1~~, which requires project-specific circulation plans be developed in coordination with the City, circulation modifications associated with future development facilitated by the proposed project, including the conceptual development project, would not result in inadequate emergency access, and impacts to emergency vehicle access would be **less than significant with mitigation**.

Section 4.4.3.2, Parking Assessment, Page 4.4-31

Even though the conceptual development project would exceed the parking requirements in the BMC, the additional parking would not result in any secondary environmental impacts beyond those outlined in this Draft EIR. With implementation of Mitigation Measures and TRA-1 and 2, ~~as well as the *COA: Transportation Demand Management*,~~ the proposed project and the conceptual development project would result in a **less than significant** impact associated with secondary effects from parking implementation.

4.6 REVISIONS TO SECTION 4.5, AIR QUALITY

City *COA: Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan, has been prescribed and the discussion under Impact AIR-1 has been revised to reference Mitigation Measure TRA-1. As discussed in Section 4.1.4, above, because Mitigation Measure TRA-1 outlines the same requirements as *COA: Transportation Demand Management* that were presented in the Draft EIR, and provides the same amount of VMT reduction, there is no change in the information provided in

the Draft EIR and this is not a substantially different mitigation measure and does not require recirculation of the Draft EIR pursuant to *State CEQA Guidelines* Section 15088.5.

Section 4.5.2.2 Project Impacts, Page 4.5-23

Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan. (*Less than Significant with Mitigation*)

> Transportation Control Measures. The BAAQMD identifies Transportation Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site; however, future development, including the conceptual development project, would be required to comply with the development standards of the newly created M-RD district that would require 470 bicycle parking spaces to be located on the site. In addition, as discussed in Section 4.4, Transportation, any future development project would be subject to the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project, as required by Mitigation Measure TRA-1, to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART) and passenger rail services along the Union Pacific Railroad (UPRR) corridor is provided by Amtrak. These public transit services in the project area help to reduce the demand for travel by single--occupancy vehicles. Therefore, the project would promote BAAQMD initiatives to reduce vehicle trips and VMT and would increase the use of alternate means of transportation.

Impact AIR-1 Summary: With implementation of Mitigation Measure TRA-1, ~~Implementation of~~ the proposed project and the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan. Therefore, impacts would be **less than significant with mitigation**.

4.7 REVISIONS TO SECTION 4.6, GREENHOUSE GAS EMISSIONS

City *COA: Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, *COA: Transportation Demand Management* has been removed from the discussion under Impact GHG-1b and Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan, has been prescribed. As discussed in Section 4.1.4, above, because Mitigation Measure TRA-1 outlines the same requirements as *COA: Transportation Demand Management* that were presented in the Draft EIR and provides the same amount of VMT reduction, there is no change in the information provided in

the Draft EIR; this is not a substantially different mitigation measure and does not require recirculation of the Draft EIR pursuant to *State CEQA Guidelines* Section 15088.5.

Section 4.6.2.2 Project Impacts, Page 4.6-17

Impact GHG-1a: ~~If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.~~ The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD. As a result, it would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces. ***(Significant and Unavoidable)***

Impact GHG-1b: **~~The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.~~ The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and therefore could generate GHG emissions, either directly or indirectly, during operations that would have a significant effect on the environment. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with the specific project design threshold recommended by the BAAQMD.** ***(Less than Significant with Mitigation)***

> Vehicle Miles Traveled. To meet the BAAQMD's VMT threshold, the proposed project must achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. As discussed in Section 4.4, Transportation, based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker.
>
> As explained in Section 4.4, Transportation, under both 2020 and 2040 conditions, the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1. As discussed in Section 4.4, Transportation, future projects envisioned under the proposed project, including the conceptual development project, would implement a Transportation Demand Management Plan (TDM Plan), as required by ~~City *COA: Transportation Demand Management*~~ Mitigation Measure TRA-1, which would achieve a reduction in VMT between 6 and 10 percent. Implementation of the~~a~~ TDM Plan described in Mitigation Measure TRA-1 would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Therefore, with implementation of Mitigation Measure TRA-1,~~a TDM Plan,~~ the VMT generated by the proposed project and conceptual

development project would result in a **less than significant** impact. Accordingly, the proposed project and conceptual development project would be consistent with this design element.

With implementation of Mitigation Measure GHG-1 and Mitigation Measure TRA-1, the proposed project and conceptual development project would be consistent with the BAAQMD's project design elements related to energy, VMT, and electric vehicles.

Impact GHG-1 Summary: If future development at the project site facilitated by the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant effect on the environment would be **significant and unavoidable,** even with implementation of Mitigation Measure GHG-1 and Mitigation Measure TRA-1**.**

As the conceptual development project would be all electric, the conceptual development project would meet the project design thresholds recommended by the BAAQMD. Therefore, with implementation of Mitigation Measure GHG-1 and Mitigation Measure TRA-1, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant effect on the environment would be **less than significant with mitigation**.

Impact GHG-2a: ~~If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.~~ The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in Assembly Bill (AB) 32, Senate Bill (SB 32), Executive Order (EO) B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces. *(Significant and Unavoidable)*

Impact GHG-2b: ~~The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.~~ The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with the project design thresholds recommended by the BAAQMD. *(Less than Significant with Mitigation)*

Transportation and Motor Vehicle Measures. The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. The majority of vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project and conceptual development project would comply with applicable transportation and motor vehicle measures.

The proposed creation of a new zoning district and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the conceptual development project. As discussed above, the project sponsor would implement Mitigation Measure TRA-1 ~~the proposed TDM Plan~~ as part of the conceptual development project in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation. In addition, all future development facilitated by the proposed project would be required to implement a similar TDM Plan, as required by Mitigation Measure TRA-1 ~~*COA: Transportation Demand Management*~~.

Plan Bay Area 2050. As described above, Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. Plan Bay Area 2050 includes 11 goals and 35 performance targets covering four broad areas: housing, economics, transportation, and environment. These targets enable the plan to be evaluated by its performance in areas identified as key regional concerns, including equitable access, economic vitality, and transportation system effectiveness. Table 4.6.C includes an evaluation of the proposed project's consistency with Plan Bay Area 2050 goals and performance targets related to GHG emissions. The project site is not in a Priority Development Area (PDA) or Transit Priority Area (TPA) as identified by Plan Bay Area 2050.

As described in Table 4.6.C, the proposed project would be consistent with the applicable strategies identified in Plan Bay Area 2050.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
Reduce Climate Emissions	**EN7. Expand commute trip reduction programs at major employers.** Set a sustainable commute target for major employers as part of an expanded Bay Area Commuter Benefits Program, with employers responsible for funding incentives and disincentives to shift auto commuters to any combination of telecommuting, transit, walking and/or bicycling.	***Consistent (with Mitigation Measure TRA-1).*** As discussed in Section 4.4, Transportation, future projects envisioned under the proposed project and the conceptual development project would be required to implement Mitigation Measure TRA-1, which requires implementation of a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy. With implementation of Mitigation Measure TRA-1, the proposed project would be consistent with this strategy.
	EN9. Expand transportation demand management initiatives. Expand investments in programs like vanpools, bikeshare, carshare and parking fees to discourage solo driving.	***Consistent (with Mitigation Measure TRA-1).*** Future projects envisioned under the proposed project and the conceptual development project would be required to implement Mitigation Measure TRA-1, which requires implementation of a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy. With implementation of Mitigation Measure TRA-1, the proposed project would be consistent with this strategy.

Sources: Metropolitan Transportation Commission and Association of Bay Area Governments (2021); LSA (March 2024).
AC Transit = Alameda-Contra Costa Transit District
BART = Bay Area Rapid Transit
CALGreen Code = California Green Building Standards Code
City = City of BerkeleyM-RD = Manufacturing, Research and Development
PDA = Priority Development Area
R&D = research and development
TDM Plan = Transportation Demand Management Plan

City of Berkeley Climate Action Plan. As discussed above, the City adopted a CAP in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP are based on the following topics: Sustainable Transportation and Land Use, Building Energy Use, Waste Reduction and Recycling, Community Outreach and Empowerment, and Preparing for Climate Change Impacts. Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Table 4.6.D includes an evaluation of the proposed project's consistency with the City's CAP.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
Sustainable Transportation & Land Use	**1. Goal:** Increase density along transit corridors.	***Consistent (with Mitigation Measure TRA-1).*** The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the primarily vacant and underutilized infill project site with up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses along the Gilman Street frontage and within close proximity to active transit, including the North Berkeley Bay Area Rapid Transit (BART) Station, 1.06 miles to the east. In addition, as discussed in Section 4.4, Transportation, future projects envisioned under the proposed project and the conceptual development project would be required to implement Mitigation Measure TRA-1, which requires implementation of a TDM Plan in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. In addition, future development, including the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles. Therefore, with implementation of Mitigation Measure TRA-1, the project would support the ability of employees and visitors to use alternative modes of transportation, consistent with the intent of this key attribute.
	2. Goal: Increase and enhance urban green and open space, including local food production, to improve the health and quality of life for residents, protect biodiversity, conserve natural resources, and foster walking and cycling.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project. However, future development of the project site would be required to comply with City open space standards. In addition, the conceptual development project would provide open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and hardscape, approximately 24,000 square feet of landscaping (including trees) and a portion of the 31,092 square foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the conceptual development project site. In addition, the proposed project would be required to implement Mitigation Measure TRA-1, which requires implementation of ~~develop~~ a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to utilize other transportation options and rely less on driving alone, consistent with the intent of this goal.
	7. Goal: Enhance and expand car sharing and ridesharing programs.	***Consistent (with Mitigation Measure TRA-1).*** The proposed project would be required to implement Mitigation Measure TRA-1, which requires implementation of a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.

Sources: City of Berkeley (2009); LSA (February 2024).
BART = Bay Area Rapid Transit
CALGreen Code = California Green Building Standards Code
CAP = Climate Action Plan
City = City of Berkeley
R&D = research and development
TDM Plan = Transportation Demand Management Plan
VMT = vehicle miles traveled

Impact GHG-2 Summary: Because future development facilitated by the proposed project may include the use of natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **significant and unavoidable,** even with implementation of Mitigation Measure GHG-1 and Mitigation Measure TRA-1. As the conceptual development project would be all-electric, the conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, with implementation of Mitigation Measure GHG-1 and Mitigation Measure TRA-1, the conceptual development project would be consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **less than significant with mitigation**.

4.8 REVISIONS TO SECTION 4.7, ENERGY

City *COA: Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan, has been prescribed and the discussion under Impact EN-1 has been revised to reference Mitigation Measure TRA-1. As discussed in Section 4.1.4, above, because Mitigation Measure TRA-1 outlines the same requirements as *COA: Transportation Demand Management* that were presented in the Draft EIR, and provides the same amount of VMT reduction, there is no change in the information provided in the Draft EIR; this is not a substantially different mitigation measure and does not require recirculation of the Draft EIR pursuant to *State CEQA Guidelines* Section 15088.5.

Section 4.7.2.2 Project Impacts, Page 4.7-14

Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. (*Less than Significant with Mitigation*)

> Additionally, as discussed in Section 4.4, Transportation, the project sponsor of future development facilitated by the proposed project would be required to implement a Transportation Demand Management Plan (TDM Plan), as prescribed in Mitigation Measure TRA-1, in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. The project sponsor for the conceptual development project would implement the proposed TDM Plan for the Gilman Gateway Rezone Project as part of the conceptual development project. In addition, public transit facilities serve the project area, including Alameda-Contra Costa Transit District, and the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles. Therefore, the proposed project and the conceptual development project would support the ability of employees and visitors to use alternative modes of

transportation. As such, with implementation of Mitigation Measure TRA-1, fuel consumption associated with vehicle trips generated by future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and this impact would be **less than significant with mitigation**.

Impact EN-1 Summary: Construction activities associated with future development facilitated by the proposed project, including the conceptual development project, would have a negligible effect on local and regional energy supplies and would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. Energy usage associated with future operations facilitated by the proposed project, including the conceptual development project, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, as all future development would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and locally adopted amendments, as required by BMC Chapters 19.36 and 19.37. Therefore, with implementation of Mitigation Measure TRA-1, future development facilitated by the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be **less than significant with mitigation.**

4.9 REVISIONS TO SECTION 4.9, HAZARDOUS MATERIALS

After further review, the City, as the lead agency modified the titles and applicability of Mitigation Measures HAZ-2b and HAZ-2c, to ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated for all projects that would propose development on the project site and not just the conceptual development project. Similar to the introduction of Mitigation Measure TRA-1, the title change of these two mitigation measures does not meet the thresholds outlined in *State CEQA Guidelines* Section 15088.5 for recirculation of the Draft EIR.

In addition, City *COA: Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, the numbering of the transportation mitigation measures has been revised under Impact HAZ-5.

Section 4.9.2.3 Project Impacts, Page 4.9-46

Mitigation Measure HAZ-2b

Additional Site Characterization for the Project Area ~~the Potential Berkeley Forge Development~~. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs, as attached to the Draft EIR, that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the

former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops.

The project sponsor ~~of the conceptual development project~~ shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I ~~Environmental Site Assessments (~~ESAs~~)~~ prepared for properties within the ~~conceptual development~~ project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of future projects, ~~the conceptual development project.. If~~ if determined to be necessary by DTSC, additional investigation and characterization of the ~~conceptual development~~ project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.

Mitigation Measure HAZ-2c

Subsurface PCBs Contamination at the ~~Potential Berkeley Forge Development~~ Project **Site.** The Response Plan for conceptual development project any future development shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the project ~~Potential Berkeley Forge Development~~ site. As part of the environmental clearance required for any ~~the conceptual development~~ future development by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.

Section 4.9.2.3 Project Impacts, Page 4.9-51

As discussed above, the designated evacuation routes near the project site include Gilman Street, and the TIA indicates that the project would result in a substantial effect to traffic movement at the - Gilman Street (currently under construction) interchange roundabouts during AM and PM peak-hour periods. The TIA indicates that that this substantial effect would be triggered when about 65 percent of the project (corresponding to approximately Phases 1 and 2 of the Potential Berkeley Forge Development) is occupied. At buildout, the project is estimated to add about 296 AM -peakhour and 313 PM -peakhour trips to the Gilman Street/Interstate 80 ramps/West Frontage Road intersection (the west roundabout) and about 660 AM -peakhour and 676 PM -peakhour trips to the Gilman Street/Interstate 80.[1] If evacuation from the project site would be required, vehicle trips could be concentrated within a shorter time frame than the AM or PM peak-hour periods, and could therefore result in longer delays in traffic movement. As indicated in the EOP, the Berkeley Police Department would lead evacuations operations with support from the Public Works Department to help designate evacuation routes, and the Berkeley Fire Department would also provide support for evacuations due to fires or hazardous materials incidents[2] This can allow for faster movement of traffic compared to normal circumstances, as traffic signals and stop signs could be bypassed and movement of traffic could be prioritized in certain directions as needed. However, the final circulation plan under the proposed project is not yet known; therefore, implementation of the proposed project, including the conceptual development project, could include physical changes to the roadway network that would interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be **potentially significant**. Therefore, Mitigation Measure TRA-2~~1~~, Circulation Plan as identified in Section 4.4, Transportation, shall be required.

Mitigation Measure TRA-2~~1~~: **Circulation Plan.** (*Refer to Section 4.4, Transportation)*

Implementation Mitigation Measure TRA-2~~1~~ would require future projects facilitated by the proposed project, including the conceptual development project, to prepare and implement a Circulation Plan that meets City standards. Implementation of project-specific Circulation Plan relating to emergency access would ensure that implementation of the proposed project, including the conceptual development project, would not result in inadequate emergency access. Refer to Section 4.4, Transportation, for further discussion of potential impacts associated with emergency access.

Based on the minimal delay to emergency vehicle response time that the proposed project and conceptual development project would cause and the City's ability and responsibility to assist in evacuation operations and with implementation of Mitigation Measure TRA-2~~1~~, the potential impacts of the proposed project and conceptual development project related to impairing or interfering with an emergency evacuation or response plan would be **less than significant with mitigation**.

Impact HAZ-5 Summary: Compliance with *COA: Transportation Construction Plan* and implementation of Mitigation Measure TRA-2~~1~~ would ensure that the construction and operation of

[1] California Air Pollution Control Officers Association. 2021. *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers.* December.

[2] City of Berkeley, 2016. Emergency Operations Plan, Base Plan.

future development facilitated by the proposed project, including the conceptual development project, would not impair or interfere with an emergency evacuation or response plan. Impacts would be **less than significant with mitigation**.

4.10 REVISIONS TO SECTION 4.10, HYDROLOGY AND WATER QUALITY

After further review, the City, as the Lead Agency, modified the titles and applicability of Mitigation Measures HYD-3 to ensure that potential impacts related to exceeding storm drain capacity or on- or off-site flooding due to altering drainage patterns at the project site would be less than significant with mitigation for all projects that would propose development on the project site and not just the conceptual development project. Similar to the introduction of Mitigation Measure TRA-1, the title change of these two mitigation measures does not meet the thresholds outlined in *State CEQA Guidelines* Section 15088.5 for recirculation of the Draft EIR.

Section 4.10.2.2 Project Impacts, Flooding from Increase Runoff and Storm Drain Capacity, Page 4.10-33

Mitigation Measure HYD-3

Hydraulic Study of Drainage during Construction and Operation for the Proposed Project and the Potential Berkeley Forge Development. The project sponsor for the conceptual development project and any other future development on the project site that has the potential to alter drainage patterns at the project site shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of future projects, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that future projects would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), future projects design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.

4.11 REVISIONS TO CHAPTER 6.0, CEQA-REQUIRED CONCLUSIONS

City *COA: Transportation Demand Management* does not apply to the proposed project or the conceptual development project. Therefore, the proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b) without mitigation. As such, Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan, has been prescribed and Section 6.2.3 has been revised to reference Mitigation Measure TRA-1, which requires the implementation of the Proposed TDM Plan. As discussed in Section 4.1.4, above, because Mitigation Measure TRA-1 outlines the same requirements as *COA: Transportation Demand Management* that were presented in the Draft EIR and provides the same amount of VMT reduction, there is no change in the information provided in the Draft EIR and this is not a substantially different mitigation measure and does not require recirculation of the Draft EIR pursuant to *State CEQA Guidelines* Section 15088.5.

Section 6.2.3, Consumption of Non-Renewable Resources, Page 6-7

Additionally, as discussed in Section 4.4, Transportation, Mitigation Measure TRA-1 would require the implementation of a Transportation Demand Management Plan (TDM Plan) ~~would be implemented~~ for the proposed project in order to reduce project-generated vehicle trips and vehicle miles traveled and encourage travel by other modes. In addition, public transit facilities serve the project area and bicycle and pedestrian facilities would be required to conform to City standards, which would also help to reduce the demand for travel by single-occupancy vehicles. Therefore, with implementation of Mitigation Measure TRA-1, fuel consumption associated with vehicle trips generated by operation of future development facilitated by the proposed project, including the conceptual development project, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and this impact would be **less than significant with mitigation**.

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APPENDIX A

PLANNING COMMISSION TRANSCRIPT

CITY OF BERKELEY

PLANNING COMMISSION

CERTIFIED TRANSCRIPT

REPORTER'S TRANSCRIPTION OF VIDEOTAPED MEETING

REGULAR MEETING OF THE PLANNING COMMISSION

WEDNESDAY, NOVEMBER 6, 2024

6:00 PM

North Berkeley Senior Center

1901 Hearst Avenue

Berkeley, California

AUDIO LENGTH

(02:30:38 HOURS)

Transcribed by: IRENE NAKAMURA, RPR, CLR
State of Hawaii CSR No. 496
State of California CSR No. 9478
State of Washington CCR No. 3177
State of Nevada CSR No. 893
State of Illinois CSR No. 084.004909

A P P E A R A N C E S

MERKER, BLAINE,
appointed by Councilmember Kesarwani, District 1

VINCENT, JEFF, CHAIR,
appointed by Councilmember Taplin, District 2

MOORE III, JOHN E. “CHIP”,
appointed by Councilmember Bartlett, District 3

OATFIELD, CHRISTINA,
appointed by Councilmember Harrison, District 4

MIKITEN, ELISA,
appointed by Councilmember Hahn, District 5

MARTHINSEN, EMILY,
appointed by Councilmember Wengraf, District 6

TWU, ALFRED,
appointed by Councilmember Robinson, District 7

HAUSER, SAVLAN,
appointed by Councilmember Droste, District 8

GHOSH, BARNALI, VICE CHAIR,
appointed by Mayor Arreguín

ALSO PRESENT:

ASHLEY JAMES -- Senior planner in the land use division

CLAUDIA GARCIA -- presenter of the draft EIR which analyzes proposed zoning West Berkeley and General Plan Amendments as part of the Pacific Steel Casting Referral from the City council, Gilman Gateway Project

ANNE HERSCH -- Planning manager

FLORENTINA CRACIUN -- Leader of the consultant LSA team

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4 Gilman Gateway Rezone Project

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P R O C E E D I N G S

AUDIO (02:30:38 HOURS)

START TIME: 18:00:03

-o0o-

MR. VINCENT: Okay. Justin, I'm going to go ahead and get started.

MR. HORNER: Okay.

CHAIR VINCENT: 6:01. Okay. Welcome to the November 6th, 2024 regular meeting of the City of Berkeley's Planning Commission. Let's get right into it. Item 1, roll call, please.

MR. HORNER: Roll call. Commissioner Merker?

COMMISSIONER MERKER: Here.

MR. HORNER: Chair Vincent.

CHAIR VINCENT: Here.

MR. HORNER: Commissioner Moore?

COMMISSIONER MOORE: Here.

MR. HORNER: Commissioner Ching?

COMMISSIONER CHING: Here.

MR. HORNER: Commissioner Mikiten?

COMMISSIONER MIKITEN: Here.

MR. HORNER: Commissioner Marthinsen?

COMMISSIONER MARTHINSEN: (No audible

response.)

MR. HORNER: Commissioner Twu?

COMMISSIONER TWU: Here.

MR. HORNER: Commissioner Hauser?

COMMISSIONER HAUSER: Here.

MR. HORNER: Vice Chair Ghosh?

VICE CHAIR GHOSH: Here.

MR. HORNER: (Inaudible).

CHAIR VINCENT: Great. Thank you.

Okay. Item 2 is the land acknowledgement. And I'll go ahead and read the land acknowledgement out loud like we customarily do.

The City of Berkeley recognizes that the community we live in was built on the territory of the Huchiun, the ancestral and unceded land of the Chochenyo, speaking Ohlone people, the ancestors and descendants of the sovereign Verona Band of Alameda County. This land was and continues to be of great importance to all the Ohlone Tribes and descendants of the Verona Band.

As we begin our meetings tonight, we acknowledge and honor the original inhabitants of Berkeley, the documented 5,000-year history of a vibrant community at the West Berkeley Shellmound and the Ohlone people who continue to ride -- reside in

the East Bay.

We recognize that Berkeley's residents have and continue to benefit from the use and occupation of this unceded stolen land since the City of Berkeley's incorporation in 1878.

As stewards of the laws regulating the City of Berkeley, is not only vital that we recognize the history of this land, but also recognize that the Ohlone people are present members of Berkeley and other East Bay communities today.

The City of Berkeley will continue to build relationships with the Lisjan Tribe and to create meaningful actions that uphold the intention of this land acknowledgement.

Any other announcements related to that?

VICE CHAIR GHOSH: Not today.

CHAIR VINCENT: Okay. Item 3, order of the agenda.

I just want to make -- we're not changing the order of the agenda. I just want to make a clarifying comment about Item 10. If you notice on -- this is the Gilman Gateway Rezone Project. If you know there's -- notice there's kind of A and B, both as recommendations.

Staff is going -- the way it's going to

work procedurally is staff will do presentation on all of that content, both the rezone and general plan work and the EIR work, then we will have clarifying questions or technical questions from commissioners. Then we will open it up -- open the public hearing up for public comment.

And after all the public comment, then we'll close that -- the public hearing, and then we'll have a discussion amongst commissioners, and then, presumably, we will take action on the action piece of that.

Did I get that right, Staff?

Okay.

Item 4, public comment. So this is an opportunity -- first, thank you for being here on what is an intense historic day for many of us.

This is an opportunity for anyone to speak or make a comment to the planning commission on an item that's not on the agenda.

Would anyone like to make a comment today on an item that's not on the agenda?

(No audible response.)

Okay. Seeing none, I will move forward. Item 5, planning staff report.

MR. HORNER: Great. Hi, Justin Horner,

planning department staff. Want to make a few quick announcements.

First, what to anticipate on your December planning commission agenda. We'll have a discussion item on the San Pablo specific plan update, and we'll have an action item on our affordable housing requirements. The discussion of the fees for affordable housing.

As far as upcoming events, there is a San Pablo walking tour that's being done as part of the San Pablo Pacific Plan outreach. Will happen on Saturday, November 16th from 12:30 -- from 10:30 to 12:00. And we can register for the event on the City website. And the walk is about 1.25 miles. And there'll be discussion of grounds-floor uses, development standards, public spaces, and other things that are being considered as far as specific plan.

Last little report are items that you have considered that are scheduled to go to the City Council.

On November 19th, the development agreement procedures that you discussed at your September meeting will be going before the council.

And on December 3rd, the keeping

innovation in Berkeley zoning changes that you discussed at your July meeting are scheduled to before the City Council. (Inaudible).

CHAIR VINCENT: Okay. Thank you.

Could you resay again what the date and time of the walking tour is?

MR. HORNER: It is Saturday, November 16th. It begins at 10:30 a.m. and it runs until 12:00. And there is a registration that's available on the City's website. So the City's website before San Pablo specific plan, and there'll be a registration found there.

CHAIR VINCENT: Okay. Any questions on any of that info?

Excuse me.

Item 6 is the chairperson's report. And I did want to make a few comments about recent events, if you'll indulge me here. So I wanted to comment about the public process, public participation in our democracy.

Today has been a very difficult for -- day for me personally. The candidate I had hoped to win the US presidency did not win. The candidate that did win, in my opinion, has repeatedly demonstrated that he isn't interested in upholding

democracy as we know it. We shall see, but this is deeply troubling to me.

But let me bring it to Berkeley.

Much of our democracy happens locally, like right here in these meetings, like this, the work of discussing, debating, making sure many voices are heard, no matter how large or small the action or decision may be. That process, that engagement is the heart of our democracy.

And just as my opinion is the democracy may be threatened at the national level, it's also been threatened at the local level here in Berkeley. Our own City Council members have been treated with extreme behavior, particularly recently. Some have even quit their council seat because of it.

And at a recent public workshop meeting on the middle housing ordinance, someone in the audience came to the front and physically assaulted a council member. There was a police report filed. I'm sure you've seen the news, and if you haven't, there's a story in Berkeley site about it.

I was right there in the front, and I saw it with my own eyes. I was in disbelief.

That kind of behavior at public meetings in Berkeley is unacceptable, and it sabotages

democracy. We must be able to discuss, debate, share ideas and disagree civilly. So, I'm thankful that we have had none of that behavior here at Planning Commission.

And we have had the middle housing ordinance agendized and discussed at the Planning Commission four different occasions by my count.

And my recollection is that on -- not very many members of the public attended those meetings or submitted comments to us. I don't have the numbers in front of me, but I was actually surprised how few there were each time.

So make no mistake, there has been a lot of democratic process on that topic in the City of Berkeley. It doesn't mean it's over. There has been and continues to be many ways for Berkelians to make their voice heard to elected officials, staff, or volunteer commissioners like us. And so you need to do it.

Just because the outcome of a decision is not what any one of us would've wanted, it does not mean that the process to arrive at that decision is wrong. We must respect and participate in the process of democracy, whether it's nationally or locally.

And we must each seek to be informed and not driven by misinformation on an issue that we know -- on an issue that we know that misinformation is out there to rile people up and cause actions like what happened at the workshop on middle housing the other night. Because I heard it from people sitting next to me, talking about things substantively that are not in the middle housing ordinance.

I've read the middle housing ordinance many times as we all have, and I heard people talking about things that the middle housing ordinance was supposedly going to do that are not in the middle housing ordinance.

So it is the responsibility of all of us to be informed participants, engaged participants, and civil participants in the process.

In that sense, democracy, in my opinion, is a verb. And I thank you all for participating in it, and I thank you all for being here tonight.

And I look forward to a great discussion about a really interesting project in West Berkeley. Thank you.

MS. GARCIA: Would you like public comment (Inaudible)?

CHAIR VINCENT: No, actually.

MS. GARCIA: Oh, we're done with this?

CHAIR VINCENT: Yes.

MS. GARCIA: Okay, then.

CHAIR VINCENT: Item 7, committee reports.

Do we have any committees to report?

No.

Item 8, approval of minutes.

COMMISSIONER MIKITEN: Motion approval.

COMMISSIONER TWU: I'll Second.

CHAIR VINCENT: We have a motion and a second.

Any comments substantively on anything in it?

(No audible response.)

Nope. Okay.

MR. HORNER: All right. Calling the vote.

Commissioner Merker?

COMMISSIONER MERKER: Abstain.

MR. HORNER: Chair Vincent?

CHAIR VINCENT: Yes.

MR. HORNER: Commissioner Moore?

COMMISSIONER MOORE: Yes.

MR. HORNER: Commissioner Oakfield?

Sorry. Commissioner Ching?

COMMISSIONER CHING: Abstain.

MR. HORNER: Commissioner Mikiten?

COMMISSIONER MIKITEN: Yes.

MR. HORNER: Commissioner Twu?

COMMISSIONER TWU: Yes.

MR. HORNER: Vice Chair Ghosh?

VICE CHAIR GHOSH: Yes.

MR. HORNER: Commissioner Hauser?

COMMISSIONER HAUSER: Yes.

MR. HORNER: Commissioner Marthinsen?

COMMISSIONER MARTHINSEN: Yes.

MR. HORNER: That's everyone.

CHAIR VINCENT: Great. It passes.

Okay. Item 9, future agenda items and other planet -- planning-related events. You kind of have covered that, Justin, but is there anything else anyone would like to add?

(No audible response.)

No. Okay.

I feel like I've put an intense damper on this meeting, and I want to sort of acknowledge that. Thank you for listening to me.

All right. Let's get into the meat of this.

Item 10, the public hearing on the Gilman Gateway Rezone Project. A really exciting and big project in Berkeley that we have heard a couple of times here.

So, like I said, we're going to have a somewhat long and in-depth presentation from staff.

So -- then we'll do commissioners clarifying questions or any kind of technical questions. Then we'll open it up for public hearing and public comment. Then we'll close the public hearing, and then we'll have a discussion here.

And then there's one piece of it that we would take action on, which is adopting the resolution to provide a recommendation to council. But on the EIR piece, it's just comments from -- from us to staff. Is that -- that's accurate; right?

(No audible response.)

Okay. Great. Any questions from commissioners on the procedure of that?

(No audible response.)

No. Okay. Staff, take it away.

MS. JAMES: Good evening, Chair Vincent, members of the commission.

So, tonight we're bringing forward zoning West Berkeley and General Plan Amendments as part of

the Pacific Steel Casting referral in the City Council to the (inaudible).

So, dimensions tonight's meeting will include two presentations, one by myself concerning Plan Amendment, and one by my colleague, Claudia Garcia, on the Draft EIR, followed by commission question and public comment on both topics, and then discussion and recommendation on the draft amendment.

So, first, a little background on this project.

The site is a former Pacific Steel Casting site in the far northwest corner of Berkeley, along (inaudible) and interstate. The area -- the industrial character is a manufacturing warehouse, office, and commercial (inaudible).

And these proposed amendments address a 2021 council referral, which can be found in Attachment 2 of your packet.

This referral directed staff to create a zoning overlay at the former Pacific Steel Casting company re-designated as mixed-use-light industrial or MU-LI, and override any existing constraints on uses allowed in that district.

The site had been on the market for some time as the current manufacturing building limits

use of heavy manufacturing, while interest from development community has been for biotechnology warehouse of commercial or office space.

Also there are environmental contamination concerns, pension benefits that are due to workers at the sale of the property and neighborhood light and safety issues that are leading to the site.

And so staff came to you in February and March of 2023 with the goal of creating a zoning districts, manufacturing, research, and development. Those reports are Attachment 4.

This district is consistent with the goals and objectives of both West Berkeley Plan and the General Plan and various (inaudible) referral by allowing virtually all of the pieces in the new district while producing constraints on one of those uses and provides an efficient permitting process to expedite future development, which would, in turn, address the issues of concerned site.

So as a refresher, this project began at the end of 2022 when the staff received the zoning map amendment application from the majority property owner of the site, which is found in Attachment 3.

Staff then prepared draft zoning texts

and notice preparation of the Draft Environmental Impact Report.

The Planning Commission provided comments on zoning and (inaudible). Since then, staff is preparing zoning and environmental amendments post tonight as well as the environmental impact report, which analyzes potential impacts for physical environment for most (inaudible) as well as the conceptual development project called Berkeley Forge, that was included in the zoning map application.

So the next step is for staff to prepare the final EIR amendments, which will be submitted to council (inaudible) next year, and then development project to be processed once the amendments have been provided.

So in order to create the new manufacturing, research and development district, staff are proposing amendments to the zoning text map as well as the West Berkeley Plan and the general plan, just to add mention of the district.

So tonight, Planning Commission is requested to provide application. So this map shows where the new M-RD district is located. It's an 11-acre area that span two blocks, that includes the former Pacific Steel Casting site, adjacent parcels

and founded by Gilman Street, the railroad, Hearst Street, and Eastshore Highway. The zoning map of this area would change manufacturing to M-RD.

And the next few slides get into detail about the text amendments, which are found on pages 7 through 14 in the staff report.

So first, the district purposes would be to support industrial and commercial uses, provide high quality employments, add significantly to the tax base.

So we usually encouraged here our industrial R&D as well as office and laboratories of support and all projects would need to meet performance standards for environmental protection and those that improved environmental quality.

And since the Planning Commission meeting in March of 2023, staff are proposing to add a perfect statement to provide flexibility and development standards for large sites, which responds to changes in the economic vitality that have occurred over the past two years.

Can you please refer to page 8 of your staff reports, which provide the allowed, snapshot of the allowed uses in the district.

The majority of the uses would match

1 those of MU-LI for council referral. And this slide
2 list of uses we're encouraging, by reducing level of
3 discretion from what's required in MU-LI. And a few
4 uses that didn't conform to the purposes of the
5 district would not be allowed.
6 All of the proposed development standards
7 are listed on page 10 of the report.
8 And overall, the standards are the same
9 as the existing manufacturing different -- districts
10 those differences on these slides.
11 So first, the maximum height is proposed
12 to be 55 feet, where it's currently 45 feet.
13 In order to provide an opportunity to be
14 consistent with the goal of the West Berkeley Plan to
15 allow for three buildings given R&D it's there.
16 However, with the permit the maximum will
17 be increased to 105 feet, I'll explain that process
18 later in the presentation.
19 And maximum coverage will be 80 percent
20 to allow the open space and amenities of Pacific
21 Steel Casting.
22 The minimum amount of off-street parking
23 required would be reduced for most nonresidential
24 uses, including R&D industrial labs to free up space
25 for productive floor area that would otherwise be

reserved for parking. So it's going from 2 to 1000 for most nonresidential uses to (inaudible).

The next change is to loading space requirements. So staff look to use recently approved R&D projects in West Berkeley and neighboring cities that have R&D specific loading requirements. And we're proposing amendments only to R&Ds to better support the needs of those buildings.

So currently, a loading space is required in a building of at least 10,000 square feet in size.

And so for this example, currently 100,000 square foot of building required for loading spaces, and the amendments are proposing the same building size.

And so it again aligns with what's required with the cities and (inaudible) zoning (inaudible) suburban (inaudible).

These development standards which are required are area ratio set parking same (inaudible).

So moving on to proposed, permit requirements to build an addition or a new building. The M-RD would be much permissive in the MU-LI (inaudible) respect in order to encourage more campus environment and provide flexibility for businesses to adapt to changing building needs over time.

So, for example, in the MU-LI district, a discretionary permit is needed for any addition or new building of 10,000 square feet in size or more, and the proposal increase that threshold to 60,000.

Also the threshold for which a use permit with a public hearing required, we increased from 20,000 to 100,000 square feet. And again, these thresholds are meant to provide more constant process and encouraging flexibility (inaudible).

So this is a new section that I'll describe in detail called modifications to develop standards on large sites.

So right now, properties that are within the last Berkeley clean area can receive a permit to modify development standard. They need certain eligibility criteria.

And so this proposal is a permit process that would be applicable only in this district and only on sites that are at least nine acres to facilitate development with amenities and also to address the environmental contamination and what issues that are specific to.

So typically, projects that would redevelop a site size utilize a development agreement to achieve flexibility.

In this section would be included in the zoning district regulations to help streamline the process. And so this section would provide a path for developer to leverage the floor area ratio and lot coverage requirements only across all parcels within a project.

So while the standard we need to meet that project wide, the standard on any single parcel will increase by up to 20 percent. Again, as long as it meets the standard on a project basis.

Also, the maximum height would be increased 105 feet to create visual interest and allow open space (inaudible) in the area.

The applicant would need to submit (inaudible) plan and development person demonstrating how the changes can maximize amenities.

Under that, they'll be required to findings demonstrating that those changes planning (inaudible) within a reasonable time period in all required in construction and analysis, and all other agencies further findings will still apply. This will not be different, in addition to not replacing a current (inaudible).

With that could also add reasonable conditions of approval to ensure that the findings

can be made and required (inaudible) to the extent of the zoning changes.

And in order to add this new district to the municipal code, the West Berkeley Plan would need to be amended to describe the new district and update the land use *staff that no other changes are proposed.

So the general plans and text and methods that we made to the current manufacturing land designations of the district, but no other changes are proposed to that one.

So to recap, we're proposing amendments to create this new district in response to council referral which requires (inaudible) ordinance (inaudible) and agenda.

And so the next steps after our next presentation will be discussed and provided by (inaudible).

MS. GARCIA: (Inaudible) My name is Claudia Garcia, and I'll be (inaudible) before. I will respond with my voice.

CHAIR VINCENT: Thank you.

MS. GARCIA: And so introductions, as I noted, the City of Berkeley team for the environmental impact report, Ashley James and Amy

Pearson with us tonight. Also we have our environments consultant, LSA in the audience if we need to ask questions of -- from the commission to ask questions on (inaudible) inspection and (inaudible).

Here is a brief summary of my presentation. I'll start off by summary -- summarizing the environmental review process to date, providing overview of the environmental impact report, discuss alternatives considered, and remind the permission of the audience had a comment on the environmental analysis of the EIR and identify the steps.

To start off, CEQA is a public information statute. So, the overall purpose of the environmental block process under CEQA is to provide members of the public and decision makers with the information about potential impacts that may result from project implementation, and also to identify feasible mitigation and project alternatives that could reduce those environmental impacts.

Accordingly, the environmental review process is solely focused on evaluating the project to identify potential environmental impacts to the environment. The decision-making body in this City

council will consider the EIR analysis contained therein before making the decision on reports project.

So, we initiated -- the City initiated the process in December of '22, 2022 by releasing the notice of preparation. Based on the council referral, it was determined that an EIR was required given the level of onsite contamination and potential impacts associated with demolition of existing structures and construction of a future project.

We first brought the Project Planning Commission in February, 2023 to conduct the scoping (phonetic) meeting and solicit feedback from members of the public and the commission on the scope and context of EIR.

During this scoping session, commenters expressed concerns regarding archeological resources, tribal cultural resources, water supply, and conservation, waste water capacity and utilities, and contaminated soils.

We worked with our consultant LSA to ensure that all of these issues, in addition to the required topic areas under CEQA were evaluated thoroughly in the EIR.

Now the analysis is complete and the EIR

is available for a 45 public review period -- 45-day public review period.

The bold diamonds on the graphic there represent where we are in the process. Tonight's -- the purpose of tonight's meeting is to briefly discuss the EIR, disclose those environmental impacts we identify, solicit comment on the analysis of the EIR so that -- well, we can -- oh, yes.

And just a reminder not to focus on the project merits.

So, overview of the environmental impact report.

Quick reminder that when determining to prepare an EIR, the City must identify the appropriate documents.

Program EIR is required when we're evaluating the issuance of regulations that govern the conduct of a specific program, for example, implementing a new zoning district. A project EIR is a required when we're evaluating impact of a specific development project.

Here we have EIR that serves both purposes.

We have the program EIR that evaluates the proposed free zoning of the -- of the 11.54 acre

site, and it could result in upwards of a million square feet of mix -- a mix of light manufacturing, research and development laboratory and office pieces. So people requires that we evaluate what the foreseeable impacts of implementing that zoning district would be.

In this case, we needed to assume that the entirety of this site would be demolished, and that would include the building located at 1306 Spring Street, which is meet through criteria for listing the California Register of the source resources.

In addition to that, the City received information that -- about a foreseeable project wanting to implement the zoning, and once it was decided on by the City council. This conceptual development project is evaluated at project level in the EIR, and it could result in the demolition of infrastructures on a 10.26 acre site. This does not include the building at 1306 Third Street, the property at 600 (inaudible) Street, or the property at 1433 Eastshore Highway.

As noted earlier, it will require that we evaluate the specific topic areas in the (inaudible). They are listed here. There are a total of 20. And

each topic area is specific questions that are required to be considered.

For the sake of brevity, because the required document is over 500 pages or exactly 500 pages, we wanted to limit the discussion today on the impacts that were identified to be significant and unavoidable.

Here the topics that are bolded in black were found to result in either no impact, less than significant impact, or would be reduced to a less than significant impact implementation of condition measures of compliance with (inaudible; paper crumpling interference) specific criteria under air quality, cultural resources, and greenhouse gas emissions were found to be significant and unavoidable.

Regarding cultural resources, as I noted earlier, implementation of the zoning district required us to assume that the building at 1306 Third Street would be demolished. This would result in the loss of a historic resource.

Mitigation measure of cultural Code 1 would require documentation of that historic resource in coordination with our cultural resources staff. However, that would not reduce the impact to less

than significant level; it remains significant and unavoidable.

As a reminder, the City is not proposing to demolish the building, nor does it have an application that is proposing to demolish the building.

Regarding air quality, depending on the type of facility that is proposed by a future project on the site, it is reasonable to assume the operation of that facility will result in the release of toxic air contaminants that may exceed thresholds established by the air quality by Bay Area Air Quality Management District.

For this reason, because we don't know the exact nature of the future project, they included recommendation that could potentially reduce that impact, we cannot considerably assume that it would be reduced to less than significant levels, and the impact would be significant and unavoidable.

Regarding greenhouse gas emissions, has a future use may be oratory is feasible for us to assume that they may want natural gas on site. As you may know, the City of Berkeley can no longer enforce the ban on natural gas and implementation of natural gas infrastructure would go against

requirements by -- set by Bay Area Air Quality Management District. And for this reason, the impact would be significant and unavoidable.

So now moving on to significant impacts related to the conceptual development project.

Similar to the proposed rezoning, most of the -- of the topic areas evaluated will result to either no impact, less than significant impact, or would be reduced to less than significant impact with mitigation and compliance emission of approval.

In this case, the conceptual development project will result in significant (inaudible) impacts related to air quality and greenhouse gas emission. As a reminder, it is not proposing to demolish the building at 1306 Third Street, and for that reason, that impact is not applied here.

Regarding air quality, because we are assuming that the building at 1306 Third Street would remain, currently, there are four dwelling units onsite, and those individuals residing at that building are considered sensitive receptors.

Based on the information that has been received, we assume that the conceptual development project would be constructed nonstop for a period of seven years. That would result in construction

emissions that would exceed the cancer risk established by state.

And so for that reason, it could result in a significant and unavoidable impact.

However, based on the information that the City may receive in the future of -- with more information on the level of construction, the time, I will say it would take, there is an opportunity for us to determine whether that future project would exceed those emissions or not.

In the meantime, we did include a mitigation measure that would require the future project proponent to offer relocation assistance to the individuals residing in those zone units for the entirety of the construction period.

Similar to the proposed rezoning project, it could be feasible that a future project would include natural gas and for that same reason, the impact will be significant and unavoidable.

Separately, as required by CEQA, the City conducted tribal consultation. And during the consultation process, we agreed on proposed mitigation measures and revisions to our conditions of approval as requested by the Confederated Villages of Lisjan Nation.

However, they also suggested this mitigation language, requiring the City to enter into consultation should a future project require an addendum instead of specific initial study or environmental impact report.

This request is outside the boundaries required by the state under AB15, AB52.

So therefore, we do not include it, but we promise to share it with you as a decision-making body to request your feedback.

Project alternatives considered.

CEQA requires an EIR also describe a reasonable range of alternatives to the project in order to reduce useful impacts.

In this case, we considered three alternatives. The required no action alternative, which assumed that no construction would occur onsite; the buildings would remain as is, and nothing would be demolished or constructed.

The general plan compliant alternative is in a version of the no-project alternative that assumes that the re-zoning would not be adopted, and the site could be developed under the existing zoning search.

The reduced development alternative

assumes that the project would be limited to the Pacific Steel Casting site, which includes nine parcels, totaling about 350,000 acres.

This alternative would require 100-foot buffer between the future project and the existing resident at 1306 Third Street in an effort to reduce air quality impacts.

Oh, sorry, square feet, not acres. Thank you.

Accordingly, this alternative would reduce impact related to air quality, energy, greenhouse gas emissions, and noise. But it would not avoid -- and it would also avoid the significant and unavoidable impact (inaudible).

Next steps. So tonight, as a reminder, we're here to listen to your comments on the content of the EIR.

You can submit comments tonight verbally or written comments to Ashley by a deadline, 5:00 p.m., Thursday, December 5th. Her contact information is on the screen. It's also included in the packet.

Once we receive all of the comments, we'll work with our consultants, LSA, to prepare final EIR that includes responses to each comment.

1 So we're not responding to comments tonight. We can
2 respond to questions if there are any from the
3 commission, but it's supposed to be a listening
4 exercise. And so we will prepare a formal response
5 to all the comments received.
6 MS. JAMES: All right. Thank you,
7 Claudia. A lot of information at you at once. And
8 so that concludes our presentation. So we're
9 available to answer any questions from the commission
10 to make sure to the (inaudible) public hearing to
11 discuss.
12 CHAIR VINCENT: Okay. Great. Thank you
13 very much.
14 So why don't we do questions right now,
15 and you can, of course, ask questions when we come
16 back to discussion.
17 But before we move to public hearing, why
18 don't we ask any questions. I'm going to just go
19 down the road. I'm going to start down that end with
20 Commissioner Moore.
21 COMMISSIONER MOORE: Sounds good. Great
22 work, everyone. I really appreciate the time,
23 energy, and effort that's been put in to both of
24 these reports. But right now, I have no questions.
25 CHAIR VINCENT: Good.

COMMISSIONER MARTHINSEN: I have no questions, but I want to second. Those were really very impressive presentations and the description of the environmental process was just truly outstanding. And I've listened to them for years and made them myself, and I think that might be the best one I've ever worked.

COMMISSIONER HAUSER: Fantastic. Those were really great compliments. I can't -- I -- yeah, I look forward to learning more.

I'm -- well, I just -- I do have one question. I feel like I should know this.

If -- at what point, you know, how solid in -- does a development proposal have to -- you know, how is this being felt in tandem with the -- you know, overall development project that may be there someday?

MS. GARCIA: Major development project?

COMMISSIONER HAUSER: Yeah. Yeah.

MS. GARCIA: Well, we received information from an interested applicant about the conceptual development project, but we don't have a use permit application. We don't know if it's still -- if a future project may be similar to what we evaluated. It's uncertain. But because we received

the information, we were required to evaluate it as a foreseeable project.

COMMISSIONER HAUSER: Okay. Thanks.

MS. GARCIA: Yeah.

COMMISSIONER MIKITEN: What's the size of the site at 1306 Third Street in feet, if you know it?

MS. GARCIA: Oh, it's (inaudible).

COMMISSIONER MIKITEN: And while somebody's looking that up. And I didn't quite catch the part about the conditions of approval that you discussed with the Lisjan Tribes.

MS. GARCIA: Sure.

COMMISSIONER MIKITEN: Did -- what types of things are they? And can you apply them in a zoning certificate situation?

MS. GARCIA: Sure.

The standard conditions of approval that we typically require discretionary projects to comply with are related to unknown findings of archeological resources during construction. Notifying a tribal representative should a potential resource be discovered and condition of approval related to the finding of human remains that are not interned in the formal cemetery. They would not apply to a zoning

certificate.

COMMISSIONER HAUSER: 6,200 square feet.

MS. GARCIA: Yeah, 6,651 lot size and 7,524 building size.

COMMISSIONER HAUSER: I may have counted it wrong.

MS. GARCIA: Slightly different.

COMMISSIONER MIKITEN: So, the square footage was 6,651?

MS. GARCIA: Yeah, the lot size.

COMMISSIONER MIKITEN: Okay. And what were the conditions that the tribe asked to be consulted on? It's -- you said if there was a new EIR and you said one other thing.

MS. GARCIA: Oh, the suggested mitigation language that we did not include in the EIR is on your screen.

COMMISSIONER MIKITEN: 46. Thanks.

MS. GARCIA: They requested that should a future project fall within the analysis of what we evaluated in the EIR and just required, for example, an addendum which is not required to comply with AB 52, nor is it required to be circulated, nor is it required to be provided to decision-making bodies. Basically, it's a document stating that this project

is consistent with the previous analysis in this EIR.

They still wanted to engage in consultation with the study. That's more of a policy decision, and that's not something that we were able to --

COMMISSIONER MIKITEN: And here is a confession. I usually read everything, including those binders. We got this Friday, and I've been phone banking Georgia, and today was a shit-show, so I haven't read it.

Did you look at shorebird migration, glass collisions, other impacts on wildlife in your EIR?

MS. GARCIA: Our biological resources report did evaluate potential impacts to shorebirds and then also potential boosting bats in abandoned buildings.

COMMISSIONER MIKITEN: And did you include any standard conditions?

MS. GARCIA: We included mitigation measures, and they -- impacts were all reduced to a less than a significant level.

COMMISSIONER MIKITEN: But you can't apply those to a zoning certificate project?

MS. GARCIA: Correct.

COMMISSIONER MIKITEN: Thank you.

CHAIR VINCENT: Okay. Commissioner Mikiten, are you done?

COMMISSIONER MERKER: Second the -- or third or fourth, the comment that it was a great presentation. Thank you.

Two questions: One on the tribal consultation suggestion. I guess -- and this is maybe for discussion, if we get there, but I wondered if you did any analysis of just kind of how that changes timelines of the project beyond or of a -- of a potential project just sort of beyond just like a 30-day, like does it introduce a delay of 30 days, like where the process stops, or does it -- can it happen concurrently with other things?

Do you sort of look at the -- some of the implications?

MS. GARCIA: For an addendum, yes. So for -- typically, we're -- AB 52 does not require us to enter into tribal consultation for projects that are exempt from CEQA or that prepare an addendum.

We're only required to consult when we're noticing or entering into a public discourse or like under EIR or initial study, for example.

It would enter delays. It would delay a

1 project because when we consult with the tribal
2 consultation language is very open ended, and it
3 doesn't -- the consultation process does not end
4 until one or two things happens; we agree on the
5 mitigation language, or we don't agree and the agency
6 in City Of Berkeley decides to end consultation.
7 And so it could extend for an extended
8 period of time.
9 COMMISSIONER MERKER: That's the
10 consultation part.
11 How does the 30-day -- the 30-day comment
12 period interact with that?
13 MS. GARCIA: Yeah, it would -- it would
14 also just add one --
15 COMMISSIONER MERKER: It would just add
16 that 30?
17 MS. GARCIA: Yeah.
18 COMMISSIONER MERKER: Thank you.
19 And second question: So, the exception
20 to the -- to the design -- to the height requirement
21 for developments over 9 acres, currently, there's one
22 project under consideration that is of that size
23 within the proposed zone.
24 Could -- and this is maybe for
25 discussion, but -- so there can't be more than one of

1 those projects in the -- in the zone as shown, but
2 the condition -- but there could be under which
3 conditions if -- it would only really be if the map
4 were redrawn at some point to change the boundaries
5 of the new zoning designation?
6 MS. GARCIA: Yeah. So someone submitted
7 a map amendment to extend the district's boundaries.
8 Yeah.
9 So, the way that a developer could avail
10 themselves in that section is to submit one project
11 application that is a cohesive project of at least
12 9 acres in size. So I --
13 COMMISSIONER MERKER: So if -- so -- so
14 there's one possibility -- there's sort of within the
15 current map as drawn or as proposed, there's only one
16 project that could have avail themselves with that
17 within the current map? And --
18 MS. GARCIA: Well, the district is 11 and
19 a half acres in size.
20 COMMISSIONER MERKER: Right.
21 MS. GARCIA: So, yeah, I guess you were
22 thinking like mathematical perspective, like
23 (inaudible).
24 COMMISSIONER MERKER: Yeah. I guess what
25 I'm getting at is maybe for discussion is, what would

the conditions be where you would have more than one of those cases ever possible?

MS. GARCIA: I see.

COMMISSIONER MERKER: And I think it's if the map were redrawn and just --

MS. GARCIA: Yeah, exactly.

COMMISSIONER MERKER: Okay.

CHAIR VINCENT: Okay?

COMMISSIONER MERKER: Okay.

CHAIR VINCENT: Yeah, really nice. Thank you so much. A lot of material.

I just have one question about the residents. Where do they currently live on the map on Figure 1?

MS. GARCIA: So it's the property that is on the northeast corner of the entire 11.5-acre site and it's on Third Street, which is technically the railroad.

CHAIR VINCENT: Okay. So on EIR impacts, did that look at any of the residence on the other side of the tracks or does it not?

MS. GARCIA: Yes.

CHAIR VINCENT: It did?

MS. GARCIA: Yes. And so we evaluated all the nearest sensitive preceptors to the site.

That was -- it's more apparent for the program EIR portion of it because it assumes that that building at 1306 would be demolished. And so we did identify the other near sensitive receptors before the conceptual development project sensitive (inaudible) focus directly adjacent to the property.

CHAIR VINCENT: Okay. Vice Chair?

VICE CHAIR GHOSH: I guess I'm just having a little bit of trouble with this conceptual project versus the zoning, and it's -- I think I'm trying to understand how mitigation can be part of like phasing or something.

I feel like that's not something that's in this EIR. But that might be a possibility in a project EIR, like phasing off the site.

And is the site owned by one entity, or like the overlay the boundary, or there's multiple properties there; right?

MS. GARCIA: Can you explain your question about --

VICE CHAIR GHOSH: Can you describe what is in that boundary that has been drawn right now? Who owns what part of it?

MS. GARCIA: (Faint; inaudible.)

VICE CHAIR GHOSH: Like, this project

seems to be applied to the entire boundary, the entire overlay.

MS. GARCIA: Yes.

VICE CHAIR GHOSH: I'm trying to understand what the reality is.

MS. GARCIA: Sure.

VICE CHAIR GHOSH: The -- the realistic site boundaries and who owns it and -- in order to be able to take the impacts that we're talking about and do a realistic overlay of are they buying all the property? Like, what's going on there? Yeah.

MS. GARCIA: So this figure, the different colors and the margin there show -- so there's multiple owners.

VICE CHAIR GHOSH: So the yellow -- are the yellows different sites?

MS. GARCIA: That's all --

VICE CHAIR GHOSH: So the Pacific Steel Casting is all one owner. And then what is not in the yellow are different properties, other parcels it says. But are there multiple parcels?

MS. CRACIUN: Oh. So, hi, I'm Florentina at LSA. As Claudia mentioned, we've been very heavily involved in this project. So there are multiple parcel owners.

And to go back to your questions about mitigation measures, the way this works is, the mitigation measures would apply to anything that would be built in that 11-acre area, whether it's this proposed -- this conceptual development, the 10-acre one, or even if there's one that would come that's like one acre or half an acre.

And, you know, CEQA allows for -- allows for multiple different levels of review. So any project that would want to build under the proposed zoning would have to be reviewed to ensure that they comply with the mitigation measures that are included in the programmatic EIR.

So to answer your questions, yes, the mitigation measures will apply to any project that would want to build a in -- that 11-acre site.

And what we did with the mitigation measures is we understood there's a different magnitude of a 10-acre project versus a half-acre project.

So what we did is we allowed applicants to come in and do technical studies that are particular to their application to then show us, hey, actually my project is not going to emit toxic air contaminants over BAAQMD levels; therefore, maybe we

1 don't need to do this menu of mitigations that we put
2 together.
3 But then a 10-acre project will come in
4 maybe, and their project-specific health impact
5 assessment would show, oh, wait, we're actually maybe
6 going to have some of contaminants above the, what?
7 The Bay Area Air Quality Management District said are
8 acceptable thresholds for human exposure.
9 So then we're going to say, well, you're
10 above those thresholds. Here's all of the things
11 that you have to do to lower your impacts.
12 So a project would have to go through,
13 what I think it is an actual very rigorous evaluation
14 of how they can fit into the mitigation measures.
15 And sometimes, it is up to the City of
16 Berkeley to say, hey, you actually may require
17 additional things, that maybe we didn't think about
18 now because we didn't know all of the details.
19 And CEQA allows for flexibility to add
20 mitigation measures to tailor mitigation measures to
21 projects depending on the site.
22 But short answer is, yes, the mitigation
23 measures included in the EIR would apply to any
24 project that would want to be built in this
25 11.058 percent.

VICE CHAIR GHOSH: And what is the boundary of the Berkeley Forge, the theoretical project that y'all have?

MS. CRACIUN: It's the blue -- so, sorry. I can't see without my glasses.

VICE CHAIR GHOSH: Oh, it's the blue?

MS. CRACIUN: I don't know why I'm -- I even trying.

VICE CHAIR GHOSH: So it's all of -- so it's all of the Pacific Steel then?

MS. CRACIUN: So, yeah.

VICE CHAIR GHOSH: It's not.

MS. CRACIUN: Yeah. So all of the blue -- sorry. I'm looking at the camera and the other thing.

But the blue is all the potential project. The red is the whole area.

So the potential development project doesn't include a few key parcels. And that's the 1306 parcel, I think -- yes.

VICE CHAIR GHOSH: Mikiten. Yeah, Commissioner Mikiten.

MS. CRACIUN: So there you go. So the blue is the potential project; the red is the whole parcel.

VICE CHAIR GHOSH: Okay. And the -- where did that come from? There was an -- there was no application or there was --

MS. CRACIUN: There was a zoning map amendment application.

VICE CHAIR GHOSH: A zoning map amendment.

MS. CRACIUN: And so within that zoning map amendment application was a concept of like, hey, if you adopted these changes, this is what could be developed. But it was in -- as Claudia said, without a level of detail that you would expect with the project. So we don't have details.

VICE CHAIR GHOSH: Thank you. It's been a while since y'all came, so I needed a little refresher for what the boundaries were. I think many people might have needed that as well. So --

MS. GARCIA: The programmatic EIR is based on the referral City --

VICE CHAIR GHOSH: Yeah.

MS. GARCIA: -- Council.

VICE CHAIR GHOSH: Yeah. I'm good for now.

CHAIR VINCENT: Okay. Commissioner Twu.

COMMISSIONER TWU: Yes. We got a couple

questions on -- can we go back to the yellow map?

Okay. So that's the building with four families in it. Are there any other uses in that building Currently?

MS. GARCIA: For commercial uses.

COMMISSIONER TWU: Commercial uses. Okay.

And then is there any active use on the one on Gilman?

MS. GARCIA: No. It's per the last site communicated budget for rental. That site was closed, but it was recently acquired by a new owner, I believe.

COMMISSIONER TWU: Okay. And then the one down here on the corner?

MS. GARCIA: That is an active safety yard.

COMMISSIONER TWU: Okay. Thank you.

CHAIR VINCENT: Yeah. Commissioner Ching.

COMMISSIONER CHING: Thank you. I appreciate your patience with me because I'm coming into this thing new. So I do -- I did look at the plans, and I did look at the proposed -- I forgot what it's called, the non-planned that's, you know,

proposed.

So to follow up on Commissioner Ghosh's question about this map, there are three parcels that are considered other parcels. So those are not part of this larger proposal.

So my understanding is that LSA is saying there's multiple parcel owners, but they're all coming together to -- on the next map to do this one big plan; is that correct?

MS. GARCIA: So the -- there are multiple parcel owners and then three parcels that Commissioner Twu identified are not included as part of the conceptual development project, but they are included as part of the rezoning project. So, all of those parcels would be rezoned should the City Council adopt that.

COMMISSIONER CHING: Okay. Yeah, I understand that.

But for all these other parcels that were listed as Pacific Steel Casting and the Berkeley Forge projects, these are all going to be proposed to be developed as one project?

MS. GARCIA: Yeah, I --

MS. CRACIUN: Sure. Sorry.

MS. GARCIA: It's okay.

MS. CRACIUN: We know it like it's like -- I sleep with the EIR under my pillow. It hurts a little.

So most of the parcels in the blue area are under one ownership. But it would be up to the -- like, the project developer to buy out any parcels that they would want to develop and include in their proposal.

COMMISSIONER CHING: Okay.

MS. CRACIUN: But, you know, so the potential project; right, is based on this foreseeable future project, but we -- there's no -- like Claudia mentioned and Ashley in how there's no publication yet.

COMMISSIONER CHING: Right.

MS. CRACIUN: So as far as, you know, we just know what's on the ground, which is, yes, most of it is owned by the potential project proponent, but not all.

COMMISSIONER CHING: Okay.

MS. CRACIUN: But it would be up to them to get that together.

COMMISSIONER CHING: And I think it was stated that they're the majority property owner, so that's what I'm going to call it.

So it sounds like there is one majority property owner, and there are three minor property owners. And everyone is going to be put under the same restrictions and conditions except for what Commissioner Merker, I think, said, that only 9 acres are allowed to have all these extra -- I mean, I'm just going to call them bells and whistles, the extra height, the -- you know, and be put under extra restrictions as well.

MS. GARCIA: Are we (inaudible) --

MS. CRACIUN: Yeah, so to clarify, it's the -- it's not a maximum; it's a minimum. So projects of at least --

COMMISSIONER CHING: Right.

MS. CRACIUN: -- nine acres could avail themselves of a additional permit process that is not an additional layer of regulation.

COMMISSIONER CHING: So that --

MS. GARCIA: So that the purpose of that is to facilitate holistic development of a campus-like atmosphere on the site to ensure that the site is redeveloped and cleaned up.

COMMISSIONER CHING: Right. So I understand, I mean, it seems to make sense that we have to make concessions to get the site cleaned up

and to have a nicer, bigger parcel.

My concern is the four of us, you know, there are people who still work -- own, and live in this area, and who may want to do something different with their parcels. And so if this goes through, the M-RD limits what they can do.

So I was looking at some of the things that they were proposing for the larger parcel, and they would get the ability to do things like a daycare center for their workers and things like that.

But my concern is, so, if someone wanted to take one of those smaller parcels, and say, oh, we want to have a daycare center, they wouldn't be allowed because it doesn't fit into what is allowed under the M-RD; is that correct?

MS. GARCIA: No. So, for the 9-acre, if a 9-acre property were to come forward, they could, you know, do this average FAR, this extra height, the uses would be allowed in any parcel. We're not limiting the ability of other property owners to implement the zoning district. They implement all of the uses proposed under the M-RD zoning.

They just wouldn't be able to develop to 105 feet on a tiny parcel. That wouldn't --

MS. CRACIUN: So this is the extent of the modifications that someone could apply to receive approval from (inaudible).

COMMISSIONER CHING: I guess my confusion is that table in our packet on, I think it's page 10, that shows a table of --

VICE CHAIR GHOSH: Allowable uses.

COMMISSIONER CHING: -- allowable uses. And it says -- let's see, NP. Isn't that not permitted?

So in the M-RD, you couldn't do, for instance, a theater, or amusement device arcade, or --

MS. GARCIA: Yeah, those uses that would not be permitted were identified uses that would not promote the intention of the council for all.

COMMISSIONER CHING: Right. So, all those properties would be under those limitations.

MS. CRACIUN: One clarification, too, is the MU-LI is not what this district is currently zoned at.

COMMISSIONER CHING: Right.

MS. CRACIUN: So these uses aren't currently allowed. The district is currently a (inaudible) district. We had a third column, we took

it -- so we can do the slide and show.

MS. GARCIA: So this property is currently manufacturing --

COMMISSIONER CHING: Right.

MS. GARCIA: -- not MU-LI.

So those types of pieces will not be allowed here either.

COMMISSIONER CHING: So the only reason I bring up the MU-LI is because what you guys said, the referral from council, was to rezone this as MU-LI, but then now we're deciding that maybe there should be a different -- a different zoning, which is the R&D.

So council is referring us to look at the MU-LI, but we're saying we're going to do this other thing, which --

MS. GARCIA: I think the referral was to consider uses under the MU-LI, similar to what the MU-LI allows, but did not require staff to rezone to it.

MS. CRACIUN: Because it was looking for us to encourage research and development. So we looked at MU-LI, and we pulled out some of the uses that we thought would be in conflict with the research and development, focus on this stretch.

And we brought that to climate commission, and we discussed it in February and March. And so we ended up with this list of allowable uses.

And we actually -- since we came to climate commission in February of 2023, we actually expanded the allowable uses with the help of OED -- conversations with the OED. Based on the economic climate these days, we weren't sure if R&D was actually going to pan out into the future. So we've expanded what we presented to you in March 2023 to be more flexible.

COMMISSIONER CHING: Okay. Thank you. Because that was my next question.

So I really appreciate that, because I was wondering what is the state of R&D right now, and is there enough demand for this to have a 10-acre site in addition to what we've already permitted in the City. So it's nice to hear that there are other uses -- expanded uses being proposed.

MS. CRACIUN: We have the manager (inaudible) here who's been our partner in this project. And if you have more specific questions about, you know, the comment, she can answer those.

COMMISSIONER CHING: Okay.

MS. CRACIUN: Thank you.

CHAIR VINCENT: Are we good for now? We have more discussion later, but if there's any clarifying questions? This is usually a more of a quick thing --

COMMISSIONER CHING: Okay.

CHAIR VINCENT: -- then we go to public hearing. I don't mean to cut you off, but --

COMMISSIONER CHING: Okay. No, that --

CHAIR VINCENT: -- we have plenty of time later.

COMMISSIONER CHING: That's fine. I -- I'm good for now.

CHAIR VINCENT: Okay. Thank you.

And I think that's actually really good context to both reiterate and transition to the public hearing because the -- what you're seeing here is an evolution, and I would say really great work by staff, planning staff, and OED staff, on taking the intent of the referral, which to Alene's point was to be MU-LI like or I forget the exact phrasing of it, but sort of borrow from MU-LI, but propose something that would really work well here, be creative. You know, I'm ad-libbing.

But -- and what you have done here is do

that and apply working with OED and the rest of the City, like, okay, what would work here? And talking to potential -- you know, possibly potential applicants on this? But -- because what we are seeing is some evolution and you see it in that -- those columns there of what we saw last time.

So it -- it's great to see the evolution of that while, I think, you know, sticking to the intent -- to the broad intent of the referral, which did not have the precision that this has. And I think you've kind of dialed it -- dialed it well. So I appreciate that. I think that's good context for folks in the room to understand.

And the old reports on that are in or linked within the agenda on the digital version if you want to look at that.

So with that, I would like to move to open the public hearing. Do I need a second?

VICE CHAIR GHOSH: No, you don't need to.

CHAIR VINCENT: You never -- I always forget that.

VICE CHAIR GHOSH: Just to close.

CHAIR VINCENT: Just to close. Right.

Okay. So we'll open the public hearing.

And if you would like to speak on this

item, traditionally we do two minutes for individuals. If you are representing an entity, an organization, state so at the beginning, and you get three minutes. You may also submit written comments, you know, to either to the commission.

Staff is also available or can be available, and council members, you know, also will -- could be available and take written comments as well.

So, with that, if you would like to make a comment, please use the microphone, I guess, in the back. Unless it can move up more. It seems funny in the back. I don't -- I don't think it's amplifying, but --

VICE CHAIR GHOSH: It's not on.

CHAIR VINCENT: It's not on. There we go. That's clear.

Commenter I-1 PUBLIC SPEAKER 1: Thank you, commissioners, staff. I have a couple questions and concerns about the project.

First is air quality. West Berkeley is -- has the worst air quality and the highest rates of asthma in the City of Berkeley, as I'm sure many of you know. I am going to be talking about the Berkeley Forge development because it's an integral **I-1-1**

part of the -- of the draft negative decks.

So, there were a lot of facts and figures associated with this development, which I understand is only conceptual, but it was -- it was discussed.

So, there is a trip generation estimate of 9,980 daily auto trips, which this proposal would generate for this site. And this is not the only West Berkeley biotech lab campus that's being proposed.

And someone in the community has added up the number of all the parking spaces that are in the permit park -- in the permit pipeline or will be, and it's over 5,000, is the number we have. You guys may know better than that. I-1-1 cont.

The concern I have is, what is the cumulative impact of air quality in West Berkeley? Already the community that suffers the worst from bad air quality in Berkeley, of all these developments in West Berkeley, and all -- and these daily auto trips, 9,980 daily auto trips just from this one at the old PSC site, not to mention all the others in West Berkeley.

How will these developments not significantly worsen air quality in a community that is already suffering from bad air quality? That's

number 1. I-1-1 cont.

Number 2, traffic. Berkeley Forge is proposing 1900 parking spaces, three seven-story parking garages. Why at the same time the City's massively reducing parking requirements for housing in the name of sustainable development, looking at you all, is the same standard not required for industrial development? I-1-2

Why can't we have an Emory -- an Emory Go bus or something that the developers pay for that connects to BART instead of 5,000 parking spaces, and all the air pollution and traffic? I-1-3

Third, biohazard. I-1-4

CHAIR VINCENT: Can I just say, in the spirit of democracy, I'm going to --

PUBLIC SPEAKER 1: You're interrupting me, sir.

CHAIR VINCENT: I am going to extend your time, which is why I'm interrupting you.

PUBLIC SPEAKER 1: Oh, then I -- then go ahead.

CHAIR VINCENT: So, because this gentleman is the first speaker, we're going to go to three minutes. It doesn't seem like we have an enormous amount of speakers. So I think three

minutes is absolutely fair. So --

PUBLIC SPEAKER 1: Thank you, sir. I appreciate it.

CHAIR VINCENT: You have -- one moment I think we'll be okay. So, you have a whole full minute right now.

PUBLIC SPEAKER 1: Thank you so much.

CHAIR VINCENT: Yeah.

PUBLIC SPEAKER 1: Biohazards. Bio labs often use toxic materials that could potentially leak into the environment. We hope not. It can happen.

It's not clear how this risk to the West Berkeley community will be addressed. I did not -- I did a very quick reading through the -- through the EIR today. I may have missed it. I didn't see how that's addressed. I-1-4 cont.

West Berkeley, West of San Pablo Avenue on USGS maps is listed as subject to liquidation in -- as a result of earthquakes. Didn't see that addressed. I-1-5

And how in bio labs, which handle potentially toxic materials that are on land that's subject to liquidation, how are you going to address that?

Dr. Christina Hill of UC Berkeley has I-1-6

warned about sea level rise and related groundwater rise, especially impacting West Berkeley. This site has many toxics on the surface and below the surface.

One remediation that's discussed in the EIR is capping, that's the cheapest and most common. That won't work if this site is subject to groundwater rise. The stuff is going to come out and around the concrete cap, and then will be released into the community. I-1-6 cont.

So, again, the -- here the question is, how is this issue addressed for this site and any future development on this site?

Thank you.

CHAIR VINCENT: Okay. Thank you. Okay. So three minutes. Start. Yeah.

Commenter I-2 PUBLIC SPEAKER 2: Okay. So I've already seen the presentation on the project for this site. I saw it probably like a year and a half ago. Mark Rhoades gave it.

And it's nice that the staff and Mark Rhoades are on the same page because they use the same language of a cap -- of a campus like atmosphere. I-2-1

And when Mark Rhoades brought the project out, you know, we got to see it with all the little

buildings, and how the streets are going to be changed, and how we're going to work with the trains and everything. So, we've already got a project for this, and as I said, I've seen it. I-2-1 cont.

And at that presentation, one of the major issues was what to do about the toxic site.

And Mark Rhoades admitted at that time that the plan for capping the site really was a problem with groundwater rise in this area.

And so if we have groundwater rise that lifts the toxins out from the cap, I mean, those are not just going into the neighborhood as was mentioned, they're also going into the Bay, where we have our biological, our birds, and our little animals in the -- in the Bay. I-2-2

So this really is a problem and capping is the cheapest, but that's not the satisfactory answer. So that really needs to be -- that needs to be fixed. So those were really my main concerns.

I appreciate that Commissioner Mikiten brought up birds and wildlife, because it is near the Bay. And we do have a lot of wildlife, and this building can be a hazard for our wildlife. I-2-3

And so we've got some problems here, and I hope that you address those and that we have in the I-2-4

end a project that addresses those hazards and not just taking the quick, easy way out. I-2-4 cont.

Thank you.

Commenter I-3 PUBLIC SPEAKER 3: Thank you.

That was a really interesting and well said presentation. We appreciate it.

So I agree with what my neighbors have also said already.

And in West Berkeley, we're very concerned about toxics. We've been living with Pacific Steel Casting, calling up -- Bay Area Air Quality Management District have that on speed dial, and then the asphalt plant and the fire at the asphalt plant.

So we're very, very concerned about industry in West Berkeley. We're not saying no industry, but we're concerned and just saying that Bay Area Air Quality Management District is going to regulate everything or take care of it, or it -- it's sensitive topics for people who have lived with that for a long time. I-3-1

So, that said, I think the community and -- would really like to have more definitive guidelines around how this is going to play out, and that if something escapes or something smells really

bad, that they don't have to be calling up Bay Area Air Quality Management District. I-3-1 cont.

The other thing I wanted to talk about was the topography. So, as you all know, we live in an earthquake zone, and it's not really clear what might happen, you know, when an earthquake occurs, especially as was mentioned regarding the liquefaction issues. I-3-2

And also that there's a gas line running under the, you know, the Eastshore Highway. I-3-3

And so these things are quite sensitive for the people in West Berkeley.

We have not had any spillage or anything falling from the trains like has happened in the Midwest, but we are concerned about how the EIR is taking into consideration the other geographic normalities or abnormalities of the particular site.

And we're hoping that that could be addressed. I-3-4

And I understood that the people living so close by are very sensitive receptors. But, actually, we're all sensitive receptors, especially as was presented regarding the air pollution in West Berkeley and the combinant pollution that happens at -- in this area. I-3-5

So, those are our concerns, and we're hoping that they could be addressed. I-3-6

Thanks so much.

CHAIR VINCENT: Thank you.

Sir?

MR. A. MOORE: Thank you. Can you all hear me okay?

COMMISSIONER MIKITEN: You might need to hold it.

COMMISSIONER TWU: Just pick up the mic.

CHAIR VINCENT: Yeah, you could hold it if you want.

MR. A. MOORE: Thank you. Is this better?

CHAIR VINCENT: Yeah.

Commenter I-4 MR. A. MOORE: Thanks, folks. My name's Allan Moore. I'm a land use attorney. I've been representing for over a year, I'll use their first names, Raffi and Yvonne, with regard to their building at 1306 Third Street. I-4-1

It's a beautiful historical building. It's a historical resource. It has live/work folks there. Four families that are there that work and live there. Tenants, artists. It's a working studio. You look in there, and you can feel the

1 history and the art, and it's a historical building. I-4-1 cont.
2 So, why are we here?
3 Well, the -- there's an old adage -- I
4 celebrate my 70th birthday coming up in a couple of
5 weeks. There's an old adage that I've had my whole
6 life, and it goes as follows. It's a proverb. He
7 who chases two rabbits doesn't catch either one.
8 And with this EIR, I'm afraid, and I've
9 reviewed hundreds, maybe thousands of EIR's, 43 years
10 in the business with large firms here in the Bay
11 Area, but this EIR chases two rabbits.
12 The first -- and this was brought out by I-4-2
13 the commissioner of comments, the identical comments
14 that I had when I saw it. I couldn't figure out when
15 the EIR was discussing the overall project, Rabbit
16 number 1, which is environmental review under CEQA
17 of the City initiated down zone. That's Project
18 number 1.
19 Or Rabbit number 2, which the
20 commissioners brought up is the conceptual plan.
21 How does the mitigation measures from
22 the -- for the conceptual plan integrate with the
23 mitigation measures imposed by the overall down zone?
24 And where are the properties within each
25 zone? Our property is within the overall down zone

or rezone area, but not within the development plan.

The LSA representative indicated she sleeps with the EIR. I went down to Staples because I had the EIR on my computer, as you all have. I couldn't scroll back and forth and figure out how the mitigations were integrated between the two. And believe me, I reviewed thousands of EIR's. I-4-2 cont.

So I had to download it, Staples, you know, $300. And I have a hard copy here. It's this thick. And I went through it stem to stern.

It does not discuss the impacts of the conceptual project on this historical building. It never gets there. It says they're discussing the conceptual project -- conceptual development plan as a project level EIR. How could it do so when there's no project? There's no project on file; there's no project proposed. I-4-3 I-4-4

Now, I fully understand under CEQA that reasonably foreseeable impacts should be addressed in an EIR.

But this goes further, this EIR, and says, we're going to take this conceptual development plan and review it as a project -- as a project level EIR. And in doing so, it forgets what its purpose was. It forgets the second rabbit. It forgets that

it's supposed to address the impacts of the conceptual development plan or the rezone on these folks -- on these folks that are going to live there. I-4-4

Is that my three?

CHAIR VINCENT: Yes.

COMMISSIONER MOORE: Okay. That -- I'm going to conclude, but off -- I did want to say I appreciate very much the introductory comments about civility and respect that the Chair made. Great respect for your staff. They always responded to me. I disagree on the law. I-4-5

But I appreciate your comments. And I think as a planning commissioner myself, Walnut Creek, 14 years, that that kind of comment at the introduction of each meeting can really help set the tone, not make a damper in the room as you were concerned about. So thank you for stating that.

CHAIR VINCENT: Thank you.

Commenter I-5 MR. ROBINSON: Good evening, commissioners and staff. My name is Scott Robinson. I've been in the City of Berkeley as a commercial industrial broker for 35 years. I-5-1

My family has been here in Berkeley since before the turn of the century. We have industrial properties throughout the City, including Ashby

Lumber. We actually -- we own that little property that's a staging yard at the bottom of the map on there.

And it has always been rented in the past as not a part of the foundry. It was rented Pacific Steel for a trucking yard and access.

We worked with the City to get Universal Waste Recycling Center a few years back. At that time, the City was not even aware that we were not a part of the overall Pacific Steel Properties.

So we, with my architect, Fred Hyer, who did the field work brewery, Fred's been a long -- around a long time, he worked with them. We got and addressed -- established that 1433. Since then, we've had the City of Berkeley's contractors on there, Golden State Bridge that built the freeway overpass. The problem that we're having, it's always been a construction yard or staging yard. I-5-1

Now, given that I've been in Berkeley, and I was a commercial broker for clients, I applause development in upgrading the City.

What's happening here though is because we have a developer coming in, and I don't think labs is a bad use for the property for the future, it's an eyesore now. What's happening is kind of the cart be I-5-2

-- being put before the horse.

And what's happening is the developer saying, hey, we have a great idea here. Would you go for it? The City's creating the zone. And I knew Mark Rhoades for years because I used to sit in front of him for clients. And we met with Mark, Fred and I, and we said, is your client interested in buying our property? And IQHQ made it clear they were not.

What is going to happen here is, our site's going to be kind of rendered valueless if we can't rent it to construction yards. And we're not going to be able to develop a lab building on that small parcel. It's about 40,000 feet. But what I've been told is you have to have 9 or 10 acres for the economics. I-5-2 cont.

So my letter -- there is a letter in your packets from a co-trustee attorney. That's not a threat letter.

What that is is, she and I represent the family trust and beneficiaries. And we're saying, what -- where will -- could we be a yard in the future to remain flexible? Where are you going to house 900,000 square feet of staging material?

I've had Tesla approach us for transportation services. I've had Waymo recently

approach us. Other uses.

But what my understanding is, originally, we were going from an M zone, which allowed a lot of uses, to a MU-LI zone, which is similar being a light industrial. And all of a sudden, we've leaped far -- nothing against staff, I hear you, it'd be great -- to go to this lab development zone. And so it's a big leap of faith here, which is going to put this property in real hardship.

I was very open to talk to the developers. They made it clear they're not interested.

I-5-2 cont.

We have other companies though that are looking, transportation services. So, one of the things that I did with the City of Richmond is they built federal labs, as you all know, along the I-80 freeway years ago. And we had industrial yards, live/work, we had trucking yards, we had everything.

And I went to that staff, and we talked and we said, hey, just let us be flexible to operate and lease until these developments really come true to form. And then we're happy to amend or work with you. And that worked.

Our family owned down on Shellmound Street, an acre there by the Bay Street Theater,

still sits vacant today.

Emeryville made us tear down those warehouses that were generating income. They've never been rebuilt.

And lastly, I'll say being a broker, still am, I sold a building on Hollis Street that I own to a friend of mine who's a lab developer in 2018. He's never rented it to this day. It sits vacant at 62nd on Hollis. The market has fallen out, you know.

I-5-2 cont.

And I even know this developer that's looking at this project. I think they have a $2 billion project in San Diego. I read --

CHAIR VINCENT: Can you --

MR. ROBINSON: And I'll wrap it up.

And so the point is, the lab market may not come back for 3 to 10 years. We owners who aren't a part of this development would just like to be able to function and cash flow until then. So, thank you.

CHAIR VINCENT: Thank you.

Please, folks, try to stick to time because we don't have a bell going off. And I hate to interrupt folks, but I will if it was a long line.

Commenter I-6

MR. SOUTHWICK: My name is Tim Southwick. I'm a businessman in Berkeley for 50 years. And we are the owners recently of the land that's outside the area, but the one that's going to be rezoned, that's where the Avis Budget Rental Car was on 600 Gilman. Was there for 35 years. Actually, 40, I think.

And we've been trying to buy property in Berkeley to replace the -- oh, by the way, Toyota of Berkeley. We have close to 100 employees in Berkeley, and as well as Joe's Tires on University Avenue, which is included in that count.

But we've been trying to buy a car washing facility for probably 10, maybe 12 years because the -- and we want it to be especially a brushless. I-6-1

Many people that own high-end cars, Teslas and Mercedes or Toyotas, they don't want brushes on their cars. But we're try -- we're trying to replace the one that was disappeared on Fulton Street, if you remember that. It's now a housing project.

In those days, we used to send all our service customers with a token up to the brushless car wash, and they'd hand the -- a tenant there,

Ali, who was the owner there at the time, they'd hand him the token, and he'd give them the car wash, and it was free. So all our service customers had free car washes.

Well, that went away.

So we've all -- always scanned the area because we have property on 2nd Street. And we're always looking for a place to put a touch -- touchless car wash.

So about four years ago, a broker comes to me and he says, hey, I got this property on 600 Gilman; would you be interested in buying it? And I -- so go down, take a look at it. Well, geez, it has a car wash there. This would be perfect. Woo. This is great.

I-6-1 cont.

Well, long short -- story short, we were outbid on the property, and we kind of forgot about it.

So here comes the new developer in there that buys all this property. And that's who ended up buying it. Little beknown to us, it never closed escrow.

So here I am sitting in my office two days after Thanksgiving and the broker calls me, I didn't even recognize his name on my cell phone.

He says, the property you were looking at two-and-a-half years ago, it's available and Avis wants to sell it to you. Could you close escrow in five days?

They wanted to get rid of it before the end of the year because of business purposes. They were back in New Jersey, their main office. So we bought it. So we go in for a business license. I-6-1 cont.

CHAIR VINCENT: And do you have a specific -- your three minutes is up.

Do you have a specific kind of comment or a question?

MR. SOUTHWICK: Do I -- yeah, well, yes. Oh, I need to get to that. I'm sorry.

CHAIR VINCENT: Do it in 30 seconds, please.

MR. SOUTHWICK: It's zoned for a car wash, but not for public car wash. So I want to make sure that you could do things in this zone. I-6-2

And then we're adding a charging station -- fast charging stations for Teslas and other electric cars in that area so that people could go in there. But what we found out that people that used these EV chargers in Berkeley, like on Ashby Avenue, they're bored silly because they don't have a I-6-3

coffee when they're charging.

MR. HORNER: I see. You're right.

MR. SOUTHWICK: And anyone that has an electric car knows you got to have a cup of coffee because it waits so long.

Well, our chargers are going to be 10 to 20 minutes full charge -- 80 percent charge. And we want to be able to off -- people that take out coffee. And I want to make sure that you can do that within this zoning. You see, that's where I'm coming from. I-6-3 cont.

CHAIR VINCENT: Okay.

MR. SOUTHWICK: So I got a lot more to say, but that'll take another day.

CHAIR VINCENT: Thank you, kindly. Thank you.

Okay. Any other comments -- public comments on this item?

(No audible response.)

Okay. With that I would move to close the public hearing.

COMMISSIONER MERKER: Second.

CHAIR VINCENT: And I have a second from Commissioner Merker.

Board Commissioner Twu or Commissioner

1 Ghosh? Vice Chair Ghosh. You choose. I think it
2 was Vice Chair Ghosh actually jumped in first.
3 VICE CHAIR GHOSH: Okay. I'll do it.
4 COMMISSIONER HAUSER: You're so eager to
5 close.
6 MR. HORNER: Roll call to close the
7 public hearing.
8 Commissioner Merker?
9 COMMISSIONER MERKER: Yes.
10 MR. HORNER: Chair Vincent.
11 CHAIR VINCENT: Yes.
12 MR. HORNER: Commissioner Moore?
13 COMMISSIONER MOORE: Yes.
14 MR. HORNER: Commissioner Ching?
15 COMMISSIONER CHING: Yes.
16 MR. HORNER: Commissioner Mikiten?
17 COMMISSIONER MIKITEN: Yes.
18 MR. HORNER: Commissioner Marthinsen?
19 COMMISSIONER MARTHINSEN: Yes.
20 MR. HORNER: Commissioner Twu?
21 COMMISSIONER TWU: Yes.
22 MR. HORNER: Commissioner Hauser?
23 COMMISSIONER HAUSER: Yes.
24 MR. HORNER: Vice Chair Ghosh?
25 VICE CHAIR GHOSH: Yes.

MR. HORNER: The motion carries.

CHAIR VINCENT: Okay. So it's a lot to discuss.

I think, staff, what would be most helpful? Would it be most helpful to kind of bifurcate the discussion and comments and maybe start with the EIR and get comments? Because we're not taking action on the EIR; we're just giving comments.

So, if we could all do that, and then we'll go to the zoning aspect of this, in which case we will make a motion to -- for -- yes.

MS. JAMES: Can I make a -- can I remind everyone thinking about Commissioner Vincent's comment about how this was just received last Friday.

The public comment period on the EIR is open until December 5th at 5:00 p.m. And so we didn't expect -- and we'll take whatever comments, we're reporting them, and we'll address them in final EIR, but we didn't expect that you would give us your complete comments.

Same with the members of the public. You all can look at your packet, get Ashley's e-mail address or mail address at the city and submit your comments in writing for the EIR. But what we do need from you tonight are your comments on the zoning

commission.

CHAIR VINCENT: Okay. Thank you. I appreciate that.

So, okay. You've heard comments related to EIR from the public as well.

Is there anyone here who would -- on commission, who would like to make a specific comment, you know, to staff in addition to what you've already kind of clarified -- asked questions about that you don't want to -- that you really want to do it here and not in writing?

VICE CHAIR GHOSH: Sorry.

CHAIR VINCENT: No, please.

Commenter A-GHOSH VICE CHAIR GHOSH: I don't have time to do it in writing. This is all the time in capacity I have, honestly. So thank you for giving me an opportunity to just speak. A-GOSH-1

I think couple of things. One is, I think, just the setup of it with this large project, to me, feels challenging to understand the actual impacts. Like, it feels like this is the most massive, this is the biggest, it's all kind of happening at the same time, and it doesn't feel realistic. And I -- to me, it creates a sense of worry. A-GHOSH-2

1 You know, this is a very sensitive
2 project. It's a sensitive area. I think I was
3 looking back to why we're even doing this. We're
4 talking about workers getting their pensions.
5 I mean, there are other things at play
6 why this needs to move forward, while acknowledging
7 that it's very sensitive.
8 So I feel setting it up in this way where
9 it's like this big bad monster when that may not
10 actually be the reality of it, is kind of confusing
11 for me in evaluating the impacts.

A-GHOSH-2 cont.

12 In fact, I would love to see mitigation
13 measures that if I -- and EIR is extremely confusing
14 to understand for me personally. So, you know, I'm
15 going to say what I'm saying and y'all will tell me
16 whether it fits within the framework or not.
17 But I would like to see mitigation
18 measures that talk about phasing as a mitigation.

A-GHOSH-3

19 I would like to see mitigation measures
20 where it's not just relocation, it's also protection
21 of those resources during construction because it's
22 not just about protecting -- like, what about things
23 that will get into the houses during construction.
24 So I don't know if that's sort of in
25 there.

A-GHOSH-4

1 So it's not just about moving the people,
2 it's preserving their homes or properties in a way
3 that they can come back to, that's not permanently
4 damaged in a way that's invisible to the eye.

A-GHOSH-4 cont.

5 I want to see mitigation measure -- one
6 question I did have on the -- on the GHG reduction.
7 Doesn't that apply to any project that we build? Is
8 it specific to this? Because it sounds like anything
9 we build will have that impact of natural gas usage.
10 Is that an accurate reading?

A-GHOSH-5

11 MS. GARCIA: Yes. So, according to the
12 Bay Area Air Quality Management District, any project
13 that proposes natural gas goes against the overall
14 state's GHG emission reduction plan. So for that
15 reason, most of the projects do not propose natural
16 gas.
17 VICE CHAIR GHOSH: Okay.
18 MS. GARCIA: If they do, they will
19 require an EIR because it would be a significant and
20 unavoidable impact.
21 VICE CHAIR GHOSH: Okay. So there is
22 some -- it feels like there's some guardrail in there
23 from like state law --

A-GHOSH-5 cont.

24 MS. GARCIA: Yes.
25 VICE CHAIR GHOSH: -- to discourage use

of natural gas.

And, therefore; the mitigation to me seemed very -- not strong enough in that sense. Like, just electric charging points. EV charging doesn't seem to fully capture. And I could talk about it when we come to the zoning piece around the parking piece. A-GHOSH-5 cont.

It is us people who are trying to reduce car usage. So I would love to see mitigations that talk about how we reduce cars. So maybe it'll come through the zoning. I'm not sure how. A-GHOSH-6

And has the City considered a DA since we passed this new DA thing? I'm also sort of wondering if there's been any -- it hasn't gone to council -- A-GHOSH-7

CHAIR VINCENT: Development agreement.

MS. GARCIA: Development agreement hasn't been approved --

VICE CHAIR GHOSH: Discussed.

MS. GARCIA: -- by council. So we're -- we cannot (inaudible).

VICE CHAIR GHOSH: Right. But is that a wish you've heard from the developers to approach it in a way where it's more of a dialogue? A-GHOSH-7 cont.

With such a sensitive site, a dialogue seems to be most beneficial instead of setting up

1 these sort of very rigid rules that don't help the
2 developer or help the community, because I would love
3 to see them do a shuttle if possible, you know.

A-GHOSH-7 cont.

4 So I think those were my sort of major
5 concerns. We never talk about in EIR the impacts of
6 a building like that just sitting in a community, the
7 damage it does to urban fabric, to -- the damage it
8 does to just a sense of creating a community.
9 So I just see a lot of benefits to
10 addressing that. I personally love ruins --
11 industrial ruins. I love looking at them, but I
12 understand that that's probably not something you
13 want to be around or look at like every day when
14 it's -- when it's such a -- such a large site.

A-GHOSH-8

15 So I do want to see it move forward, and
16 if the DA does pass, I would love to see actually a
17 discussion and a dialogue with whoever's planning to
18 build here rather than very rigid rules.
19 And I think the rest of -- I'll come back
20 to my rest of my comments on the zoning process.

A-GHOSH-9

21 CHAIR VINCENT: Yes.
22 MS. GARCIA: (Inaudible) regarding the
23 comments or about what mitigation applies to the
24 rezoning, what applies to the conceptual project, the
25 executive separate does include a complete table that

clearly identifies which mitigations apply to what. And it also identifies the specific impacts related to each of those two projects.

VICE CHAIR GHOSH: Separate? Do you mean "separate"?

MS. GARCIA: Yes.

VICE CHAIR GHOSH: Yeah.

MS. CRACIUN: And if I can --

VICE CHAIR GHOSH: Okay.

MS. CRACIUN: -- can I address two of your question? So the first one is about why is this EIR so big? Why is this project so big?

The EIR, we have to evaluate the outer bounds of the project in order to make sure that any project that's proposed falls under that.

And so, you know, it's a problem when we analyze a smaller project, and then we end up developing above that, and we have to spend another year-and-a-half and another half a million dollars on the EIR.

So I just wanted to say that.

And the second thing with the DA, you know, we discussed with the property owners, the DA, master use permit, them just using our regular zoning, and it really is their decision. It's up to

a private property owner how they want to move forward. And so we really don't have any influence over that.

Separately, City Council has this referral and so that's why we initiated the rezoning (inaudible) conceptual project may or may not come to fruition. It may be nine acres, it may five acres. They may utilize some of the things we -- that we proposed. We may, you know, recommend that they may not. And so we really have no control over what is going to go forward.

VICE CHAIR GHOSH: Okay. Thank you for that.

CHAIR VINCENT: Okay. Thank you.

I think you -- you've gotten some comments and questions from us. You got some really good comments from the public here. And, again, as a reminder, folks can submit written comments via e-mail to Ashley, James for another month till December 5th, I believe; right?

Okay.

And the public can reach out to staff -- to Ashley on the project for questions or hearing more about it; is that correct?

Okay.

So let's -- let's move to -- I know it's hard to bifurcate the content, but let's move more to kind of the zoning aspects of this item.

So would anyone like to kick us off with some comments, discussion, additional questions?

COMMISSIONER TWU: I can start.

CHAIR VINCENT: Okay. Commissioner Twu, thank you.

COMMISSIONER TWU: Yeah. So I would say that we should allow any current uses that are allowed in the M zone should still be allowed in the M-RD zoning, which I feel that keeps consistent to what we've generally done over the last few years, which is to allow new things but to still allow what we used to allow.

So I will make a motion that we recommend the proposed amendments, but also that any use currently allowed in the M zone, should also be allowed in a M-RD zone.

CHAIR VINCENT: How different -- can staff kind of clarify a little bit on how different that would be from what you --

MS. JAMES: Can we go through the slides if that's possible?

CHAIR VINCENT: Okay. That's a

reasonable ask of you all.

MS. CRACIUN: We did look at everything manufacturing use. And we went through, pulled out recycling sensor or, you know, what Ashley can show you. But we analyze very carefully, especially in the last months when we were -- when you request of us to try to be more flexible.

So we went through, you know, line by line with OED, with planning, with other representatives of the City and came up with the list. Ashley can show you.

MS. JAMES: Yes, there's three --

CHAIR VINCENT: I think what would be useful, though, is what didn't come over, you know.

MS. JAMES: That's what we're going to --

COMMISSIONER TWU: What's currently allowed, that is not allowed.

CHAIR VINCENT: Oh, okay.

MS. JAMES: So the slide or -- oh my gosh. The column that says existing M and the column that says proposed 2024 M-RD.

So what we see that is allowed currently that would be not allowed in the proposed M-RD is vehicle wrecking on this slide.

COMMISSIONER MOORE: I'm sorry. It's

vehicle what?

MS. JAMES: Wrecking.

COMMISSIONER TWU: Junk yard.

MS. JAMES: On this slide, what is allowed in the M that would not be allowed in the M-RD as proposed is commercial excavation, dry cleaning and laundry plan.

Then on this one, what's currently allowed in the M that would not be allowed in the M-RD is nothing. So we have vehicle racking, commercial excavation, and dry cleaning and laundry cleaning. Those are the three uses that are in M of now that would not be allowed in the M-RD.

MS. GARCIA: The word is not permitted.

VICE CHAIR GHOSH: Not permitted.

MS. GARCIA: It's a non-conforming.

MS. JAMES: It's not permitted currently in the M district because of the way the West Berkeley plan is written is that different zones are created based on the locations in the West Berkeley plan area. And so because of the location of MU-LI district woodwork is allowed with ADP; MU-LI district is much farther east than -- yeah.

CHAIR VINCENT: What is commercial

excavation?

MS. JAMES: Let's look at the definition.

CHAIR VINCENT: Oh, that is what -- okay.

MS. JAMES: Yeah.

CHAIR VINCENT: Okay.

MS. CRACIUN: And any existing uses not performing or legally like allowed will be allowed to continue.

MS. GARCIA: Correct.

CHAIR VINCENT: (Inaudible) work?

MS. JAMES: So there's temporary use permit process. And so you can set time limits on that for use. That's not allowed. You proposed to (inaudible) basis. That's what I was aiming for.

VICE CHAIR GHOSH: And that applies to the property, not the property owner?

MS. JAMES: Exactly. Any property in the City of Berkeley.

COMMISSIONER MIKITEN: Can I ask a question?

CHAIR VINCENT: Yes.

COMMISSIONER MIKITEN: So what uses do you envision on some of these smaller parcels like 600 Gilman or the site this gentleman was talking about using is staging?

MS. GARCIA: We assume that those uses will continue.

COMMISSIONER MIKITEN: But there's no use -- there's no active use on either one?

MS. GARCIA: Well, the work is not allowed in the manufacturing district currently. So it could continue as a non-conforming use. We just wouldn't allow for the development of the woodwork units on the site in the district or in any other manufacturing --

COMMISSIONER MIKITEN: But like at 600 Gilman, what use do you imagine would be possible there?

MS. JAMES: Any allowed use.

MS. GARCIA: Any allowed -- we're not dictating these use. As long as it falls under the allowed uses. It wants to continue at a car wash, a rental place, it's not performing, continue the yard on 1433 Eastshore, which is a staging area. It isn't allowed use. It can continue as a staging area. The City is not trying to dictate what individual private property owners do with their property as long as it falls within zoning district.

COMMISSIONER MIKITEN: And is there a reason not to allow that to be a public car wash?

MS. JAMES: There's no distinction in the zoning district between public and the non-public car wash.

COMMISSIONER MIKITEN: So it could be a car wash?

MS. JAMES: It's currently permitted as a car wash.

COMMISSIONER MOORE: Permitted as a car wash, but not to public.

COMMISSIONER MIKITEN: But it could be. That's what they're saying.

COMMISSIONER MOORE: Well, that's our point.

COMMISSIONER TWU: Yeah, under the -- under the current proposal for M-RD, is a car wash allowed?

MS. JAMES: So, let's look.

CHAIR VINCENT: I don't see the car wash on the list.

MS. JAMES: Oh, I'm sorry.

So car -- a car wash is not permitted in any manufacturing district currently. But the property at 600 Gilman has a legal right to operate a car rental facility with a car wash pad, because it is illegal non-conforming use, and the Berkeley

municipal code allows for that non-conforming use to continue. And it could be expanded with issuance of permits to do something.

VICE CHAIR GHOSH: So, yeah, that's helpful.

So some of the concerns we heard from the public today are -- hopefully, they're allayed in terms of being able to continue to do what you're doing on that site, even though some of it was built in a illegal --is illegal non-conforming. And you can --

MS. GARCIA: Legal non-conforming.

VICE CHAIR GHOSH: Sorry.

CHAIR VINCENT: Legal.

VICE CHAIR GHOSH: Legal non-conforming. And you can get a use permit to expand within whatever uses are allowed?

MS. JAMES: You can expand legal non-conforming use with a use permit.

MS. CRACIUN: And our planners are available to speak with these property owners, like, you can be trustee (inaudible) which I've heard about both of the projects and so -- but I know that staff are trying to work with you right now. So, please reach out to us, and we can talk about what's allowed

(inaudible) and explaining --

COMMISSIONER MOORE: It's just not the car wash; it's the fast chargers that we're adding to the zoning.

MS. GARCIA: That's allowed by right under state law.

COMMISSIONER MOORE: Excuse me?

MS. GARCIA: It's allowed by right under state law.

CHAIR VINCENT: Oh, okay. That's good enough. Okay. Let's move on.

Do you want to go next, Commissioner Merker?

COMMISSIONER MERKER: I have a few comments, but I just had kind of a follow -- a follow-up.

CHAIR VINCENT: Go for it.

COMMISSIONER MERKER: Maybe that's related to this is, I think, you know, clarifying what supporting uses, I know that office that is supporting -- supporting the R&D use is allowed.

And I guess to the gentleman's, you know, comment about a coffee shop, could you clarify the things like that that would be -- would they be allowed as standalone items? If not -- standalone

uses if -- on a -- on a lot if not part of the -- a large project. Like, do those supporting uses have to be in the large project or could another property owner support, you know, with a coffee shop, all of the people that are coming into work in that project?

MS. JAMES: So we have a category of uses called incidental. And so those are associated with a primary use. So we have a whole list in the -- this is page 14 of Attachment 1 of incidental uses and what would be allowed.

And so there is a cafeteria, food service establishment under 20,000 square feet, live entertainment, both amplified and unamplified.

Yeah, food and beverage, those are all allowed as incidental to a primary use.

VICE CHAIR GHOSH: But not standalone.

COMMISSIONER MERKER: But they would not be standalone uses?

MS. JAMES: Yeah.

COMMISSIONER MERKER: So those would have to be with -- with the project?

MS. JAMES: Exactly.

COMMISSIONER MERKER: Okay.

MS. JAMES: With an allowed use.

COMMISSIONER MERKER: Yeah, I mean, I

get -- since we're just discussing, I think that's sort of maybe a bit of a concern that I have is, just conceptually, I think we want to create an ecosystem of different owners and projects that work together and not be always relying on a single project, accomplishing everything, and just having a little bit of maybe some flexibility.

Also, you know, what happens if this doesn't -- we all want to see a big project materialize, but if it doesn't materialize, is there a way that the zoning allows for a more incremental approach to still work? So --

COMMISSIONER CHING: Can I add to your point a little bit?

So it does seem like the -- you know, what I said before about the small property owners versus the larger or the majority property owner, if those uses are only incidental to the larger unit, then it really is limiting what these smaller property owners can do on their -- on their properties.

And then, you know, the other question I had about that was the height.

So in the conceptual plan, it allows only if you have -- if you develop the whole 9 acres, then

you can go up 105 feet. And in the conceptual plan, they said they would be putting those on the eastern side of the property because it maximizes the views and the flow to the Bay.

And they actually showed on that little sliver where the live/work is, they put the 105-foot building right next to it, and then on the other side of it, they put what looks like about 70 story -- I mean, sorry -- 70-foot building.

So you have these two large buildings and then this little sliver. Their property is then rendered -- I don't know, I don't want to say useless; I want to say undesirable.

And it just seems like the pressure on that one small property owner in the midst of this large use is going to be forced to sell to the larger property. I don't know.

I mean, it just seems to be a fairness issue.

MS. CRACIUN: So I wanted to address Commissioner Merker's comment. You were asking me about the standalone uses and our answer was about incidental.

But food establishments are allowed as standalone as well.

1 Ashley, you have the two -- you have the
2 table in front of you that contains that.
3 MS. JAMES: Yeah, so page 10 and 11 are
4 where you'll find the food service standalone uses.
5 So those are allowed, depending on size of
6 administrative or (inaudible) public hearing.
7 COMMISSIONER MERKER: That's --
8 VICE CHAIR GHOSH: (Inaudible) what
9 document.
10 COMMISSIONER MERKER: Yeah, on the --
11 it's the --
12 MS. JAMES: Sorry, on Attachment 1.
13 COMMISSIONER MERKER: On Attachment 1.
14 Okay. I mean, I get -- thank you.
15 And I think, you know, we probably don't
16 need supportive commercial excavating uses and
17 there's like a few things that are actually super
18 helpful to have as supportive uses. So it sounds
19 like, I mean, food is the one that comes to mind for
20 me mostly, but there -- maybe there are others.
21 MS. CRACIUN: I think we love the retail
22 as well, like there -- I mean, I think that we
23 actually, when we took that second look in the last
24 six months, like we really did expand, and we thought
25 about this ecosystem with support from OED to make

sure that there were other uses that would support the customers who would -- or the employee -- actually, not the customers, but the employees. We were trying to figure out what would make this a campus that would be attractive to employees that have other services.

COMMISSIONER MERKER: Okay. Thank you.

CHAIR VINCENT: That's helpful. Thank you. Yes, Commissioner Mikiten.

COMMISSIONER MIKITEN: So the 80 percent lot coverage, I'm wondering if that is going to get consumed by circulation -- pedestrian vehicle circulation.

Is there a landscaping requirement as well?

MS. JAMES: The zoning ordinance does not have open space requirements for non-residential uses.

COMMISSIONER MIKITEN: Okay. So I just wanted to mention that for the labs on 5th Street near like Bancroft and Channing, there's this tiny area. It's just an entrance courtyard, but they put a couple of planters there, and the birds are back, and people are sitting out there. And six minutes of birdsong is worth a year of Prozac, medically proven.

Like, so I'm just wondering if we shouldn't be thinking just a little bit about landscaping.

And I'm not sure how. I kind of want more time to think about this, and I have a few other questions.

It seems like we got different answers on whether you could impose mitigation measures or any conditions on a zoning certificate project. Your answers seem to vary a little bit. I didn't quite track.

MS. GARCIA: The zoning certificate is not a discretionary action. It's ministerial. So we are not -- we cannot impose mitigation or permission approval. That's why very few uses here are approval of the zones which (inaudible).

COMMISSIONER MIKITEN: Okay. I'd like -- I just want more time to think about this.

Supportive of the idea, it would be great to get that site cleaned up. I want to make sure the young -- the smaller sites have reasonable options.

I'm -- I would hate to kick this can down the road, but my understanding is that it's -- the council agenda committee hasn't picked it up. We wouldn't be delaying anything by picking this up in

-- I'd be willing to come back in two weeks or in December just because we've had five days, and they were the wrong five days.

And last question is, what was the original height limit when -- for the project that we saw in February?

The -- what was the height request, and does anybody know the height in the Bayer development agreement?

MS. JAMES: Yeah, so the height of the Bayer development agreement, which is in the February 2023 staff report is a maximum of 80 feet for production uses and 65 feet for other uses.

And the zoning map application included a table that's in the Attachment 3 of your packet. So you can look at the details of all the buildings, the size, and heights, and parking.

I believe the -- there's one building that was 104 feet, but we can pull up the --

COMMISSIONER MIKITEN: And do we know what the original request was for the roads proposal?

MS. CRACIUN: In February when they came forward was 90. Since then -- and I think what happened was they went back, and as they were moving their designs forward, which they didn't -- they

1 didn't complete the conceptual design never went to
2 complete plan. But in doing that, they were looking
3 at the -- and, Ashley, you probably described this
4 better than me, like the heights of the ground floor
5 that would make this type of business viable. They
6 recalculated, and they asked for a -- you know, 10
7 extra feet on the first two stories or something like
8 that.
9 And there was also like a rationale
10 between like not having really big clear work place,
11 but having like more vertical offices or more
12 vertical spaces for these type of business.
13 Somebody else knows the details of this
14 better than me.
15 There's a long narrative in the zoning
16 map and an application, so you granted them an extra
17 15 feet or so. Was it 15 feet?
18 COMMISSIONER CHING: What I read in the
19 proposal was that it was originally 45 feet and they
20 wanted 55 feet because they said that for lab space
21 they needed extra ceiling height for the equipment.
22 I mean, like, you know, when you have hoods and you
23 know, chemical, that sort of -- that sort of
24 laboratory space needs higher ceilings. So they were
25 proposing 55 feet for a three-story building.

1 But I don't -- I didn't see the rationale
2 for the 105 feet except that they needed that height
3 to mitigate the cost of cleanup. And I didn't really
4 see justification or rationale for that. It was just
5 kind of in there. I don't -- I don't know.
6 MS. JAMES: No. When I -- when I read
7 the zoning map amendment application, I see in the
8 narrative under rationale for building height. It
9 says the maximum height limit of 105 feet is
10 justified for including minimum floor heights,
11 maximum floor plates required for R&D and substantial
12 cost of cleanup for the site.
13 So I don't see 55 or anything other than
14 105 in the material.
15 COMMISSIONER CHING: So that means they
16 could build everything 105?
17 MS. JAMES: So it's (inaudible) --
18 COMMISSIONER CHING: Except for the far.
19 MS. JAMES: -- that we're proposing under
20 the -- so the -- so what the staff proposal is, is
21 district wide a maximum of 55 feet.
22 And if a developer wanted to submit a
23 permit application to modify certain development
24 standards, building height would be one allowed
25 modification with approval from the staff if certain

1 findings and conditions are met. And that would be
2 105 feet.
3 And that would be available for projects
4 of a comprehensive nature. So one application of at
5 least, not a maximum, at least 9 acres of size. The
6 zoning district is 11-and-a-half acres in size.
7 VICE CHAIR GHOSH: Okay.
8 CHAIR VINCENT: But how much of the -- of
9 a -- how much built space could potentially be
10 105 feet meeting criteria?
11 MS. JAMES: So that is an excellent
12 question for an architect we know. We have someone
13 for the question.
14 COMMISSIONER MERKER: Well, under the
15 zoning, with that -- I mean, but as I understand it
16 that if they get granted that it's the whole -- it's
17 their whole project would have that maximum? It's --
18 I mean, whether the architect builds, you know, the
19 design doesn't need that whole --
20 MS. JAMES: Exactly. The maximum would
21 be increased to 105.
22 COMMISSIONER MERKER: Right.
23 MS. JAMES: But if you see the other
24 development standards not changing, there's still a
25 2.0 FAO.

CHAIR VINCENT: Right.

COMMISSIONER MERKER: Right.

CHAIR VINCENT: There's no FAO. Okay.

MS. JAMES: Increase that FAO by 20 percent on a project by basis.

MS. CRACIUN: And one of the reasons why they asked for this advocating for the additional height is because this 9-acre site is cut by the right of way. So they can't merge their parcels. So they can't actually say -- so they can't merge their parcels and do 2.0. So there might be two parcels that are either side of the right of way and want to advocate them together. So that's one reason for this modifications.

The second thing is that they talked about having taller buildings to the east and lower buildings to the west in order to maintain views. And because of FAO, you would not have 105 across the site.

CHAIR VINCENT: Right.

MS. CRACIUN: You would have to have these variable heights. And so some of the findings in this modification section talk about having a site design that's attractive and variable provides like -- I don't the language, but that the design would

have to be reviewed. This isn't ministerial. This would not be ministerial. This would (inaudible).

CHAIR VINCENT: Okay. And who's the they in that -- your description there?

MS. CRACIUN: They -- the applicant.

MS. PEARSON: Future project sponsor. Again, we don't have a use permit.

CHAIR VINCENT: Right.

MS. PEARSON: We have the idea of this conceptual project. The formal application has not been submitted. What's before you is just a proposal to establish a new zoning district. And we had to evaluate potential implementation of that district.

CHAIR VINCENT: Right. No, that's helpful. No, Alene, that's really helpful in that context.

So, folks, down on this end, would you like to make any comments or -- of any type? You don't have to, but I wanted to give you all the floor.

COMMISSIONER HAUSER: Thank you.

CHAIR VINCENT: No. Okay. Any other comments, or we would love to entertain a motion?

COMMISSIONER CHING: Could we talk about the parking for a minute?

VICE CHAIR GHOSH: Yeah.

CHAIR VINCENT: Yep.

COMMISSIONER CHING: So the 1900 parking spaces that are being asked for on this property. So the Bayer property, I mean, I might not have the numbers exactly right, but it's like a 46-acre property with like 1100 parking spaces.

And the Berkeley Commons is like a 20-acre parcel with, I think it was 1,004 parking spaces, something like that. This site is half the size of Berkeley Commons and asking for almost twice as much parking. What's the justification for that? And that seems to go against our reduce the car, you know, traffic.

VICE CHAIR GHOSH: My understanding is that's what you have right now. Like, your --

MS. JAMES: I'm just saying that -- so a developer would get to that number based on what they expect to be the parking demanded by the users of the project. And so we have a minimum requirement that we're reducing as part of this proposal. But they would be able to provide what's demanded by the users of the project.

COMMISSIONER CHING: I'm sorry. You have a minimum requirement?

MS. JAMES: Mm-hmm.

COMMISSIONER CHING: So the 1900 is --

MS. JAMES: Is what's demanded by the project. So in that -- in the zoning map amendment materials, they presented kind a building summary that's based on their developer map of how many car spaces they think people that are working together want to park in.

COMMISSIONER MIKITEN: Can I --

MS. JAMES: It's not based on our minimum.

MS. PEARSON: Yeah, just to clarify, the conceptual development project is proposing 1900 spaces. The zoning district would allow a minimum of 1300. So the minimum is 1300 for the zoning.

VICE CHAIR GHOSH: But it's a minimum --

CHAIR VINCENT: But there's no maximum?

VICE CHAIR GHOSH: -- so they can do more if they want.

MS. PEARSON: They can do more. They can go above into the conceptual development project and say, I want to go above to 1900.

CHAIR VINCENT: But there's not a maximum on parking?

MS. PEARSON: No.

CHAIR VINCENT: But there's a minimum of 1300?

MS. PEARSON: Correct.

COMMISSIONER MERKER: And I -- you know, so I haven't read the EIR, but, like, things like shuttle programs or other TDM programs -- sorry, this is kind of a little bit unformed, but how does that come into play?

I mean, if we -- if we want that applicant to say, actually no, like, you can't have that many spaces; that's going to put more cars on the road, polluting West Berkeley; have less.

What's the mechanism that we have to be able to, if not require, or encourage, or engage?

VICE CHAIR GHOSH: I would love to see it. I mean, that's why I keep saying, you know, like the Bayer has fewer -- they have the shuttle; they have --

CHAIR VINCENT: Right.

VICE CHAIR GHOSH: Because it was a DA, right? So it was a negotiation that led to that, so --

MS. PEARSON: We do have a TDM program. It's discussed in the transportation section of the (inaudible).

1 VICE CHAIR GHOSH: But it's not required?
2 MS. PEARSON: It is required.
3 VICE CHAIR GHOSH: Okay.
4 COMMISSIONER MERKER: It's required as
5 part of the mitigation --
6 MS. PEARSON: Yeah.
7 COMMISSIONER MERKER: -- to get it --
8 MS. PEARSON: So there's a few strategies
9 listed on page 4.4-22, which includes a work shuttle,
10 bus service extension, bicycle amenities, bike share,
11 carpool, ride-matching assistance, car-share parking
12 spaces, transit fair subsidy, pretax commuter
13 benefits, marketing and education (inaudible).
14 VICE CHAIR GHOSH: And it's a mitigation
15 to which -- what impact?
16 MS. PEARSON: It is not a mitigation
17 measure.
18 VICE CHAIR GHOSH: Oh.
19 MS. PEARSON: It's just a required TDM
20 plan.
21 VICE CHAIR GHOSH: Oh, a required TDM
22 plan. Okay. So what is --
23 COMMISSIONER MOORE: Would this be
24 something we would negotiate during community
25 benefits?

MS. PEARSON: It would be something that was -- that would be required by a future project component.

MS. JAMES: We do have a process at the City. Once a project is built, that we do enforce the TDM. So a planner is working with them on basis to make sure those measures are being mitigated.

COMMISSIONER MOORE: Thank you.

VICE CHAIR GHOSH: How does staff feel about having a parking maximum? Because I think -- I think you can do the TDM, but you'll still have the three parking garages. The three parking garages, if that's actually true, because I know it's hard to read what is proposed, what might actually happen. But, you know --

MS. PEARSON: I think that we're here to accept your comments on the proposed zoning. So, if that's a comment, we'll take that down.

VICE CHAIR GHOSH: Yeah, I mean, I would love to see a max. I would also love to see us not require any parking similar to what we do with housing.

However, I'm saying this, but because we do housing more regularly, and we don't have these big projects come to us that often. What I'm

saying -- the number, I don't know what have to pull out of, because that would require looking at maybe other projects and looking at what's happening in the area to mitigate that.

But if the TDM is required, then what opportunity -- what is a reasonable cap?

You know, not -- I think 1900 is probably too much, and it is right off the freeway. So I can see that they would want people to drive, but we're also trying to build more housing so maybe more people can actually live here. I don't think we should encourage that much car usage in that neighborhood.

MS. CRACIUN: We did not analyze that. I did not analyze parking maximum. So it would be difficult for us to give you any guidance right now. If it's something you want us to look at and you still want to make a recommendation, you could ask us to -- when -- if you were to make a recommendation, you could say, and please look at a parking maximum and make a recommendation that we would run by the chair and the vice chair prior to going see council, and you can have us come back to you.

So that's something that we could -- that we could definitely research before going to City

Council.

CHAIR VINCENT: Yeah. Commissioner Ching?

COMMISSIONER CHING: No, I'm sorry.

CHAIR VINCENT: Commissioner Mikiten?

COMMISSIONER MIKITEN: Just to be clear, Commissioner Moore, community benefits aren't going to be part of this discussion unless the developer takes a development agreement route, which I think with this zoning is unlikely.

COMMISSIONER MOORE: You think it's unlikely that somebody will take a DA with this?

COMMISSIONER MIKITEN: Yeah.

COMMISSIONER MOORE: Interesting.

COMMISSIONER MIKITEN: I agree with Commissioner Ghosh that it would be great to reduce the traffic impacts. I just want to point out that I'm pretty sure Emeryville's Emery Go-Round involved a redevelopment agency, which is a funding source we don't have; and that if we just as commissioners or even the City Council tried to like cap the parking, you should expect that you're going to limit the development in unforeseen ways.

Like we had this conversation over the Kaiser development. Nobody wants to build parking

spaces. They're very expensive. So for the developer to do it, it means that that's the reality of the situation.

So just if we want to go the route of capping, we have to be willing to go the distance of participating in development of a shuttle and all that. That's a whole another project. But just simply capping it, I think would just nip the development in the bud really.

CHAIR VINCENT: Commissioner Ching?

COMMISSIONER CHING: What about reducing the minimum from -- you said 1300? What if we brought that down so then it would be possible?

COMMISSIONER MIKITEN: I thought state law eliminated this parking requirement completely in most of Berkeley anyway.

MS. JAMES: Interestingly enough, this is the one sliver of Berkeley that's not in the exemption.

VICE CHAIR GHOSH: What? Really?

MS. JAMES: There's no bus stop in it.

CHAIR VINCENT: Interesting. Okay. Yeah. Good point.

MS. PEARSON: It's not going to be accessible via public transit.

COMMISSIONER MERKER: I mean, just to the -- just in the spirit of debating this a little bit because I think it's -- it is -- I don't want to go too far down. I like the idea of making -- just making a recommendation to staff so that we can make a motion tonight.

But I also think, with respect to Commissioner Mikiten's point, I think it's a great point, but also we have to -- we do have to make it possible to do different things.

And we have high quality transit very close by. So, I think there's, or you know, within a shuttle -- a shuttle ride, I -- you know, this could be something that's paid for in a TDM program that just becomes part of the economics of the development. It's -- doesn't cost that much to run a shuttle to park compared to building a parking garage.

So I just sort of have a hard time believing there's no, you know, like the project doesn't happen, but there's no other alternatives than, like, we have to build -- we have to build all the parking spaces.

I mean, I'm curious if there's other, you know, like if you have a BART stop that is like a

mile away or less than a mile away, you know, that's -- that is a different condition. It is an asset of the site.

So it's just a little bit more of a debate on it. But I think there's merit to at least studying the number of an upper -- an upper limit.

CHAIR VINCENT: So, in the spirit of moving forward, I would motion that we -- help me with the language here, but move forward with the staff recommendation here -- with a recommendation to staff to investigate options for more flexibility on parking aimed at reducing -- you know, options for reducing the amount of parking. Whether that's through, you know, reducing the minimum and/or setting a maximum.

I don't know what those numbers should be. I don't want to sit here until 3:00 a.m. debating what those numbers should be because we don't have any guidance on that.

But I would make a motion then for the -- what the staff has and the staff to -- I would -- I am very much okay with advising or recommending that staff investigate options on that.

COMMISSIONER MARTHINSEN: Jeff, can I comment on that?

CHAIR VINCENT: Yes.

COMMISSIONER MARTHINSEN: Could we instead of limiting ourselves to an examination parking, because, you know, we know that this is going to be years out, I think it would be -- my preference would be that we would ask you to look at more creative and open-ended ways to minimize the use of private individual cars to come to this site.

Because if we -- there is the unintended consequence of limiting parking. Everybody's circling looking for a parking space in the adjacent neighborhoods.

And I think we have to be optimistic about the fact that in 10 years or 12 years when this thing is probably actually going to happen, if it does, is maybe there's some other kinds of ways that we are moving people and people are moving. Maybe there's more -- you know, five years ago there weren't cargo bikes and now every person in my neighborhood has two kids and their stuff on a cargo bike.

CHAIR VINCENT: Yeah, I think that's --

VICE CHAIR GHOSH: I think the challenge is --

CHAIR VINCENT: -- that's more in the

spirit of what I was intending. So I think that's --

COMMISSIONER MARTHINSEN: (Inaudible) is my point.

VICE CHAIR GHOSH: But I think the challenge is the --

CHAIR VINCENT: I agree.

VICE CHAIR GHOSH: -- the mechanism that we have is parking in the zoning.

COMMISSIONER MARTHINSEN: Yeah.

VICE CHAIR GHOSH: The only -- we don't have a mechanism to say, explore innovative ways of moving. We don't have that in -- that's part of the TDM policy probably.

COMMISSIONER MARTHINSEN: Well, then I think -- then I think --

VICE CHAIR GHOSH: But zoning only allows us to set the parking together.

COMMISSIONER MARTHINSEN: So then I think -- I guess, I'm just saying is somehow we have to get the language -- to me, I feel like making the language around the TDM part of it is the part that we really want to --

COMMISSIONER MOORE: Focus.

COMMISSIONER MARTHINSEN: -- elevate somehow.

VICE CHAIR GHOSH: Yeah. And that applies to all projects; correct? That's not just to this project.

COMMISSIONER MARTHINSEN: I'm just worried about the parking.

VICE CHAIR GHOSH: We already have. No, I agree. And I'm just trying to use the mechanism that will at least encourage the developer to look at other ways and not just go for -- and approve something that's -- and I -- and I understand what Commissioner Mikiten's also saying that, you know, if they did, it's expensive to build. If they didn't really want it, they wouldn't do it.

But they -- you know, but I think it's worth studying it since we've been doing it with housing. And I think it's fair to look at it for any development project that we put in.

Like, what is in here in terms of parking and also bike parking.

COMMISSIONER MARTHINSEN: Bike parking? That's what I mean. That's a bigger -- it's bigger. I guess sort of the bigger.

VICE CHAIR GHOSH: We should look at those.

COMMISSIONER MOORE: Chair, point of

1 view.
2 CHAIR VINCENT: I -- yeah.
3 COMMISSIONER MOORE: I think Commissioner
4 Twu had a -- he was the first one to propose a -- did
5 you -- am I correct? Did you --
6 COMMISSIONER HAUSER: Make a motion.
7 COMMISSIONER MOORE: -- made a motion?
8 Yes.
9 COMMISSIONER TWU: Yes.
10 CHAIR VINCENT: Oh, he did make a motion.
11 COMMISSIONER MOORE: He did. And I
12 don't -- I don't think we addressed it yet. Can we
13 hear your motion again, Commissioner Twu?
14 CHAIR VINCENT: Maybe it wasn't stated
15 quite as motion, but what you proposed was that to
16 have every use that is currently in the M --
17 COMMISSIONER TWU: Right.
18 CHAIR VINCENT: -- applied to this new --
19 what is it? M-RD.
20 COMMISSIONER TWU: Yes.
21 CHAIR VINCENT: In addition to the
22 additional things that you all --
23 COMMISSIONER TWU: Correct.
24 CHAIR VINCENT: -- suggested for the --
25 COMMISSIONER TWU: Uh-huh.

CHAIR VINCENT: And my understanding in that discussion was that there were three items that potentially could not be -- did not carry over, which were vehicle wrecking, commercial excavation, and dry cleaning of some sort, laundry plan.

So did you state that as a motion? Do you want to state it as a motion?

COMMISSIONER TWU: And then I'd be happy to amend it to also include looking into reducing the parking requirement or having a parking lot.

VICE CHAIR GHOSH: Is your hand up? Is your hand up?

MS. CRACIUN: So (inaudible).

No.

VICE CHAIR GHOSH: Go ahead.

MS. CRACIUN: There's one thing that when you were talking about the TDM, Justin reminded me of the TDM the parking package that we all looked at in 2017, 2019 --

CHAIR VINCENT: Correct.

MS. CRACIUN: -- 2021, where in the CDMU we have two -- we have parking -- we have -- we have TDM for housing projects in the downtown. It's much more transit rich. But if you want us to examine parking -- maximum parking, minimum, and a more

robust TDM program for this district, that's --

CHAIR VINCENT: Okay.

MS. CRACIUN: -- implausible.

VICE CHAIR GHOSH: Yeah. I think Bayer would be a good starting point for that.

CHAIR VINCENT: So the -- Commissioner Mikiten.

COMMISSIONER MIKITEN: I -- I'm not sure why we're including the M uses because it seemed like there wasn't really anything --

VICE CHAIR GHOSH: Yeah. Exactly.

COMMISSIONER MIKITEN: -- relevant there.

I also want to suggest or have included in a motion that you cover the discussion we just had about these non-conforming uses and how they could be expanded, if not in the zoning ordinance then in the staff report so that when someone refers back and tries to understand what the intent was, it's clear. Because it sounds like what we were talking about, car wash, coffee, et cetera, staging, is all going to be doable. So just state it in the staff report.

CHAIR VINCENT: They could be standalone as well.

COMMISSIONER MIKITEN: Yeah.

CHAIR VINCENT: Yeah.

COMMISSIONER MIKITEN: So just so that if somebody picks this up 10 years from now, it's clear.

I would still ask for more time. I would really like to pick this up in December, if we could.

VICE CHAIR GHOSH: Full agenda in December.

COMMISSIONER MIKITEN: And I do think this should at least be some thought. I don't -- I don't know if inclusion, but some thought around landscaping, and some thought and clarification about whether a zoning certificate project is subject to the mitigation measures. I'm still not clear.

A 60,000-square-foot project really is not a big project, but at the same time, we can't foresee the consequences of having zero discretion on it.

Like, don't put that driveway there. AC transit wants to do it, a bus stop, or we want our transit show. Like, you have zero discretion. And I know we'd like to act like an AUP is a big deal, we're talking about big stuff. They're spending years planning this, and AUP is nothing. And it just gives these people who do have expertise the chance to apply it and have a tiny bit of leverage on things. So, I would suggest not reducing the zoning

1 certificate standard. It's -- an AUP is really --
2 it's fine.
3 COMMISSIONER MARTHINSEN: I want to
4 second the issue about landscape and open space.
5 VICE CHAIR GHOSH: And I want to follow
6 up on that.
7 What is the mechanism for ensuring
8 reasonable inclusion of open space or native plants
9 or water -- water treatment? Is that -- is there a
10 mechanism in either zoning or the EIR to address
11 that? Because if not, you know, we have to find what
12 that --
13 MS. PEARSON: I believe it's part of the
14 zoning.
15 VICE CHAIR GHOSH: Okay.
16 MS. PEARSON: So, I -- I've heard three
17 motions so far.
18 VICE CHAIR GHOSH: No, you've heard three
19 recommendations that will go into a motion. It's
20 hard --
21 CHAIR VINCENT: Yeah, I think that's
22 correct.
23 But can you list those three things off?
24 MS. PEARSON: Okay. So Chair Vincent
25 suggested that we proceed with staff recommendation.

1 Commissioner Twu suggested that a staff
2 recommendation include the M-RD district be revised
3 to include uses, such as vehicle wreckage, commercial
4 excavation, and dry cleaning uses.
5 We've also heard that you want us to
6 explore a more robust TDM plan and also consider
7 requirements to revise proposed zoning to include
8 open space and safety requirements.
9 Oh, yes, that's right, to consider
10 parking by reducing the minimum required parking or
11 identify a maximum parking in use of their
12 development, for example.
13 VICE CHAIR GHOSH: A robust TDM.
14 CHAIR VINCENT: Yeah, I would combine
15 that. That would be substantively with the TDM.
16 And then there was -- so you had the
17 landscaping piece and then are we -- is this piece
18 around the zoning certificate?
19 MS. PEARSON: Yeah.
20 MR. HORNER: Right. Discussion of
21 non-conforming uses.
22 MS. JAMES: As a threshold for --
23 COMMISSIONER MOORE: Historic record of
24 non-conforming uses.
25 MS. JAMES: -- for the permit of the

project.

MS. CRACIUN: The threshold dimension for 60,000 to reevaluate that.

MS. JAMES: Yeah.

CHAIR VINCENT: So the recommendation would be for us to recommend staff reevaluate that in the spirit of perhaps bringing it down?

VICE CHAIR GHOSH: Can I ask a clarification on that? Is there not a design review process that would address the driveway or the space transit stop? There's a design review process, right?

MS. JAMES: This is a subject to design review.

VICE CHAIR GHOSH: So then why do we need to not just have it be permitted through CC and negotiate the details through a design review process? Seems like the appropriate place for that. What does staff --

MS. CRACIUN: If it -- if it's allowed by light, then it doesn't review -- design review.

VICE CHAIR GHOSH: Okay.

CHAIR VINCENT: Okay.

MS. JAMES: Correct. And it's like a location of a driveway press into property. It's not

1 design review; it's more --
2 VICE CHAIR GHOSH: Fire.
3 MS. JAMES: -- a building permit.
4 VICE CHAIR GHOSH: Yes. Okay.
5 MS. JAMES: And that would be just
6 because the project is approved by a zoning
7 certificate doesn't mean that we can't apply those
8 regulations.
9 VICE CHAIR GHOSH: So from a health and
10 safety perspective, we'll be fine. From an urban
11 design perspective, it might still leave things
12 lacking.
13 COMMISSIONER MERKER: And just a
14 clarification from our last meeting about this.
15 I remember some discussion of objective
16 standards being --
17 MS. JAMES: Yeah. So I did --
18 COMMISSIONER MERKER: For --
19 MS. JAMES: -- commission objective
20 standards for open space and land. There was not
21 support on the commission.
22 COMMISSIONER MERKER: There was not
23 support on the commission. Okay.
24 But it could -- if there were objective
25 standards, they would apply to the zoning

1 certificate?
2 MS. JAMES: Objective standards do apply
3 in the zoning.
4 COMMISSIONER MERKER: All right.
5 COMMISSIONER CHING: Could I ask why
6 doing the excavation and the dry cleaning.
7 CHAIR VINCENT: So, okay. Yeah. Let me
8 add.
9 So, we have a large recommendation or a
10 motion made, which is the staff recommendation, plus
11 a few things, which are guidance direction for staff
12 mostly to do research on. And I can list them.
13 But I did want to take a pulse on the one
14 that Commissioner Ching raises, which is,
15 Commissioner Twu's suggestion to basically include
16 everything wholesale that's allowed in M if we -- I
17 guess, I'd like to see a little temperature on if
18 there's enough support to keep that in the motion.
19 VICE CHAIR GHOSH: So, can I recommend
20 that we find a second and then have a discussion?
21 CHAIR VINCENT: Okay.
22 VICE CHAIR GHOSH: If generally we're
23 feeling good about it.
24 CHAIR VINCENT: Great. No, that's a --
25 that's a good idea.

1 Would folks like me to sort of loosely
2 read the motion?
3 COMMISSIONER MOORE: Please.
4 CHAIR VINCENT: Okay. Thanks. Okay.
5 So the motion is -- and help me, staff,
6 if I don't get it in as much detail. But is it okay?
7 Alene, you're --
8 MS. PEARSON: If I can just -- one thing
9 about anything hazardous operations, such as vehicle
10 wreckage, commercial excavations, dry cleaning, one
11 of the primary purposes of the City Council
12 (inaudible) uses, clean it up, and then doing it
13 again by use of hazardous materials.
14 CHAIR VINCENT: Right. And and that's
15 actually the reason that I wanted to take pulse on
16 that, because I didn't -- I actually personally
17 didn't want to include it in motion.
18 Because I think staff and OED have done
19 the research and analysis on that, and there's a
20 reason that they've not put those forward. And I
21 would trust their analysis more than I would ours
22 here.
23 So, if it were me and I'm making the
24 motion, I would actually leave it out first.
25 COMMISSIONER TWU: Okay. Yeah.

CHAIR VINCENT: Because I think Twu --

COMMISSIONER TWU: I think we -- we've got most of the things we need covered already.

CHAIR VINCENT: Okay. Thank you.

VICE CHAIR GHOSH: Are you seconding the motion?

CHAIR VINCENT: Well, I haven't -- I haven't really made a motion yet. Because I don't think Commissioner Twu was ever framed as a motion. Was it?

COMMISSIONER TWU: It was.

CHAIR VINCENT: Oh, it was?

COMMISSIONER MOORE: Yeah, it was.

CHAIR VINCENT: So the motion that you made a long time ago was basically take the staff report and add anything that is currently --

COMMISSIONER TWU: Right.

CHAIR VINCENT: -- in M record, period.

(Simultaneously speaking.)

COMMISSIONER TWU: Right. (Inaudible.) Yeah.

VICE CHAIR GHOSH: No, no. What I'm saying is, Commissioner Twu made a motion to pass the zoning standards with these changes --

CHAIR VINCENT: Right.

1 VICE CHAIR GHOSH: -- and that those are
2 the changes you're summarizing. You've made -- if
3 you could -- there's a friendly amendment that we
4 don't include the first thing that you said anymore.
5 CHAIR VINCENT: Okay. I never heard full
6 motion made other than by myself.
7 VICE CHAIR GHOSH: Okay.
8 COMMISSIONER TWU: All right. Forget it.
9 CHAIR VINCENT: But if you did, I'm happy
10 to say it.
11 COMMISSIONER TWU: Just keep going. Keep
12 going.
13 CHAIR VINCENT: I'm happy to give you
14 that. I didn't mean to take it from you.
15 COMMISSIONER TWU: We will Just keep
16 going.
17 CHAIR VINCENT: Okay. So the motion is
18 the staff recommendation, plus asking staff to do
19 research into providing more robust TDM and
20 opportunities for reducing parking requirements and
21 parking on the site as a whole thing. You could
22 probably word that better than I just said. Is to
23 also look into landscaping and outdoor space
24 requirements on the site.
25 We're not doing the M uses, and we're not

1 doing the zoning certificate threshold issue.
2 Actually, we're leaving that off. We decided; right?
3 So it's just those two.
4 And then the third thing that I heard,
5 which is probably not necessarily in the motion, it's
6 more direction to you, which is have the staff report
7 kind of clarify the incidental uses as they -- as we
8 discussed and as they can be standalone and
9 nonconforming -- and then nonconforming -- legal
10 nonconforming aspect of that.
11 So that it's clear in, you know, without
12 something having to, like, read the fine print of it.
13 Okay. Did I capture everything?
14 MS. JAMES: Yes, you did.
15 CHAIR VINCENT: Okay. So that is the
16 motion.
17 COMMISSIONER MOORE: Second.
18 CHAIR VINCENT: So you may give the
19 motion to Commissioner Twu, and second would be from
20 Commissioner Moore; correct?
21 Okay. So, roll call.
22 MR. HORNER: Okay. On motion,
23 Commissioner Merker?
24 COMMISSIONER MERKER: Yes.
25 MR. HORNER: Chair Vincent?

1 CHAIR VINCENT: Yes.
2 MR. HORNER: Commissioner Moore?
3 COMMISSIONER MOORE: Yes.
4 MR. HORNER: Commissioner Ching?
5 COMMISSIONER CHING: I'm going to pass.
6 MR. HORNER: (Inaudible).
7 COMMISSIONER CHING: No. Can I pass?
8 VICE CHAIR GHOSH: Yeah, you can come
9 back to --
10 CHAIR VINCENT: Come back, yeah.
11 MR. HORNER: Commissioner Mikiten?
12 COMMISSIONER MIKITEN: Yes.
13 MR. HORNER: Commissioner Marthinsen?
14 COMMISSIONER MARTHINSEN: Yes.
15 MR. HORNER: Commissioner Twu?
16 COMMISSIONER TWU: Yes.
17 MR. HORNER: Commissioner Hauser?
18 COMMISSIONER HAUSER: Yes.
19 MR. HORNER: Vice Chair Ghosh?
20 VICE CHAIR GHOSH: Yes.
21 MR. HORNER: Commissioner Ching?
22 COMMISSIONER CHING: Yes.
23 MR. HORNER: Motion passed.
24 CHAIR VINCENT: Okay. Thank you all for
25 that. Thank you. And apologies if I missed the

motion on that.

COMMISSIONER TWU: I always like to start with the motions, so it's --

CHAIR VINCENT: I know. I do appreciate that actually.

Okay. Thank you. And thank you all for being here on this.

MR. HORNER: Thank you.

CHAIR VINCENT: And reminder that you can submit EIR comments till December 5th.

Okay. We have one more item. We're two-and-a-half hours in.

And the last item is Item 11, which is the planning Commission 2024, '25 work plan and the commission calendar.

MR. HORNER: So, Chair Vincent, may I suggest we take a small break?

CHAIR VINCENT: Oh.

MR. HORNER: (Inaudible) --

CHAIR VINCENT: Oh, okay. Sure.

MR. HORNER: -- these microphones from the table. It's here --

VICE CHAIR GHOSH: What is happening here?

MR. HORNER: The City's expense to report

(inaudible).

VICE CHAIR GHOSH: Oh. Did we discuss informed?

MS. JAMES: We're recording the EIR comments.

VICE CHAIR GHOSH: Oh.

MS. JAMES: Better than our notes.

VICE CHAIR GHOSH: Oh, I see.

(Recess.)

(Audio recording ends.)

C E R T I F I C A T E

STATE OF CALIFORNIA)
) ss.
CITY AND COUNTY OF BERKELEY)

I, IRENE NAKAMURA, a Certified Shorthand Reporter in and for the State of California, do hereby certify:

That the foregoing proceedings were transcribed by me in machine shorthand from audio recording, and was thereafter reduced to typewriting by me and under my supervision;

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Dated this 30th day of November, 2024 in Los Angeles, California.

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State of Hawaii CSR No. 496
State of California CSR No. 9478
State of Washington CCR No. 3177
State of Nevada CSR No. 893
State of Illinois CSR No. 084.004909

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APPENDIX B

LANDMARKS PRESERVATION COMMISSION TRANSCRIPT

CITY OF BERKELEY

PLANNING AND DEVELOPMENT DEPARTMENT

LAND USE PLANNING DIVISION

CERTIFIED TRANSCRIPT

REPORTER'S TRANSCRIPTION OF VIDEOTAPED MEETING

LANDMARKS PRESERVATION COMMISSION

THURSDAY, NOVEMBER 7, 2024

6:30 PM

North Berkeley Senior Center

1901 Hearst Avenue

Berkeley, California

AUDIO LENGTH

(00:40:54 HOURS)

Transcribed by: IRENE NAKAMURA, RPR, CLR
State of Hawaii CSR No. 496
State of California CSR No. 9478
State of Washington CCR No. 3177
State of Nevada CSR No. 893
State of Illinois CSR No. 084.004909

A P P E A R A N C E S

DENISE MONTGOMERY, Chairperson, District 8

STEVEN FINACOM, Vice Chairperson, District 4

KATHLEEN CRANDALL, District 3

CHARLES ENCHILL, District 1

LUKE LEUSCHNER, District 7

SUSAN ORBUCH, District 5

PAUL SCHWARTZ, District 6

FATEMA CRANE, Landmarks Preservation Commission Secretary

ALSO PRESENT:

ASHLEY JAMES -- Senior planner in the land use division

CLAUDIA GARCIA -- presenter of the draft EIR which analyzes proposed zoning West Berkeley and General Plan Amendments as part of the Pacific Steel Casting Referral from the City council, Gilman Gateway Project

ANNE HERSCH -- Planning manager

FLORENTINA CRACIUN -- Leader of the consultant LSA team

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P R O C E E D I N G S

AUDIO (00:40:54 HOURS)

START TIME: 18:36:00

-o0o-

CHAIR MONTGOMERY: A couple more commissioners.

VICE CHAIR FINACOM: Oh, here's Charles.

CHAIR MONTGOMERY: And here's one now. How exciting. You barely missed anything. But let's go ahead and get started and do a roll call.

SECRETARY CRANE: Commissioner Crandall?

COMMISSIONER CRANDALL: (No audible response.)

SECRETARY CRANE: Commissioner Enchill?

COMMISSIONER ENCHILL: Here.

SECRETARY CRANE: Finacom.

VICE CHAIR FINACOM: Here.

SECRETARY CRANE: Orbuch?

COMMISSIONER ORBUCH: Here.

SECRETARY CRANE: Plese?

COMMISSIONER PLESE: Here.

SECRETARY CRANE: Schwartz?

COMMISSIONER SCHWARTZ: Here.

SECRETARY CRANE: And Chair Montgomery?

CHAIR MONTGOMERY: Here. Present.

And do we have any ex parte communications reports from anyone? Commissioners?

(No audible response.)

CHAIR MONTGOMERY: Okay. We'll move on to the land acknowledgement statement. The commission -- oh, gosh, sorry.

The commission recognizes that the community we live in was built on the territory of the Huchiun, the ancestral and unceded land of the Chochenyo speaking Ohlone people.

The ancestors and descendents of the sovereign Verona Band of Alameda County. The land was, it continues to be of great importance to all of the Ohlone Tribes and descendants of the Verona Band.

As we begin our meeting tonight, we acknowledge and honor the original inhabitants of Berkeley, the documented 5,000-year history of a vibrant community in the West Berkeley Shellmound, and the Ohlone people who continue to reside in the East Bay.

We recognize that Berkeley's residents have continued to benefit from the use and occupation of this unceded stolen land since the City of

Berkeley's incorporation in 1878.

As stewards of the laws regulating the City of Berkeley, it is not only vital that we recognize the history of this land, but also recognize that the Ohlone people are present members of Berkeley and other East Bay communities today.

The City of Berkeley will continue to build relationships with the Lisjan Tribe and to create meaningful actions that uphold the intention of this land acknowledgement.

And do we have any public comment on non agenda and information items?

I don't have any cards for anyone, so I'm going to guess that we don't.

And next we have agenda changes. Staff has proposed that we might consider putting on the consent calendar, Item 9, 10 -- Items 9, 10, and 13.

So 9 is 2231 McKinley Avenue. No, sorry. 9 is 2035 Francisco Street; 10 is 2231 McKinley Avenue. And 13 is the approval of minutes from the last meeting.

VICE CHAIR FINACOM: I'll move that if we can ask if there's anybody in the audience who wants to speak in the public hearings on any of those

issues.

CHAIR MONTGOMERY: I have a card for Item 9, but my understanding is that that speaker is just here to see that it stays on the consent calendar.

VICE CHAIR FINACOM: Okay.

CHAIR MONTGOMERY: So I don't know that that counts; is that correct?

SECRETARY CRANE: Yes.

CHAIR MONTGOMERY: Okay.

VICE CHAIR FINACOM: All right. So I'll move that.

COMMISSIONER ENCHILL: I'll second it.

CHAIR MONTGOMERY: Take a vote.

SECRETARY CRANE: Roll call.

CHAIR MONTGOMERY: Yeah.

SECRETARY CRANE: Commissioner Enchill?

COMMISSIONER ENCHILL: Yes.

SECRETARY CRANE: Finacom.

VICE CHAIR FINACOM: Yes.

SECRETARY CRANE: Orbuch?

COMMISSIONER ORBUCH: Yes.

SECRETARY CRANE: Plese?

COMMISSIONER PLESE: Yes.

SECRETARY CRANE: Schwartz?

COMMISSIONER SCHWARTZ: Yes.

SECRETARY CRANE: Montgomery.

CHAIR MONTGOMERY: Yes.

SECRETARY CRANE: (Inaudible).

CHAIR MONTGOMERY: Great. Moving right along. Item number 6, 6040 Gilman Street, Gilman Gateway. And we are to receive a presentation from staff.

SECRETARY CRANE: Yes. We have quite a few staff. I'll have them all introduce themselves. They have the team from the policy group, and they're here to tell you about the draft EIR for the Gilman Gateway Project.

MS. JAMES: Yeah. So good evening, Chair Montgomery and commissioners. My name is Ashley James. I'm the senior planner in the land use division, and I'm joined by my colleague Claudia Garcia, who will be presenting to you on this item tonight, the draft environmental impact report which analyzes proposed zoning West Berkeley and General Plan Amendments as part of the Pacific Steel Casting Referral from the City council, which we're naming the Gilman Gateway Project.

And also -- sorry, Anne Hersch, our planning manager is here.

And our consultant team is LSA led by Florentina Craciun who helped prepare the documents that we are going to introduce tonight.

So tonight's meeting will include a presentation on the draft EIR followed by commission questions then public comments and commission comments on the draft EIR.

So there's no action apart from commenting. And so first there's a little background on this project.

So the former Pacific Steel Casting site is in the far northwest corner of Berkeley along Gilman Street, which is an entry corridor to the City from Interstate 80. The area is an industrial area that has a mix of manufacturing, warehouse, office, and commercial nearby.

The proposed amendments address a City Council referral from 2021, which directed staff to create a zoning overlay at the former Pacific Steel Casting site, and to redesignate it as mixed-use-light Industrial or MU-LI and override any existing constraints on uses allowed in that district in the zoning ordinance.

The site had been on the market for some time as the current manufacturing zoning limits uses

to heavy manufacturing. While interest from the development community has been for biotechnology, labs, warehouse and commercial or office space here, also environmental contamination pension benefits due to workers at the sale of the property and neighborhood blight and safety are issues unique to the site that are of public concern.

So in response to the referral staff considered various approaches that would best achieve its goals, and proposed to the Planning Commission in February and March of 2023, creating a new zoning district called Manufacturing Research and Development, which is consistent with the goals and objectives of the West Berkeley plan and the general plan, and furthers the goals of the referral by allowing virtually all of the uses in the existing newly district while reducing constraints on some of those uses, and provides an efficient permitting process to expedite future development, which would, in turn, address the issues of public concern at the site.

So staff are proposing to create this district, which includes amendments to the zoning map ordinance, West Berkeley plan in general, plan to add the zoning district to our ordinance and our

plans.

And so, as a refresher, this project began at the end of 2022. And we prepared draft zoning text, and notice of preparation of a draft environmental impact report. And the Landmarks Preservation Commission provided comments on the scope of the EIR at that time.

So since then, we've prepared the amendments as well as the draft environmental impact report, which analyzes potential impacts to the physical environment from those proposed changes, as well as a conceptual development project called Berkeley Forge, and Staff presented those amendments in the EIR to the Planning Commission last night.

And the next step is for staff to prepare the final EIR and amendments, which will be provided to council for a decision early next year, and a development project could be processed once the amendments are effective.

And so now I will turn it over to Claudia Garcia, who will go through the environmental review process.

MS. GARCIA: Thank you. Okay.

So now onto the environmental review process that we undertook to evaluate the proposed

project. CEQA fundamentally is a public information statute.

The overall purpose of the environmental review process under CEQA is to provide -- to provide members of the public and decision-making bodies with the information about potential impact to the environment that may result from implementing the proposed project.

It also requires that we provide feasible mitigation and project alternatives that would reduce those significant impacts.

Accordingly, the environmental review process is solely focused on evaluating the physical impacts that may result.

The final decision-making body in this case, the City Council will consider the EIR and the analysis therein before making a decision on the proposed project.

Here is an overview of the environmental review process to date.

As Ashley noted, we initiated the process in December 2022 based on the City Council referral.

At that time, it was determined that an EIR was required based on the level of contamination on the site and potential impacts that could result

from demolition of existing structures and construction of a future project.

During the 30-day scoping session where we invited this commission and members of the public to provide input on the scope and content of the environmental impact report, we heard that you -- the public expressed concerns regarding archeological resources, tribal cultural resources, water supply and conservation, wastewater capacity and utilities, and contaminated soils.

We worked with our consultant to ensure that those topic areas were evaluated thoroughly in the EIR in addition to the topic areas that are required.

The analysis is now complete and the EIR is available for a 45 public -- 45-day public for view period.

The orange diamonds represent where we are now, and the purpose of tonight's meeting is to briefly discuss the analysis in the EIR, disclose the environmental impacts that could result from implementing the proposed zoning, and morely -- more focused on specific impacts to historic resources here tonight, and solicit any comments on the analysis of EIR.

So essentially, it's more of a listening exercise for staff tonight.

So when the City determined that an EIR was required, we had to determine the type of EIR that we needed to prepare. A program EIR is required when evaluating the issuance of regulations that govern the conduct of a program.

For example, evaluating the impacts of establishing and implementing a new zoning district.

A project EIR is required when evaluating the impacts of an associated development project.

In this case, we are doing both. The City received information from an interested party that wanted to implement the zoning as soon as city Council took action. And so we had to evaluate both in this document.

Program EIR evaluates what it would mean to implement the zoning, and the area boundaries' outlined there in red. So that is the entire parcel, the 11.5-acre parcel that would be rezoned.

It also assumes that all structures on the site would be demolished because we needed to assume that a potential property owner would want to implement the proposed new zoning.

This includes the property located at 1306 Third Street, which meets the criteria for listing in the California Register and as a City of Berkeley Landmark.

The project EIR evaluates a conceptual development project. The boundary of the conceptual development project is outlined in blue.

It's a 10.26-acre portion of the site and does not include the property located at 1306 Third Street. The conceptual development project assumes that that property would remain.

Significant impacts proposed under the rezoning and the proposed project.

CEQA requires that we evaluate the 20 topic areas listed on the screen. And it also identifies specific questions that we are required to consider under each topic.

Topic areas in black -- bolded in black, we determine that would -- the implementation of the proposed project and the conceptual development project would result in either no impact, less than significant impact, or would be reduced to less than significant impact with implementation of mitigation and compliance with our conditions of approval.

The topic areas bolded in gold air

quality, cultural resources and greenhouse gas emissions would result in significant and unavoidable impacts.

Specific to the property located at 1306 Third Street, as I noted earlier, the property is eligible for listing under the California Register and as a City of Berkeley Landmark; however, it is not currently listed as a resource.

The reason being is that the building is associated with an American master artist and sculptor, Peter Voulkos, who was a ceramicist and metallurgist, who taught at UC Berkeley, and created significant works of art in this particular space. Because of its eligibility for listing actions that would diminish any of the features of the property, such as removal or alteration could result in a significant impact under CEQA.

Under the proposed rezoning, we assume that this structure would be demolished. And so the removal of the structure would result in a significant and unavoidable impact under CEQA.

The proposed mitigation measure would require a future project sponsor to obtain a qualified HABS photographer to document the existing structure and its setting. The documentation shall

be provided to the City for review prior to issuance of any potential demolition permit for the existing structure.

As a reminder, the City is not proposing to demolish the building, nor has it received an actual use permit application to demolish the building. This is an exercise of us evaluating what it would mean if the district were approved by the City council and a future property owner would take the actions to actually implement that zoning district.

Under the conceptual development project, we assumed that the structure at 1306 would remain; no alterations would result. And so impact -- no impact would result to that structure and no mitigation measures were required.

CEQA also requires us to consider alternatives to the proposed project.

In this case, we considered three alternatives. The no-action alternative was it -- which is a version of a no-project alternative, which is required under CEQA. It assumes that no construction or demolition would occur on the site. The buildings would remain as is.

The general plan compliant alternative is

another version of the no-project alternative. It assumes that the project site would be developed in compliance with the current zoning district, which is manufacturing, and all the buildings would be demolished.

The reduced development alternative assumes that future project would be limited to 13 parcels, totaling 350,000 square feet.

This alternative would also require 100 -- a minimum 100-foot buffer from the existing building at 1306 Third Street.

This alternative would reduce impacts related to air quality energy, greenhouse gas emissions, noise, and the significant unavoidable impact associated with historic resources.

Here tonight, we invite you to submit your verbal comments on the content of the EIR. The comment period is open until December 5th, 5:00 p.m. We also invite you to provide your comments in writing and submit those to Ashley either via email or directly mailed to our offices.

A reminder that tonight is a listening exercise, so we definitely can answer clarifying questions of the commission. But we are just going to note all of the comments received.

Once we close the public review period, we're going to prepare the final EIR, which is going to include written comments -- written responses to each of the comments that we receive tonight. And throughout the comment period, the final EIR will be made available prior to the City Council hearing, and the City Council is required to consider the content of the EIR before taking action on the project.

Thank you.

CHAIR MONTGOMERY: Thank you.

SECRETARY CRANE: Thank you.

CHAIR MONTGOMERY: Any questions from the commission to staff?

COMMISSIONER ORBUCH: I have question.

Is there a difference between alternative three and the conceptual development plan, or are those in effect the same thing?

MS. GARCIA: Yes. It -- the conceptual development project assumes that a 10.26-acre portion of the site would be developed. The alternative limits that site to 350,000 square feet.

So it significantly reduces the number of parcels that could be developed where we would implement the new zoning district.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: And it includes a very large buffer between the historic building and proposed future development.

COMMISSIONER ORBUCH: Okay. And does the conceptual development plan include that 100-foot buffer from that building or not?

MS. GARCIA: It does not. It would build directly to the lot line.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: It could -- sorry. It would -- it could build directly to the lot line, because it's not an actual use-permit application.

COMMISSIONER ORBUCH: Okay. Thank you.

MS. GARCIA: Uh-huh.

COMMISSIONER SCHWARTZ: Does the building where Peter Voulkos had his studio, does that have any other landmark status other than cultural?

MS. GARCIA: No.

COMMISSIONER SCHWARTZ: Solely cultural.

MS. GARCIA: Uh-huh.

COMMISSIONER FINACOM: So this is sort of just a theoretical question, not an argument, but why isn't this considered spot zoning?

MS. GARCIA: Sure. It's not considered spot zoning because we identified a continuous parcel

of land that could be rezoned under a new district to clean up the site and to remove the derelict buildings.

COMMISSIONER FINACOM: And it's one owner; right? No?

MS. GARCIA: Multiple owners.

COMMISSIONER FINACOM: Multiple owners.

MS. GARCIA: Uh-huh.

COMMISSIONER FINACOM: And then also I'm a bit curious about why the -- why there's a conclusion that none of the industrial facilities have any historic significance under the landmarks ordinance because this is -- we include the landmarks ordinance, includes patterns of commercial development, economic development.

Did this entire, what is it six blocks, just have no importance of Berkeley history?

MS. GARCIA: The HRE did not identify those buildings as being historic.

UNKNOWN SPEAKER 2: In a little bit.

MS. GARCIA: Uh-huh.

UNKNOWN SPEAKER 2: There was an HRE -- there was a historic resource evaluation for each parcel in the project area. And I'd have to share those with you.

Those were completed by Bridget Newley and Katelyn (inaudible). And they analyzed each according to California (inaudible) Register. And it was only that part one associated (inaudible) the level of maybe even California, actually, for that parties as well as local registry. But I'd be happy to share those with you.

COMMISSIONER FINACOM: That would -- that would be useful. And I -- and I'd say to the commission and the -- and the consultants and staff as well, that this -- I raised this issue with -- frequently on the commission that here we have a site, a big chunk of the City that's been used primarily for industrial commercial uses for nearly a century and a half.

And yet there conclusion is that there's nothing, just one tiny little fragment that has to do with an artistic reuse of the property.

And that sort of thing is, we see that, that says to me that there's that -- there's nothing that the way the consultants operate, there is nothing in Berkeley that is significant under our standards, because if you have a huge factory complex that's operated for many decades doesn't matter. I'm not making the argument that the

factory should remain or that there should be industrial uses here.

But I am arguing that there needs to be some -- some credible recognition under the landmarks ordinance, which is quite broad of the economic significance of that part of Berkeley's history because Berkeley used to define itself as a city of homes and factories and churches. So -- and education, so.

MS. GARCIA: Thank you.

CHAIR MONTGOMERY: Did you, in your -- the course of the research, you were the consultant, did you find any -- were there other artists that had artist or crafts people that had studios in this area that you know of?

MS. GARCIA: They primarily identified the ceramicist as the most famous individual.

Currently the property is used for dwelling in their four dwelling units and also artists that reside in the building.

CHAIR MONTGOMERY: Uh-huh. Any of the other buildings?

MS. GARCIA: No. They're primarily used for manufacturing, heavy manufacturing.

CHAIR MONTGOMERY: Okay.

COMMISSIONER ORBUCH: Are any of the other buildings in use, or are they all -- have they all been vacated?

MS. GARCIA: Other than 1306, they've all been vacated.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: Even the budget car rental place on Gilman. The property at 1433 Eastshore is a yard. They use it for storage.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: Construction equipment.

COMMISSIONER ORBUCH: Thank you.

CHAIR MONTGOMERY: Do we have any public comment for this item? I don't have any cards for Item 6.

UNKNOWN SPEAKER 3: I just had a question I couldn't see from the map what exactly are the borders of this mega zone or whatever it is. I know Third Street's in it, but is that --

CHAIR MONTGOMERY: Looks like Gilman Street to the north.

MS. GARCIA: Uh-huh.

CHAIR MONTGOMERY: And Third Street to the east, Page Street to the south, and Eastshore Highway to the west.

UNKNOWN SPEAKER 3: Okay.

CHAIR MONTGOMERY: And Second Street is that street that's sort of slicing north-south, down the middle.

UNKNOWN SPEAKER 3: Okay.

COMMISSIONER ORBUCH: And Camelia Street goes down the middle.

CHAIR MONTGOMERY: Right. Camelia Street is east-west.

UNKNOWN SPEAKER 3: Okay, great. Thank you.

COMMISSIONER ORBUCH: So just to help me understand the conceptual development plan, that's just like a theoretical development?

MS. GARCIA: Correct. The -- because the City received information from an interested applicant that they may be interested in developing that property under CEQA, we are required to evaluate it, because it's a foreseeable project. So otherwise it would be piecemealing.

COMMISSIONER ORBUCH: So that -- so the boundaries that you show in blue are that theoretical project?

MS. GARCIA: Correct.

COMMISSIONER ORBUCH: Okay. But it

hasn't actually been submitted. And so would this review that you did apply, if somebody decided to put an application in, then the work that you've done would serve as their environmental impact report?

MS. GARCIA: It would definitely help streamline a future project, should it fall within the boundaries of what we evaluated. But we would need to take a look and make sure that what they're proposing is consistent with the analysis.

If it exceeds, for example, the square footage or the height or something, it's not within those boundaries that they would need to do additional environmental review or the City would in order to process the project.

COMMISSIONER ORBUCH: Okay.

UNKNOWN SPEAKER 4: I have a question. Can you explain what the potential boundaries Forge Development site in blue is? Like the difference between the blue and red.

MS. GARCIA: Sure.

The red boundary is what is being proposed for rezoning from manufacturing to M-RD. The blue boundary is what the potential project that the City, the -- an applicant contacted the City stating that once city council makes a decision on

the rezoning. Should it be approved, we would be interested in developing these parcels.

UNKNOWN SPEAKER 4: Separating.

MS. GARCIA: Right.

COMMISSIONER ORBUCH: I have another question.

MS. GARCIA: Sure.

COMMISSIONER ORBUCH: As it relates to the alternatives.

MS. GARCIA: Uh-huh.

COMMISSIONER ORBUCH: Does the City Council end up deciding like between alternative 1, alternative 2 and alternative 3 or --

MS. GARCIA: Sure.

COMMISSIONER ORBUCH: What -- is that what -- is that the next step?

MS. GARCIA: The decision is on whether to approve the zoning and before a decision-making body, like in this case, the City Council can make a final decision on the proposed project, which is the zoning, they must also consider alternatives to that project that may reduce potential impacts.

Jurisdiction -- some jurisdictions have elected to adopt an alternative as opposed to the proposed project, but it is rare.

COMMISSIONER ORBUCH: All right. So then --

MS. GARCIA: So they don't have to choose an alternative, but it is an option for them.

COMMISSIONER ORBUCH: So -- okay. So now I'm a little more confused.

MS. GARCIA: Okay. Sorry.

COMMISSIONER ORBUCH: So they can choose between the three alternatives and the proposed project?

MS. GARCIA: Correct.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: They can choose to say, I don't want to approve the project. I'm going to go with alternative 1.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: No project here. We're not rezoning. Yeah.

COMMISSIONER ORBUCH: Is there a -- is there a recommended project in the EIR?

MS. GARCIA: The rezoning is the recommended project.

COMMISSIONER ORBUCH: So not the alternative?

MS. GARCIA: Correct.

COMMISSIONER ORBUCH: And the rezoning in its entirety?

MS. GARCIA: Yes.

COMMISSIONER ORBUCH: Option one?

MS. GARCIA: That is the option.

COMMISSIONER ORBUCH: That would demolish the building?

MS. GARCIA: That is the only option.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: Uh-huh. And these are just -- and if they don't like it, they want to go with alternative 3, they can.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: Uh-huh.

COMMISSIONER ORBUCH: Right. And so you are listening to us today.

Are we -- what is our -- what does -- what does our body do in addition to asking questions? Are we supposed to make a recommendation, or we're just asking questions?

MS. GARCIA: We're just here to solicit comments on the adequacy of the analysis in the EIR and answer your questions.

It's during the public review period. And so typically this is when we come because it

there is a potential historic resource on the site. We came here to solicit your feedback. And so there's no actual motion related to this.

COMMISSIONER ORBUCH: Okay.

MS. GARCIA: Uh-huh.

COMMISSIONER ORBUCH: But you are looking for feedback, so we can give that in addition to asking questions today?

MS. GARCIA: Correct.

COMMISSIONER ORBUCH: Okay. Thank you.

CHAIR MONTGOMERY: Any more questions from the commission?

(No audible response.)

So we can -- we had questions from the public. Any comments from the commission, feedback on the EIR?

VICE CHAIR FINACOM: A few.

Commenter A-MONT CHAIR MONTGOMERY: I have one bit. It's maybe very minor. I believe in, and I do not know which building, I can do some more research and figure out exactly which address.

A-MONT-1

But one of these buildings, the manufacturing that's going on, is this local artist that is a metal worker, who builds percussion -- custom percussion bells for the likes of like the

Grateful Dead. And he has done, and then all sorts of jazz musicians since the fifties. He's kind of an old guy now. And I'd say in his world, he's as famous and well known as the ceramicist.

And though he's still alive, he's been doing this for longer than 40 years. So that would constitute like a, potentially a cultural resource.

So I think there might be a little bit more digging, but I'm almost positive he's within this boundary here. He's very close to Pacific Steel Casting. I know that for sure.

So I will follow up with Fatema with an address.

A-MONT-1 cont.

MS. GARCIA: Thank you.

CHAIR MONTGOMERY: Later this week. But sorry.

Oh, sorry. His name is Pete Englehart and you can Google him. There was a big article on him in Berkeley side a couple of years ago for his like 87th birthday or something.

A-MONT-1 cont.

MS. GARCIA: Thank you.

CHAIR MONTGOMERY: But I would guess I would take a little bit more careful look at that manufacturing, because I think it's maybe a little bit more than manufacturing. I think there are --

A-MONT-1 cont.

there's very little manufacturing really that's going on in Berkeley. I think it's more artistic endeavors. A-MONT-1 cont.

Anyone else?

Yes.

Commenter A-FIN VICE CHAIR FINACOM: Yeah. So a couple things.

So the HABS documentation is limited solely to 3rd Street building, is that's what suggested.

Okay. So I think that's a big mistake because this is a really interesting complex falling into ruin, but block after block of heavy industrial facilities.

So I would strongly encourage, doesn't have to be, HABS absolute standard, but has like, what's the right term? A-FIN-1

MS. UNKNOWN SPEAKER: HABS like --

VICE CHAIR FINACOM: HABS like documentation and maybe even something creative, like hire somebody to go through the whole property and do a video of it.

I noticed this week on the Berkeley Reddit site, somebody has been posting these fantastic black-and-white photos of Pacific Steel

Casting inside. I don't know how they got them, but this is a -- it is a missed opportunity if you just focus on one building and then scrape the rest of it.

And people will be interested in the future. And we have the technology to do that sort of documentation.

A-FIN-1 cont.

I -- the -- on the native resources, there was a discussion of the drilling in the -- and of course samples into one area.

And all it touches a little bit -- the analysis touches a little bit on this, but it's really important to remember that Berkeley did not have a distinct shoreline. Berkeley had a zone of marshes and all the creeks float into that zone and had multiple channels going out to the bay. And there's a reference in here too.

A-FIN-2

This is north of Strawberry, this channel of Strawberry Creek.

Strawberry Creek had probably had multiple mouths, and they changed maybe every year.

So the whole area here is underlaid by area, by space that could easily have pre-American -- pre -- prehistoric native people's artifacts and that. And so that can't simply be focused on just one piece that's close to the existing identifier.

And so it would be -- it would be good to have a more robust expansion of what happened almost inevitable when a development digs into an unknown area of artifacts. A-FIN-2 cont.

So I represent the commission on the Design -- City Design Review committee.

And in recent years we've seen a quite a number of projects similar to this, which are speculative biotech lab buildings, usually with big parking lots. They are the blandest things in the world.

And West Berkeley is sort of headed -- I don't know if people are familiar with the Oyster Point area of San Francisco, which is all just biotech towers now. A-FIN-3

And you drive through there, and it's completely soulless, because it's giant buildings designed to some basic standards to meet optimum floor plate. And they have one tenant usually, and they're surrounded by little bits of like popcorn trees stuck in the landscape.

So I think there needs to be flowing out of this and better design standards for this big chunk of Berkeley.

And DRC tries as hard as it can to make

these buildings interesting. And we have mixed success in that. A-FIN-3 cont.

Another aspect of that is that the City prohibits, if I -- if I remember correctly, signage facing the freeway.

And, of course, the developers and businesses are absolutely avid to have big signs, lit signs. We went through this with the Hollowmore Drive development next to Aquatic Park where the developers honestly stated their intent. They wanted big signs there shining out over Aquatic Park during rush hour on the freeway.

And so there -- and the City actually completely fumbled on the issue of regulating that signage, in my view. And I don't want to see that happen again here, where there are several blocks of frontage on the freeway, and we end up with a hundred-foot buildings that have big neon signs pointed out at the -- at the freeway. A-FIN-4

It's -- Berkeley should be defined by architecture and natural scenery, not by advertising.

So I would -- I would hope that the project and the design standards, the City really forces that.

And I would just say sort of overall with going back all the way in Berkeley history, and particularly about a hundred years ago when zoning started West Berkeley is -- West Berkeley used to be a community where the rich and poor lived together working -- the working class lived next to the well-to-do business owners because transportation was terrible and you had to walk to work. And so no one was going to live up into Berkeley Hills and operate a factory.

As soon as the streetcar network came in and then followed closely by the automobile, all the wealthy people moved to East Berkeley to their residential zone neighborhoods. And they immediately A-FIN-5 started considering West Berkeley a site, not a neighborhood, just a site to do things.

And you could go and you could document probably 10 different eras when Berkeley was pursuing at the behest of the large property owners in the business community Berkeley was saying, oh, this is the new vision for West Berkeley. It's going to be manufacturing; it's going to be warehouses.

That was the big thing in the sixties. It's going to be a warehouse district.

The manufacturers wanted an airport under

Berkeley waterfront. They wanted a military base. That every possible bad idea about West Berkeley was proposed and was endorsed by the -- by the City establishment.

And so we're sort of at the flavor of the day again, that people want to build biotech. And so we're reshaping the landscape to build biotech.

And that's -- it seems almost inevitable, but it's worth considering that we don't -- we don't always have to go down that path of listening to what today's developers say is the most profitable thing to build.

Because you don't -- you don't result in a -- in getting a really good fine grade livable city that way. You just satisfy the people who have the luxury of owning a lot of land and a lot of money to develop.

A-FIN-5 cont.

So that doesn't condense into a single -- a single bullet point or anything. But I wanted -- I wanted to express that since this is probably the biggest piece of West Berkeley where this will be dealt with.

And it's very much like redevelopment in West Berkeley in the sixties. The fifties and sixties that was going to scrape clean many blocks of

West Berkeley and build modern stuff there. And that's what produced part of the preservation movement in Berkeley.

So -- and we ended up with things like Forrest Street, Victorian houses, Delaware Street, historic history, which are so much more interesting than a bunch of biotech companies.

A-FIN-5 cont.

So that's what I can say.

MS. GARCIA: Thank you.

CHAIR MONTGOMERY: Thank you.

Any other comments from commissioners?

Commenter A-ORB

COMMISSIONER ORBUCH: I have a few comments.

I'd like to encourage the Council to consider the reduced development option and not just rezoning wholeheartedly.

A-ORB-1

I think the hardest building is worth preserving, and I think it's worth putting a buffer around it. And I don't think either of the other proposals accomplish that.

I am also in favor of the HABS for the industrial site. Berkeley is this really cool city that has this amazing history, and those areas are a really vital part of what kind of made Berkeley what it was and part of the landscape and the social

A-ORB-2

fabric of the -- of the -- of the City.

And I think people are really interested in the manufacturing history of the City, and we should be documenting it. I'm thrilled that all of the -- hopefully the site will be cleaned up, because I know there's a lot of hazardous waste under it.

A-ORB-2 cont.

So I'm not opposed to having that use removed, but I do think it's worth documenting and because it is an important part of the City's history.

So those are the -- my two comments.

I actually, I think a lot of the stuff that that Mr. Finacom mentioned I agree with -- I agree with I watching out about signage off the freeway. So I hope that you guys will be looking at that.

A-ORB-3

And I also think that design guidelines now is the time to do them and not try to do them after the fact so that you're actually developing something that fits into the fabric of the City and isn't just helicopter dropped onto the site and that's it. And we're all living with it for time and memorial until the next bound of redevelopment comes and some other use comes along.

A-ORB-4

So let's try and do it right if we're going to do it. And then rezoning is the time to do that, is to put those design guidelines in place at the same time.

A-ORB-4 cont.

So those are my comments.

MS. GARCIA: Thank you.

CHAIR MONTGOMERY: Anyone else? That's it.

COMMISSIONER ORBUCH: Thank you.

MS. GARCIA: Okay.

COMMISSIONER ORBUCH: Thank you.

MS. GARCIA: Thanks so much.

Thank you.

(Audio Recording ends at time 19:16:41)

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C E R T I F I C A T E

STATE OF CALIFORNIA)
) ss.
CITY AND COUNTY OF BERKELEY)

I, IRENE NAKAMURA, a Certified Shorthand Reporter in and for the State of California, do hereby certify:

That the foregoing proceedings were transcribed by me in machine shorthand from audio recording, and was thereafter reduced to typewriting by me and under my supervision;

That the foregoing is a full, true and correct transcript of said proceedings;

I further certify that I am not of counsel or attorney for any of the parties to this matter, nor in any way interested in the outcome hereof, and that I am not related to any of the parties hereto.

Dated this 30th day of November, 2024 in Los Angeles, California.

IRENE NAKAMURA, RPR, CLR
State of Hawaii CSR No. 496
State of California CSR No. 9478
State of Washington CCR No. 3177
State of Nevada CSR No. 893
State of Illinois CSR No. 084.004909

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APPENDIX C

WRITTEN COMMENTS

EAST BAY
MUNICIPAL UTILITY DISTRICT

December 2, 2024

Ashley James, Senior Planner
City of Berkeley
Land Use Planning Division
1947 Center Street 2nd Floor
Berkeley, CA 94704

Re: Notice of Availability of a Draft Environmental Impact Report for Gilman Gateway Rezone Project, Berkeley

Dear Ms. James:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Draft Environmental Impact Report (EIR) for the Gilman Gateway Rezone Project located in the City of Berkeley (City). A Water Supply Assessment (WSA) was prepared for the project, approved by EBMUD Board of Directors on May 23, 2023, and provided to the City that same day. EBMUD commented on the Notice of Preparation of a Draft EIR for the project on February 9, 2023. EBMUD's original comments (see enclosure) still apply regarding water service (except for the requirement for a WSA) and wastewater service. **A-EBMUD-1**

If you have any questions concerning this response, please contact Sandra Mulhauser, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-7032.

Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:MTD:kn
wdpd24_209_Gilman Gateway Rezone Project.doc

Enclosure: EBMUD Response to Notice of Preparation of Draft EIR

Enclosure

EAST BAY
MUNICIPAL UTILITY DISTRICT

February 9, 2023

Ashley James, Senior Planner
City of Berkeley
Land Use and Planning Division
1947 Center Street, 2nd Floor
Berkeley, CA 94704

Re: Notice of Preparation of an Environmental Impact Report for Gilman Gateway Rezone Project, Berkeley

Dear Ms. James:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report (EIR) for the Gilman Gateway Rezone Project located in the City of Berkeley (City). EBMUD has the following comments. **A-EBMUD-2**

WATER SERVICE

Pursuant to Section 15155 of the California Environmental Quality Act Guidelines and Sections 10910-10915 of the California Water Code, a Water Supply Assessment (WSA) is required for the project as it exceeds the threshold requirement for an assessment of water supply availability based on the amount of water this project would require (greater than a 250,000-square-foot commercial office building). Please submit a WSA request to me at your earliest convenience. EBMUD requires the project sponsor to provide future water demand data and estimates for the project site for the analysis of the WSA. Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received. **A-EBMUD-3**

Effective January 1, 2018, water service for new multiunit structures shall be individually metered or sub-metered in compliance with Section 537 of California's Water Code & Section 1954.201-219 of California's Civil Code, which encourages conservation of water in multi-family residential, mixed-use multi-family, and commercial buildings by requiring metering infrastructure for each dwelling unit, including appropriate water billing safeguards for both tenants and landlords. EBMUD water services shall be conditioned for all development projects that are subject to these metering requirements and will be released only after the project sponsor has satisfied all requirements and provided evidence of conformance with Section 537 of California's Water Code & Section 1954.201-2019 of California's Civil Code. **A-EBMUD-4**

Recycled Paper

EBMUD's Central Pressure Zone, with a service elevation between 0 and 100 feet, will serve the proposed project. Main extensions that may be required to serve individual development projects to provide adequate domestic water supply, fire flows, and system redundancy will be at the project sponsor's expense. EBMUD owns and operates distribution pipelines in all of the streets within the proposed corridor of the project area. These pipelines are necessary to provide continuous service to EBMUD customers in the area. Pipeline and fire hydrant relocations and replacements, due to modifications of existing streets, and off-site pipeline improvements, also at the project sponsor's expense, may be required depending on EBMUD metering requirements and fire flow requirements set by the local fire department. Please see the attached EBMUD documents for California (Waterworks Standards) Code of Regulations, Title 22, Section 64572 (Water Main Separation) and EBMUD requirements for placement of water mains. When the development plans are finalized, the project sponsor should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions of providing water service to the development. Engineering and installation of new and relocated pipelines and services require substantial lead time, which should be provided for in the project sponsor's development schedule. **A-EBMUD-5**

EBMUD's Standard Site Assessment Report and the project's Notice of Preparation indicate the potential for contaminated soils or groundwater to be present within the project site boundaries. The project sponsor should be aware that EBMUD will not install piping or services in contaminated soil or groundwater (if groundwater is present at any time during the year at the depth piping is to be installed) that must be handled as a hazardous waste or that may be hazardous to the health and safety of construction and maintenance personnel wearing Level D personal protective equipment. Nor will EBMUD install piping or services in areas where groundwater contaminant concentrations exceed specified limits for discharge to the sanitary sewer system and sewage treatment plants. The project sponsor must submit copies to EBMUD of all known information regarding soil and groundwater quality within or adjacent to the project boundary and a legally sufficient, complete and specific written remediation plan establishing the methodology, planning and design of all necessary systems for the removal, treatment, and disposal of contaminated soil and groundwater. **A-EBMUD-6**

EBMUD will not design piping or services until soil and groundwater quality data and remediation plans have been received and reviewed and will not start underground work until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists, or the information supplied by the project sponsor is insufficient, EBMUD may require the project sponsor to perform sampling and analysis to characterize the soil and groundwater that may be encountered during excavation, or EBMUD may perform such sampling and analysis at the project sponsor's expense. If evidence of contamination is discovered during EBMUD work on the project site, work may be suspended until such contamination is adequately characterized and remediated to EBMUD standards.

WASTEWATER SERVICE

EBMUD's Main Wastewater Treatment Plant (MWWTP) and interceptor system are anticipated to have adequate dry weather capacity to accommodate the proposed wastewater flows from this project and to treat such flows provided that the wastewater generated by the project meets the requirements of the EBMUD Wastewater Control Ordinance. However, wet weather flows are a concern. The East Bay regional wastewater collection system experiences exceptionally high peak flows during storms due to excessive infiltration and inflow (I/I) that enters the system through cracks and misconnections in both public and private sewer lines. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide primary treatment and disinfection for peak wet weather flows that exceed the treatment capacity of the MWWTP. Due to reinterpretation of applicable law, EBMUD's National Pollutant Discharge Elimination System (NPDES) permit now prohibits discharges from EBMUD's WWFs. Additionally, the seven wastewater collection system agencies that discharge to the EBMUD wastewater interceptor system ("Satellite Agencies") hold NPDES permits that prohibit them from causing or contributing to WWF discharges. These NPDES permits have removed the regulatory coverage the East Bay wastewater agencies once relied upon to manage peak wet weather flows.

A-EBMUD-7

A federal consent decree, negotiated among EBMUD, the Satellite Agencies, the Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB), requires EBMUD and the Satellite Agencies to eliminate WWF discharges by 2036. To meet this requirement, actions will need to be taken over time to reduce I/I in the system. The consent decree requires EBMUD to continue implementation of its Regional Private Sewer Lateral Ordinance (www.eastbaypsl.com), construct various improvements to its interceptor system, and identify key areas of inflow and rapid infiltration over a 22-year period. Over the same time period, the consent decree requires the Satellite Agencies to perform I/I reduction work including sewer main rehabilitation and elimination of inflow sources. EBMUD and the Satellite Agencies must jointly demonstrate at specified intervals that this work has resulted in a sufficient, pre-determined level of reduction in WWF discharges. If sufficient I/I reductions are not achieved, additional investment into the region's wastewater infrastructure would be required, which may result in significant financial implications for East Bay residents.

To ensure that the proposed project contributes to these legally required I/I reductions, the lead agency should require the project applicant to comply with EBMUD's Regional Private Sewer Lateral Ordinance. Additionally, it would be prudent for the lead agency to require the following mitigation measures for the proposed project: (1) replace or rehabilitate any existing sanitary sewer collection systems, including sewer lateral lines to ensure that such systems and lines are free from defects or, alternatively, disconnected from the sanitary sewer system, and (2) ensure any new wastewater collection systems, including sewer lateral lines, for the project are constructed to prevent I/I to the maximum extent feasible while meeting all

requirements contained in the Regional Private Sewer Lateral Ordinance and applicable municipal codes or Satellite Agency ordinances. A-EBMUD-7 cont.

EBMUD owns and operates a 48-inch diameter wastewater pipeline in Second Street, which provide continuous service to EBMUD's customers in the area. Any proposed construction activity in Second Street would need to be coordinated with EBMUD so that the integrity of this pipeline is maintained at all times. If the project will require quit claiming a portion of the public road, then a permanent right of way and continued access will need to be provided for the EBMUD facilities in Second Street. A-EBMUD-8

WATER RECYCLING

EBMUD's Policy 9.05 requires that customers use non-potable water, including recycled water, for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant, fish and wildlife to offset demand on EBMUD's limited potable water supply. Appropriate recycled water uses include landscape irrigation, commercial and industrial process uses, toilet and urinal flushing in non-residential buildings, and other applications.

EBMUD's current recycled water infrastructure and service does not extend to the project limits, however, the site is located within EBMUD's East Bayshore Recycled Water Project designated service boundaries and as part of the EBMUD's long term water supply planning, future expansion plans will extend recycled water along Interstate-80 adjacent to the project area. A-EBMUD-9

As EBMUD advances plans and implements its recycled water supply expansion, EBMUD requires the City and project sponsors to coordinate closely with EBMUD and provide an estimate of expected water demand for potential recycled water uses for each specific project during the planning of the project to further explore the options and requirements relating to recycled water use. Accordingly, EBMUD will continue to assess and consider the feasibility of providing recycled water to the project area for appropriate uses.

WATER CONSERVATION

The project presents an opportunity to incorporate water conservation measures. EBMUD requests that the City include in its conditions of approval a requirement that the project sponsor comply with Assembly Bill 325, "Model Water Efficient Landscape Ordinance," (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense. A-EBMUD-10

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

A-EBMUD-11

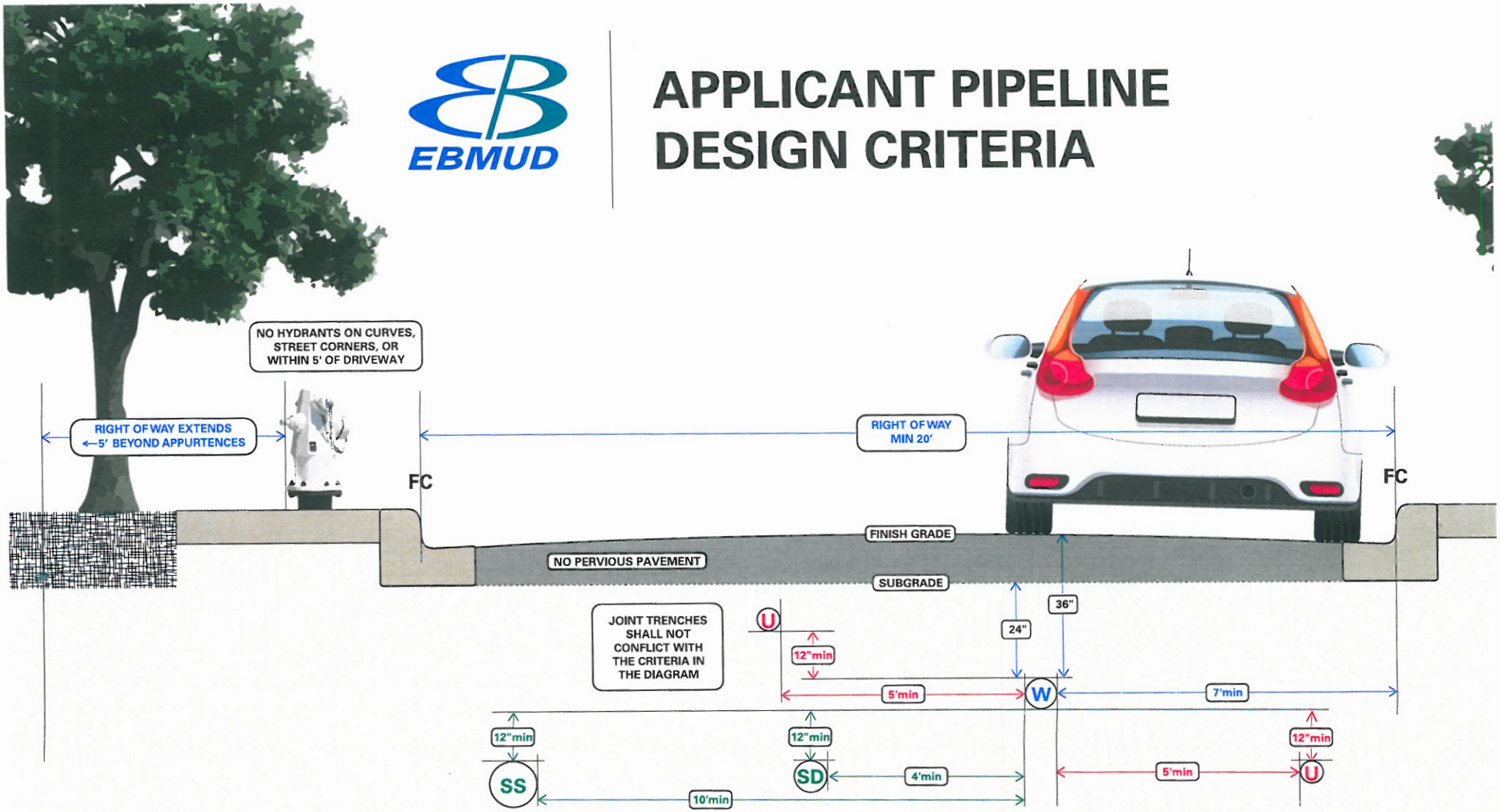
Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:EZ:kvv
wdpd23_005 Gilman Gateway Rezone Project

Enclosure: Applicant Pipeline Design Criteria

APPLICANT PIPELINE DESIGN CRITERIA



W = WATER
24" cover to subgrade
36" cover to final grade
7' inset from face of curb

U = UTILITY
min 12" vertical clearance
min 5' horizontal clearance

SS = SANITARY SEWER
min 12" below water
min 10' horizontal clearance

SD = STORM DRAIN
min 12" below water
min 4' horizontal clearance

FC= FACE OF CURB

4203 • 5/21

EAST BAY
MUNICIPAL UTILITY DISTRICT

Applicant Pipeline Design Criteria

EBMUD values applicant pipeline projects and is committed to providing a thorough and efficient design. To ensure an efficient design process and to avoid significant delays the design criteria below should be adhered to when submitting improvement plans.

Design Criteria

- Water mains shall be seven (7) feet from face of curb.
- Water mains shall maintain a minimum one (1) foot vertical and five (5) foot horizontal clearance from other utilities.
- Gas mains shall meet the one (1) foot vertical separation requirement by installing the gas main below the water main only.
- Water mains shall maintain a minimum ten (10) foot horizontal clearance (O.D. to O.D.) and be located a minimum one (1) foot above any sewer main. Title 22 CCR
- Water mains shall maintain a minimum four (4) feet horizontal clearance (O.D. to O.D.) and be located a minimum one (1) foot above any storm drain. Title 22 CCR
- Water mains shall have a 36-inch cover to final grade and 24-inch cover to pavement subgrade.
- Joint trenches that are in conflict with the criteria above may delay the project. Submit to EBMUD final joint trench plans (no intent plans) which include the size of the joint trench and the utilities located inside.
- Water mains shall not be installed under pervious pavement.
- Water mains installed under decorative pavement, pavers, or stamped concrete will require an additional paving agreement.
- Hydrants shall not be located on curved sections of street, street corners, or within five feet of a driveway.
- Right of ways for 6-inch and 8-inch water mains shall be a minimum of 20 feet wide and extend five (5) feet past the water main centerline.
- Right of ways for 12-inch to 24-inch water mains shall be a minimum of 20 feet wide and extend eight (8) feet past the water main centerline.

Please contact the New Business Office representative assigned to your project if there are any questions regarding the requirements listed above. Meeting this criteria will enable the most efficient design possible.

March 2021

LAW OFFICE OF

Allan Moore, A.P.C.

1521 Elise Court, Walnut Creek, CA 94596
eMail: allanmoorelaw@gmail.com | **Cell:** 925-963-3477

December 2, 2024

By Email

Ashley James
City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, CA 94704
ajames@berkeleyca.gov

Re: Gilman Gateway Rezone Project
Draft Environmental Impact Report
Comments of Owners of 1306 3rd Street, Berkeley, California (Rosebloom Building)

Dear Ms. James:

My office continues to represent Rafi Ajl and Ivan Narez-Hurtado (Rafi and Ivan), partners in Rosebloom Project, LLC (Rosebloom LLC," or "Property Owners"). The Property Owners own the mixed-use arts and residential building and property at 1306 3rd St. in the City of Berkeley ("Rosebloom Building"). **O-1-1**

In earlier communications to the City, Rafi and Ivan have detailed the decades-long history of the Rosebloom Building and site as a home for artists and tenants, and its longstanding use for live/work residential units The Rosebloom Building includes artist studios and four live/work units for residents and their families.

The City has confirmed that the Rosebloom Building is a *legal non-conforming use – it has a continuing right to exist and to serve its owners, tenants, residents and families*. In earlier communications, the City Staff has stated: **O-1-2**

> Consistent with the intent and Council's goals for the site . . . the proposed zoning would maintain this area for manufacturing and related uses. The live/work use at 1306 Third would continue to be legally nonconforming. *The Berkeley Zoning Ordinance allows lawful non-conforming uses to remain occupied in their current condition as a matter of right . . .*
>
> Notably*, any future development would need to be designed in a manner that minimizes impacts related to light and air on the adjacent properties*, including the building at 1306 Third [the Rosebloom Building]. (Emphasis added.) (See Staff Email August 2, 2023.)

In the Draft EIR, the City Staff and EIR consultants repeatedly reference the potential demolition of the Rosebloom Building. The owners of the Rosebloom Building have not proposed or agreed to such demolition, and have informed the City that they have no such plans. Instead, Rafi and Ivan have repeatedly indicated their intent to retain this historic building.

We want to confirm to the City Staff and the EIR consultants that the residents, tenants and their families at the Rosebloom Building intend to live and work there for decades to come. There are no plans to "leave" or demolish the Rosebloom Building.

O-1-3

Further, the City has confirmed that the Rosebloom Building is a historical resource and landmark. Please reference the Draft EIR at p. 2-1, which states:

> The project site includes one property,1306 Third Street, that meets the criteria for listing in the California Register for Historical Places, meets the criteria for designation as a City of Berkeley Landmark, and meets the definition of an historical resource pursuant to State CEQA Guidelines Section 15064.5.

Given the Rosebloom Building will remain in perpetuity as a landmark and as a historical resource, the Draft EIR should discuss the potentially significant impacts of all "projects" on the Rosebloom Building – and should propose mitigation measures to protect the Rosebloom Building. As shown herein, the Draft EIR does not adequately discuss such potential impacts or propose needed mitigation measures.

O-1-4

We have reviewed the Notice of Availability of the Draft Environmental Impact Report ("Draft EIR") for the Gilman Gateway Rezone Project, and we have reviewed the Draft EIR as set forth on the City's website.

Set forth below are the Property Owner's comments on the Draft EIR ("Comments"). Please note that these Comments are set forth in two parts: (i) an **Overview/Summary**; and (ii) S**pecific Comments**.

O-1-5

I. <u>Overview/Summary of Comments</u>

The Draft EIR states that it covers *two separate and overlapping projects*, as follows:

> (i) The **Gilman Gateway Rezone Project**, or "Proposed Project," which covers an 11.54-acre "Project Site" including the Rosebloom Building. This Proposed Project, initiated by the City, would (i) establishment a new zoning district (Manufacturing, Research and Development (M-RD)); rezone the "entire site" to M-RD; and (iii) amend the General Plan to add the M-RD zoning district to the Manufacturing land use designation. The Draft EIR indicates this review is on a "*program EIR*" level.
>
> (ii) In addition, the "Proposed Project" includes analysis of a "**Conceptual Development Project**" for a 10.26-acre portion of site as earlier proposed by Berkeley Forge Development. This portion of the site and proposed project does not include the Rosebloom Building*; however, it will have significant impacts on the Rosebloom Building*, a City landmark and historical resource. The Draft EIR indicates it is reviewing the conceptual development project on a "*project level* . . .to the extent feasible."

O-1-6

The above two-fold approach causes confusion, errors and misstatements throughout the Draft EIR. A reader of the Draft EIR cannot determine whether the Draft EIR text is speaking about the Gilman Gateway Rezone Project, which includes the Rosebloom Building, or the Conceptual Development Project, which does not include the Rosebloom Building. O-1-6 cont.

The Draft EIR claims that the City "anticipates the submittal of a formal application for a conceptual development project." However, there is currently no application on file, and no indication that such formal application will be submitted.

Instead, as a direct result of the Draft EIR's two-fold approach – the Draft EIR fails to adequately address the impacts of the Gilman Gateway Rezone Project and/or the Conceptual Development Project on the Rosebloom Building. As shown in **Section II** below, the conceptual development project may result in construction and tall buildings immediately adjacent to the Rosebloom Building, causing loss of light and air, and causing significant noise, transportation and related impacts. *None of these impacts is effectively discussed in the Draft EIR. Such impacts are evidently deferred to a later review of the Conceptual Development Project.* O-1-7

The Property Owners have stated several times in writing to the City that they have no intention of leaving or of demolishing the Rosebloom Building.[1] The Property Owners have requested several times that the Draft EIR recognize that the Rosebloom Building will remain, and that the Draft EIR should address the significant impacts of proposed projects on the Rosebloom Building. O-1-8

The Draft EIR does not recognize the Property Owners' concerns – *and instead states repeatedly that it is reasonable to assume that all of the buildings on the "site" (including the Rosebloom Building) will be demolished.*

As a result of these and other legal deficiencies, the Draft EIR is legally inadequate under the law.

II. Specific Comments on Draft EIR

A. Draft EIR Section 1.0: Introduction (Draft EIR at p. 1-1 to 1-4)

. 1. Sections 1.1.1 and 1.1.2

Comment

These two sections introduce the "Proposed Project." The two sections reference the Proposed Project to include both of the following: (i) the Proposed Gilman Gateway Project; and (ii) the Potential Berkeley Forge Development. O-1-9

The Proposed Gilman Gateway Rezone Project is set forth in Section 1.1.1. This Project includes: (i) establishment of a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23-206 of the BMC; (ii) rezone the 11.54 site (defined as "'project site") from Manufacturing (M) to the new M-RD zoning district; and (iii) amend the Berkeley General Plan and West Berkeley General Plan to add the M-RD zoning district.

Please note that the entire 11.54-acre site is defined as the "project site." That site includes the Rosebloom Building. The Rosebloom Building site is thus proposed to be rezoned together with the

[1] See letters dated September 8, 2023; December 6, 2023, and email from clients dated July 5, 2023.

remainder of the project site. However, the DEIR also references the "project site" in lower case in this Section and throughout the EIR. This leaves the reader confused with regard to whether the "project" or "project site" as referenced therein includes both the Gilman Gateway Rezone Project *and* the Potential Berkeley Forge Development (Conceptual Development Project). **O-1-9 cont.**

We note that at the Planning Commission public hearing on November 6, 2024, several Planning Commissioners noted they were having trouble discerning the differences between the two "projects." If the Planning Commissioners cannot understand the difference between the two projects – we do not believe the owners of the Rosebloom Building or any readers of the Draft EIR can reasonably read or understand the document. The Draft EIR needs to be amended/clarified in this regard.

The Proposed "Potential Berkely Forge Development is set forth in Section 1.1.2. Section 1.1.2 states as follows:

> In addition to the new M-RD zoning district, the EIR evaluates the Potential Berkeley Forge Development (conceptual development project) that could result in the development of a 10.26-acre portion of the project (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D laboratory, and/or office uses. *No application for the conceptual development project has been received, however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at the project level to the extent feasible*. (Emphasis added.)

O-1-10

We respectfully disagree with these statements.

First, there is no evidence that a "conceptual development plan" will be formally submitted at any time. The Draft EIR's "conceptual development plan" appears to be wholly based on an earlier zoning amendment application from the Rhoades Planning Group, in 2022, which included reference to a conceptual development project. We understand that such project is no longer being processed, and there are no plans to submit such project. If the City Staff and the Draft EIR consultants have different or updated information, they should inform the readers of the Draft EIR.

Second, and more importantly, the Draft EIR improperly states that it will be used as both a "Program EIR" for the Proposed Gilman Gateway Rezone Project *and* a "Project Level EIR" for the conceptual development project.

CEQA defines a "Program EIR" at CEQA Guidelines Sect.15166 as follows:

> (a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project, and are related either:
>
> (1) Geographically
>
> (2) As logical parts in the chain of contemplated action;
>
> (3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or

O-1-11

(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The Draft EIR states that the Gilman Gateway Rezone Project will be evaluated at a "programmatic level". We are not certain what is meant by this statement. In our review of the Draft EIR, we do not see reference to protection of the Rosebloom Building at the "programmatic level" or at the project level.

CEQA defines a "Project EIR" at CEQA Guidelines, Sect.15161, as follows: **O-1-11 cont.**

> The most common type of EIR examines the environmental impacts of a *specific project*. This type of EIR *should focus primarily on the changes in the environment that would result from the development project*. The EIR shall examine all phases of the project including planning, construction and operation. (Emphasis added.)

Thus, CEQA required the 'Project Level" EIR to examine the environmental impacts of a *specific projec*t, and to focus on the changes in the environment resulting from that development project through "all phases of the project" – "including planning, construction and operation."

Here, there is no "specific project" to review – only a conceptual project that is not being processed. The Draft EIR does not reference the CEQA requirements for review of a *specific project and all phases of such specific project.* Instead, the Draft EIR states that the "conceptual development project" will be evaluated at a *project level* "to the extent feasible." The DEIR's review of the *conceptual* development project (rather than a specific project) is not adequate under CEQA requirements.

Please note the following example: As stated repeatedly, one of the most significant impacts of the Gilman Gateway Rezone (and any project thereunder) would be Aesthetic impacts, including the construction of tall buildings immediately adjacent to the Rosebloom Building, and related impacts to light and air on the Rosebloom Building.

The Draft EIR does not discuss Aesthetic impacts on the Rosebloom Building, either at the programmatic level (for the Gilmore Gateway Rezone Project) or at the "project level" for the Conceptual Development Project. *The Draft EIR claims that all aesthetic impacts were found not to be "significant."*

The Draft EIR states: **O-1-12**

> The following topics are not further analyzed in this EIR *because impacts related to these topics either would not occur or would be less than significant with implantation of applicable standard conditions and regulatory compliance measures* . . .
>
> Aesthetics: . . .[]the proposed project meets the definition of a "employment center project" on an infill site within a transit priority area. *Accordingly, an evaluation of aesthetics is not required*.
>
> Proposed project elements that related to aesthetic conditions at the project site and vicinity, such as proposed building heights, architecture,

> and effects of new light and glare, among others, however, will be considered as part of the planning approval process, including through design review. Therefore, there would be no impact related to aesthetics. (*Emphasis added*.) (See DEIR at p. 6-8)

The Draft EIR appears to defer any evaluation of setbacks, building heights, and impacts on light and air, to later limited design review hearings after the "project" has been approved. This is improper under CEQA. **O-1-12 cont.**

As stated throughout these Comments, we cannot determine whether the above references to a "project" are to the Gilmore Gateway Rezoning, or to the Conceptual Development Project. Stated another way, which "project" is the Draft EIR referencing when it claims there are no Aesthetic impacts on the Rosebloom Building?

We also cannot understand the conclusions of the Draft EIR, above, when in other parts of the Draft EIR it is stated that the Rosebloom Building is a historical resource and there are potential significant impacts from the "project."

The Draft EIR states earlier as follows:

> Based on State CEQA Guidelines Section 15064.5(b), the proposed project would have a significant impact on historical resources if it would cause a substantial adverse change in the significance of a historical resource . . . a substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surrounding *such that the significance of an historical resource would be materially impaired*. (Emphasis added.) (See Draft EIR at pp. 4.2-20, 4.2-21.) **O-1-13**

The Draft EIR cites the above language with reference to potential demolition of the Rosebloom Building; however, it ignores the language with reference to impacts to light, glare, etc., which will "materially impair" the Rosebloom Building as an existing and ongoing historical resource.

As stated throughout these Comments, the Draft EIR's failure to distinguish between the Gateway Gilmore Rezone Project and the Conceptual Development Project results in Draft EIR's failure to discuss/analyze impacts on the Rosebloom Building under *either* project.

If this Draft EIR is not revised, future developers, in applying for specific projects, will improperly claim that this Draft EIR already addresses impacts of a development project on the Rosebloom Building – and therefore no further review is needed. Indeed, the City Staff Report for the November 6, 2024 Planning Commission hearing on the Draft EIR states: **O-1-14**

> It [the Potential Berkeley Forge Development and conceptual development project] is therefore a reasonably foreseeable project and is evaluated in the Draft EIR at the project level, to the extent feasible, *in order to help streamline the environmental review process for the Berkeley Forge Development. (Emphasis added.)* See Staff Report at p. 10.

The City Staff thus intends to use the Draft EIR to "streamline" the CEQA process for the benefit of Berkeley Forge Developers and any/all future developers, who may claim no further environmental

review needs to be done when they bring in their projects. *However, the Draft EIR does not address any of the impacts of the Berkeley Forge Development/Conceptual Development Project*, and no specific project exists to evaluate through the planning, construction and operation stages of such project as required by CEQA.

The Draft EIR states at Section 1.2 as follows:

> Later activities in the program must be examined in light of the program EIR to determine whether any additional environmental documentation must be prepared . . .It is anticipated that once a formal application is submitted for the conceptual development project, the conceptual development project would be more fully evaluated in a subsequent environmental document that could tier from this program EIR as appropriate. The appropriate level of environmental review will be determined at the time the City receives a formal application.

O-1-14 cont.

While we appreciate the Draft EIR's reference to potential future environmental review, the Draft EIR as a whole does not properly evaluate the impacts of either project (the Gilman Gateway Rezoning or the Conceptual Development Project) on the Rosebloom Building. This is a result of the faulty and improper "two-fold" approach, wherein the Draft EIR purports to be both a program level and project level EIR. The Rosebloom Building "falls through the cracks" of the Draft EIR's analysis.

B. <u>Draft EIR Section 2.0: Summary (Draft EIR at pp 2-1 to 2-5) and Table 2.A)</u>

. 1. <u>Section 2.1 Project Under Review</u>

<u>Comment</u>

O-1-15

Our Comments on the Summary at Section 2.0 are similar to the Comments on the Introduction. As stated, the Draft EIR continues to confuse the two named "projects" (the Proposed Gilman Gateway Rezone Project and the Conceptual Development Project).

2. <u>Section 2.3 Summary of Impacts and Mitigation Measures</u>

<u>Comment</u>

O-1-16

As set forth herein, the Summary of Impacts and Mitigation Measures wholly fails to address potential impacts of both projects (the Proposed Gilman Gateway Rezone Project and the Conceptual Development Project) on the Rosebloom Building. As stated, the Summary of Impacts does not even discuss Aesthetics and related impacts on light and air.

We note that the Summary of Impacts at Section 2.3.2.1 (Cultural Resources) references the Rosebloom Building as follows:

> **Historic Architectural Resources**. The proposed project would cause a substantial adverse change to the significance of a historic resource as defined in State CEQA Guidelines section 15064.5, because *implementation of the proposed project would facilitate the demolition of the existing building at 1306 3rd Street, which is eligible for listing as a City of Berkeley Landmark*. (*Emphasis added*.)

O-1-17

This statement is misleading and causes the reader confusion.

First, the statement references the "proposed project" *without referencing which project is being referenced* – the Gilmore Gateway Rezone Project or the conceptual development plan. **O-1-17 cont.**

Second, the above statement, which is repeated, throughout the Draft EIR, inaccurately limits its scope to the demolition of the existing building at 1306 3rd St. (the Rosebloom Building). As stated, there are no plans to demolish the Rosebloom Building. There is no application on file for a specific project -- however even if such application is filed, the owners of the Rosebloom Building plan on remaining and do not plan on demolishing the Rosebloom Building.

The Draft EIR, in liming its view largely to the potential *demolition* of the Rosebloom Building, avoids an environmental review of the significant impacts of any project on the existing Rosebloom Building. place. This is a major error in the Draft EIR and it occurs throughout the Draft EIR. There is very little discussion of the impacts the rezoning or the Conceptual Development Project will have on the existing, remaining Rosebloom Building. **O-1-18**

3. Section 2.3.4 Alternatives to the Project.

Comment

The Draft EIR, at Section 2.3.4, discusses certain "Alternatives" to the "project" as required by CEQA. Again, the term "project" is not defined. More importantly, we note that the third Alternative is a "Reduced Development Alternative." The Reduced Development Alternative discusses development limited to the Pacific Street Casting site. **O-1-19**

Under the Reduced Development Alternative, the Draft EIR states ss follows:

> This alternative would also require a minimum 100 ft buffer between any existing residential use and proposed new non-residential uses , . . Accordingly, future development on the project site would need to be setback from the existing building at 1306 Third Street.

We appreciate the reference to a buffer and significant setbacks, however these should be disused, analyzed, and listed as mitigation measures to the Gilman Gateway Rezoning and/or the conceptual site project. Here, the buffer/setbacks are *only* proposed in the context of the Reduced Development Alternative. Again, the Draft EIR fails to discuss and reference mitigation measures for the two projects on the Rosebloom Building.

4. Table 2.A., Summary of Impacts

Comment

O-1-20

The Draft EIR, at Table 2.A., lists potential project significant impacts and proposed mitigation measures. Again, throughout the Draft EIR, Table 2.A fails to state which project it is referring to (the Gilman Gateway Rezone Project or Conceptual Site Project).

Further, again, the Table references primarily the potential impact of the "demolition" of the Rosebloom Building, which is not proposed, and not the impacts of the Rosebloom Building as it will remain. (See Table 2.A at Sect. 4.2 (Cultural Resources.) **O-1-21**

We note brief references in the Summary of Impacts to the Conceptual Site Project, including those referenced under Air Quality (Table 2.A. Sect. 4.6/Impact AIR -3a.2.). These include mitigation measures for "the project" exceeding BAAQMD thresholds, including (i) off-road construction equipment requirements; (ii) temporary relocation requirements for 1306 3rd Street (the Rosebloom Building); and (iii) further assessment of health risks. While we appreciate these brief references, they fall far short of the analysis and mitigation measures required to protect the Rosebloom Building. In this regard, we disagree with the Table's dismissal of potential significant impacts with regard to TRANSPORTATION and NOISE and all other potential impacts, and again we disagree with the EIR's deferral of discussion of impacts regarding AESTHETICS. **O-1-21 cont.**

C. <u>Draft EIR Section 3.0: Project Description (Draft EIR at pp. 3-1 to 3-48</u>

. 1. <u>Section 3.1 Proposed Project</u>

<u>Comment:</u> **O-1-22**

We repeat our Comments above, and re-state our concerns that the Draft EIR improperly attempts to define and address two projects (the Gilmore Gateway Rezone Project and the Conceptual Development Project). In attempting to analyze and address both projects, the Draft EIR fails to address potentially significant impacts on the Rosebloom Building.

With regard to the above, please reference, for example, Table 3.B at p. 3-32. In Table 3.B, the Draft EIR sets forth existing Manufacturing Zone Development standards, citing the BMC at Table 23,206-10. Please note that such table references existing "main Building Height" at **<u>45 feet</u>** (and references Supplemental Standards at BMC 23-304.050).

Please then reference Table 3.E., at p. 3-43, which sets forth the Development Standards for the new M-RD zoning district ordinance. For some reason, the Development Standards as shown omits the newly proposed height standards of (i) **<u>55 feet</u>**; and (ii) allowing heights all the way up to **<u>105 feet</u>** pursuant to proposed Section 23-.206.100(D)(1) (Modification of Development Standards on Large Sites). The reference to increased heights is not in the Table, but appears to be referenced partially in a "footnote" to the Table. **O-1-23**

A reader of the Draft EIR would not note the significant increases in building heights as proposed under the new MR-D Ordinance. These significant increases and potential impacts are largely left out of the Draft EIR table and discussion. We note that Staff discusses these proposed significant increases in its Staff Report and attachments for the November 6, 2024 Planning Commission hearing, but we cannot find reference to these heights and potential impacts in the Draft EIR.

The readers of the Draft EIR, including the owners of the Rosebloom Building, will want to know whether buildings of these heights might be proposed immediately adjacent to neighboring uses and to residential uses. Such tall buildings will have a significant impact on the environment, and will block light and air to the Rosebloom Building,-- and need to be discussed. The Draft EIR does not discuss these potential impacts. **O-1-24**

2. <u>Section 3.4.2 Potential Berkely Forge Development</u>

<u>Comment:</u> **O-1-25**

We repeat our Comments above, and re-state our concerns that the Draft EIR improperly attempts to define and address two projects (the Gilmore Gateway Rezone Project and the Conceptual

Development Project). In attempting to analyze and address both projects (and without appropriate references to both projects), the Draft EIR fails to address potentially significant impacts on the Rosebloom Building. O-1-25 cont.

With regard to Section 3.4.2, discussing the Conceptual Development Project, we can find no maps or diagrams which might inform the reader how close the proposed buildings would be placed. There is little/no discussion of the potential impacts of such project. The reader of the Draft EIR is simply not informed of potential impacts and mitigation measures.

We note that under Permits and Approvals (Section 3.5) the Draft EIR states simply as follows: O-1-26

> Future development projects could be subject to further environmental review, which would be determined at the time that individual applications are received.

This language and the text at Section 3.5 should be amended to confirm that the Draft EIR does not discuss at the project level any of the potential impacts of the Conceptual Development Project– and that future environmental review will be absolutely required.

D. <u>Draft EIR at Section 4.0 Setting, Impacts and Mitigation Measures (Draft EIR at p. 4-1 to 4.11-10.</u>

<u>Comment</u>:

The Draft EIR at Section 4.0 sets forth the project "Setting, Impacts, and Mitigation Measures." O-1-27

We repeat our Comments above, and re-state our concerns that the Draft EIR improperly attempts to define and address two projects (the Gilmore Gateway Rezone Project and the Conceptual Development Project). In attempting to analyze and address both projects , the Draft EIR fails to address potentially significant impacts on the Rosebloom Building.

We further repeat our Comments above, and re-state our concerns that the Draft EIR dismisses Aesthetic, and related impacts as "insignificant," when the impacts of tall building placed immediately adjacent to the Rosebloom Building (a historical resource) are clear and are required to be discussed and addressed. O-1-28 We note, for further example, that the Draft EIR does not address transportation and circulation issues and impacts on the ingress egress of the Draft EIR projects on the Rosebloom Building. O-1-29

We further repeat our Comments above, and re-state our concerns that the Draft EIR improperly assumes that Rosebloom Building will be demolished, and improperly infers therefore that impacts on light and air need not be addressed. O-1-30

With regard to this Section, we re-state the promises Staff made to the owners of the Rosebloom Building owners when the EIR was being drafted.

> Consistent with the intent and Council's goals for the site . . . the proposed zoning would maintain this area for manufacturing and related uses. The live/work use at 1306 Third would continue to be legally nonconforming. *The Berkeley Zoning Ordinance allows lawful non-* O-1-31

conforming uses to remain occupied in their current condition as a matter of right . . .

Notably, any future development [on the Project Site] would need to be designed in a manner that minimizes impacts related to light and air on the adjacent properties, including the building at 1306 Third [the Rosebloom Building]. (Emphasis added.) (See Staff Email August 2, 2023.)

O-1-31 cont.

E. <u>Draft EIR at Section 5.0 Alternatives</u>

<u>Comment</u>:

We repeat our Comments above, and re-state our concerns that the Draft EIR improperly attempts to define and address two projects (the Gilmore Gateway Rezone Project and the Conceptual Development Project). In attempting to analyze and address both projects , the Draft EIR fails to address potentially significant impacts on the Rosebloom Building.

O-1-32

We also repeat our Comments above to the effect that buffer areas and setbacks for the Rosebloom Building are only discussed in the context of choosing the Reduced Development Alternative. Such buffer areas and setbacks should be discussed and analyzed in the Draft EIR as part of the proposed two projects.

O-1-33

F. <u>Draft EIR at Section 6.0 CEQA-Required Conclusions</u>

<u>Comment</u>:

We repeat our Comments above, and re-state our concern that Aesthetics and other topics are summarily excluded from discussion in the Draft EIR. Section 6.3.1 improperly states that there will be no impacts related to aesthetics, including light and glare.

We repeat our Comments above, and re-state our concern that the Draft EIR does not discuss Aesthetics and related impacts as part of its analysis of either the Gateway Gilroy Rezone Project or the Conceptual Development Project.

O-1-34

CONCLUSION

For all reasons set forth herein, the Draft EIR is legally inadequate to address potential impacts of either the Gilmore Gateway Project or the conceptual development project on the Rosebloom Building. Impacts of the Conceptual Development Project may include impacts to the drainage patterns, ingress and egress, light and air, and other impacts to the Rosebloom Project—and these issues simply are not discussed in the Draft EIR.

We respectfully request the City Staff and the EIR consultant to recognize these facts as part of the EIR process and the planning process.

O-1-35

Please do not hesitate to contact me with any questions.

Very truly yours,

LAW OFFICE OF ALLAN MOORE, A.P.C.

O-1-35 cont.

Allan C. Moore

cc: Clients .

Comment Letter I-7

From: Planning Dept. Mailbox
To: James, Ashley
Subject: FW: Attn: Ashley James/West Berkeley EIR, Pacific Steel Casting site
Date: Friday, December 6, 2024 8:50:29 AM

From: JJ <jai@mightysmallfilms.com>
Sent: Thursday, December 5, 2024 1:08 PM
To: Planning Dept. Mailbox <Planning@berkeleyca.gov>
Subject: Attn: Ashley James/West Berkeley EIR, Pacific Steel Casting site

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Ms James & City of Berkeley Planning Department

I am writing regarding the EIR on the proposed changes to the zoning and development of the west Berkeley Pacific Steel Casting site. **I-7-1**

Developing large, heavily occupied buildings on a toxic liquefaction zone, on two major earthquake faults, immediately adjacent to a major freeway, makes no sense. Furthermore,
the plan to create bio labs on this site is beyond simply foolish; it is a major disaster in the making. When (not if) a major earthquake occurs, the very real potential of release of
bio-hazards and viruses will further complicate rescue and relief efforts, even bio-agents that are 'treatable.' The reality of a lab event so close to transportation hubs,
housing, schools, bridges and two major airports can not be ignored, regardless of who stands to profit. These are the types of industries that should be built further inland in less
populated zones and regions. **I-7-2**

Back to the EIR. I cannot see how, with ground water and coastal water rise, that the old Pacific Steel Casting site is a logical candidate for anything other than reclaiming it as a wildlife refuge area with the site used to study the emerging
technologies in bio-organic methods to detoxify the site over time. The area could actually become an educational tourist magnet, of benefit to environmental students, and would provide a needed buffer to our low lying elevations (note today's
tsunami warning.) **I-7-3**

Best Regards,
Jai Jai Noire
2333 Curtis St #A
Berkeley CA 94702

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 4
OFFICE OF REGIONAL AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

December 5, 2024

SCH #: 2022120549
GTS #: 04-ALA-2022-00866
GTS ID: 28481
Co/Rt/Pm: ALA/80/6.531

Ashley James, Senior Planner
City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, CA 94704

Re: Gilman Gateway Rezone Project – Draft Environmental Impact Report (DEIR)

Dear Ashley James:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Gilman Gateway Rezone Project. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities. The following comments are based on our review of the October 2024 DEIR. A-Caltrans-1

Please note this correspondence does not indicate an official position by Caltrans on this project and is for informational purposes only.

Project Understanding

The proposed project would create a new zoning district referred to as Manufacturing, Research and Development (M-RD) and would rezone the 11.54 acre project site to that zoning district which that would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and research and development (R&D). The Berkeley General Plan and West Berkeley Plan will be amended to include the new zoning designation. Demolition and reconstruction of the project site would d allow up to 1,005,266 square feet of non-residential space. At least one historic property on the site would not be demolished. The project site is adjacent to Interstate (I)-580. A-Caltrans-2

Travel Demand Analysis

With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Vehicle A-Caltrans-3

Miles Traveled (VMT) analysis for land use projects, please review Caltrans' Transportation Impact Study Guide (*link*).

The project VMT analysis and significance determination are undertaken in a manner consistent with the Office of Planning and Research's Technical Advisory. Per the DEIR, this project is found to have a less than significant VMT impact, therefore working towards meeting the State's VMT reduction goals. A-Caltrans-3 cont.

Caltrans acknowledges the DEIR recommending mitigation strategies identified in Alameda County VMT Reduction Estimator Tool to help reduce VMT and improve multimodal transportation options for land use development. The proposed measures identified in the Alameda County VMT Reduction Estimator Tool should be documented with annual monitoring reports to demonstrate effectiveness. A-Caltrans-4

Also, please note that there may be other VMT mitigation options for the lead agency's consideration if onsite TDM measures cannot mitigate a project's VMT impact to a less-than-significant level, such as VMT-based Transportation Impact Fee program, VMT Mitigation Exchange program, and VMT Mitigation Bank. Some local jurisdictions and county transportation authorities have been successfully awarded funds through Caltrans' Sustainable Transportation Planning program to study those options. Please look at the grant program website (link) for more detail information if interested. A-Caltrans-5

Hydrology

Please ensure that any increase in storm water runoff to State Drainage Systems or Facilities be treated, contained on project site, and metered to preconstruction levels. A-Caltrans-6

If the project involves drainage work that flows into the State Drainage System, please provide a drainage design memo showing how the proposed drainage system flows on the Plans. The drainage design memo should include pre- and post- project flows to the existing drainage system. The Drainage Plan and Profile Sheets should include lengths, size, and types of new and existing pipes, inlets, outlets, and systems showing any utility conflicts. Please include drainage details and profiles for connection to the existing drainage system. Any assumptions and calculations used in designing the drainage system should be shown. A-Caltrans-7

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Melissa Hernandez, Associate Transportation Planner, via LDR-D4@dot.ca.gov. A-Caltrans-8

For future early coordination opportunities or project referrals, please visit Caltrans LDR website (*link*) or contact LDR-D4@dot.ca.gov.

A-Caltrans-8 cont.

Sincerely,

Marley Mathews

YUNSHENG LUO
Branch Chief, Local Development Review
Office of Regional and Community Planning

c: State Clearinghouse

ALAMEDA County Transportation Commission
1111 Broadway, Suite 800, Oakland, CA 94607 • 510.208.7400 • www.AlamedaCTC.org

December 4, 2024

Ashley James
Senior Planner,
ajames@cityofberkeley.info
City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, CA 94704

SUBJECT: Response to the Draft Environmental Impact Report (DEIR) for the Gilman Gateway Rezone Project

Dear Ashley,

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Gilman Gateway Rezone Project. This DEIR evaluates the environmental impacts of amending the Berkeley General Plan and West Berkeley Plan at a programmatic level. In addition, the DEIR evaluates the potential Berkeley Forge Development that could result in the development of the site with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses. While there is no project application yet, the City of Berkeley anticipates that the proposed project is a reasonable project assumption for the site.

The rezoning project site covers 18 parcels totaling approximately 11.54 acres and is located in West Berkeley. The project site is bordered by Gilman Street to the north, the Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and Interstate 80 [I-80]/Interstate 580 [I-580]) to the west. The site is bisected by Second Street. A-CTC-1

Land uses north, east, and south of the project site generally consist of a mix of manufacturing, warehouse, office, and commercial uses. Recreational facilities, including a sports complex, parks, and marina are located to the west of I-80/I-580, along the Bay.

The project site includes 16 existing buildings totaling 297,940 square feet that have been in use for industrial, commercial, and live/work uses and is zoned Manufacturing in the City of Berkeley's Zoning Ordinance, West Berkeley Plan, and General Plan. The proposed project would demolish 15 of the 16 existing buildings totaling approximately 298,000 square feet and build up to 1,000,000 square feet of non-residential space and 2,000 off-street automobile parking spaces. The existing 10,000 square foot building at 1330 Second Street would remain and be adaptively reused.

The Alameda County Transportation Commission (Alameda CTC) respectfully submits the following comments:

Congestion Management Program (CMP) Review

While SB743 changed the metric used to evaluate the effects of a proposed land use project on the transportation network for purposes of the California Environmental Quality Act (CEQA), the County Congestion Management Program (CMP) legislation still requires project sponsors to evaluate the effects of the project on the CMP network of roads outside of CEQA. Alameda CTC appreciates that this project DEIR performed a CMP analysis on the streets included in the CMP network adjacent to the project site, as stated on page 4.4-19 of the DEIR. According to this analysis, the project would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the Volume to Capacity Ratio by 0.03 or more on segments that operate at LOS F under existing conditions. A-CTC-2

Use of Countywide Travel Demand Model

Alameda CTC appreciates that the VMT analysis used the latest version of the Alameda CTC Travel Demand Model, released in 2019 as stated in page Number 4.4-11 of the DEIR. A-CTC-3

Transportation Demand Management Program

The proposed rezoning project is estimated to produce 9,980 daily auto commute trips, with 918 AM and 868 PM peak-hour trips. The potential Berkeley Forge project is estimated to generate a slightly lower number of trips. These estimates do not account for the existing trips generated by the current active land use. Nevertheless, the VMT generated by the project is higher than the threshold established for the area.

As a result, the project had to include mitigation measures to curb production of project-generated VMT. The DEIR states that the City of Berkeley has established standard conditions of approval (COAs) for all development projects that would potentially mitigate negative impacts on the transportation system. Among the COAs, the City of Berkely requires the implementation of a Transportation Demand Management (TDM) Plan prior to occupancy with regular monitoring reports thereafter. The DEIR states that for this analysis, the project used the Alameda CTC VMT Reduction Estimator Tool to calculate VMT reductions derived from the implementation of different strategies detailed in the Tool in order to achieve reductions that would bring project VMT below the threshold established by State CEQA Guidelines. A-CTC-4

Bike and Pedestrian Plans

Alameda CTC appreciates that the implementation of the proposed project and the conceptual development project would improve the streets within the project vicinity and provide sidewalks along the project frontages, as well as connections to the existing pedestrian facilities in the project area.

The proposed project and conceptual development project would also be required to comply with a City COA that requires the provision of approximately 591 bike parking spaces. Alameda CTC encourages active commuting and making sure that the project is accessible by bike facilities that are suitable for All Ages and Abilities would facilitate the shift from automobile driving to biking. The project site is directly adjacent to Gilman Street, which is on the Countywide Bicycle Network. Alameda CTC is the project sponsor of the Gilman Street Overcrossing Project, whichis installing a A-CTC-5

Class I multiuse path over the I-80 freeway to connect the Bay Trail west of the freeway and Gilman Street east of the freeway, and Class IV bike facilities on Gilman Street along the north side of the project between the I-80 freeway and Fourth Street. When the project site is developed in more detail, Alameda CTC encourages project sponsors to ensure the implementation of high-quality bike access from these facilities to the project. Please check the All Ages and Abilities (AAA) guidelines adopted by the Alameda CTC Commission for recommended bike facilities in different roadway contexts that include target speed limit, traffic volume, and other operational considerations. **A-CTC-5 cont.**

Transit

Alameda CTC is pleased to learn that among the TDM selected for the project is the implementation of shuttle service to the nearest AMTRAK and BART stations. While the DEIR does not anticipate impacts to the AC Transit bus service, future development facilitated by the proposed project could require coordination with AC Transit to either extend existing bus service or provide new bus service through or near the project, if feasible. **A-CTC-6**

Cumulative Transportation Impacts

According to the analysis presented in the DEIR, future development facilitated by the project, including the conceptual development project, would not conflict or be inconsistent with State CEQA Guidelines and its impacts on VMT are rendered less than significant with the implementation of the proposed TDM Plan. **A-CTC-7**

Thank you for the opportunity to comment on this DEIR. Please contact me at (510) 208-7400 or Aleida Andrino-Chavez at (510) 208-7480 if you have any questions. **A-CTC-8**

Sincerely,

Colin Dentel-Post
Principal Transportation Planner
cc: Aleida Andrino-Chavez, Associate Transportation Planner

MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) was formulated based upon the findings of the Draft Environmental Impact Report (EIR) prepared for the Gilman Gateway Rezone Project (proposed project). The proposed project would establish the new Manufacturing, Research and Development (M-RD) zoning district in Chapter 23.206 of the Berkeley Municipal Code (BMC), rezone the project site to the M-RD zoning district, and amend the Berkeley General Plan and West Berkeley Plan to add the M-RD zoning district to the Manufacturing land use designation. These actions would facilitate future development of the project site, including the Potential Berkeley Forge Development Project (conceptual development project).

Table A identifies the mitigation measures that would be applicable to the Gilman Gateway Rezone Project and the timing for implementation. The proposed project is evaluated at a programmatic level in the EIR; the mitigation measures identified in Table A of this MMRP are therefore programmatic in nature and applicable to zoning and related amendments and potential future development projects. The EIR also identified project-specific mitigation measures for the conceptual development project; the MMRP presented in Table B is applicable to the conceptual development project.

The MMRPs presented in Tables A and B are organized in a matrix format. The first column identifies the impact, and the second column identifies the mitigation measure that would be implemented for each project impact. The third column, entitled “Implementation Responsibility,” refers to the parties responsible for implementing the mitigation measures. The fourth column “Monitoring Timing,” refers to when the monitoring will occur to ensure that the mitigation action is completed. The fifth column “Monitoring Responsibility” identifies the agency that will ensure that the mitigation measure is implemented. The sixth column entitled “Monitoring Action” identifies the reporting mechanism for the mitigation measures; and the last column, entitled “Verification,” is for the lead agency to provide verification that the measures have been implemented.

This MMRP has been prepared to comply with the requirements of State law (Public Resources Code Section 21081.6). State law requires the adoption of an MMRP when mitigation measures are required to avoid significant impacts. The MMRP is intended to ensure compliance during implementation of the proposed project and the conceptual development project. The Final MMRP must be adopted when the City Council makes a final decision on the project.

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Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
4.1: LAND USE AND PLANNING						
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	**Mitigation Measure TRA-1.** (see below)					
4.2: CULTURAL RESOURCES						
Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 as implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to CEQA Guidelines Section 15064.5.	**Mitigation Measure CUL-1: Documentation.** Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street, the project sponsor shall obtain a qualified Historic American Building Survey (HABS) photographer to document the existing structure at 1306 Third Street and its setting. Generally, this documentation shall be done in accordance with the HABS "Outline" format, which includes: ● **Photographs:** HABS standards require large-format, black-and-white photography with large-format safety film negative (4" x 5", 5" x 7", or 8" x 10") and a contact print, archivally processed, on fiber-based paper. The HABS photographer must be familiar with the recordation of historical resources in accordance with current HABS guidelines. Photographs should include context views of the general environment to illustrate setting, including landscaping, adjacent building(s), and roadways, views of character-defining features, exterior elevations of significant façades, views of interior spaces, and detailed views of specific materials or elements. Overgrowth, board-up plywood, and other obstacles shall be removed by the project sponsor prior to photography at the direction of the professional HABS photographer. Photographs must include a photo index, photo sketch plans, and field notes, and be identified and labeled using HABS standards outlined in Preparing HABS/HAER/HALS Documentation – Transmittal Guidelines. ● **Measured Drawings or 3D Laser Scanning "As-Builts":** Measured drawings for HABS are considered "as-built" drawings. Accordingly, they illustrate the existing condition of a building at the time of documentation, including additions, alterations, and demolitions which have occurred since the building was first constructed. Where sufficient knowledge exists concerning the sequence of changes to a building over time, it may be useful to provide appropriate notation on the drawings. Alternatively, delineators may wish to produce additional interpretive drawings illustrating the building at an earlier date, to explain its historic significance more fully. In lieu of measured architectural drawings, 3D laser scanning and 2D CAD documentation can be done to create as-built drawings from the scanned data in AutoCAD to provide archival-quality printed and digital images that can be utilized for future exhibits, documentation, and research associated with the 1306 Third Street building. The 3D images can then be printed as measured drawings and will also be available digitally. ● **Historical Background Information:** An architectural historian, meeting the Secretary of the Interior's Professional Qualification Standards, shall assemble historical background information, drawings, maps, and historic photographs relevant to the 1306 Third Street building and its setting using the HABS "Outline" format to produce a HABS historical report. The historical report will be formatted to HABS Guidelines for Historical Reports (updated January 2020). ● **Public Access to Documentation:** HABS documentation must be prepared using specific archival materials and archival processes to comply with the permanence standards that govern the collection. By adhering to these standards, even the very earliest HABS records from the 1930s are still available for researchers and will be in the future. Non-archival material deteriorates for two principal reasons: harmful substances in the environment attack it, and/or the physical and chemical composition is such that it will deteriorate regardless of how it is stored. Accordingly, it is recommended that one archival set of the HABS documentation is submitted to the Library of Congress or the Berkeley Architectural Heritage Association (BAHA). Digital copies are also recommended to be submitted to the Northwest Information Center (NWIC)/ California Historic Resources Information System (CHRIS), the City of Berkeley, the City of Berkeley Library, the Berkeley Historical Society, the California State Library, and the California Historical Society. This mitigation would create a collection of preservation materials that would be available to the public and inform future research.	The project sponsor for future development projects shall retain a qualified HABS photographer and professional who meets the Secretary of the Interior's Professional Qualification Standards to implement the measure.	Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street.	City of Berkeley Land Use Planning Division.	Considered complete upon approval of the documentation by the City of Berkeley Land Use Planning Division and transmittal to repositories.	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change int the significance of a unique archaeological resources, as defined in State CEQA Guidelines Section 15064.5.	**Mitigation Measure CUL-2a: Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.	The project sponsor shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to implement the measure.	Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity.	City of Berkeley Land Use Planning Division.	Considered complete upon approval of pre-construction archaeological testing program documentation by the City of Berkeley Land Use Planning Division.	
	Mitigation Measure CUL-2b: Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development. Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The WEAP training shall be conducted before any project-related, ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.	Project sponsor for future development projects and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.	Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity.	Project sponsor and contractor(s) shall distribute an alert sheet and submit a confirmation letter to the City of Berkeley Land Use Planning Division each time a training session is held. The letter shall be submitted within five (5) business days of conducting a training session.	Considered complete upon submission of a final WEAP training recipient record prior to issuance of a certificate of occupancy submitted to the City of Berkeley Land Use Planning Division.	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure CUL-2c: Cultural Resources Monitoring Plan for Future Site Development. Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring: ● Person(s) responsible for conducting archaeological monitoring ● Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring ● Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation) ● Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.	Project sponsor for future development projects and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.	Prior to issuance of any permit that involves ground disturbance.	City of Berkeley Land Use Planning Division.	Considered complete upon the approval of the Cultural Resources Monitoring Plan by the City of Berkeley Land Use Planning Division.	
	Mitigation Measure CUL-2d: Accidental Discovery Measures for Future Site Development. Should an archaeological deposit be encountered during project construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.	The project sponsors' construction contractors for future development project and (as necessary) a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.	During project construction activities.	City of Berkeley Land Use Planning Division.	Considered complete upon the termination of project construction.	
Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.	**Mitigation Measures CUL-2a.** (see above)					
	Mitigation Measures CUL-2b. (see above)					
	Mitigation Measures CUL-2c. (see above)					
	Mitigation Measures CUL-2d. (see above)					
4.3: TRIBAL CULTURAL RESOURCES						
Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	**Mitigation Measures CUL-2a.** (see above)					
	Mitigation Measures CUL-2b. (see above)					
	Mitigation Measures CUL-2c. (see above)					
	Mitigation Measures CUL-2d. (see above)					

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
4.4: TRANSPORTATION						
Impact TRA-2: The proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	**Mitigation Measure TRA-1: Transportation Demand Management Plan.** Prior to occupancy, the project sponsor shall submit evidence to the City that the future development implements the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan). As detailed in the Proposed TDM Plan, the following TDM strategies shall be implemented: ● **Shuttle Service**: Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley. ● **Extend or Provide New Bus Service**: If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area. ● **Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists:** Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site. ● **Bikeshare Station:** Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area. ● **Carpool/Ride-Matching Service:** Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools. ● **Free Parking for Carshare:** Future development facilitated by the proposed project would be required to provide free parking to carshare companies. ● **Preferential Parking for Carpools**: Future development facilitated by the proposed project would be required to include free parking for carpoolers. ● **Transit Subsidy**: Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers. ● **Pre-tax Commuter Benefits**: Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers. ● **Ongoing Marketing and Information:** Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit. On an annual basis for ten years thereafter, the project sponsor shall submit a report that demonstrates the project complies with the applicable requirements. After three years of timely compliant submittals, the City has the option to accept less frequent submittals (minimum one every three years).	Project sponsors for future development projects and qualified transportation consultant retained by the project sponsor.	Annual Monitoring for a duration of ten years. After three years of timely compliant submittals, the City has the option to accept less frequent submittals	City of Berkeley Land Use Planning Division.	Monitoring is complete after the applicant has submitted an annual monitoring plan for a duration of ten years.	
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	**Mitigation Measure TRA-2: Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.	The project sponsor for future development projects and qualified transportation consultant retained by the project sponsor.	Prior to issuance of any demolition or building permit.	City of Berkeley Land Use Planning Division in coordination with the City of Berkeley Public Works Department.	Considered complete upon the approval of the project-specific circulation plan.	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	**Mitigation Measure TRA-2.** (see above)					
4.5: AIR QUALITY						
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	**Mitigation Measure TRA-1.** (see above)					
Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).	**Mitigation Measure AIR-1: BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors.** Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site: ● Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. ● Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. ● Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established. ● Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. ● Minimize the amount of excavated material or waste materials stored at the site. ● Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, which are inactive for at least 10 calendar days.	The project sponsor for future development projects and construction contractor.	During construction activities.	City of Berkeley Land Use Planning Division.	Considered complete upon verification and acceptance by the City of Berkeley Land Use Planning Division that construction plans clearly identify BAAQMD BMPs for construction.	
Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.	**Mitigation Measure AIR-2: Architectural Coatings.** To address the impact related to reactive organic gas (ROG) emissions, all interior and exterior paints and other architectural coatings shall be limited to 50 grams per liter or less of volatile organic compounds (VOCs). The project sponsor's construction contractor shall procure architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings).	Prior to start of overall construction, the project sponsor for future development projects shall submit signed certification statement that VOC compliant paint shall be used.	Prior to initiation of construction activities.	City of Berkeley Land Use Planning Division.	Considered complete upon City of Berkeley Land Use Planning Division review and acceptance of signed certification statement.	
Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.	**Mitigation Measure AIR-3: Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements: ● All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 Final emissions standards. ● Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps. ● Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.	The project sponsor for future development projects and construction contractor.	Prior to each phase or subphase of construction that would not include or would occur prior to the demolition of the structure at 1306 Third Street, the project sponsor would be required to submit: 1. Construction emissions minimization plan for review and approval, and 2. Signed certification statement If applicable, a waiver must be requested by the project sponsor prior to start of construction.	City of Berkeley Land Use Planning Division.	Considered complete upon City of Berkeley Land Use Planning Division review and acceptance of construction emissions minimization plan, implementation of the plan, and submittal of final report summarizing use of on-road trucks pursuant to the plan. If a waiver is applicable, considered complete upon City of Berkeley Land Use Planning Division granting of the waiver.	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	● The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. ● Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements. o The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. o The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan. o The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. **Waivers:** Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not exceed expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient PM2.5 increase greater than 0.3 micrograms per cubic meter (µg/m3).					
	Mitigation Measure AIR-4: Temporary Relocation of 1306 Third Street Residents During Construction Activities. Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street. The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following: ● Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's Request for Relocation Payment from Property Owner form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt. ● Households to be relocated shall be entitled to relocation payments that include the following:	The project sponsor for future development projects shall provide detailed construction plans and retain qualified professionals to prepare and submit project-specific Air Quality Assessment and Health Risk Assessments. The project sponsor for future development projects shall be responsible for the relocation measures if required.	Prior to the commencement of any ground disturbing activity that would result in exposure of sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the BAAQMD at the time of the study.	City of Berkeley Land Use Planning Division	Considered complete upon City of Berkeley Land Use Planning Division review and acceptance of the Air Quality Assessment and HRA and/or Moving and Relocation Plan and submittal of final report, as applicable.	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
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	o A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form and established by City Council resolution. o The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements: ▪ If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form and established by City Council resolution. ▪ Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis. o If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a unit temporarily leased during the period of relocation, with the following restrictions: ▪ The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year. ▪ The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street. ▪ The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation. o Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit. ● The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include: o The dislocation allowance; o The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or o The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period. ● Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by the owner of documentation that verifies the household's expenses. ● Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop, and the households shall return to the					

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	unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation. ● The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease. ● A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.					
Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city.	**Mitigation Measure AIR-5: Health Risk Assessments for Future Development Projects.** For projects that require discretionary approval, prior to approval by the City, the City Land Use Planning Division staff shall evaluate new development proposals for new industrial or warehousing land uses that (1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 500 feet of an existing or proposed sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Land Use Planning Division. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the BAAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.	The project sponsor for future development projects.	Prior to approval of ground disturbing activities for new industrial or warehouse land uses that require an HRA according to the criteria identified in the measure.	City of Berkeley, Land Use Planning Division.	Considered complete upon City of Berkeley, Land Use Planning Division review and approval of project specific Health Risk Assessment report, if required.	
Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.	**Mitigation Measure AIR-6*: Odor Control Plan for Future Development Projects.*** If future development facilitated under the proposed (M-RD) zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.	The project sponsor for future development projects.	Prior to the issuance of any grading or building permits for future development projects that include the uses outlined in the measure.	City of Berkeley, Land Use Planning Division	Considered complete upon the issuance of the certificate of occupancy.	
4.6: GREENHOUSE GAS EMISSIONS						
Impact GHG-1a: The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD. As a result, it would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces.	**Mitigation Measure GHG-1**: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CAL Green Code) Tier 2 Voluntary Standards as part of the final project designs.	The project sponsor for future development projects.	Prior to issuance of any certificate of occupancy for buildings that provide parking.	City of Berkeley, Land Use Planning Division	Considered complete upon City of Berkeley, Land Use Planning Division approval of final project designs showing location of proposed electric vehicle charging stations and infrastructure.	

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Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
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Impact GHG-1b: The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and therefore could generate GHG emissions, either directly or indirectly, during operations that would have a significant effect on the environment. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with the specific project design threshold recommended by the BAAQMD.	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)					
Impact GHG-2a: The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in Assembly Bill (AB) 32, Senate Bill (SB 32), Executive Order (EO) B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project, would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces.	**Mitigation Measure GHG-1.** (see above)					
Impact GHG-2b: The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with that project design thresholds recommended by the BAAQMD.	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)					
4.7: ENERGY						
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	**Mitigation Measure TRA-1.** (see above)					

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Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
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Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)					
4.8: NOISE						
Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.	**Mitigation Measure NOI-1: Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase may not begin construction until its DLOP has received City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.	The project sponsor for future development projects	Prior to the site or building permit for each building or phase or subphase of project construction	City of Berkeley, Land Use Planning Division in consultation with the City of Berkeley Public Works Department	Upon City of Berkeley, Land Use Planning Division approval of DLOP	
4.9: HAZARDS AND HAZARDOUS MATERIALS						
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	**Mitigation Measure HAZ-1**: **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and *COA: Toxics*(E) prior to renovation or demolition activities shall include sampling and analysis for polychlorinated biphenyls (PCBs) in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by *COA: Toxics* (C).	The project sponsor for future development projects	Prior to issuance of any permit approving ground-disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances Control	Considered complete upon final approval of Phase I and/or Phase II ESAs prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2a: Additional Site Characterization for Methane and Public Right-of-Ways. All Phase II ESAs performed for parcels at the project site as required by *COA: Toxics* (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by *COA: Toxics* (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.	The project sponsor for future development projects.	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances Control	Considered complete upon final approval of Phase II ESAs prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	

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	Mitigation Measure HAZ-2b: Additional Site Characterization For The Project Area Not Previously Characterized. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs, as attached to the Draft EIR, that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. The project sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within the project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of future development projects if determined to be necessary by DTSC, additional investigation and characterization of the project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities**.**	The project sponsor for future development of the conceptual development project.	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of Phase I and/or Phase II ESAs prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2c: Subsurface PCBs Contamination at the Project Site. The Response Plan for any future development shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the project site. As part of the environmental clearance required for any development by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.	The project sponsor for future development of the conceptual development project.	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities and occupancy.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of Response Plan prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2d: Vapor Mitigation System (VMS) Design. Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).	The project sponsor for future development projects	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Berkeley Toxic Management Division and the Department of Toxic Substances Control (DTSC)	Considered complete upon final approval of Vapor Mitigation System prepared for the project site that have not previously been provided to DTSC for review, by both the City of Berkeley City of Berkeley, Land Use Planning Division, Berkeley Toxic Management Division and the and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2e: Utility Designs. Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by *COA: Toxics* (C)	The project sponsor for future development projects	Prior to issuance of any permit approving ground-disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Berkeley Toxic Management Division, Department of Toxic Substances and the City of Berkeley Public Works Department.	Considered complete upon final approval of utility installation procedures by City of Berkeley, Land Use Planning Division in consultation with Berkeley Toxic Management Division and the Department of Toxic Substances and the City of Berkeley Public Works Department.	
	Mitigation Measure HAZ-2f: Avoidance of Petroleum Fuel Pipelines. Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.	The project sponsor for future development projects	Prior to issuance of any permit approving ground-disturbing activities.	City of Berkeley, Land Use Planning Division	Considered complete upon submission of evidence to the City of Berkeley, Land Use Planning Division that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.	

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Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.	**Mitigation Measure HAZ-2a.** (see above)					
	Mitigation Measure HAZ-2b. (see above)					
	Mitigation Measure HAZ-2c. (see above)					
	Mitigation Measure HAZ-2d. (see above)					
	Mitigation Measure HAZ-2e. (see above)					
	Mitigation Measure HAZ-2f. (see above)					
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**Mitigation Measure TRA-1.** (see above)					
4.10: HYDROLOGY AND WATER QUALITY						
Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.	**Mitigation Measure HAZ-1.** (see above)					
	Mitigation Measure HAZ-2a. (see above)					
	Mitigation Measure HAZ-2b. (see above)					
	Mitigation Measure HAZ-2c. (see above)					
	Mitigation Measure HAZ-2d. (see above)					
	Mitigation Measure HAZ-2e. (see above)					
	Mitigation Measure HAZ-2f. (see above)					
	Mitigation Measure HYD-1: Existing Drainage Systems. Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.	The project sponsor for future development projects	Prior to activities including cleanup, decommissioning, or improvement of existing drainage features. Prior to the issuance of any demolition, grading, or building permits.	City of Berkeley, Land Use Planning Division	Considered complete upon final approval of required study by the City of Berkeley, Land Use Planning Division	

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Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure HYD-2: **Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following: ● A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches. ● A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present. ● Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater. ● Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system. If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by *COA: Toxics(C).*	The project sponsor for future development projects	Prior to issuance of ground disturbing permits.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of hydraulic evaluation and dewatering plans by the City of Berkeley, Land Use Planning Division.	
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.	**Mitigation Measure HYD-3: Hydraulic Study of Drainage during Construction and Operation for the Proposed Project and the Potential Berkeley Forge Development.** The project sponsor for the conceptual development project and any other future development on the project site that has the potential to alter drainage patterns at the project site shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of future projects, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that future projects would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), future projects design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.	The project sponsor for future development projects	Prior to the issuance of any grading or building permits.	City of Berkeley, Land Use Planning Division in consultation with City of Berkeley Public Works Department	Considered complete upon final approval of the hydraulic study by the City of Berkeley, Land Use Planning Division in consultation with City of Berkeley Public Works Department.	
Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.	**Mitigation Measure HYD-4: Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage**. During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site.	The project sponsor for future development projects and construction contractor.	During construction activities. Prior to the issuance of any demolition permit. Prior to the issuance of any grading or building permits.	City of Berkeley Land Use Planning Division in coordination with the City of Berkeley Public Works Department.	Considered complete upon approval of plan describing flood-proof hazardous materials storage practices, a final Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas and termination of construction	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.				activities by the City of Berkeley, Land Use Planning Division	
Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.	**Mitigation Measure HYD-1.** (see above)					
	Mitigation Measure HAZ-1. (see above)					
	Mitigation Measure HAZ-2a. (see above)					
	Mitigation Measure HAZ-2b. (see above)					
	Mitigation Measure HAZ-2c. (see above)					
	Mitigation Measure HAZ-2d. (see above)					
	Mitigation Measure HAZ-2e. (see above)					
	Mitigation Measure HAZ-2f. (see above)					
4.11: BIOLOGICAL RESOURCES						
Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.	**Mitigation Measure BIO-1a: Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.	The project sponsor for future development projects in coordination with qualified biologist	Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30).	City of Berkeley, Land Use Planning Division	Considered complete upon submission of memorandum detailing survey results to the City of Berkeley, Land Use Planning Division	
	Mitigation Measure BIO-1b: Common Bat Species Evacuation and Mitigation Plan. If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.	The project sponsor for future development projects in coordination with qualified biologist	Prior to issuance of demolition permits	City of Berkeley, Land Use Planning Division	Considered complete upon final approval of mitigation plan by the City of Berkeley, Land Use Planning Division	

Table A: Mitigation Monitoring and Reporting Program for the Gilman Gateway Rezone Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure BIO-1c: Preconstruction Survey for Common Species of Roosting Bats. If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction activities. The survey shall take place no more than 30 days prior to construction/demolition/removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.	The project sponsor for future development projects in coordination with qualified biologist	No more than 30 days prior to construction/demolition/removal activities and if construction activities are delayed more than 30 days.	City of Berkeley, Land Use Planning Division	Considered complete upon submission of survey results to the City of Berkeley, Land Use Planning Division	
	Mitigation Measure BIO-1d: Artificial Roosting Plan for Special-Status Bats. If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.	The project sponsor for future development projects in coordination with qualified biologist	Prior to the issuance of the demolition permit if special-status bats are found onsite.	City of Berkeley, Land Use Planning Division	Considered complete upon (1) review and approval of final mitigation plan and (2) submission of report detailing implementation of monitoring plan and (3) upon submission of annual monitoring reports d to the City of Berkeley, Land Use Planning Division and CDFW by the project sponsor by November 30 of each year, for the 5-year period.	
	Mitigation Measure BIO-1e: Tree Removal and Roost Protection. If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.	The project sponsor for future development projects in coordination with qualified biologist	During tree removal activities.	City of Berkeley, Land Use Planning Division in coordination with the City of Berkeley Public Works Department	Considered complete after submission of proof that mitigation plan is being implemented. Proof can include a report from a qualified biologist and/or photographic evidence of tree cuttings placement to the City of Berkeley, Land Use Planning Division.	
	Mitigation Measure BIO-1f: Protection of Maternity Roosts. Removal of maternity roosts for any species of bats either common or special status shall be coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.	The project sponsor for future development projects in coordination with qualified biologist	Prior to removal of roosts.	City of Berkeley, Land Use Planning Division in coordination with CDFW	Considered complete upon submission or report detailing removal of maternity roosts, after all roost removal activities to the City of Berkeley, Land Use Planning Division.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
4.1: LAND USE AND PLANNING						
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	**Mitigation Measure TRA-1.** (see below)					
4.2: CULTURAL RESOURCES						
Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change int the significance of a unique archaeological resources, as defined in State CEQA Guidelines Section 15064.5.	**Mitigation Measure CUL-2a: Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.	The project sponsor shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to implement the measure.	Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity.	City of Berkeley Land Use Planning Division.	Considered complete upon approval of pre-construction archaeological testing program documentation by the City of Berkeley Land Use Planning Division.	
	Mitigation Measure CUL-2b: Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development. Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The WEAP training shall be conducted before any project-related, ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any	Project sponsor for future development projects and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.	Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity.	Project sponsor and contractor(s) shall distribute an alert sheet and submit a confirmation letter to the City of Berkeley Land Use Planning Division each time a training session is held. The letter shall be submitted within five (5) business days of conducting a training session	Considered complete upon submission of a final WEAP training recipient record prior to issuance of a certificate of occupancy submitted to the City of Berkeley Land Use Planning Division.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.					
	Mitigation Measure CUL-2c: Cultural Resources Monitoring Plan for Future Site Development. Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring: ● Person(s) responsible for conducting archaeological monitoring ● Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring ● Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation) ● Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.	The project sponsor for future development projects and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.	Prior to issuance of any permit that involves ground disturbance.	City of Berkeley Land Use Planning Division.	Considered complete upon the approval of the Cultural Resources Monitoring Plan by the City of Berkeley Land Use Planning Division.	
	Mitigation Measure CUL-2d: Accidental Discovery Measures for Future Site Development. Should an archaeological deposit be encountered during project construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.	The project sponsors' construction contractors for future development project and (as necessary) a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.	During project construction activities.	City of Berkeley Land Use Planning Division.	Project sponsor and contractor(s) shall distribute an alert sheet and submit a confirmation letter to the City of Berkeley Land Use Planning Division each time a training session is held. The letter shall be submitted within five (5) business days of conducting a training session. Considered complete upon the termination of	
Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.	**Mitigation Measures CUL-2a.** (see above)					
	Mitigation Measures CUL-2b. (see above)					
	Mitigation Measures CUL-2c. (see above)					
	Mitigation Measures CUL-2d. (see above)					

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
4.3: TRIBAL CULTURAL RESOURCES						
Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	**Mitigation Measures CUL-2a** (see above)					
	Mitigation Measures CUL-2b. (see above)					
	Mitigation Measures CUL-2c. (see above)					
	Mitigation Measures CUL-2d. (see above)					
4.4: TRANSPORTATION						
Impact TRA-2: The proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	**Mitigation Measure TRA-1: Transportation Demand Management Plan.** Prior to occupancy, the project sponsor shall submit evidence to the City that the future development implements the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan). As detailed in the Proposed TDM Plan, the following TDM strategies shall be implemented: ● **Shuttle Service:** Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley. ● **Extend or Provide New Bus Service**: If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area. ● **Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists:** Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site. ● **Bikeshare Station**: Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area. ● **Carpool/Ride-Matching Service:** Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools. ● **Free Parking for Carshare:** Future development facilitated by the proposed project would be required to provide free parking to carshare companies. ● **Preferential Parking for Carpools:** Future development facilitated by the proposed project would be required to include free parking for carpoolers. ● **Transit Subsidy:** Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers. ● **Pre-tax Commuter Benefits:** Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers. ● **Ongoing Marketing and Information:** Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-	Project sponsor and qualified transportation consultant retained by the project sponsor.	Annual monitoring for a duration of ten years. After three years of timely compliant submittals, the City has the option to accept less frequent submittals	City of Berkeley Land Use Planning Division.	Monitoring is complete after the applicant has submitted an annual monitoring plan for a duration of ten years.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit. On an annual basis for ten years thereafter, the project sponsor shall submit a report that demonstrates the project complies with the applicable requirements. After three years of timely compliant submittals, the City has the option to accept less frequent submittals (minimum one every three years).					
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	**Mitigation Measure TRA-2: Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.	The project sponsor for future development projects (including qualified transportation consultant retained by project sponsor)	Prior to issuance of any demolition or building permit.	City of Berkeley Land Use Planning Division in coordination with the City of Berkeley Public Works Department.	Considered complete upon the approval of the project-specific circulation plan	
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	**Mitigation Measure TRA-2.** (see above)					
4.5: AIR QUALITY						
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	**Mitigation Measure TRA-1.** (see above)					
Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).	**Mitigation Measure AIR-1: BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors.** Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site: ● Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. ● Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. ● Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established. ● Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. ● Minimize the amount of excavated material or waste materials stored at the site. ● Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, which are inactive for at least 10 calendar days.	The project sponsor for future development projects and construction contractor.	During construction activities.	City of Berkeley Land Use Planning Division.	Considered complete upon verification and acceptance by the City of Berkeley Land Use Planning Division. that construction plans clearly identify BAAQMD BMPs for construction.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.	**Mitigation Measure AIR-3: Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements: ● All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 Final emissions standards. ● Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps. ● Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. ● The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. ● Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements. o The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. o The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan. o The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. ● **Waivers:** Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not exceed expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient PM2.5 increase greater than 0.3 micrograms per cubic meter (µg/m3).	The project sponsor for future development projects and construction contractor.	Prior to each phase or subphase of construction that would not include or would occur prior to the demolition of the structure at 1306 Third Street, the project sponsor would be required to submit: 1. Construction emissions minimization plan for review and approval, and 2. Signed certification statement If applicable, a waiver must be requested by the project sponsor prior to start of construction.	City of Berkeley Land Use Planning Division	Considered complete upon City of Berkeley Land Use Planning Division review and acceptance of construction emissions minimization plan, implementation of the plan, and submittal of final report summarizing use of on-road trucks pursuant to the plan. If a waiver is applicable, considered complete upon City of Berkeley Land Use Planning Division granting of the waiver.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure AIR-4: Temporary Relocation of 1306 Third Street Residents During Construction Activities. Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street. The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following: ● Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's Request for Relocation Payment from Property Owner form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt. ● Households to be relocated shall be entitled to relocation payments that include the following: o A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form and established by City Council resolution. o The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements: ▪ If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form and established by City Council resolution. ▪ Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis.	Project sponsor shall provide detailed construction plans and retain qualified professionals to prepare and submit project-specific Air Quality Assessment and Health Risk Assessments. The project sponsor shall be responsible for the relocation measures if required.	Prior to the commencement of any ground disturbing activity that would result in exposure of sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the BAAQMD at the time of the study.	City of Berkeley Land Use Planning Division	Considered complete upon City of Berkeley Land Use Planning Division review and acceptance of the Air Quality Assessment and HRA and/or Moving and Relocation Plan and submittal of final report, as applicable.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	o If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a unit temporarily leased during the period of relocation, with the following restrictions: ▪ The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year. ▪ The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street. ▪ The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation. o Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit. ● The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include: o The dislocation allowance; o The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or o The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period. ● Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by the owner of documentation that verifies the household's expenses. ● Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop, and the households shall return to the unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation. ● The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease.					

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	● A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.					
Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city.	**Mitigation Measure AIR-5: Health Risk Assessments for Future Development Projects.** For projects that require discretionary approval, prior to approval by the City, the City Land Use Planning Division staff shall evaluate new development proposals for new industrial or warehousing land uses that (1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 500 feet of an existing or proposed sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Land Use Planning Division. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the BAAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.	The project sponsor for future development projects	Prior to approval of ground disturbing activities for new industrial or warehouse land uses that require an HRA according to t the criteria identified in the measure.	City of Berkeley, Land Use Planning Division.	Considered complete upon City of Berkeley, Land Use Planning Division review and approval of project specific Health Risk Assessment report, if required.	
Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.	**Mitigation Measure AIR-6*: Odor Control Plan for Future Development Projects.*** If future development facilitated under the proposed (M-RD) zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.	The project sponsor for future development projects	Prior to the issuance of any grading or building permits for future development projects that include the uses outlined in the measure.	City of Berkeley, Land Use Planning Division	Considered complete upon the issuance of the certificate of occupancy.	
4.6: GREENHOUSE GAS EMISSIONS						
Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	**Mitigation Measure GHG-1**: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CAL Green Code) Tier 2 Voluntary Standards as part of the final project designs.	The project sponsor for future development projects	Prior to issuance of any certificate of occupancy for buildings that provide parking	City of Berkeley, Land Use Planning Division	Considered complete upon City of Berkeley, Land Use Planning Division approval of final project designs showing location of proposed electric vehicle charging station and infrastructure.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)					
Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	**Mitigation Measure GHG-1.** (see above)					
Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	**Mitigation Measure GHG-1.** (see above) **Mitigation Measure TRA-1.** (see above)					
4.7: ENERGY						
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	**Mitigation Measure TRA-1.** (see above)					
Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	**Mitigation Measure GHG-1.** (see above)					
4.8: NOISE						
Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.	**Mitigation Measure NOI-1: Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase may not begin construction until its DLOP has received	The project sponsor for future development projects	Prior to the site or building permit for each building or phase or subphase of project construction	City of Berkeley, Land Use Planning Division in consultation with the City of Berkeley Public Works Department	Upon City of Berkeley, Land Use Planning Division approval of DLOP	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.					
4.9: HAZARDS AND HAZARDOUS MATERIALS						
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	**Mitigation Measure HAZ-1**: **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and *COA: Toxics*(E) prior to renovation or demolition activities shall include sampling and analysis for polychlorinated biphenyls (PCBs) in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by *COA: Toxics* (C).	The project sponsor for future development projects	Prior to issuance of any permit approving ground-disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances Control	Considered complete upon final approval of Phase I and/or Phase II ESAs prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2a: Additional Site Characterization for Methane and Public Right-of-Ways. All Phase II ESAs performed for parcels at the project site as required by *COA: Toxics* (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by *COA: Toxics* (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.	The project sponsor for future development projects	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances Control	Considered complete upon final approval of Phase II ESAs prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2b: Additional Site Characterization For The Project Area Not Previously Characterized. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs, as attached to the Draft EIR, that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. The project sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of future development projects if determined to be necessary by DTSC, additional investigation and characterization of project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.	The project sponsor for future development projects.	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of Phase I and/or Phase II ESAs prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure HAZ-2c: Subsurface PCBs Contamination at the Project Site. The Response Plan for any future development shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at project site. As part of the environmental clearance required for any by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.	The project sponsor for future development projects.	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities and occupancy.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of Response Plan prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review, by both the City of Berkeley City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2d: Vapor Mitigation System (VMS) Design. Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).	The project sponsor for future development projects	Prior to the issuance of any demolition or construction related permits for any ground disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of Vapor Mitigation System prepared for the project site that have not previously been provided to DTSC for review, by both the City of Berkeley City of Berkeley, Land Use Planning Division and the Department of Toxic Substances Control.	
	Mitigation Measure HAZ-2e: Utility Designs. Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by *COA: Toxics* (C)	The project sponsor for future development projects	Prior to issuance of any permit approving ground-disturbing activities.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances and the City of Berkeley Public Works Department.	Considered complete upon final approval of utility installation procedures by City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances and the City of Berkeley Public Works Department. .	
	Mitigation Measure HAZ-2f: Avoidance of Petroleum Fuel Pipelines. Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.	The project sponsor for future development projects	Prior to issuance of any permit approving ground-disturbing activities.	City of Berkeley, Land Use Planning Division	Considered complete upon submission of evidence to the City of Berkeley, Land Use Planning Division that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.	
Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.	**Mitigation Measure HAZ-2a.** (see above)					
	Mitigation Measure HAZ-2b. (see above)					
	Mitigation Measure HAZ-2c. (see above)					
	Mitigation Measure HAZ-2d. (see above)					
	Mitigation Measure HAZ-2e. (see above)					
	Mitigation Measure HAZ-2f. (see above)					

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**Mitigation Measure TRA-1.** (see above)					
4.10: HYDROLOGY AND WATER QUALITY						
Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.	**Mitigation Measure HAZ-1.** (see above)					
	Mitigation Measure HAZ-2a. (see above)					
	Mitigation Measure HAZ-2b. (see above)					
	Mitigation Measure HAZ-2c. (see above)					
	Mitigation Measure HAZ-2d. (see above)					
	Mitigation Measure HAZ-2e. (see above)					
	Mitigation Measure HAZ-2f. (see above)					
	Mitigation Measure HYD-1: Existing Drainage Systems. Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.	The project sponsor for future development projects.	Prior to activities including cleanup, decommissioning, or improvement of existing drainage features. Prior to the issuance of any demolition, grading, or building permits.	City of Berkeley, Land Use Planning Division	Considered complete upon final approval of required study by the City of Berkeley, Land Use Planning Division	

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Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure HYD-2: **Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following: ● A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches. ● A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present. ● Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater. ● Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system. If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by *COA: Toxics(C).*	The project sponsor for future development projects.	Prior to issuance of ground disturbing permits.	City of Berkeley, Land Use Planning Division in consultation with Department of Toxic Substances	Considered complete upon final approval of hydraulic evaluation and dewatering plans by the City of Berkeley, Land Use Planning Division.	
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.	**Mitigation Measure HAZ-1** (see above)					
	Mitigation Measure HYD-3: Hydraulic Study of Drainage during Construction and Operation for the Proposed Project Potential Berkeley Forge Development. The project sponsor for the conceptual development project and any other future development on the project site that has the potential to alter drainage patterns at the project site shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of future projects, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that future projects would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), future projects design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic	The project sponsor for future development projects.	Prior to the issuance of any grading or building permits.	City of Berkeley, Land Use Planning Division in consultation with City of Berkeley Public Works Department	Considered complete upon final approval of the hydraulic study by the City of Berkeley, Land Use Planning Division in consultation with City of Berkeley Public Works Department.	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.					
Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.	**Mitigation Measure HYD-4: Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage**. During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site. During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.	The project sponsor for future development projects and construction contractor.	During construction activities. Prior to the issuance of any demolition permit. Prior to the issuance of any grading or building permits.	City of Berkeley.	Considered complete upon approval of plan describing flood-proof hazardous materials storage practices, a final Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas and termination of construction activities by the City of Berkeley, Land Use Planning Division.	
Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.	**Mitigation Measure HYD-1.** (see above)					
	Mitigation Measure HAZ-1. (see above)					
	Mitigation Measure HAZ-2a. (see above)					
	Mitigation Measure HAZ-2b. (see above)					
	Mitigation Measure HAZ-2c. (see above)					
	Mitigation Measure HAZ-2d. (see above)					
	Mitigation Measure HAZ-2e. (see above)					
	Mitigation Measure HAZ-2f. (see above)					
4.11: BIOLOGICAL RESOURCES						
Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.	**Mitigation Measure BIO-1a: Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.	The project sponsor for future development projects in coordination with qualified biologist.	Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30).	City of Berkeley, Land Use Planning Division	Considered complete upon submission of memorandum detailing survey results to the City of Berkeley, Land Use Planning Division	

Table B: Mitigation Monitoring and Reporting Program for the Potential Berkeley Forge Development Project

Impact Statement	Mitigation Measure	Monitoring and Reporting Program				Verification (Date and Initials)
		Implementation Responsibility	Monitoring Timing	Monitoring Responsibility	Monitoring Action	
	Mitigation Measure BIO-1b: Common Bat Species Evacuation and Mitigation Plan. If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.	The project sponsor for future development projects in coordination with qualified biologist.	Prior to issuance of demolition permits.	City of Berkeley, Land Use Planning Division	Considered complete upon final approval of mitigation plan by the City of Berkeley, Land Use Planning Division	
	Mitigation Measure BIO-1c: Preconstruction Survey for Common Species of Roosting Bats. If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction activities. The survey shall take place no more than 30 days prior to construction/demolition/removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.	The project sponsor for future development projects in coordination with qualified biologist.	No more than 30 days prior to construction/demolition/removal activities and if construction activities are delayed more than 30 days.	City of Berkeley, Land Use Planning Division	Considered complete upon submission of survey results to the City of Berkeley, Land Use Planning Division	
	Mitigation Measure BIO-1d: Artificial Roosting Plan for Special-Status Bats. If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.	The project sponsor for future development projects in coordination with qualified biologist.	Prior to the issuance of the demolition permit if special-status bats are found onsite.	City of Berkeley, Land Use Planning Division	Considered complete upon (1) review and approval of final mitigation plan and (2) submission of report detailing implementation of monitoring plan and (3) upon submission of annual monitoring reports d to the City of Berkeley, Land Use Planning Division and CDFW by the project sponsor by November 30 of each year, for the 5-year period.	
	Mitigation Measure BIO-1e: Tree Removal and Roost Protection. If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.	The project sponsor for future development projects in coordination with qualified biologist	During tree removal activities.	City of Berkeley, Land Use Planning Division in coordination with the City of Berkeley Public Works Department	Considered complete after submission of proof that mitigation plan is being implemented. Proof can include a report from a qualified biologist and/or photographic evidence of tree cuttings placement to the City of Berkeley, Land Use Planning Division.	
	Mitigation Measure BIO-1f: Protection of Maternity Roosts. Removal of maternity roosts for any species of bats either common or special status shall be coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.	The project sponsor for future development projects in coordination with qualified biologist	Prior to removal of roosts.	City of Berkeley, Land Use Planning Division in coordination with CDFW	Considered complete upon submission or report detailing removal of maternity roosts, after all roost removal activities to the City of Berkeley, Land Use Planning Division.	

GILMAN GATEWAY REZONE PROJECT
CEQA FINDINGS AND STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to Sections 15091 and 15093 of the State CEQA Guidelines and Section 21081 of the Public Resources Code

The Final Environmental Impact Report (Final EIR) prepared by the City of Berkeley (City) for the Gilman Gateway Rezone Project ("proposed project") and the Potential Berkeley Forge Development ("conceptual development project") consists of the October 2024 Draft EIR and January 2025 Response to Comments on the Draft EIR. As outlined in Chapter 3.0, Project Description, of the Draft EIR, the conceptual development project is a reasonably foreseeable project and was evaluated in the EIR at the project level to the extent that information was available for analysis. As the conceptual development project would be part of future development facilitated by the implementation of the Gilman Gateway Rezone Project, it is considered as part of the overall project in these Findings and Statement of Overriding Considerations.

The Final EIR identifies significant environmental impacts that will result from implementation of the proposed project and the conceptual development project. The City finds that the adoption of mitigation measures identified in the Final EIR as part of the proposed project approval will reduce all but the following significant environmental effects (impacts) to levels that are less than significant: historical architectural resources, construction air quality, operational air quality, cumulative air quality, and greenhouse gas (GHG) emissions. For those impacts, no feasible mitigation measures have been identified to reduce the impacts to a less than significant level. Mitigation measures have been identified and included but would not reduce impacts to a level of less than significant; therefore, these impacts will remain significant and unavoidable. These Findings contain a Statement of Overriding Considerations that demonstrates why the benefits of the proposed project outweigh the unavoidable adverse environmental effects and are therefore acceptable.

As required by the California Environmental Quality Act, Public Resources Code (PRC) Section 21000 *et seq*. (CEQA) and the *State CEQA Guidelines*, California Code of Regulations, Title 14, Section 15000 *et seq*. (*State CEQA Guidelines*), the City, in addition to adopting these CEQA Findings and Statement of Overriding Considerations, also adopts a Mitigation Monitoring and Reporting Program (MMRP) for the project. In adopting the MMRP, the City finds that it meets the requirements of PRC Section 21081.6 by providing for the implementation and monitoring of measures intended to mitigate potentially significant environmental effects of the project.

In accordance with CEQA and the *State CEQA Guidelines*, the City adopts these findings as part of the project approval. Pursuant to PRC Section 21082.1(c)(3), the City also finds that the Final EIR reflects the City's independent judgment as the lead agency for the project.

1.0 INTRODUCTION

1.1 Statutory Requirements for Findings

State CEQA Guidelines Section 15091 states that:

a. No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

    1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

    2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

    3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

In short, CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to avoid or mitigate significant environmental effects (impacts) that will otherwise occur with implementation of the project. Mitigation measures or project alternatives are not required, however, where they are infeasible or where modifying the project or adopting mitigation is within the responsibility and jurisdiction of another agency.[1]

For significant impacts that cannot be mitigated to a less than significant level, the public agency is required to find that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment.[2] *State CEQA Guidelines* Section 15093(a) states that:

> "If the specific economic, legal, social, technological, or other benefits of a propos[ed] project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered 'acceptable.'"

2.0 PROJECT DESCRIPTION: GILMAN GATEWAY REZONE PROJECT

This section provides a brief description of the project and lists the objective of the project.

2.1 Project Description

The project consists of two elements: (1) the proposed project, which is evaluated at a programmatic level, and (2) the conceptual development project, which is evaluated at a project level to the extent feasible based on existing information at the date of Draft EIR publication.

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1 *State CEQA Guidelines* Section 15091(a)(2) and (3).

2 PRC Section 21081(b).

2.1.1 Proposed Gilman Gateway Rezone Project

The proposed project, which would be adopted and implemented by the City as both the lead agency under CEQA and project proponent, would:

- Establish a new zoning district, Manufacturing, Research and Development (M-RD), in Chapter 23.206 of the Berkeley Municipal Code (BMC).
- Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the newly established M-RD zoning district.
- Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, Berkeley General Plan, and West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses on an 11.54-acre site (the project site). The Final EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic level.

The project site consists of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Of the 18 parcels, 9 are associated with the former Pacific Steel Casting site and total 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels totaling 1.47 acres.

The project site includes one property, 1306 Third Street, that meets the criteria for listing in the California Register of Historical Resources, meets the criteria for designation as a City of Berkeley Landmark, and meets the definition of a historical resource pursuant to *State CEQA Guidelines* Section 15064.5.

2.1.2 Potential Berkeley Forge Development

The Potential Berkeley Forge Development (conceptual development project), submitted by Spur Capital, LLC (project sponsor), would be facilitated by adoption and implementation of the Gilman Gateway Rezone Project. The Potential Berkeley Forge Development is a conceptual project that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in the Final EIR at the project level to the extent feasible.

2.1.3 Project Background and Objectives

The purpose of the current zoning designation on the project site—Manufacturing (M)—is to encourage heavy manufacturing uses, whereas development interest for the project area is shifting toward biotechnology laboratories, warehouse and commercial uses, and office space. Accordingly, in 2021, the City Council referred to the Planning Commission the creation of a zoning overlay at the project site to enable all MU-LI uses and override existing constraints on MU-LI uses on the property in order to facilitate redevelopment that would contribute to the City's tax base and the vitality of the local economy. Typically, a zoning overlay is applied to multiple underlying districts to provide additional regulations that serve a public purpose (e.g., airport noise, creek setbacks). Also, since the objective is to remove constraints on MU-LI uses to facilitate redevelopment, re-zoning to MU-LI with exceptions would be insufficient. Therefore, the proposed Gilman Gateway Rezone Project was developed by the City to provide a new set of zoning regulations as part of a new district that meet the Council objective and revitalize the underutilized project site. The creation of a new zoning district would further enable the City to invest in environmental cleanup costs, which are unique to the project site.

For the purposes of the EIR, the proposed project objectives are to:

- Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing (M) land use designation that adds significantly to the City's economic base and facilitates job creation.

- Establish an M-RD zoning district with land use and development standards that are consistent with the General Plan Manufacturing (M) land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office.

- Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.

- Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management (TDM) strategies that reduce vehicle miles traveled (VMT) while providing sufficient parking to meet the needs of employment-generating uses.

- Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

3.0 ENVIRONMENTAL REVIEW PROCESS

Pursuant to CEQA, lead agencies are required to consult with public agencies having jurisdiction over a proposed project and to provide the general public with an opportunity to comment on the Draft EIR.

On December 21, 2022, the City circulated a Notice of Preparation (NOP) notifying responsible agencies and interested parties that an EIR would be prepared for the proposed project and indicated the environmental topics anticipated to be addressed in the EIR. The NOP was mailed to public agencies, organizations, and individuals likely to be interested in the potential impacts of the proposed project. The NOP was also submitted to the State of California Governor's Office of Planning and Research (OPR). Scoping sessions were held as public hearings before the Planning Commission on February 1, 2023, and the Landmarks Preservation Commission on February 2, 2023, to solicit feedback regarding the scope and content of the EIR. Verbal comments received during the scoping session from the Planning Commission, the Landmarks Preservation Commission, and members of the public attending commission meetings, as well as the three written comment letters provided by agencies and organizations on the NOP, were considered during preparation of this EIR. Copies of the NOP and comment letters and a summary of the verbal comments received are included in Appendix A of the Draft EIR.

The Draft EIR was made available for public review on October 21, 2024, and was distributed to local and State responsible and trustee agencies. The Notice of Availability (NOA) for the Draft EIR was provided to all individuals and organizations who made a written request for notice and was filed with the Alameda County Clerk.

The NOA stated that the review period would occur over a duration of 45 days, as mandated by CEQA. The City held a public hearing on the Draft EIR with the Planning Commission on November 6, 2024, and the project was presented to the Landmarks Preservation Commission on November 7, 2024. The City received a total of five comment letters from State and local agencies, organizations, and individuals during the comment period.

The Final EIR, which includes the Draft EIR and its appendices as well as the Response to Comments document, was published on March 13, 2025, and distributed for review to those who commented on the Draft EIR.

4.0 TIERING

The proposed zoning and General Plan/West Berkeley Plan amendments are subject to action by the City's Planning Commission and City Council. If the proposed project is approved, future development projects, including the conceptual development project, would be evaluated for consistency with the newly established zoning regulations of the M-RD district, the policies and land use designations in the General Plan/West Berkeley Plan, and the development assumptions evaluated in the Final EIR. Future development projects could be subject to further environmental review, which would be determined at the time that individual applications are received.

The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board, pursuant to Chapter 23.406 of the BMC. Specific requirements would be determined once an application for the conceptual development project is received. It is anticipated that once a formal application is submitted for the conceptual development project, the City will conduct an environmental evaluation of the project after accepting the application as complete and determining that the project is subject to CEQA, pursuant to *State CEQA Guidelines* Section 15060. The evaluation process will include consideration of a

tiering approach, as described in *State CEQA Guidelines* Section 15168. As provided in *State CEQA Guidelines* Section 15168, a program EIR may be prepared on a series of actions that can be characterized as one large project and are related. Later activities, such as a development project facilitated by implementation of the proposed project, will be evaluated in light of this program EIR to determine whether an additional environmental document must be prepared.

5.0 FINDINGS

These Findings summarize the environmental determinations of the Final EIR regarding project impacts both before and after mitigation and do not attempt to repeat the full analysis of each environmental impact contained in the EIR. These Findings provide a summary description of and basis for each impact determination in the EIR, describe the applicable mitigation measures identified in the EIR, and state the City Council's findings and rationale on the significance of each impact with the adopted mitigation measures. A full explanation of these environmental Findings and conclusions is provided in the Draft EIR, and these Findings hereby incorporate by reference the discussion and analysis in the Draft EIR supporting the EIR's determinations regarding mitigation measures and the project's impacts.

5.1 Significant Effects that Cannot be Mitigated to a Less Than Significant Level

The Draft EIR identifies the following significant and unavoidable adverse impacts associated with the project's approval, which includes both the proposed project and the conceptual development project. Some of these impacts can be reduced, although not to a less than significant level, through implementation of mitigation measures identified in the Final EIR (PRC Section 21081(a)(1)). To the extent an impact is significant for one element of the project but not the other (e.g., for the Gilman Gateway Rezone Project but not for the Potential Berkeley Forge Development), that distinction is explained in each individual impact discussion below.

To the extent that these mitigation measures will not mitigate or avoid all significant effects on the environment, it is hereby determined that any remaining significant and unavoidable adverse impacts are acceptable for the reasons specified in Section 6, below (PRC Section 21081(a)(3)). The findings in this section are based on the Draft EIR, the discussion and analysis in which is hereby incorporated in full by this reference.

The project described in Chapter 3.0, Project Description, of the Draft EIR consists of two elements: (1) the proposed Gilman Gateway Rezone Project (proposed project), which is evaluated at a programmatic level, and (2) the Potential Berkeley Forge Development (conceptual development project), which is evaluated at a project level to the extent feasible. To ensure that impacts presented in the Final EIR are clearly delineated between the proposed project and the conceptual development project when making the findings in this document and considering the Statement of Overriding Considerations, minor textual clarifications were added to the impact statements in this document. Similar to the Draft EIR organization, where potential impacts of the proposed project and the conceptual development project are different, the impact discussions and conclusions from the Draft EIR are presented in two parts: one for the proposed project (marked as impact "a") and one for the conceptual development project (marked as impact "b"). For example, Impact CUL-1a

provides the impact statement for the proposed project and Impact CUL-1b provides the impact statement for the conceptual development project.

These clarifications do not change the impact finding, nor do they change the mitigation measures necessary to avoid or reduce identified environmental impacts.

5.1.1 Historical Architectural Resources

Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5 as implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to *State CEQA Guidelines* Section 15064.5.

Mitigation Measure CUL-1: **Documentation.** Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street, the project sponsor shall obtain a qualified Historic American Building Survey (HABS) photographer to document the existing structure at 1306 Third Street and its setting. Generally, this documentation shall be done in accordance with the HABS "Outline" format, which includes:

- **Photographs:** HABS standards require large-format, black-and-white photography with large-format safety film negative (4" x 5", 5" x 7", or 8" x 10") and a contact print, archivally processed, on fiber-based paper. The HABS photographer must be familiar with the recordation of historical resources in accordance with current HABS guidelines. Photographs should include context views of the general environment to illustrate setting, including landscaping, adjacent building(s), and roadways, views of character-defining features, exterior elevations of significant façades, views of interior spaces, and detailed views of specific materials or elements. Overgrowth, board-up plywood, and other obstacles shall be removed by the project sponsor prior to photography at the direction of the professional HABS photographer. Photographs must include a photo index, photo sketch plans, and field notes, and be identified and labeled using HABS standards outlined in *Preparing HABS/HAER/HALS Documentation – Transmittal Guidelines*.

- **Measured Drawings or 3D Laser Scanning "As-Builts":** Measured drawings for HABS are considered "as-built" drawings. Accordingly, they illustrate the existing condition of a building at the time of documentation, including additions, alterations, and demolitions which have occurred since the building was first constructed. Where sufficient knowledge exists concerning the sequence of changes to a building over time, it may be useful to provide appropriate notation on the drawings. Alternatively, delineators may wish to produce

additional interpretive drawings illustrating the building at an earlier date, to explain its historic significance more fully. In lieu of measured architectural drawings, 3D laser scanning and 2D CAD documentation can be done to create as-built drawings from the scanned data in AutoCAD to provide archival-quality printed and digital images that can be utilized for future exhibits, documentation, and research associated with the 1306 Third Street building. The 3D images can then be printed as measured drawings and will also be available digitally.

- **Historical Background Information:** An architectural historian, meeting the Secretary of the Interior's Professional Qualification Standards, shall assemble historical background information, drawings, maps, and historic photographs relevant to the 1306 Third Street building and its setting using the HABS "Outline" format to produce a HABS historical report. The historical report will be formatted to *HABS Guidelines for Historical Reports* (updated January 2020).

- **Public Access to Documentation:** HABS documentation must be prepared using specific archival materials and archival processes to comply with the permanence standards that govern the collection. By adhering to these standards, even the very earliest HABS records from the 1930s are still available for researchers and will be in the future. Non-archival material deteriorates for two principal reasons: harmful substances in the environment attack it, and/or the physical and chemical composition is such that it will deteriorate regardless of how it is stored. Accordingly, it is recommended that one archival set of the HABS documentation is submitted to the Library of Congress or the Berkeley Architectural Heritage Association (BAHA). Digital copies are also recommended to be submitted to the Northwest Information Center (NWIC)/ California Historic Resources Information System (CHRIS), the City of Berkeley, the City of Berkeley Library, the Berkeley Historical Society, the California State Library, and the California Historical Society. This mitigation would create a collection of preservation materials that would be available to the public and inform future research.

Finding: The City finds impacts related to historical architectural resources have been mitigated to the maximum extent feasible. Despite the implementation of Mitigation Measure CUL-1, which is hereby adopted and incorporated into the project, impacts would remain significant and unavoidable. The City finds that although this impact would be significant and unavoidable, the

impact is acceptable when weighed against the overriding social, economic, and other considerations set forth in the Statement of Overriding Considerations (Section 6 of these Findings).

Facts in Support of Finding: Mitigation Measure CUL-1 would ensure that the historical building at 1306 Third Street and its setting would be documented in accordance with the HABS "Outline" format if future development facilitated by the proposed project would demolish the building. Mitigation Measure CUL-1 would reduce impacts to historical architectural resources to the maximum extent feasible by recording information about the building, including visual representations, history, associations, etc., for future educational use. However, even with implementation of this mitigation measure, the existing building at 1306 Third Street could still be materially impaired by future development facilitated by the proposed project if demolition of the building is proposed. Therefore, impacts of the proposed project would be significant and unavoidable.

5.1.2 Air Quality

Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD[3] cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.

Mitigation Measure AIR-3: **Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements:

- All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 final emissions standards.
- Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps.
- Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in

[3] As of January 22, 2025, BAAQMD is known as the Bay Area Air District (BAAD).

designated queuing areas and at the construction site to remind operators of the two-minute idling limit.

- The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

- Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements.

    - The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.

    - The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan.

    - The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

- Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not

expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the Hazard Index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$).

Mitigation Measure AIR-4: **Temporary Relocation of 1306 Third Street Residents During Construction.** Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street.

The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following:

- Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's Request for Relocation Payment from Property Owner form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall

provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt.

- Households to be relocated shall be entitled to relocation payments that include the following:
    - A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution.
    - The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements:
        - If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution.
        - Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis.
    - If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a

unit temporarily leased during the period of relocation, with the following restrictions:

- The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year.
- The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street.
- The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation.

  - Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit.

- The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include:

  - The dislocation allowance;
  - The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or
  - The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period.

- Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for

reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by the owner of documentation that verifies the household's expenses.

- Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop and the households shall return to the unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation.

- The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease.

- A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.

Finding: The City finds impacts related to construction associated with the conceptual development project, as well as any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, have been mitigated to the maximum extent feasible. Despite the implementation of Mitigation Measures AIR-3 and AIR-4, which are hereby adopted and incorporated into the project, impacts would remain significant and unavoidable. The City finds that although this impact would be significant and unavoidable, the

impact is acceptable when weighed against the overriding social, economic, and other considerations set forth in the Statement of Overriding Considerations (Section 6 of these Findings).

Facts in Support of Finding: Mitigation Measure AIR-3 would require the use of cleaner construction equipment to reduce the significant cancer risk from construction of the conceptual development project or allow the project sponsor to prepare an updated project-specific HRA once project-specific construction information is available. However, without quantification to guarantee a less than significant finding, the conceptual development project and any future projects facilitated by the proposed project that would not include the demolition of the structure at 1306 Third Street may still exceed the BAAQMD cancer risk significance thresholds.

Mitigation Measure AIR-4 would require the project sponsor for the conceptual development project, as well as any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, to offer residential occupants of the 1306 Third Street building temporary relocation, consistent with the requirements of BMC Chapter 13.84. The relocation of existing residents would ensure that sensitive receptors would not experience the construction-related TAC health risks; however, there is no guarantee that the existing residents would agree to relocate during construction. Therefore, impacts of the project, including both the proposed project and the conceptual development project, would be significant and unavoidable.

5.1.3 Greenhouse Gas Emissions

Impact GHG-1a: The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD. As a result, it would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces.

Mitigation Measure GHG-1: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.

Finding: The City finds that there are no feasible mitigation measures to reduce the impact, short of prohibiting natural gas for the proposed project. Therefore, impacts from the proposed project, but not the conceptual development project, would remain significant and unavoidable. The City finds that although this impact would be significant and unavoidable, the impact is acceptable when

weighed against the overriding social, economic, and other considerations set forth in the Statement of Overriding Considerations (Section 6 of these Findings).

Facts in Support of Finding: While Mitigation Measure GHG-1 would bring the proposed project into compliance with the CALGreen Tier 2 Voluntary Standards, the City determined that requiring compliance with the BAAQMD design threshold to completely prohibit natural gas usage is infeasible due to cost-effectiveness considerations, based in part on 2022 studies conducted by the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC).[4]

Impact GHG-2a: The proposed project does not include a prohibition on the use of natural gas appliances or natural gas plumbing and therefore would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in Assembly Bill (AB) 32, Senate Bill (SB 32), Executive Order (EO) B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project, would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The proposed project does not comply with the CALGreen Tier 2 Voluntary Standards for electric vehicle parking spaces.

Mitigation Measure GHG-1: Electric Vehicle Charging Requirements. (see above).

Finding: The City finds impacts from the proposed project related to GHG emissions have been mitigated to the maximum extent feasible. Despite the implementation of Mitigation Measure GHG-1, which is hereby adopted and incorporated into the project, impacts from the proposed project, but not the conceptual development project, would remain significant and unavoidable. The City finds that although this impact would be significant and unavoidable, the impact is acceptable when weighed against the overriding social, economic, and other considerations set forth in the Statement of Overriding Considerations (Section 6 of these Findings).

Facts in Support of Finding: Mitigation Measure GHG-1 would ensure that future development envisioned under the proposed project, including the conceptual development project, would provide electric vehicle charging infrastructure consistent with current BAAQMD requirements. With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with the BAAQMD's project design elements related to energy, VMT, and electric vehicle charging and infrastructure facilities. However, as the proposed project may include natural gas, the proposed project would not be consistent with the BAAQMD design threshold recommending natural gas prohibition and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279.

5.2 Effects Determined to be Mitigated to Less Than Significant Levels

The Draft EIR identified certain potentially significant effects that could result from the project. However, the City finds that for each of the significant or potentially significant impacts identified in this section below (Section 5.2), and based on substantial evidence in the record, changes or

[4] Southern California Edison (SCE). 2022. *2019 Reach Code Cost-Effectiveness Analysis. Full Service and Quick-Service Restaurants.* February.

alterations are required or incorporated into the project that avoid or substantially lessen the significant effects as identified in the Final EIR (*State CEQA Guidelines* Section 15091) and, thus, adoption of the mitigation measures set forth below will reduce these significant or potentially significant effects to less than significant levels. These measures will be required of development projects facilitated by the proposed project as part of the City review and approval process where applicable. In addition, City Conditions of Approval and compliance with City and other regulations would further reduce project impacts. To the extent an impact is significant or potentially significant for one element of the project but not the other (e.g., for the Gilman Gateway Rezone Project but not for the Potential Berkeley Forge Development), that distinction is explained in each individual impact discussion below.

5.2.1 Land Use and Planning

Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.

Mitigation Measure TRA-1: **Transportation Demand Management Plan**. (see below)

Finding: Implementation of Mitigation Measure TRA-1, set forth in Section 5.2.4, Transportation, below, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project, including the proposed project and the conceptual development project, identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-1 would require future development facilitated by the proposed project, including the conceptual development project, to implement the Proposed TDM Plan in order to reduce the project's impact on VMT, consistent with the goals and policies of the City's General Plan. Therefore, impacts related to consistency with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050, would be less than significant with mitigation.

5.2.2 Cultural Resources

Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of unique archaeological resources, as defined in PRC 21083.2(g).

Mitigation Measure CUL-2a: **Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological

study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.

Mitigation Measure CUL-2b: **Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.

The WEAP training shall be conducted before any project-related, ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline

what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.

Mitigation Measure CUL-2c: **Cultural Resources Monitoring Plan for Future Site Development.** Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring:

- Person(s) responsible for conducting archaeological monitoring
- Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring
- Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation)
- Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur

The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.

Mitigation Measure CUL-2d: **Accidental Discovery Measures for Future Site Development.** Should an archaeological deposit be encountered during project construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.

Finding: Implementation of Mitigation Measures CUL-2a through CUL-2d, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measures CUL-2a through CUL-2d would ensure that archeological resources are protected, should they be encountered during project construction activities, by including stop work measures as well as recovery and notification procedures. Therefore, impacts to archaeological resources would be less than significant with mitigation.

Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.

Mitigation Measure CUL-2a. **Archaeological Testing Plan for Future Site Development**. (see above)

Mitigation Measure CUL-2b. **Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development.** (see above)

Mitigation Measure CUL-2c. **Cultural Resources Monitoring Plan for Future Site Development.** (see above)

Mitigation Measure CUL-2d. **Accidental Discovery Measures for Future Site Development.** (see above)

Finding: Implementation of Mitigation Measures CUL-2a through CUL-2d, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project, including the proposed project and the conceptual development project, identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measures CUL-2a through CUL-2d would ensure that human remains, including those that are potentially of Native American origin, are protected should they be encountered during project construction activities, by including stop-work measures, retrieval measures, and notification procedures. Therefore, the impact to human remains of Native American origin would be less than significant with mitigation.

5.2.3 Tribal Cultural Resources

Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.

Mitigation Measure CUL-2a: **Archaeological Testing Plan for Future Site Development.** (see above)

Mitigation Measure CUL-2b: **Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development.** (see above)

Mitigation Measure CUL-2c: **Cultural Resources Monitoring Plan for Future Site Development.** (see above)

Mitigation Measure CUL-2d: **Accidental Discovery Measures for Future Site Development.** (see above)

Finding: Implementation of Mitigation Measures CUL-2a through CUL-2d, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measures CUL-2a through CUL-2d would ensure that tribal cultural resources, including significant archaeological deposits or resources and human remains, are protected, should they be encountered during project construction activities, by including stop work measures, retrieval measures, and notification procedures. Therefore, impacts to tribal cultural resources would be less than significant with mitigation.

5.2.4 Transportation

Impact TRA-2: The proposed project, including the conceptual development project, could result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).

Mitigation Measure TRA-1: **Transportation Demand Management Plan.** Prior to occupancy, the project sponsor shall submit evidence to the City that the future development implements the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan). As detailed in the Proposed TDM Plan, the following TDM strategies shall be implemented:

- **Shuttle Service:** Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley.

- **Extend or Provide New Bus Service:** If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area.

- **Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists:** Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site.

- **Bikeshare Station:** Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area.

- **Carpool/Ride-Matching Service:** Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools.

- **Free Parking for Carshare:** Future development facilitated by the proposed project would be required to provide free parking to carshare companies.

- **Preferential Parking for Carpools:** Future development facilitated by the proposed project would be required to include free parking for carpoolers.

- **Transit Subsidy:** Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers.

- **Pre-tax Commuter Benefits:** Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers.

- **Ongoing Marketing and Information:** Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit.

On an annual basis for ten years thereafter, the project sponsor shall submit a report that demonstrates the project complies with the applicable requirements. After three years of timely compliant submittals, the City has the option to accept less frequent submittals (minimum one every three years).

Finding: Implementation of Mitigation Measure TRA-1, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-1 would require future development facilitated by the proposed project, including the conceptual development project, to

implement the Proposed TDM Plan in order to reduce the project's impact on VMT. The measures included in the Proposed TDM Plan are quantified on page 4.4-22 of the Draft EIR to show the desired reductions in VMT. Therefore, impacts related to conflict or inconsistency with *State CEQA Guidelines* Section 15064.3, subdivision (b), would be less than significant with mitigation.

Impact TRA-3: Circulation modifications associated with future development of the project site facilitated by the proposed project, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.

Mitigation Measure TRA-2: **Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.

Finding: Implementation of Mitigation Measure TRA-2, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-2 would require approved project-specific circulation plans to ensure that implementation of future development facilitated by the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature by requiring coordination with City agencies for review and approval to ensure that future circulation plans would comply with City regulations. Therefore, impacts related to transportation hazards would be less than significant with mitigation.

Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.

Mitigation Measure TRA-2: **Circulation Plan.** (see above)

Finding: Implementation of Mitigation Measure TRA-2, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-2 would require approved project-specific circulation plans to ensure that implementation of future development facilitated by the proposed project (including the conceptual development project) would not result in inadequate emergency access by requiring coordination with City agencies for review and approval to ensure that future circulation plans would comply with City regulations. Therefore, impacts related to emergency vehicle access would be less than significant with mitigation.

5.2.5 Air Quality

Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.

Mitigation Measure TRA-1: **Transportation Demand Management Plan.** (see above)

Finding: Implementation of Mitigation Measure TRA-1, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-1 would require future development facilitated by the proposed project, including the conceptual development project, to implement the Proposed TDM Plan in order to reduce the project's impact on VMT, consistent with the goals and policies of the San Francisco Bay Area Clean Air Plan. Therefore, impacts related to consistency with the San Francisco Bay Area Clean Air Plan would be less than significant with mitigation.

Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).

Mitigation Measure AIR-1: **BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors.** Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site:

- Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
- Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.

- Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimize the amount of excavated material or waste materials stored at the site.
- Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

Finding: Implementation of Mitigation Measure AIR-1, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure AIR-1 would require implementation of BAAQMD enhanced Best Management Practices (BMPs) for construction of future development projects located within 500 feet of sensitive receptors. The BMPs are a proven method to reduce fugitive dust emissions from construction activities and are applied to construction projects throughout the air basin. Therefore, impacts related to a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}) would be less than significant with mitigation.

Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate reactive organic gas (ROG) emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.

Mitigation Measure AIR-2: **Architectural Coatings.** To address the impact related to ROG emissions, all interior and exterior paints and other architectural coatings shall be limited to 50 grams per liter or less of volatile organic compounds (VOCs). The project sponsor's construction contractor shall procure architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings).

Finding: Implementation of Mitigation Measure AIR-2, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure AIR-2 would require application of architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings), which would reduce operational emissions to below BAAQMD standards for nitrogen oxides (NO_X), PM_{10} or $PM_{2.5}$, and ROG emissions. Therefore, impacts related to ROG emissions in excess of thresholds established by the BAAQMD would be less than significant with mitigation.

Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.

Mitigation Measure AIR-6: **Odor Control Plan for Future Development Projects.** If future development facilitated under the proposed (M-RD) zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.

Finding: Implementation of Mitigation Measure AIR-6, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure AIR-6 would require an odor control plan for future development that includes certain odor-generating uses, by ensuring appropriate siting of odor-emitting uses and enforceable methods of nuisance odor control. Therefore, impacts related to odors would be less than significant with mitigation.

5.2.6 Greenhouse Gas Emissions

Impact GHG-1b: The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and therefore could generate GHG emissions, either directly or indirectly, during operations that

would have a significant effect on the environment. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with the specific project design threshold recommended by the BAAQMD.

Mitigation Measure GHG-1: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.

Mitigation Measure TRA-1: **Transportation Demand Management Plan.** (see above)

Finding: Implementation of Mitigation Measures GHG-1 and TRA-1, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the conceptual development project identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure GHG-1 would ensure that the conceptual development project would provide electric vehicle charging infrastructure consistent with current BAAQMD requirements. In addition, because the conceptual development project does not propose natural gas usage, the conceptual development project would be consistent with the BAAQMD design threshold recommending natural gas prohibition. Therefore, impacts related to GHG emissions with implementation of the conceptual development project would be less than significant with mitigation.

Impact GHG-2b: The conceptual development project would not meet the CALGreen Tier 2 Voluntary Standards for electric vehicle charging requirements, nor the BAAQMD's VMT threshold, and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. However, the conceptual development project would not include natural gas appliances or plumbing, and therefore would be consistent with that project design thresholds recommended by the BAAQMD.

Mitigation Measure GHG-1: **Electric Vehicle Charging Requirements.** (see above)

Mitigation Measure TRA-1: **Transportation Demand Management Plan**. (see above)

Finding: Implementation of Mitigation Measures GHG-1 and TRA-1, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the conceptual development project identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure GHG-1 would ensure that future development facilitated by implementation of the proposed project, including the conceptual development project, would provide electric vehicle charging consistent with current BAAQMD requirements. Implementation of Mitigation Measure TRA-1 would ensure that future development facilitated by implementation of the proposed project, including the conceptual development project, would comply with BAAQMD's VMT threshold and transportation and motor vehicle measures. In addition, because the conceptual development project does not propose natural gas usage, the conceptual development project would be consistent with the BAAQMD design threshold recommending natural gas prohibition and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, impacts related to GHG emissions with implementation of the conceptual development project would be less than significant with mitigation.

5.2.7 Energy

Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Mitigation Measure TRA-1: **Transportation Demand Management Plan**. (see above)

Finding: Implementation of Mitigation Measure TRA-1, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-1 would require future development facilitated by the proposed project, including the conceptual development project, to implement the Proposed TDM Plan in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Therefore, fuel consumption associated with vehicle trips generated by future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region, and impacts would be less than significant with mitigation.

Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Mitigation Measure GHG-1: **Electric Vehicle Charging Requirements.** (see above)

Finding: Implementation of Mitigation Measure GHG-1, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the proposed project (including the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure GHG-1 would ensure that future development envisioned under the proposed project (including the conceptual development project) would provide electric vehicle charging consistent with current BAAQMD requirements. Therefore, impacts related to conflict with or obstruction of a State or local plan for renewable energy or energy efficiency would be less than significant with mitigation.

5.2.8 Noise

Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.

Mitigation Measure NOI-1: **Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase may not begin construction until its DLOP has received City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.

Finding: Implementation of Mitigation Measure NOI-1, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the proposed project (including the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Mitigation Measure NOI-1 would ensure that future development facilitated by the proposed project (including the conceptual development project) would develop a DLOP showing compliance with established design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322, Parking and Loading. Therefore, construction and operational noise impacts would be less than significant with mitigation.

5.2.9 Hazards and Hazardous Materials

Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of polychlorinated biphenyls (PCBs) into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.

Mitigation Measure HAZ-1: **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and COA: Toxics(E) prior to renovation or demolition activities shall include sampling and analysis for PCBs in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by COA: Toxics (C).

Mitigation Measure HAZ-2a: **Additional Site Characterization for Methane and Public Right-of-Ways.** All Phase II ESAs performed for parcels at the project site as required by COA: Toxics (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by COA: Toxics (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.

Mitigation Measure HAZ-2b: **Additional Site Characterization for the Project Area.** The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs, as attached to the Draft EIR, that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the

western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops.

The project sponsor shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of future project, if determined to be necessary by DTSC, additional investigation and characterization of the project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required for the proposed project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.

Mitigation Measure HAZ-2c: **Subsurface PCBs Contamination at the Project Site.** The Response Plan for any future development shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the project site. As part of the environmental clearance required for any future development by COA: Toxics (C), the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.

Mitigation Measure HAZ-2d: **Vapor Mitigation System (VMS) Design.** Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could

interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by COA: Toxics (C).

Mitigation Measure HAZ-2e: **Utility Designs.** Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by COA: Toxics (C).

Mitigation Measure HAZ-2f: **Avoidance of Petroleum Fuel Pipelines**. Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.

Finding: Implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure HAZ-1 would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that they would not be released into the environment during construction. Implementation of HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriately performed, such that hazardous materials would not be accidentally released into the environment during construction and operation of future development. Therefore, impacts related to the risk of release of hazardous materials would be less than significant with mitigation.

Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project (including the conceptual development

project) would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.

Mitigation Measure HAZ-2a: **Additional Site Characterization for Methane and Public Right-of-Ways.** (see above)

Mitigation Measure HAZ-2b: **Additional Site Characterization for the Project Area.** (see above)

Mitigation Measure HAZ-2c: **Subsurface PCBs Contamination at the Project Site.** (see above)

Mitigation Measure HAZ-2d: **Vapor Mitigation System (VMS) Design.** (see above)

Mitigation Measure HAZ-2e: **Utility Designs.** (see above)

Mitigation Measure HAZ-2f: **Avoidance of Petroleum Fuel Pipelines**. (see above)

Finding: Implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f would identify and remediate the hazardous conditions at the project site. Therefore, impacts related to being located on a site listed pursuant to Government Code Section 65962.5 would be less than significant with mitigation.

Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Mitigation Measure TRA-2: **Circulation Plan.** (see above)

Finding: Implementation of Mitigation Measure TRA-2, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure TRA-2 would require approved project-specific circulation plans to ensure that implementation of future development facilitated by the proposed project (including the conceptual development project) would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant with mitigation.

5.2.10 Hydrology and Water Quality

Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey

additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.

Mitigation Measure HAZ-1: **Testing for Potential PCB-Contaminated Concrete.** (see above)

Mitigation Measure HAZ-2a: **Additional Site Characterization for Methane and Public Right-of-Ways.** (see above)

Mitigation Measure HAZ-2b: **Additional Site Characterization for the Project Area.** (see above)

Mitigation Measure HAZ-2c: **Subsurface PCBs Contamination at the Project Site.** (see above)

Mitigation Measure HAZ-2d: **Vapor Mitigation System (VMS) Design.** (see above)

Mitigation Measure HAZ-2e: **Utility Designs.** (see above)

Mitigation Measure HAZ-2f: **Avoidance of Petroleum Fuel Pipelines.** (see above)

Mitigation Measure HYD-1: **Existing Drainage Systems.** Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the

City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.

Mitigation Measure HYD-2: **Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following:

- A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches.
- A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present.
- Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater.
- Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system.

If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic

pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by COA: Toxics(C).

Finding: Implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure HAZ-1 would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that they would not be released into the environment during construction. Implementation of HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriately performed, such that hazardous materials would not be accidentally released into the environment during construction and operation of future development. Implementation of Mitigation Measure HYD-1 would ensure appropriate cleanup, decommissioning, or improvement of the existing drainage features to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. Implementation of Mitigation Measure HYD-2 would address groundwater contamination. Therefore, water quality impacts would be less than significant with mitigation.

Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.

Mitigation Measure HAZ-1: **Testing for Potential PCB-Contaminated Concrete.** (see above)

Mitigation Measure HYD-3: **Hydraulic Study of Drainage during Construction and Operation for the Proposed Project and the Potential Berkeley Forge Development.** The project sponsor for the conceptual development project and any other future development on the project site that has the potential to alter drainage patterns at the project site shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of future projects, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the

capacity of existing and proposed storm drains. If the hydraulic study finds that future projects would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), future projects design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.

Finding: Implementation of Mitigation Measures HAZ-1 and HYD-3, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure HYD-3 would require a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. Implementation of Mitigation Measure HAZ-1 would ensure no additional polluted stormwater would be discharged into the stormwater system. Therefore, impacts related to exceeding the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff and flooding would be less than significant with mitigation.

Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.

Mitigation Measure HYD-4: **Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage.** During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site.

During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a

result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.

Finding: Implementation of Mitigation Measure HYD-4, set forth above, which is hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure HYD-4 would require hazardous materials to be stored such that they would not be mobilized, be damaged, or leak because of flooding inundation. Therefore, impacts related to the release of pollutants due to project inundation would be less than significant with mitigation.

Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.

Mitigation Measure HAZ-1: **Testing for Potential PCB-Contaminated Concrete.** (see above)

Mitigation Measure HAZ-2a: **Additional Site Characterization for Methane and Public Right-of-Ways.** (see above)

Mitigation Measure HAZ-2b: **Additional Site Characterization for the Project Area.** (see above)

Mitigation Measure HAZ-2c: **Subsurface PCBs Contamination at the Project Site.** (see above)

Mitigation Measure HAZ-2d: **Vapor Mitigation System (VMS) Design.** (see above)

Mitigation Measure HAZ-2e: **Utility Designs.** (see above)

Mitigation Measure HAZ-2f: **Avoidance of Petroleum Fuel Pipelines.** (see above)

Mitigation Measure HYD-1: **Existing Drainage Systems.** (see above)

Mitigation Measure HYD-2: **Contaminated Groundwater Migration and Discharge Prevention.** (see above)

Finding: Implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure HAZ-1 would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that they would not be released into the environment during construction. Implementation of HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriately performed, such that hazardous materials would not be accidentally released into the environment during construction and operation of future development. Implementation of Mitigation Measures HYD-1 and HYD-2 would address water quality impacts associated with the existing drainage features and contaminated groundwater. Therefore, impacts related to conflict with the Basin Plan or Groundwater Sustainability Plan for the East Bay Plain Subbasin would be less than significant with mitigation.

5.2.11 Biological Resources

Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.

Mitigation Measure BIO-1a: **Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.

Mitigation Measure BIO-1b: **Common Bat Species Evacuation and Mitigation Plan.** If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the

qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.

Mitigation Measure BIO-1c: **Preconstruction Survey for Common Species of Roosting Bats.** If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction activities. The survey shall take place no more than 30 days prior to construction/demolition/removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.

Mitigation Measure BIO-1d: **Artificial Roosting Plan for Special-Status Bats.** If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.

Mitigation Measure BIO-1e: **Tree Removal and Roost Protection.** If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.

Mitigation Measure BIO-1f: **Protection of Maternity Roosts.** Removal of maternity roosts for any species of bats either common or special-status shall be

coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special-status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.

Finding: Implementation of Mitigation Measures BIO-1a through BIO-1f, set forth above, which are hereby adopted and incorporated into the project, would avoid or substantially reduce the significant environmental effects of the project (including the proposed project and the conceptual development project) identified in the Final EIR to a less than significant level.

Facts in Support of Finding: Implementation of Mitigation Measure BIO-1a through BIO-1f would address all potential impacts on bats by making provisions for pre-construction surveys, tree removal, and measures for avoidance or removal of special-status species if they are found on site. Therefore, impacts on special-status species would be less than significant with mitigation.

5.3 Effects Determined to be Less Than Significant or Not Significant

The City finds that, based on substantial evidence in the record, the following impacts associated with the project would be less than significant or would result in no impact. The Draft EIR identifies the following as less than significant impacts or as having no impact. Mitigation to further reduce less than significant impacts is not required by CEQA. The findings in this section are based on the Draft EIR, the discussion and analysis in which is hereby incorporated in full by this reference.

5.3.1 Land Use and Planning

Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community.

5.3.2 Cultural Resources

Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resources as defined in *State CEQA Guidelines* Section 15064.5.

5.3.3 Transportation

Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

5.3.4 Air Quality

Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD.

Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards.

Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations.

5.3.5 Noise

Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground borne vibration or ground borne noise levels.

The nearest private airport, Buchanan Field Airport, is approximately 15 miles northeast of the site. Although aircraft-related noise is occasionally audible on the project site, the site does not lie within an airport land use plan area or within the 60 dBA L_{dn} noise contours of any of these public airports or private airfields. Therefore, the proposed project and the conceptual development project would not expose people residing or working in the project area to excessive noise levels due to the proximity of a public airport.

5.3.6 Hazards and Hazardous Materials

Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation.

Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

5.3.7 Hydrology and Water Quality

Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.

5.3.8 Biological Resources

There are no riparian habitats, other sensitive natural communities, or federally protected wetlands on the project site. Therefore, implementation of the proposed project, including the conceptual development project, would have no impact on any riparian habitat, other sensitive natural communities, or federally protected wetlands. In addition, the project site is not considered an established native resident or migratory wildlife corridor or located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, implementation of the proposed project (including the conceptual development project) would not create substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or native wildlife nursery sites, nor would it conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Further, implementation of the proposed project, including the conceptual development project, would have no impact related to a conflict with the provisions of

an approved local, regional, or State policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance. Therefore, impacts on biological resources would be less than significant and mitigation is not required.

5.3.9 Aesthetics

As implementation of the proposed project would result in zoning and General Plan/West Berkeley amendments that facilitate future development of up to 1,005,266 square feet of nonresidential space and includes buildout of the conceptual development project with up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses, which would provide employment opportunities, the proposed project meets the definition of a "employment center project"[5] on an infill site within a transit priority area. Accordingly, an evaluation of aesthetic impacts is not required pursuant to PRC Section 21099(d)(1).

5.3.10 Agricultural Resources

There are no agricultural lands on or adjacent to the project site. None of the properties on or adjacent to the project site are under a Williamson Act contract. In addition, no properties on or adjacent to the project site are zoned for timberland or contain forest land or significant stands of trees. Therefore, there would be no impacts with respect to agricultural lands, Williamson Act contracts, timberland, or forest resources.

5.3.11 Geology and Soils

The project site is not in an Alquist-Priolo Fault Zone. Therefore, the proposed project would have a less than significant impact on people and structures related to fault rupture at the site. The design and construction of the proposed project is required to conform with, or exceed, current best standards for earthquake-resistant construction in accordance with the 2022 California Building Code (CBC) and with the generally accepted standards of geotechnical practice for seismic design in Northern California. In addition, final grading, foundation, and building plans must be designed in accordance with the 2022 CBC. Therefore, compliance with the CBC would ensure that the potential impacts associated with ground shaking, liquefaction, lateral spreading, landslides, and expansive soils would be less than significant. Compliance with application National Pollutant Discharge Elimination System (NPDES) permits would ensure less than significant impacts related to soil erosion or the loss of topsoil during construction and operation. In addition, no septic tank system or alternative wastewater disposal system is proposed for the project site as part of the proposed project or conceptual development project; therefore, no impact would occur relating to the ability of on-site soils to support a septic tank.

[5] Pursuant to PRC 21099(a)(1), an "employment center project" refers to a project that is located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and within a transit priority area.

5.3.12 Mineral Resources

The project site is not designated as a significant mineral resources zone, and mineral resource extraction in this area would be generally incompatible with existing and planned uses. As such, no mineral resource impacts would occur.

5.3.13 Population and Housing

The new M-RD zoning district would not allow for residential uses and, as a result, the proposed project and conceptual development project would not include new on-site housing. Therefore, the proposed project and conceptual development project would not directly induce population growth on the project site through the introduction of new residents on the site. In addition, a majority of the new employees associated with implementation of the proposed project would likely commute from various communities throughout the Bay Area due to the proximity of the Interstate 80/ Interstate 580 (I-80/I-580) corridor and nearby transit opportunities. Therefore, the proposed project and conceptual development project would not directly or indirectly induce substantial population growth on the site or in the surrounding area due to the increase in employment on the site.

The 1306 Third Street building currently contains seven nonconforming commercial tenant spaces and four nonconforming residential units, three of which are occupied by 11 individuals; the fourth is currently vacant. Implementation of the proposed project may result in the displacement of people and housing; however, any future development that eliminates the nonconforming residential units would facilitate the relocation of the current residents and would have to comply with City regulations addressing the replacement of occupied residential structures found in BMC Chapter 23.326 (Demolition and Dwelling Unit Controls). With payment of in-lieu fees, and because Berkeley contains enough available housing to accommodate the 11 existing residents at 1306 Third Street who could be displaced, the proposed project would have a less than significant impact on population and housing.

5.3.14 Public Services

Development facilitated by the proposed project, including the conceptual development project, could increase the use of public facilities within the city and within the region. However, this increase is expected to be minimal due to the absence of residential uses on the proposed project site and is not expected to adversely affect the physical conditions of public services and facilities or require the provision of new facilities to meet established service goals. Therefore, impacts would be less than significant.

5.3.15 Recreation

Although future development facilitated by the proposed project (including the conceptual development project) would incrementally increase use of these facilities, this minor increase in use is not expected to result in substantial physical deterioration of local parks, trails, and community centers, and this impact would be less than significant.

5.3.16 Utilities and Service Systems

Although future development facilitated by the proposed project (including the conceptual development project) would increase demand on utilities and service systems, including water, wastewater, solid waste, electricity, natural gas, and telecommunications, implementation of the proposed project would not require new or expanded infrastructure, exceed the capacity of the wastewater treatment or solid waste provider, or require new water supplies.

5.3.17 Wildfire

The project site and adjacent areas are not located in a Very High Fire Hazard Severity Zone as mapped by the California Department of Forestry and Fire Protection (CAL FIRE) and is not within any State responsibility areas for fire service. Therefore, the proposed project and the conceptual development project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

5.4 Cumulative Impacts

An EIR is required to discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable (*State CEQA Guidelines* Section 15130[a]). "Cumulatively considerable" means that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*State CEQA Guidelines* Section 15065[a][3]; PRC Section 21083[b][2]). Section 4.0, Setting, Impacts and Mitigation Measures, of the Draft EIR includes analyses of the cumulative impacts of the project in combination with those of reasonably foreseeable probable future projects. Cumulative projects are identified in Table 4.A of the Draft EIR. The findings in this section are based on the Draft EIR, the discussion and analysis in which is hereby incorporated in full by this reference.

The City finds that the proposed project will result in cumulatively considerable impacts to air quality and GHG emissions.

As discussed in Section 4.2, Cultural Resources, of the Draft EIR, it is assumed for the purposes of this analysis that implementation of the proposed project would result in demolition of the structure located at 1306 Third Street, a historic resource under CEQA. Similar to the proposed project, other development that would impact historic resources would implement mitigation measures similar to Mitigation Measure CUL-1, which requires documentation of the 1306 Third Street structure in compliance with HABS standards. As described above, implementation of Mitigation Measure CUL-1 would not avoid the demolition of the historic resource; therefore, the impact of the proposed project on built-environment historic resources would be significant and unavoidable. The structure at 1306 Third Street is an individual historic resource, however, and is not part of a historic district; it does not share a historic context or use with other historic built resources in the cumulative projects within 0.25 mile of the project site, including 805 Jones Street and 1201 Second/669 Gilman Transfer Station. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant and unavoidable impact.

As discussed in Section 4.5, Air Quality, of the Draft EIR, even with the implementation of Mitigation Measure AIR-3, health risk levels to nearby residents from construction-related emissions of TACs

associated with construction of the conceptual development project and future projects that would not include the demolition of the structure at 1306 Third Street would exceed the BAAQMD's thresholds. In addition, because information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis, it is assumed that cumulative growth within the city could result in potential TAC health risks that could cumulatively contribute to elevated health risks in the city. Therefore, in an abundance of caution, potential TAC health risks are considered a significant impact, even with implementation of Mitigation Measures AIR-3, AIR-4, and AIR-5. Cumulative impacts would be significant and unavoidable.

As discussed in Section 4.6, Greenhouse Gas Emissions, of the Draft EIR, the proposed project would not be consistent with all of the project design features included in the BAAQMD's *State CEQA Guidelines* due to the potential inclusion of natural gas connections for future projects. A mitigation measure prohibiting the use of natural gas in future development was found to be infeasible. Therefore, since the proposed project would not meet all of the project design features recommended by the BAAQMD to support the project achieving its "fair share" of emission reductions, the proposed project would result in the generation of GHG emissions that would have a significant impact on the environment, and the cumulative GHG impacts would be considered significant and unavoidable.

5.5 Growth-Inducing Impacts

An EIR is required to discuss growth-inducing impacts, which consist of the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment (*State CEQA Guidelines* Section 15126.2(d); PRC Section 21100[b][5]). Direct growth inducement would result, for example, if a project involves the construction of substantial new housing that would support increased population in a community or establishes substantial new permanent employment opportunities. This additional population could, in turn, increase demands for public utilities, public services, roads, and other infrastructure. Indirect growth inducement would result if a project stimulates economic activity that requires physical development or removes an obstacle to growth and development (e.g., increasing infrastructure capacity that would enable new or additional development). It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment (*State CEQA Guidelines* Section 15126.2[d]).

Chapter 6.0, CEQA Required Conclusions, of the Draft EIR analyzes the growth-inducing impacts of the project, the discussion and analysis of which is hereby incorporated in full by this reference.

The proposed project would facilitate the redevelopment of an existing urbanized site and would not require the extension of utilities or roads into undeveloped areas or directly or indirectly lead to the development of greenfield sites. Circulation improvements would be designed to City standards and would facilitate movement to and through the project site, including access improvements to adjacent roadways and sidewalks. Due to the location of the project site and the presence of existing uses on and in the vicinity of the site, construction facilitated under the proposed project would not induce unplanned growth in the area. Therefore, the growth that would occur as a result of the proposed project would not be substantial or adverse.

6.0 FEASIBILITY OF PROJECT ALTERNATIVES

6.1 Project Alternatives

The Draft EIR analyzed three alternatives, examining the environmental impacts and feasibility of each alternative, as well as the ability of the alternatives to meet project objectives. The project objectives are listed in Chapter 3.0, Project Description, of the Draft EIR; the potentially significant environmental effects of the project, including feasible mitigation measures identified to avoid these impacts, are analyzed throughout Chapter 4.0, Setting, Impacts, and Mitigation Measures, of the Draft EIR; and the alternatives are described in detail in Chapter 5.0, Alternatives, of the Draft EIR. Brief summaries of the alternatives are provided below. A brief discussion of the Environmentally Superior Alternative follows the summaries of the alternatives. The findings in this section are based on the Draft EIR, the discussion and analysis of which is hereby incorporated in full by this reference.

Based on the project objectives and anticipated environmental consequences, and pursuant to *State CEQA Guidelines* Section 15126.6, the following project alternatives were selected for analysis:

- The **No Action Alternative** is a version of the "no project" alternative (*State CEQA Guidelines* Section 15126.6(e)) that assumes the project site would remain unchanged from existing conditions. The existing buildings would not be demolished and would instead remain in place, unchanged from existing conditions. The existing Manufacturing land use and zoning designations would remain, and the City of Berkeley General Plan and West Berkeley Area Plan would not be amended.

- The **General Plan Compliant Alternative** is a version of the "no project" alternative (*State CEQA Guidelines* Section 15126.6(e)) that assumes the project site would be redeveloped pursuant to the current land use and zoning designations. Implementation of the General Plan Compliant Alternative would allow for the development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site. Under this alternative, the maximum height would be limited to 45 feet.

- The **Reduced Development Alternative** assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary would include nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A of the Draft EIR for details). This alternative would also require a minimum 100-foot buffer between any existing residential use and proposed new nonresidential use, and would include surface parking lots or structures. Accordingly, future development on the project site would need to be set back from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would reduce the overall buildout potential of the project site by 50 percent, resulting in up to 566,300 square feet of nonresidential space and a minimum of 566 off-street automobile parking spaces.

The City hereby concludes that the Final EIR sets forth a reasonable range of alternatives to the proposed project that address the significant impacts of the project so as to foster informed public

participation and informed decision making. The City finds that the alternatives identified and described in the Final EIR were considered and further finds the No Action Alternative is infeasible as it would not meet any of the CEQA project objectives and would not result in the remediation effort at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood. The City finds that the General Plan Compliant Alternative and Reduced Development Alternative are infeasible as they would not meet all of the CEQA project objectives and would not reduce or avoid all of the significant and unavoidable impacts resulting from implementation the proposed project.

As discussed in Chapter 5.0, Alternatives, of the Draft EIR, the General Plan Compliant Alternative would avoid some, but not all, of the significant and unavoidable air quality impacts of the proposed project. Specifically, the General Plan Compliant Alternative would avoid the significant and unavoidable air quality impacts associated with construction health risks. However, the General Plan Compliant Alternative would not avoid or reduce the significant and unavoidable impact of the proposed project on built historic resources. In addition, the Reduced Development Alternative would avoid the significant and unavoidable impact of the proposed project on built historic resources and would achieve most project objectives. However, the Reduced Development Alternative would not avoid the significant and unavoidable air quality and GHG emissions impacts associated with the proposed project, as development program details are not known at this time. However, these potential impacts would be reduced by the Reduced Development Alternative.

6.1.1 No Action Alternative

Finding: The No Action Alternative would avoid the significant and unavoidable impacts of the proposed project associated with cultural resources, air quality, and GHG emissions. However, implementation of the No Action Alternative would not meet any of the identified project objectives as the No Action Alternative would not revitalize the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses; establish an M-RD zoning district; facilitate future development by adopting zoning standards; or improve mobility at an entry corridor to West Berkeley. In addition, the No Action Alternative would not result in the remediation effort at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

6.1.2 General Plan Compliant Alternative

Finding: The General Plan Compliant Alternative would avoid some, but not all, of the significant and unavoidable air quality impacts of the proposed project. Specifically, the General Plan Compliant Alternative would avoid the significant and unavoidable air quality impacts associated with construction health risks. However, the General Plan Compliant Alternative would not avoid or reduce the significant and unavoidable impact of the proposed project on built historic resources.

Implementation of the General Plan Compliant Alternative would meet some, but not all of the identified project objectives, as the General Plan Compliant Alternative would not reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses or establish a M-RD zoning district. However, the General Plan Compliant

Alternative would result in future development and would likely improve mobility at an entry corridor to West Berkeley. In addition, the General Plan Compliant Alternative would result in remediation efforts at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

6.1.3 Reduced Development Alternative

Finding: The Reduced Development Alternative would avoid the significant and unavoidable impact of the proposed project on built historic resources. However, the Reduced Development Alternative would not avoid the significant and unavoidable air quality and GHG emissions impacts associated with the proposed project, as development program details are not known at this time. These potential impacts would, however, be reduced by the Reduced Development Alternative.

Implementation of the Reduced Development Alternative would partially meet the identified project objectives. The Reduced Development Alternative would reinvent the former Pacific Steel Casting site from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses; however, the adjacent sites would not be redeveloped. The Reduced Development Alternative would also establish an M-RD zoning district, facilitate future development by adopting zoning standards, and improve mobility at an entry corridor to West Berkeley. In addition, the Reduced Development Alternative would result in remediation of the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood prior to development.

6.2 Environmentally Superior Alternative

State CEQA Guidelines Section 15126.6(e)(2) requires that an environmentally superior alternative be identified from among the alternatives evaluated in the EIR. In accordance with *State CEQA Guidelines* Section 15126.6(e)(2), if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives.

Because the Reduced Development Alternative would avoid the proposed project's significant and unavoidable impacts on built historic resources and would have lower impacts than the proposed project as they relate to the air quality significant and unavoidable impact, the Reduced Development Alternative is considered the Environmentally Superior Alternative. As discussed above, none of the other alternatives would avoid the significant and unavoidable impacts to air quality or GHG emissions due to the lack of construction details and the usage of natural gas. However, as the Reduced Development Alternative would include approximately 50 percent less development at the site, it would lower said impacts. In addition, the Reduced Development Alternative would meet all of the proposed project objectives, although to a lesser extent when compared to the proposed project. Accordingly, the Reduced Development Alternative is considered the environmentally superior alternative.

7.0 STATEMENT OF OVERRIDING CONSIDERATIONS

As set forth above, the City found that the proposed project would result in project and cumulative significant adverse environmental impacts related to historical architectural resources, air quality,

and GHG emissions that cannot be avoided following adoption, incorporation into the proposed project, and implementation of mitigation measures described in the EIR. In addition, there are no feasible project alternatives that would mitigate or avoid all of the proposed project's significant environmental impacts. *State CEQA Guidelines* Section 15093(b) provides that when the decision of the public agency results in the occurrence of significant impacts that are not avoided or substantially lessened, the agency must state in writing the reasons to support its actions. See also PRC Section 21081(b). Having balanced the economic, legal, social, technological or other benefits of the proposed project (including regionwide or statewide environmental benefits) against its significant and unavoidable environmental impacts, the City finds that the proposed project's benefits outweigh its unavoidable adverse environmental effects, and that the adverse environmental effects are therefore acceptable.

The following statement identifies the reasons why, in the City's judgment, specific benefits of the proposed project outweigh the significant and unavoidable effects. The substantial evidence supporting the benefits of the project can be found in the preceding sections of these Findings, in the project itself, and in the record of proceedings.

The City further finds that each of the project benefits discussed below is a separate and independent basis for these findings. The reasons set forth below are based on the Final EIR and other information in the administrative record.

The City further finds that these significant unavoidable impacts are outweighed by the benefits of the proposed project, each of which, independently of the others, constitutes overriding consideration warranting approval of the proposed project. Those benefits, and additional considerations related to this finding, are as follows:

- The proposed project would result in remediation efforts at the project site to clean up existing environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

- The proposed project, through the proceeds from the sale of the Pacific Steel Casting land, would enable the funding of unpaid pensions and health benefits for former steel workers who were employed at Pacific Steel Casting. These pensions were eliminated when Pacific Steel Casting closed and filed bankruptcy.

- The proposed project would provide and retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office uses. As detailed in the report prepared by the City's Office of Economic Development,[6] which provides context into the current and projected economic conditions in West Berkeley, the City's economy and innovation sector would benefit from new advanced manufacturing, software, life sciences, clean technology, food tech, and other science, technology, engineering

[6] City of Berkeley Office of Economic Development. 2023. *The Innovation Ecosystem in West Berkeley, An Economic Snapshot.* February 1.

and math (STEM) industries specifically relating to employment, wages, wealth creation, social impacts, and location decisions.

- The proposed project fulfills the goals of the West Berkeley Plan to facilitate the development of multi-parcel sites, attract emerging business sectors, and retain and promote economic diversity in West Berkeley. By restoring derelict, environmentally blighted properties to productive industrial use, thereby creating jobs and tax base in West Berkeley, the proposed project would implement the vision of the West Berkeley Plan to maintain and improve the quality of urban life for West Berkeley residents and workers.

- The proposed project would contribute over $6 million in dedicated special assessments to be used for affordable housing, childcare, schools, and public art.

- The proposed project would contribute to increased property tax and secondary sales tax benefit to the City.

- The proposed project would facilitate new public open space and landscaping and install stormwater management systems where none exist under existing conditions. New stormwater management facilities would increase water quality and flooding resilience in the area.

- The proposed project would facilitate the construction of new sidewalk and bicycle facilities, supporting community pedestrian and bike travel in the area.

On balance, the City finds that specific economic, legal, social, technological, or other benefits of the proposed project serve to override and outweigh the significant unavoidable effects of the proposed project. Therefore, pursuant to *State CEQA Guidelines* Section 15093(b), the City finds that these significant adverse environmental effects are considered acceptable.

8.0 INCORPORATION BY REFERENCE

These findings incorporate the text of the Final EIR for the Gilman Gateway Rezone Project by reference and in its entirety. Without limitation, this incorporation is intended to elaborate on the scope and nature of mitigation measures, the basis for determining the significance of impacts, the comparative analysis of alternatives, the determination of the environmentally superior alternative, and the reasons for approving the project in spite of the potential for associated significant and unavoidable adverse impacts. Additional support for these findings can be found in the Draft EIR as well as the conditions of approval attached hereto (Attachment #1).

9.0 RECIRCULATION NOT REQUIRED

No significant new information was added to the Draft EIR or the Final EIR as a result of the public comment process. The Final EIR responds to comments and clarifies, amplifies, and makes insignificant modifications to the Draft EIR. It does not identify any new significant effects on the environment or a substantial increase in the severity of an environmental impact requiring major revisions to the Draft EIR. Similarly, the revised project would not result in new or substantially more severed significant impacts than those disclosed previously in the Draft EIR. Therefore, recirculation of the EIR is not required.

10.0 RECORD OF PROCEEDINGS

Various documents and other materials related to the project constitute the record of proceedings upon which the City bases its findings and decisions contained herein. Those documents and materials are located in the offices of the custodian for the documents and materials, which is the City of Berkeley Planning and Development Department, 1947 Center Street, Second Floor, Berkeley, California 94704.

11.0 SUMMARY

A. Based on the foregoing Findings and the information contained in the record, the City has made one or more of the following Findings with respect to each of the significant effects of the project:

   1. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effects identified in the Final EIR.

   2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other public agency.

   3. Specific economic, legal, social, technological, or other considerations, make infeasible the mitigation measures or alternatives identified in the Final EIR that would otherwise avoid or substantially lessen the identified significant environmental effects of the project.

B. Based on the foregoing Findings and the information contained in the record, the City determines that:

   1. All significant effects on the environment due to the approval of the project have been eliminated or substantially lessened where feasible.

   2. Any remaining significant effects on the environment found to be unavoidable are acceptable due to the factors described in the Statement of Overriding Considerations in Section 6, above.

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Attachment 1

Table 1: Applicable Standard Conditions of Approval

COA	Applicable to the Gilman Gateway Rezone Project?	Applicable to the Potential Berkeley Forge Development Project?	Monitoring and Reporting Program			
			Implementation Responsibility	COA Schedule	Monitoring/Reporting Responsibility	Completion Criteria
4.2: CULTURAL RESOURCES						
Archaeological Resources. Pursuant to State CEQA Guidelines Section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore: a. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian, or paleontologist to assess the significance of the find. In the event that these resources are of Native American origin, all work within 50 feet of the resources shall be halted and the lead agency shall consult with a Tribal representative of the Confederated Villages of Lisjan Nation to assess the significance of the find. The archaeologist will stake the area of discovery, placing stakes no more than 10 feet apart, forming a circle around the point of discovery. b. If any find is determined to be significant, representatives of the project proponent and/or lead agency, and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure with the ultimate determination to be made by the City. If the resource is determined to be a Tribal Cultural Resource and thus significant under CEQA, the project proponent and/or lead agency shall retain a qualified archaeologist and a Tribal monitor, at the applicant's expense, to prepare a mitigation plan, which shall be implemented by the appropriate entity in accordance with State CEQA guidelines and in consultation with the consulting Tribe. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards. c. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether	Yes	Yes	Construction contractor.	Ongoing throughout demolition, grading, and/or construction activities.	Qualified archaeologist, historian, and/or paleontologist and Tribal representative.	Considered complete upon termination of demolition, grading, and/or construction activities.

avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations. For Tribal Cultural Resources, avoidance is always preferred. d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. For Tribal Cultural Resources, data recovery is never an appropriate mitigation. If avoidance is not feasible, the mitigation plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for Tribal Cultural Resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, and/or heritage recovery. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out. e. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the NWIC.						
Human Remains. In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the State CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the NAHC, pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. There shall be no pictures taken or testing done on any Native American human remains, and all bone, if not identifiable as human or animal, shall be treated as human remains and the appropriate protocols followed. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and time frame required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously. A report containing this information should be submitted to the lead agency, project proponent, the NWIC, and the consulting Tribe. Tribal representatives will rebury the Native American human remains and associated funerary objects with the appropriate dignity either in accordance with the recommendations of the MLD if available, or in the project vicinity at a location agreed upon between	Yes	Yes	Construction contractor.	Ongoing throughout demolition, grading, and/or construction activities.	County Coroner and Native American MLD.	Considered complete upon termination of demolition, grading, and/or construction activities.

the Tribe and the lead agency where the reburial would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial are to be kept confidential and secure to prevent any further disturbance.						
4.3: TRIBAL CULTURAL RESOURCES						
Archaeological Resources. (see above)	Yes	Yes	Construction contractor.	Ongoing throughout demolition, grading, and/or construction activities.	Qualified archaeologist, historian, and/or paleontologist and Tribal representative.	Considered complete upon termination of demolition, grading, and/or construction activities.
Human Remains. (see above)	Yes	Yes	Construction contractor.	Ongoing throughout demolition, grading, and/or construction activities.	County Coroner and Native American MLD.	Considered complete upon termination of demolition, grading, and/or construction activities.
4.4: TRANSPORTATION						
Construction/No Parking Permits. Contact the Permit Service Center (PSC) at 1947 Center Street or 981-7500 for details on obtaining Construction/No Parking Permits (and associated signs and accompanying dashboard permits). Please note that the Zoning Officer and/or Traffic Engineer may limit off-site parking of construction-related vehicles if necessary to protect the health, safety or convenience of the surrounding neighborhood.	Yes	Yes	Project sponsor.	Prior to demolition or start of construction.	City of Berkeley.	Considered complete upon issuance of permits.
Loading. All loading/unloading activities associated with deliveries to all uses shall be restricted to the hours of 7:00 a.m. to 10:00 p.m. daily.	Yes	Yes	Project sponsor.	At all times.	City of Berkeley.	N/A
Required Bike Parking. Secure and on-site bike parking shall be provided for the life of the building.	Yes	Yes	Project sponsor.	At all times.	City of Berkeley.	N/A
Transportation Construction Plan. The applicant and all persons associated with the project are hereby notified that a Transportation Construction Plan (TCP) may be required, particularly for the following activities: a. Alterations, closures, or blockages to sidewalks, pedestrian paths or vehicle travel lanes (including bicycle lanes); b. Storage of building materials, equipment, dumpsters, debris anywhere in the public ROW; c. Provision of exclusive contractor parking on-street; or d. Significant truck activity.	Yes	Yes	Project sponsor.	Prior to demolition or start of construction.	City of Berkeley, Office of Transportation.	Considered complete upon submittal of a Transportation Construction Plan.

Please contact the Office of Transportation at (510) 981-7010, or 1947 Center Street, and ask to speak to a traffic engineer. In addition to other requirements of the Traffic Engineer, this plan shall include the locations of material and equipment storage, trailers, worker parking, a schedule of site operations that may block traffic, and provisions for traffic control. The TCP shall be stamped and signed by a registered engineer prior to submittal. The TCP shall be consistent with any other requirements of the construction phase. A current copy of this Plan shall always be available at the construction site for review by City Staff.						
Nonresidential Electric Vehicle (EV) Charging. At least 10 percent of project parking spaces for nonresidential use shall have installed Level 2 (40 amp) electric vehicle (EV) charging stations and/or DC Fast Charging Stations, and least 40 percent shall be "EV Capable" equipped with raceway, electrical panel service capacity, and an electrical system to support future Level 2 (40 amp) EV charging stations, or any more stringent EV charging requirements, as specified by the Berkeley Green Code (Berkeley Municipal Code [BMC] Chapter 19.37). EV charging station installations and EV Capable spaces shall be noted on the construction plans. Public access parking spaces shall provide any applicable mandatory accessibility provisions. (A project is required to meet applicable code at time of building permit application, if different from above.)	Yes	Yes	Project sponsor.	Prior to issuance of any building (construction) permit.	City of Berkeley.	Considered complete upon issuance of final building inspection.
4.5: AIR QUALITY						
Public Works – Implement BAAQMD-Recommended Measures During Construction. For all proposed projects, BAAQMD recommends implementing all the Basic Construction Mitigation Measures listed below to meet the best management practices threshold for fugitive dust: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as	Yes	Yes	Construction contractor.	During construction.	City of Berkeley.	Considered complete upon the termination of construction activities.

soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be checked by a certified visible emissions evaluator. • Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.						
<u>Air Quality – Diesel Particulate Matter Controls During Construction.</u> All off-road construction equipment used for projects with construction lasting more than 2 months shall comply with one of the following measures: • The project applicant shall prepare a health risk assessment that demonstrates the project's on-site emissions of diesel particulate matter during construction will not exceed health risk screening criteria after a screening-level health risk assessment is conducted in accordance with current guidance from BAAQMD and OEHHA. The health risk assessment shall be submitted to the Land Use Planning Division for review and approval prior to the issuance of building permits; or • All construction equipment shall be equipped with Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by the California Air Resources Board. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. • In addition, a Construction Emission Minimization Plan (Emission Plan) shall be prepared that includes:	Yes	Yes	Construction contractor.	During construction.	City of Berkeley.	Considered complete upon the termination of construction activities.

o An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date. o A Certification Statement that the Contractor agrees to comply fully with the Emission Plan and acknowledges that a significant violation of the Emission Plan shall constitute a material breach of contract. The Emission Plan shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.						
4.6: GREENHOUSE GAS EMISSIONS						
Public Works – Implement BAAQMD-Recommended Measures During Construction. (see above)	Yes	Yes	Construction contractor.	During construction.	City of Berkeley.	Considered complete upon the termination of construction activities.
Air Quality – Diesel Particulate Matter Controls During Construction. (see above)	Yes	Yes	Construction contractor.	During construction.	City of Berkeley.	Considered complete upon the termination of construction activities.
Nonresidential Electric Vehicle (EV) Charging. (see above)	Yes	Yes	Project sponsor.	At all times.	City of Berkeley.	N/A
4.7: ENERGY						
Construction and Demolition Diversion. Applicant shall submit a Construction Waste Management Plan that meets the requirements of Berkeley Municipal Code (BMC) Chapter 19.37 including 100 percent diversion of asphalt, concrete, excavated soil and land-clearing debris and a minimum of 65 percent diversion of other nonhazardous construction and demolition waste.	Yes	Yes	Project sponsor.	During construction	City of Berkeley.	Considered complete upon the submittal of a Construction Waste Management Plan.
4.8: NOISE						
Construction Noise Reduction Program. The applicant shall develop a site-specific noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible, subject to review and approval of the Zoning Officer. The noise reduction program shall include the time limits for construction listed above, as measures needed to ensure that construction complies with BMC Section 13.40.070. The noise reduction program should include, but shall not be limited to, the following available controls to reduce construction noise levels to as low as practical:	Yes	Yes	Project sponsor and qualified acoustical consultant.	During construction.	City of Berkeley, Zoning Officer.	Considered complete upon the termination of construction activities.

a. Construction equipment should be well maintained and used judiciously to be as quiet as practical. b. Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment. c. Utilize "quiet" models of air compressors and other stationary noise sources where technology exists. Select hydraulically or electrically powered equipment and avoid pneumatically powered equipment where feasible. d. Locate stationary noise-generating equipment as far as possible from sensitive receptors when adjoining construction sites. Construct temporary noise barriers or partial enclosures to acoustically shield such equipment where feasible. e. Prohibit unnecessary idling of internal combustion engines. f. If impact pile driving is required, pre-drill foundation pile holes to minimize the number of impacts required to seat the pile. g. Construct solid plywood fences around construction sites adjacent to operational business, residences or other noise-sensitive land uses where the noise control plan analysis determines that a barrier would be effective at reducing noise. h. Erect temporary noise control blanket barriers, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected. i. Route construction related traffic along major roadways and away from sensitive receptors where feasible.						
<u>Construction Noise Management – Public Notice Required.</u> At least 2 weeks prior to initiating any construction activities at the site, the applicant shall provide notice to businesses and residents within 500 feet of the project site. This notice shall at a minimum provide: (1) a project description, (2) a description of construction activities during extended work hours and reason for extended hours, (3) a daily construction schedule (i.e., time of day) and expected duration (number of months), (4) the name and phone number of the Project Liaison for the project that is responsible for responding to any local complaints, and (5) that construction work is about to commence. The	Yes	Yes	Project sponsor.	Prior to the issuance of any building and/or safety permits. At least 2 weeks prior to initiating any construction	City of Berkeley.	Considered complete upon the approval of notice and methodology for distributing the notice.

liaison would determine the cause of all construction-related complaints (e.g., starting too early, bad muffler, worker parking) and institute reasonable measures to correct the problem. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval.				activities at the project site.		
Construction Phases. The applicant shall provide the Zoning Officer with a schedule of major construction phases with start dates and expected duration, a description of the activities and anticipated noise levels of each phase, and the name(s) and phone number(s) of the individual(s) directly supervising each phase. The Zoning Officer or his/her designee shall have the authority to require an on-site meeting with these individuals as necessary to ensure compliance with these conditions. The applicant shall notify the Zoning Officer of any changes to this schedule as soon as possible.	Yes	Yes	Project sponsor.	Prior to the issuance of any building and/or safety permits.	City of Berkeley, Zoning Officer.	Considered complete upon the submittal of construction phasing plans.
Construction Hours. Construction activity shall be limited to between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday, and between 9:00 a.m. and 4:00 p.m. on Saturday. No construction-related activity shall occur on Sunday or any Federal Holiday.	Yes	Yes	Construction contractor.	During construction.	City of Berkeley.	Considered complete upon the termination of construction activities.
Construction Hours – Exceptions. It is recognized that certain construction activities, such as the placement of concrete, must be performed in a continuous manner and may require an extension of these work hours. Prior to initiating any activity that might require a longer period, the developer must notify the Zoning Officer and request an exception for a finite period of time. If the Zoning Officer approves the request, then 2 weeks prior to the expanded schedule, the developer shall notify businesses and residents within 500 feet of the project site describing the expanded construction hours. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval. The project shall not be allowed more than 15 extended working days.	Yes	Yes	Project sponsor and construction contractor.	During construction.	City of Berkeley, Zoning Officer.	Considered complete upon the termination of construction activities.
Project Construction Website. The applicant shall establish a project construction website with the following information clearly accessible and updated monthly or more frequently as changes warrant. a. Contact information (i.e. "hotline" phone number, and email address) for the project construction manager b. Calendar and schedule of daily/weekly/monthly construction activities c. The final Conditions of Approval, Mitigation Monitoring and Reporting Program, Transportation Construction Plan, Construction Noise Reduction Program, and any other reports or programs related to construction noise, air quality, and traffic.	Yes	Yes	Project sponsor.	During construction.	City of Berkeley.	Considered complete upon the termination of construction activities.

HVAC Noise Reduction. Prior to the issuance of building permits, the project applicant shall submit plans that show the location, type, and design of proposed heating, ventilation, and cooling (HVAC) equipment. In addition, the applicant shall provide product specification sheets or a report from a qualified acoustical consultant showing that operation of the proposed HVAC equipment will meet the City's exterior noise requirements in BMC Section 13.40.050. The City's Planning and Development Department shall review the submitted plans, including the selected HVAC equipment, to verify compliance with exterior noise standards.	Yes	Yes	Project sponsor.	Prior to the issuance of any building permit.	City of Berkeley, Planning and Development Department.	Considered complete upon submittal of HVAC plans.
Loading. All loading/unloading activities associated with deliveries to all uses shall be restricted to the hours of 7:00 a.m. to 10:00 p.m. daily.	Yes	Yes	Project operators.	At all times.	City of Berkeley.	N/A
Damage Due to Construction Vibration. The project applicant shall submit screening level analysis prior to, or concurrent with demolition building permit. If a screening level analysis shows that the project has the potential to result in damage to structures, a structural engineer or other appropriate professional shall be retained to prepare a vibration impact assessment (assessment). The assessment shall consider project specific information such as the composition of the structures, location of the various types of equipment used during each phase of the project, and the soil characteristics in the project area to determine whether project construction may cause damage to any of the structures identified as potentially impacted in the screening level analysis. If the assessment finds that the project may cause damage to nearby structures, the structural engineer or other appropriate professional shall recommend design means and methods of construction that to avoid the potential damage, if feasible. The assessment and its recommendations shall be reviewed and approved by the Building and Safety Division and the Zoning Officer. If there are no feasible design means or methods to eliminate the potential for damage, the structural engineer or other appropriate professional shall undertake study of existing conditions (study) of any structures (or, in case of large buildings, of the portions of the structures) that may experience damage. This study shall establish the baseline condition of these structures, including, but not limited to, the location and extent of any visible cracks or spalls; and include written descriptions and photographs. The study shall be reviewed and approved by the Building and Safety Division and the Zoning Officer prior to issuance of a grading permit. Upon completion of the project, the structures (or, in case of large buildings, of the portions of the structures) previously inspected will be resurveyed, and any new cracks or other changes shall be compared to pre-construction conditions and a determination shall be made as to whether the proposed project caused the damage. The findings shall be submitted to the Building and Safety Division and the Zoning Officer	Yes	Yes	Project sponsor.	Prior to the submittal of any building permit.	City of Berkeley, Building and Safety Division and the Zoning Officer.	Considered complete upon approval of the assessment and its recommendations.

for review. If it is determined that project construction has resulted in damage to the structure, the damage shall be repaired to the pre-existing condition by the project sponsor, provided that the property owner approves of the repair.						
4.9: HAZARDS AND HAZARDOUS MATERIALS						
Toxics. The applicant shall contact the Toxics Management Division (TMD) at 1947 Center Street or (510) 981-7470 to determine which of the following documents are required and timing for their submittal: A. Phase I and Phase II Environmental Site Assessment (ESA) (per ASTM 1527). A recent Phase I ESA (less than 2 years old) shall be submitted to the Toxics Management Division for developments for: all new commercial, industrial and mixed-use developments and all improvement projects that require work 5 or more feet below grade, and all new residential buildings with more than four dwelling units in the Environmental Management Area (or EMA). The EMA can be viewed at City of Berkeley Community GIS Portal (arcgis.com) B. Depending on the findings in the Phase I, a Phase II or additional investigation may be necessary. Any available soils and groundwater analytical data available for projects listed in this section must also be submitted to TMD. C. Environmental Site Clearance. The applicant shall provide environmental screening clearance from either the San Francisco Bay Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC), or the Alameda County Department of Environmental Health's Local Oversight Program (LOP). Clearance from one of these regulatory agencies will ensure that the property meets development investigation and cleanup standards for the specific use proposed on the property. Environmental screening clearance shall be submitted to the City's Toxics Management Division prior to issuance of any building permits. D. Soil and Groundwater Management Plan. A site-specific Soil and Groundwater Management Plan (SGMP) shall be submitted to Toxics Management Division (TMD) for all non-residential projects, and residential or mixed-use projects with more than four dwelling units, that: (1) are in the Environmental Management Area (EMA), as shown on the most recent City of Berkeley EMA map, and (2) propose any excavations deeper than 5 feet below grade or if significant soils removal is anticipated. The SGMP shall be submitted to the TMD with the	Yes	Yes	Project sponsor.	Prior to the issuance of any building and/or safety permit (demolition or construction).	City of Berkeley, Toxics Management Division.	Considered complete upon submittal of all applicable documents.

project's building permit application and shall be approved by TMD prior to issuance of the building permit. The SGMP shall comply with the hazardous materials and waste management standards required by BMC Section 15.12.100, the stormwater pollution prevention requirements of San Francisco Bay Regional Water Quality Control Board's Order No. R2-2009-0074, California hazardous waste generator regulations (Title 22 California Code of Regulations (CCR) 66260 et seq.), and the East Bay Municipal Utility District's Ordinance 311, and shall include the following: i. Procedures for soil and groundwater management including identification of pollutants and disposal methods; ii. Procedures to manage odors, dust and other potential nuisance conditions expected during development; iii. Notification to TMD within 24 hours of the discovery of any previously undiscovered contamination; and iv. The name and phone number of the individual responsible for implementing the SGMP and who will respond to community questions or complaints. TMD may require additional information or impose additional conditions as deemed necessary to protect human health and the environment. All requirements of the approved SGMP shall be deemed conditions of approval. E. Demolitions & Renovations – Building Materials Survey. A hazardous materials survey for building materials and plans on hazardous materials and hazardous waste removal and disposal is required and must be prepared by qualified professionals, and submitted to the TMD prior to issuance of the building permit. i. The survey shall include the identification of all materials to be disturbed for lead-based paints, polychlorinated biphenyl (PCB) containing equipment and caulking, hydraulic fluids, refrigerants, treated wood, and mercury containing devices (including fluorescent light bulbs and mercury switches), asbestos and other hazardous materials and chemicals.						

ii. If asbestos is identified, pursuant to Bay Area Air Quality Management District Regulation 11-2-401.3 a notification must be made and the J number must be made available to the City of Berkeley Permit Service Center. Contractors must follow state regulations where there is asbestos-related work involving 100 square feet or more of asbestos containing material (8 Cal. Code Regs. §1529, §341.6 et seq.) iii. The report to the TMD shall include, in addition to the survey, plans on hazardous materials and hazardous waste removal and disposal that comply with State and Federal codes including California Code of Regulations (CCR) 66260 et seq. iv. Documentation evidencing disposal of hazardous waste in compliance with the survey shall be submitted to TMD within 30 days of the completion of the demolition. Please note, the PCB Screening Form required by Public Works, Engineering, is a separate requirement and does not address the PCB identification requirement of the Toxics Management Division. F. Hazardous Materials Business Plan. A HMBP in compliance with BMC Section 15.12.040 and California Health & Safety Code, Chapter 6.95 Div. 20, shall be submitted to the Toxics Management Division through the California Environmental Reporting System: http://cers.calepa.ca.gov/ for chemicals used or stored on site during construction that exceed reporting thresholds. The reporting is required if your facility stores or handles hazardous materials in aggregate quantities equal to or greater than 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet of compressed gases, or generates any quantity of hazardous waste. This includes welding gases, emergency generator fuel, paints, etc. Additionally, the business occupant must submit an HMBP within 30 days of starting operations. G. Petroleum Storage. An SPCC Plan is required to be prepared and implemented for facilities with any one of the following:						

i. Aggregate aboveground petroleum storage capacities of 1,320 gallons or more stored in aboveground storage containers, tanks, oil-filled equipment, or ii. One or more tank(s) in an underground area (TIUGA) with petroleum storage capacities of 55 gallons or greater. More information on TIUGAs can be found here: https://osfm.fire.ca.gov/divisions/pipeline-safety-and-cupa/certified-unified-program-agency-cupa/aboveground-petroleum-storage-act/tank-in-an-underground-area-tiuga/ The SPCC plan must be prepared prior to beginning operations and you must submit facility information to TMD through the California Environmental Reporting System: http://cers.calepa.ca.gov/. The SPCC plan will be reviewed during the site inspection and shall not be submitted in CERS or to the TMD.						
4.10: HYDROLOGY AND WATER QUALITY						
Toxics. (see above)	Yes	Yes	Project sponsor.	Prior to the issuance of any building and/or safety permit (demolition or construction).	City of Berkeley, Toxics Management Division.	Considered complete upon submittal of all applicable documents.
Stormwater Requirements. The applicant shall demonstrate compliance with the requirements of the City's National Pollution Discharge Elimination System (NPDES) permit as described in the Berkeley Municipal Code (BMC) Section 17.20. The following conditions apply: A. The project plans shall identify and show site-specific Best Management Practices (BMPs) appropriate to activities conducted on-site to limit to the maximum extent practicable the discharge of pollutants to the City's storm drainage system, regardless of season or weather conditions. B. Trash enclosures and/or recycling area(s) shall be covered; no other area shall drain onto this area. Drains in any wash or process area shall not discharge to the storm drain system; these drains should connect to the sanitary sewer. Applicant shall contact the City of Berkeley and EBMUD for specific connection and discharge requirements. Discharges to the sanitary sewer are subject to the review, approval and conditions of the City of Berkeley and EBMUD.	Yes	Yes	Construction contractor.	During construction.	City of Berkeley, Public Works Department.	Considered complete upon termination of construction activities.

C. Landscaping shall be designed with efficient irrigation to reduce runoff, promote surface infiltration and minimize the use of fertilizers and pesticides that contribute to stormwater pollution. Where feasible, landscaping should be designed and operated to treat runoff. When and where possible, xeriscape and drought tolerant plants shall be incorporated into new development plans. D. Design, location and maintenance requirements and schedules for any stormwater quality treatment structural controls shall be submitted to the Department of Public Works for review with respect to reasonable adequacy of the controls. The review does not relieve the property owner of the responsibility for complying with BMC Chapter 17.20 and future revisions to the City's overall stormwater quality ordinances. This review shall be conducted prior to the issuance of a Building Permit. E. All paved outdoor storage areas must be designed to reduce/limit the potential for runoff to contact pollutants. F. All on-site storm drain inlets/catch basins must be cleaned at least once a year immediately prior to the rainy season. The property owner shall be responsible for all costs associated with proper operation and maintenance of all storm drainage facilities (pipelines, inlets, catch basins, outlets, etc.) associated with the project, unless the City accepts such facilities by Council action. Additional cleaning may be required by City of Berkeley Public Works Engineering Dept. G. All private or public projects that create and/or replace 5,000 square feet or more of impervious surface must comply with Provision C.3 of the Alameda County NPDES permit and must incorporate stormwater controls to enhance water quality. Permit submittals shall include a Stormwater Requirement Checklist and detailed information showing how the proposed project will meet Provision C.3 stormwater requirements, including a) Site design measures to reduce impervious surfaces, promote infiltration, and reduce water quality impacts; b) Source Control Measures to keep pollutants out of stormwater runoff; c) Stormwater treatment measures that are hydraulically sized to remove pollutants from stormwater; d) an O & M (Operations and Maintenance) agreement for all stormwater treatment devices and installations; and e) Engineering calculations for all stormwater devices (both mechanical and biological).						

H. All on-site storm drain inlets must be labeled "No Dumping – Drains to Bay" or equivalent using methods approved by the City. I. Washing and/or steam cleaning must be done at an appropriately equipped facility that drains to the sanitary sewer. Any outdoor washing or pressure washing must be managed in such a way that there is no discharge or soaps or other pollutants to the storm drain. Sanitary connections are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge. J. All loading areas must be designated to minimize "run-on" or runoff from the area. Accumulated waste water that may contribute to the pollution of stormwater must be drained to the sanitary sewer or intercepted and pretreated prior to discharge to the storm drain system. The property owner shall ensure that BMPs are implemented to prevent potential stormwater pollution. These BMPs shall include, but are not limited to, a regular program of sweeping, litter control and spill cleanup K. Restaurants, where deemed appropriate, must be designed with a contained area for cleaning mats, equipment and containers. This contained wash area shall be covered or designed to prevent run-on or run-off from the area. The area shall not discharge to the storm drains; wash waters should drain to the sanitary sewer, or collected for ultimate disposal to the sanitary sewer. Employees shall be instructed and signs posted indicating that all washing activities shall be conducted in this area. Sanitary connections are subject to the review, approval and conditions of the waste water treatment plant receiving the discharge. L. Sidewalks and parking lots shall be swept regularly to prevent the accumulation of litter and debris. If pressure washed, debris must be trapped and collected to prevent entry to the storm drain system. If any cleaning agent or degreaser is used, wash water shall not discharge to the storm drains; wash waters should be collected and discharged to the sanitary sewer. Discharges to the sanitary sewer are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge. M. The applicant is responsible for ensuring that all contractors and sub-contractors are aware of and implement all stormwater quality control measures. Failure to comply with the approved						

construction BMPs shall result in the issuance of correction notices, citations, or a project stop work order. N. All piles of debris, soil, sand, or other loose materials shall be covered at night and during rainy weather with plastic at least one-eighth millimeter thick and secured to the ground. O. The applicant shall ensure that all excavation takes into account surface and subsurface waters and underground streams so as not to adversely affect adjacent properties and rights-of-way. P. The project sponsor shall maintain sandbags or other devices around the site perimeter during the rainy season to prevent on-site soils from being washed off site and into the storm drain system. The project sponsor shall comply with all City ordinances regarding construction and grading. Q. Prior to any excavation, grading, clearing, or other activities involving soil disturbance during the rainy season the applicant shall obtain approval of an erosion prevention plan by the Building and Safety Division and the Public Works Department. The applicant shall be responsible for following these and any other measures required by the Building and Safety Division and the Public Works Department.						
Public Works – Construction. Construction must comply with the State-wide general permit requiring owner to (1) notify the State; (2) prepare and implement a Stormwater Pollution Prevention Plan (SWPPP); and (3) monitor the effectiveness of the plan. Additional information may be found online at http://www.swrcb.ca.gov. As part of the permit submittal, the Public Works Department will need a) a copy of the "Notice of Intent" filed with the State Water Resources Control Board (SWRCB)/Division of Water Quality; b) the Waste Discharger Identification (WDID) number issued by the SWRCB for the project; c) a copy of the SWPPP prepared for each phase of the project; and d) the name of the individual who will be responsible for monitoring the site for compliance to the approved SWPPP.	Yes	Yes	Construction contractor.	During construction.	City of Berkeley, Public Works Department.	Considered complete upon termination of construction activities.
Drainage Patterns. The applicant shall establish and maintain drainage patterns that do not adversely affect adjacent properties and rights-of-way. Drainage plans shall be submitted for approval of the Building & Safety Division and Public Works Department, if required.	Yes	Yes	Project sponsor.	At all times.	City of Berkeley.	N/A
4.11: BIOLOGICAL RESOURCES						
Avoid Disturbance of Nesting Birds. Initial site disturbance activities, including vegetation and concrete removal, shall be prohibited during the general avian nesting season (February 1 to August 30), if feasible. If nesting season avoidance is not feasible, the applicant shall retain a qualified biologist to conduct a preconstruction nesting bird survey to	Yes	Yes	Project sponsor and construction contractor.	Prior to initial site disturbance activities and	Qualified biologist.	Considered complete upon termination of site disturbance activities and during construction.

determine the presence/absence, location, and activity status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site shall be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the MBTA and CFGC, nesting bird surveys shall be performed not more than 14 days prior to scheduled vegetation and concrete removal. In the event that active nests are discovered, a suitable buffer (typically a minimum buffer of 50 feet for passerines and a minimum buffer of 250 feet for raptors) shall be established around such active nests and no construction shall be allowed inside the buffer areas until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). No ground-disturbing activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting is completed and the young have fledged the nest. Nesting bird surveys are not required for construction activities occurring between August 31 and January 31.				during construction.		

Source: Gilman Gateway Rezone Project Draft Environmental Impact Report (LSA 2024).
COA = Conditions of Approval
N/A = not applicable

DRAFT

ENVIRONMENTAL IMPACT REPORT

GILMAN GATEWAY REZONE PROJECT

BERKELEY, CALIFORNIA

SCH# 2022120549

LSA

October 2024

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DRAFT

ENVIRONMENTAL IMPACT REPORT

GILMAN GATEWAY REZONE PROJECT

BERKELEY, CALIFORNIA

SCH# 2022120549

Submitted to:

City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, California 94704

Prepared by:

LSA
157 Park Place
Pt. Richmond, California 94801
510.236.6810

Project No. CBE1906.09

October 2024

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ACCWP	Alameda County Clean Water Program
ACM	asbestos-containing materials
Air Basin	San Francisco Bay Area Air Basin
APN	Assessor's Parcel Number
APS	Alternative Planning Strategy
ASTs	above-ground storage tanks
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Basin Plan	Water Quality Control Plan for the San Francisco Bay Basin
Bay	San Francisco Bay
BCE	Before Common Era
BenMAP	Environmental Benefits Mapping and Analysis Program
BMC	Berkeley Municipal Code
Bulletin 15	*Bulletin 15: How to Apply the National Register Criteria for Evaluation*
CAAQS	California Ambient Air Quality Standards
CAFE	corporate average fuel economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model version 2022.1
CalEPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation

CAP	Climate Action Plan
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation program
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CE	Common Era
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Berkeley
Clean Air Plan	BAAQMD's 2017 Bay Area Clean Air Plan
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COA	Conditions of Approval
CPUC	California Public Utilities Commission
CRE	Cultural Resources Evaluation
CUPA	Certified Unified Program Agency
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EBP	East Bay Plain
EIR	Environmental Impact Report
Emission Plan	Construction Emission Minimization Plan
EO	Executive Order
EOP	Emergency Operations Plan

ESA	Environmental Site Assessment
ESLs	Environmental Screening Levels
FCAA	federal Clean Air Act
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GSAs	groundwater sustainability agencies
GSPs	groundwater sustainability plans
GWh	gigawatt-hours
GWP	Global Warming Potential
HFCs	hydrofluorocarbons
HMBPs	Hazardous Materials Business Plans
HMTA	Hazardous Materials Transportation Act of 1975
HRA	Health Risk Assessment
HRAs	High-Resource Areas
HRE	Historical Resource Evaluation
I-80	Interstate 80
I-580	Interstate 580
Industrial General Permit	NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities (Order 2014-0057-DWQ as amended by Order 2015-0122-DWQ)
kWh	kilowatt-hours
LBP	lead-based paint
LCFS	low carbon fuel standard
LHMP	Local Hazard Mitigation Plan
LID	low-impact development
LUST	leaking underground storage tank
MLD	Most Likely Descendant
MMT CO_2e	million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MRP	San Francisco Bay Municipal Regional Stormwater Permit

MT CO_2e	metric tons of carbon dioxide equivalent
MTBE	methyl-tert-butyl-ether
MTC	Metropolitan Transportation Commission
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NAVD 88	North American Vertical Datum of 1988
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
O_3	ozone
OEHHA	State Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OU	operable unit
Pb	lead
PCBs	polychlorinated biphenyls
PCE	perchloroethylene
PDAs	Priority Development Areas
PFCS	perfluorocarbons
PG&E	Pacific Gas & Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
POTW	publicly owned treatment works

PPAs	Priority Production Areas
PRC	Public Resources Code
project	Gilman Gateway Rezone Project
RCRA	Resource Conservation and Recovery Act of 1976
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	San Francisco Bay Regional Water Quality Control Board
SB	Senate Bill
SCA	Standard Conditions of Approval
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
T-BACTs	best available control technologies for toxics
TCE	trichloroethylene
TDM Plan	Transportation Demand Management Plan for the Gilman Gateway Rezone Project
TDS	total dissolved solids
TIUGA	tank(s) in an underground area
TMD	City of Berkeley Toxics Management Division
TMDL	total maximum daily load
TPH	total petroleum hydrocarbons
TRAs	Transit-Rich Areas
TSCA	Toxic Substances Control Act of 1976

UPRR	Union Pacific Railroad
USEPA	United States Environmental Protection Agency
USTs	underground storage tanks
VDECS	Verified Diesel Emission Control Strategies
VMT	vehicle miles traveled
WDRs	Waste Discharge Requirements
ZEV	zero-emission vehicle
ZNE	zero net energy

1.0 INTRODUCTION

This chapter provides an overview of the Gilman Gateway Rezone Project (herein referenced as the "proposed project"), and a conceptual project (herein referred to as the "Potential Berkeley Forge Development" or "conceptual development project"), outlines the purpose and scope of the Environmental Impact Report (EIR), and identifies the report's organizational structure. Implementation of the Gilman Gateway Rezone Project would facilitate the Potential Berkeley Forge Development; accordingly, this EIR evaluates the proposed project and the conceptual development project.

1.1 PROPOSED PROJECT

The proposed project evaluated in this EIR consists of the following.

1.1.1 Proposed Gilman Gateway Rezone Project

The City of Berkeley (City), as the lead agency for environmental review pursuant to the California Environmental Quality Act (CEQA) and the project proponent, proposes to adopt and implement the Gilman Gateway Rezone Project (proposed project). The 11.54-acre project site is composed of 18 parcels of developed land in West Berkeley, Alameda County. The proposed project would:

1. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

2. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the M-RD zoning district.

3. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD zoning district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, the Berkeley General Plan, and the West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet, on 11.54 acres, of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic level.

1.1.2 Potential Berkeley Forge Development

In addition to the new M--RD zoning district, this EIR evaluates the Potential Berkeley Forge Development (conceptual development project) that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses. No application for the conceptual development project has been received; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at the project level to the extent feasible.

The proposed zoning and General Plan amendments are subject to action by the City's Planning Commission and City Council. The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board and its Design Review Committee, pursuant to the BMC. Specific requirements would be determined once an application for the conceptual development project is received. The proposed project, including the conceptual development project, is fully described in Chapter 3.0, Project Description, of this EIR.

1.2 PURPOSE OF THIS EIR

In compliance with CEQA, this EIR describes the potential environmental impacts of the proposed project, which collectively includes the proposed new zoning district, rezoning, General Plan amendment, West Berkeley Plan amendment, and the reasonably foreseeable conceptual development project. This EIR is both a program EIR under *State CEQA Guidelines* Section 15168 and a project EIR under *State CEQA Guidelines* Section 15161.[1] A program EIR is an EIR that may be prepared on a series of actions that can be characterized as one large project and are related (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of continuing a program; or (4) as individual actions carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

Later activities in the program must be examined in light of the program EIR to determine whether an additional environmental document must be prepared. The conceptual development project is evaluated at a project level to the extent feasible, given that no formal application has been submitted and that project plans are not yet available. It is anticipated that once a formal application is submitted for the conceptual development project, the conceptual development project would be more fully evaluated in a subsequent environmental document that could tier from this program EIR, as appropriate. The appropriate level of environmental review will be determined at the time that the City receives a formal application.

The purpose of this EIR is to inform City decision-makers, responsible agencies, and the general public about the proposed project and the potential physical environmental consequences of project implementation. This EIR also examines alternatives to the proposed project and recommends mitigation measures to reduce or avoid potentially significant physical environmental impacts to the extent feasible. This EIR will be used as an informational document by the City's decision-makers, responsible agencies, and the public in their review of the proposed project and associated approvals described in more detail in Chapter 3.0, Project Description.

1.3 EIR SCOPE

The City circulated a Notice of Preparation (NOP) informing responsible and trustee agencies and interested parties that an EIR would be prepared for the proposed project and indicated the environmental topics anticipated to be addressed in the EIR. The NOP was published on December 21, 2022, and was mailed to public agencies, organizations, and individuals likely to be interested in the potential impacts of the proposed project. The NOP was also submitted to the

[1] California Environmental Quality Act (State CEQA) Guidelines, 2024. California Code of Regulations, Title 14, Division 6, Chapter 3.

State of California Governor's Office of Planning and Research (OPR). Scoping sessions were held as public hearings before the Planning Commission on February 1, 2023, and the Landmarks Preservation Commission on February 2, 2023, to solicit feedback regarding the scope and content of the EIR. Verbal comments received during the scoping session from the Planning Commission, Landmarks Preservation Commission, members of the public attending commission meetings, and the three written comment letters provided by agencies and organizations on the NOP were considered during preparation of this EIR. Copies of the NOP, the comment letters, and a summary of the verbal comments received are included in Appendix A.

Based on the preliminary analysis, consultation with City staff, and review of the comments received during the scoping process, the following environmental topics are addressed in Chapter 4.0, Setting, Impacts, and Mitigation Measures, of this EIR:

- 4.1, Land Use and Planning
- 4.2, Cultural Resources
- 4.3, Tribal Cultural Resources
- 4.4, Transportation
- 4.5, Air Quality
- 4.6, Greenhouse Gas Emissions
- 4.7, Energy
- 4.8, Noise
- 4.9, Hazards and Hazardous Materials
- 4.10, Hydrology and Water Quality
- 4.11, Biological Resources

It was determined that the following potential environmental effects of the proposed project would be less than significant or have no impact, and these topics are therefore "scoped out" and not studied further in full detail in this EIR: aesthetics, agricultural and forestry resources, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire. Each of these topic areas is summarized in Chapter 6.0, Other CEQA Considerations, of this EIR.

1.4 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1.0, Introduction:** Provides a summary of the proposed project, discusses the overall purpose of the EIR, describes the EIR scope, and summarizes the organization of the EIR.

- **Chapter 2.0, Summary:** Provides a summary of the impacts that would result from implementation of the proposed project, describes mitigation measures recommended to reduce or avoid potentially significant environmental impacts, and describes the alternatives to the proposed project.

- **Chapter 3.0, Project Description:** Provides a description of the project site, project objectives, proposed project, and uses of this EIR.

- **Chapter 4.0, Setting, Impacts, and Mitigation Measures:** Describes the following for each technical environmental topic: existing conditions (setting), potential environmental impacts of the proposed project and their level of significance, and mitigation measures recommended to reduce or avoid identified potential impacts. Potential cumulative impacts are also addressed in each topical section. Potential adverse impacts are identified by levels of significance as significant impact, less than significant impact, less than significant with mitigation, and significant and unavoidable impact. The significance of each potential impact is categorized before and after implementation of any recommended mitigation measure(s).

- **Chapter 5.0, Alternatives:** Provides an evaluation of three alternatives to the project including: the CEQA-required no project alternative referred to as the No Action Alternative, a General Plan Compliant Alternative, and a Reduced Development Alternative.

- **Chapter 6.0, Other CEQA Considerations:** Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts, and significant irreversible changes.

- **Chapter 7.0, Report Preparation:** Identifies preparers of the EIR and the references cited.

- **Appendices:** The following appendices are referenced in this Draft EIR and are available online at: https://aca.cityofberkeley.info/CitizenAccess/Default.aspx.

  Click on Zoning tab; enter permit number PLN2022-0079; select permit PLN2022-0079; click on the "Record Info" drop down menu; click on Attachments for a list of all project materials.

  - Appendix A: Notice of Preparation and Comment Letters
  - Appendix B: Cultural Resource Evaluation
  - Appendix C: Historical Resources Evaluation
  - Appendix D: Native American Heritage Commission Response Letter
  - Appendix E: Transportation Impact Analysis
  - Appendix F: CalEEMod Results
  - Appendix G: Health Risk Assessment
  - Appendix H: Energy Calculations
  - Appendix I: Noise Measurements
  - Appendix J: FHWA Noise Model
  - Appendix K: Water Supply Assessment

2.0 SUMMARY

This chapter provides an overview of the Gilman Gateway Rezone Project (herein referenced as the "proposed project") and the Potential Berkeley Forge Development (herein referenced as "conceptual development project") and discusses the findings identified in this Environmental Impact Report (EIR), prepared pursuant to the California Environmental Quality Act (CEQA), including a discussion of project alternatives and approach to cumulative impacts analysis.

2.1 PROJECT UNDER REVIEW

This Environmental Impact Report (EIR) has been prepared to evaluate the potential environmental consequences of implementation (i.e., construction and operation) of the Gilman Gateway Rezone Project and the Potential Berkeley Forge Development.

2.1.1 Proposed Gilman Gateway Rezone Project

The proposed Gilman Gateway Rezone Project (project), which would be adopted and implemented by the City of Berkeley (City) as both the lead agency under CEQA and project proponent and would:

a. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

b. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the newly established M-RD zoning district.

c. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, Berkeley General Plan, and West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet on an 11.54-acre site (the project site), of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic-level.

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The project site includes one property, 1306 Third Street, that meets the criteria for listing in the California Register of Historical Places, meets the criteria for designation as a City of Berkeley Landmark, and meets the definition of an historical resource pursuant to *State CEQA Guidelines* Section 15064.5. Vegetation on the site is limited to sparse street and ornamental trees. Of the 18 parcels, 9 are associated with the former Pacific Steel Casting site and total 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels totaling 1.47 acres.

2.1.2 Potential Berkeley Forge Development

The Potential Berkeley Forge Development (conceptual development project), submitted by Spur Capital, LLC (project sponsor), would be facilitated by adoption and implementation of the Gilman Gateway Rezone Project. The Potential Berkeley Forge Development is a conceptual project that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at the project level to the extent feasible.

2.2 POTENTIAL AREAS OF CONTROVERSY

A total of two commenters submitted written responses to the Notice of Preparation (NOP), in addition to the verbal comments received at the public scoping session held on February 1, 2023. The NOP, comments received, and as summary from the scoping session are included in Appendix A. Comments in response to the NOP generally identified the following areas of potential concern:

- Archaeological and tribal cultural resources (addressed in Section 4.2, Cultural Resources, and Section 4.3, Tribal Cultural Resources)
- Water supply and conservation (addressed in Section 4.9, Hydrology and Water Quality)
- Wastewater service capacity, recycled water infrastructure and service, and utilities improvements (addressed in Chapter 6.0, Other CEQA Considerations)
- Potential for contaminated soils or groundwater at the project site (addressed in Section 4.8, Hazard and Hazardous Materials and Section 4.9, Hydrology and Water Quality)

2.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained in the Chapter 4, Setting, Impacts, and Mitigation Measures, of this EIR.

2.3.1 Significant Impacts

CEQA defines a significant impact on the environment as "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." As discussed in more detail in Chapter 4.0 of this EIR, impacts in the following areas would be potentially significant, but would be reduced to a less than significant level with implementation of the mitigation measures recommended in this report:

- Cultural Resource (archaeological resources and human remains)
- Tribal Cultural Resources (tribal cultural resources)
- Transportation (transportation hazards and emergency access)
- Noise (operational noise)
- Hazards and Hazardous Materials (release of hazardous materials into the environment, significant hazard to the public or the environment due to listing on a hazardous materials sites compiled pursuant to Government Code §65962.5)
- Hydrology and Water Quality (surface and ground water quality, alteration of drainage patterns, risk release of pollutants due to project inundation, conflict with water quality control plan or sustainable groundwater management plan)
- Biological Resources (special status species)

Impacts related to Land Use and Planning would be less than significant and no mitigation measures would be required.

2.3.2 Significant Unavoidable Impacts

Implementation of the proposed project would result in the following significant and unavoidable impacts related to Cultural Resources, Air Quality, and Greenhouse Gas Emissions:

2.3.2.1 Cultural Resources

- **Historic Architectural Resources.** The proposed project would cause a substantial adverse change in the significance of a historic resource as defined in *State CEQA Guidelines* section 15064.5, because implementation of the proposed project would facilitate the demolition of the existing building at 1306 Third Street, which is eligible for listing as a City of Berkely landmark. (Impact CUL-1)

2.3.2.2 Air Quality

- **Project Construction Air Quality Emissions.** Construction associated with full buildout of the project site (proposed project) would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations with implementation of identified mitigation measures. However, construction associated with any future projects under the proposed project that would occur prior to demolition of the structure located at 1306 Third Street (a sensitive receptor), such as the conceptual development project, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. (Impact AIR-3a)
- **Project Operation Air Quality Emissions.** Operation of future projects at the project site, including the conceptual development project, may expose nearby sensitive receptors to

substantial pollutant concentrations associated with increased truck traffic and could result in potential health risks that would cumulatively contribute to elevated health risks in the city. (Impact AIR-3b)

2.3.2.3 Greenhouse Gas Emissions

- **Project Operation Greenhouse Gas Emissions.** If future development at the project site includes natural gas, the proposed project would be inconsistent with a greenhouse gas (GHG) reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Inconsistency with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b) would result in a significant impact related to GHG emissions. (Impact GHG-1)

- **Inconsistency with Plans, Policies or Regulations Adopted for the Purpose of Reducing Greenhouse Gas Emissions.** If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets in Assembly Bill (AB) 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. As such, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. (Impact GHG-2)

2.3.3 Cumulative Impacts

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited, but cumulatively significant. These impacts can result from the proposed project when combined with other past, present, or reasonably foreseeable future projects. As described in Section 4.0 of this EIR, the cumulative impacts analysis in this EIR is based on information provided by the City on currently planned, approved, or proposed projects and regional projections for the area.

2.3.4 Alternatives to the Project

In accordance with CEQA and the *State CEQA Guidelines* (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the project's location, that could attain most of the project's basic objectives while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The three alternatives to the proposed project discussed and analyzed in Chapter 5.0 of this EIR are:

- The **No Action Alternative** is a version of the "no project" alternative (CEQA Guidelines Section 15126.6(e)) that assumes the project site would remain unchanged from existing conditions. The existing buildings would not be demolished and would instead remain in place, unchanged from

existing conditions. The existing Manufacturing land use and zoning designations would remain, and the City of Berkeley General Plan and West Berkeley Area Plan would not be amended.

- The **General Plan Compliant Alternative** is a version of the "no project" alternative (*State CEQA Guidelines* Section 15126.6(e)) that assumes the project site would be redeveloped pursuant to the current land use and zoning designations. Implementation of the General Plan Compliant Alternative would allow for the development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site. Under this alternative, the maximum height would be limited to 45 feet.

- The **Reduced Development Alternative** assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary would include nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A for details). This alternative would also require a minimum 100-foot buffer between any existing residential use and proposed new non-residential use, include surface parking lots or structures. Accordingly, future development on the project site would need to be setback from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would reduce the overall buildout potential of the project site by 50 percent; resulting in up to 566,300 square feet of non-residential space and a minimum of 566 off-street automobile parking spaces.

2.4 SUMMARY TABLE

Information in Table 2.A, Summary of Impacts and Mitigation Measures from the EIR, has been organized to correspond with environmental issues discussed in Chapter 4. Table 2.A is arranged in four columns: (1) impacts, (2) level of significance without mitigation, (3) mitigation measures, and (4) level of significance with mitigation. Levels of significance are categorized as follows:

LTS	Less Than Significant
LTSM	Less Than Significant with Mitigation
S	Significant
SU	Significant Unavoidable

For a complete description of potential impacts and recommended mitigation measures, please refer to the specific topical discussions in Chapter 4.

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Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
4.1: LAND USE AND PLANNING						
Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community.	LTS	No mitigation required.	-	-	-	-
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	LTS	No mitigation required.	-	-	-	-
4.2: CULTURAL RESOURCES						
Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 as implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to CEQA Guidelines Section 15064.5.	S	**Mitigation Measure CUL-1: Documentation.** Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street, the project sponsor shall obtain a qualified Historic American Building Survey (HABS) photographer to document the existing structure at 1306 Third Street and its setting. Generally, this documentation shall be done in accordance with the HABS "Outline" format, which includes: ● **Photographs:** HABS standards require large-format, black-and-white photography with large-format safety film negative (4" x 5", 5" x 7", or 8" x 10") and a contact print, archivally processed, on fiber-based paper. The HABS photographer must be familiar with the recordation of historical resources in accordance with current HABS guidelines. Photographs should include context views of the general environment to illustrate setting, including landscaping, adjacent building(s), and roadways, views of character-defining features, exterior elevations of significant façades, views of interior spaces, and detailed views of specific materials or elements. Overgrowth, board-up plywood, and other obstacles shall be removed by the project sponsor prior to photography at the direction of the professional HABS photographer. Photographs must include a photo index, photo sketch plans, and field notes, and be identified and labeled using HABS standards outlined in Preparing HABS/HAER/HALS Documentation – Transmittal Guidelines. ● **Measured Drawings or 3D Laser Scanning "As-Builts":** Measured drawings for HABS are considered "as-built" drawings. Accordingly, they illustrate the existing condition of a building at the time of documentation, including additions, alterations, and demolitions which have occurred since the building was first constructed. Where sufficient knowledge exists concerning the sequence of changes to a building over time, it may be useful to provide appropriate notation on the drawings. Alternatively, delineators may wish to produce additional interpretive drawings illustrating the building at an earlier date, to explain its historic significance more fully. In lieu of measured architectural drawings, 3D laser scanning and 2D CAD documentation can be done to create as-built drawings from the scanned data in AutoCAD to provide archival-quality printed and digital images that can be utilized for future exhibits, documentation, and research associated with the 1306 Third Street building. The 3D images can then be printed as measured drawings and will also be available digitally. ● **Historical Background Information:** An architectural historian, meeting the Secretary of the Interior's Professional Qualification Standards, shall assemble historical background information, drawings, maps, and historic photographs relevant to the 1306 Third Street building and its setting using the HABS "Outline" format to produce a HABS historical report. The historical report will be formatted to HABS Guidelines for Historical Reports (updated January 2020). ● **Public Access to Documentation:** HABS documentation must be prepared using specific archival materials and archival processes to comply with the permanence standards that govern the collection. By adhering to these standards, even the very earliest HABS records from the 1930s are still available for researchers and will be in the future. Non-archival material deteriorates for two principal reasons: harmful substances in the environment attack it, and/or the physical and chemical composition is such that it will deteriorate regardless of how it is stored. Accordingly, it is recommended that one archival set of the HABS documentation is submitted to the Library of Congress or the Berkeley Architectural Heritage Association (BAHA). Digital copies are also recommended to be submitted to the Northwest Information Center (NWIC)/ California Historic Resources Information System (CHRIS), the City of Berkeley, the City of Berkeley Library, the Berkeley Historical Society, the California State Library, and the California Historical Society. This mitigation would create a collection of preservation materials that would be available to the public and inform future research.	Yes	SU	No	-
Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resources as defined in *State CEQA Guidelines* Section 15064.5.	LTS	No mitigation required.	-	-	-	-

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of a unique archaeological resources, as defined in State CEQA Guidelines Section 15064.5.	S	**Mitigation Measure CUL-2a: Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.	Yes	LTSM	Yes	LTSM
		Mitigation Measure CUL-2b: Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development. Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The WEAP training shall be conducted before any project-related, ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.	Yes	LTSM	Yes	LTSM
		Mitigation Measure CUL-2c: Cultural Resources Monitoring Plan for Future Site Development. Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring: ● Person(s) responsible for conducting archaeological monitoring ● Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring ● Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation) ● Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.				
		Mitigation Measure CUL-2d: Accidental Discovery Measures for Future Site Development. Should an archaeological deposit be encountered during project construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.	Yes	LTSM	Yes	LTSM
Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.	S	**Mitigation Measures CUL-2a through CUL-2d.** (see above)	Yes	LTSM	Yes	LTSM
4.3: TRIBAL CULTURAL RESOURCES						
Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	S	**Mitigation Measures CUL-2a through CUL-2d.** (see above)	Yes	LTSM	Yes	LTSM
4.4: TRANSPORTATION						
Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LTS	No mitigation required.	-	-	-	-
Impact TRA-2: The proposed project, including the conceptual development project, would not result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	LTS	No mitigation required.	-	-	-	-
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	S	**Mitigation Measure TRA-1: Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.	Yes	LTSM	Yes	LTSM
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	S	**Mitigation Measure TRA-1.** (see above)	Yes	LTSM	Yes	LTSM
4.5: AIR QUALITY						
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	LTS	No mitigation required.	-	-	-	-
Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).	S	**Mitigation Measure AIR-1: BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors.** Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site: ● Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. ● Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		● Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established. ● Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. ● Minimize the amount of excavated material or waste materials stored at the site. ● Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.				
Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.	S	**Mitigation Measure AIR-2: Architectural Coatings.** To address the impact related to reactive organic gas (ROG) emissions, all interior and exterior paints and other architectural coatings shall be limited to 50 grams per liter or less of volatile organic compounds (VOCs). The project sponsor's construction contractor shall procure architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings).	Yes	LTSM	No	-
Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD.	LTS	No mitigation required.	-	-	-	-
Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards.	LTS	No mitigation required.	-	-	-	-
Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations.	LTS	No mitigation required.	-	-	-	-
Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.	S	**Mitigation Measure AIR-3: Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements: ● All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 Final emissions standards. ● Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps. ● Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. ● The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. ● Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements. o The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. o The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan. o The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign	No	-	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. • Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not exceed expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient PM2.5 increase greater than 0.3 micrograms per cubic meter (µg/m3).				
		Mitigation Measure AIR-4: Temporary Relocation of 1306 Third Street Residents During Construction. Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street. The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following: • Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's Request for Relocation Payment from Property Owner form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt. • Households to be relocated shall be entitled to relocation payments that include the following: o A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution. o The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements: ▪ If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution. ▪ Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis. o If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a unit temporarily leased during the period of relocation, with the following restrictions:	No	-	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		▪ The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year. ▪ The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street. ▪ The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation. o Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit. • The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include: o The dislocation allowance; o The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or o The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period. • Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by the owner of documentation that verifies the household's expenses. • Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop and the households shall return to the unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation. • The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease. • A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.				
Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city.	S	**Mitigation Measure AIR-5: Health Risk Assessments for Future Development Projects.** For projects that require discretionary approval, prior to approval by the City, the City Land Use Planning Division staff shall evaluate new development proposals for new industrial or warehousing land uses that (1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 500 feet of an existing or proposed sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Land Use Planning Division. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the BAAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not	Yes	SU	Yes	SU

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		limited to, restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.				
Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.	S	**Mitigation Measure AIR-6*: Odor Control Plan for Future Development Projects.*** If future development facilitated under the proposed (M-RD) zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.	Yes	LTSM	Yes	LTSM
4.6: GREENHOUSE GAS EMISSIONS						
Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	S	**Mitigation Measure GHG-1**: **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.	Yes	SU	Yes	SU
Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	S	**Mitigation Measure GHG-1.** (see above)	Yes	LTSM	Yes	LTSM
Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	S	**Mitigation Measure GHG-1.** (see above)	Yes	SU	Yes	SU
Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	S	**Mitigation Measure GHG-1.** (see above)	Yes	LTSM	Yes	LTSM
4.7: ENERGY						
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	LTS	No mitigation required.	-	-	-	-
Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	S	**Mitigation Measure GHG-1.** (see above)	Yes	LTSM	Yes	LTSM
4.8: NOISE						
Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.	S	**Mitigation Measure NOI-1: Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		may not begin construction until its DLOP has received City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.				
Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground borne vibration or ground borne noise levels.	LTS	No mitigation required.	-	-	-	-
4.9: HAZARDS AND HAZARDOUS MATERIALS						
Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation.	LTS	No mitigation required.	-	-	-	-
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	S	**Mitigation Measure HAZ-1**: **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and *COA: Toxics*(E) prior to renovation or demolition activities shall include sampling and analysis for polychlorinated biphenyls (PCBs) in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by *COA: Toxics* (C).	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2a: Additional Site Characterization for Methane and Public Right-of-Ways. All Phase II ESAs performed for parcels at the project site as required by *COA: Toxics* (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by *COA: Toxics* (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2b: Additional Site Characterization for the Potential Berkeley Forge Development. The sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of the conceptual development project. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental concerns identified by Phase I and II ESAs that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. If determined to be necessary by DTSC, additional investigation and characterization of the conceptual development project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.	No	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2c: Subsurface PCBs Contamination at the Potential Berkeley Forge Development Site. The Response Plan for conceptual development project shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the Potential Berkeley Forge Development site. As part of the environmental clearance required for the conceptual development project *by COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.	No	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		Mitigation Measure HAZ-2d: Vapor Mitigation System (VMS) Design. Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2e: Utility Designs. Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by *COA: Toxics* (C)	Yes	LTSM	Yes	LTSM
		Mitigation Measure HAZ-2f: Avoidance of Petroleum Fuel Pipelines. Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.	Yes	LTSM	Yes	LTSM
Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	No mitigation required.	-	-	-	-
Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.	S	**Mitigation Measures HAZ-2a through HAZ-2f.** (see above)	Yes	LTSM	Yes	LTSM
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	S	**Mitigation Measure TRA-1.** (see above)	Yes	LTSM	Yes	LTSM
4.10: HYDROLOGY AND WATER QUALITY						
Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.	S	**Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f.** (see above)	Yes	LTSM	Yes	LTSM
		Mitigation Measure HYD-1: Existing Drainage Systems. Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		Mitigation Measure HYD-2: **Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following: ● A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches. ● A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present. ● Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater. ● Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system. If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by *COA: Toxics(C).*	Yes	LTSM	Yes	LTSM
Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.	LTS	No mitigation required.	-	-	-	-
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.	S	**Mitigation Measure HAZ-1.** (see above)	Yes	LTSM	Yes	LTSM
		Mitigation Measure HYD-3: Hydraulic Study of Drainage during Construction and Operation for the Potential Berkeley Forge Development. The project sponsor for the conceptual development project shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of the project, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that the project would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), the project design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.	No	LTSM	Yes	LTSM
Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.	S	**Mitigation Measure HYD-4: Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage**. During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.				
Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.	S	**Mitigation Measures HYD-1, HYD-2, HAZ-1, and HAZ-2a through HAZ-2f.** (see above)	Yes	LTSM	Yes	LTSM
4.11: BIOLOGICAL RESOURCES						
Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.	S	**Mitigation Measure BIO-1a: Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1b: Common Bat Species Evacuation and Mitigation Plan. If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1c: Preconstruction Survey for Common Species of Roosting Bats. If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction activities. The survey shall take place no more than 30 days prior to construction/demolition/removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1d: Artificial Roosting Plan for Special-Status Bats. If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.	Yes	LTSM	Yes	LTSM

Table 2.A: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Mitigation Measure Applicable to Gilman Gateway Rezone	Level of Significance after Mitigation for Gilman Gateway Rezone	Applicable to Potential Berkeley Forge Development	Level of Significance after Mitigation for Potential Berkeley Forge Development
		Mitigation Measure BIO-1e: Tree Removal and Roost Protection. If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.	Yes	LTSM	Yes	LTSM
		Mitigation Measure BIO-1f: Protection of Maternity Roosts. Removal of maternity roosts for any species of bats either common or special-status shall be coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special-status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.	Yes	LTSM	Yes	LTSM

Source: Compiled by LSA (2024).

AB = Assembly Bill
AST = above-ground storage tank
BAHP = Bureau of Architecture and Historic Preservation
BAAQMD = Bay Area Air Quality Management District
BMC = Berkeley Municipal Code
CEQA = California Environmental Quality Act
City = City of Berkeley
CHRIS = California Historical Resources Information System
dBA = A-weighted decibels
DTSC = California Department of Toxic Substances Control
EBP = Santa Clara Valley Groundwater Basin, East Bay Plain
EIR = Environmental Impact Report
EO = Executive Order
ESA = Environmental Site Assessment
GHG = greenhouse gas
LTS = Less Than Significant
LTSM = less than significant with mitigation incorporated
NWIC = Northwest Information Center
PCB = polychlorinated biphenyls
PM_{10} = particulate matter 10 microns or less in diameter
PRC = Public Resources Code
project = Gilman Gateway Rezone Project
S = Potentially Significant
SB = Senate Bill
SGMP = Soil and Groundwater Management Plan
SU = Significant and Unavoidable
TAC = toxic air contaminant
TMD = City of Berkeley Toxics Management Division
UST = underground storage tank

3.0 PROJECT DESCRIPTION

Pursuant to Section 15124(c) of the *State CEQA Guidelines*, this chapter includes a description of the Gilman Gateway Rezone Project (herein referenced as the "proposed project") and a conceptual project (herein referred to as the "Potential Berkeley Forge Development" or "conceptual development project"). As outlined in this chapter and Draft EIR, the Gilman Gateway Rezone Project would not result in direct physical changes to the environment, but would facilitate development in the project area, including the Potential Berkeley Forge Development. As such, the Potential Berkeley Forge Development is included in the proposed project evaluated in this Draft EIR.

The location, objectives, and technical, economic, and environmental characteristics, a summary of the intended uses of the Environmental Impact Report (EIR), including a list of agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the proposed project, and a list of related environmental review and consultation requirements required by federal, State, or local laws, regulations, or policies.

3.1 PROPOSED PROJECT

This EIR has been prepared to evaluate the potential environmental consequences of implementation (i.e., construction and operation) of the following two elements.

3.1.1 Proposed Gilman Gateway Rezone Project

The Gilman Gateway Rezone Project (proposed project), which would be adopted and implemented by the City of Berkeley (City) as both the lead agency under the California Environmental Quality Act (CEQA) and the project proponent, would:

a. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

b. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the newly established M-RD zoning district.

c. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

Implementation of the proposed amendments to the BMC, Berkeley General Plan, and West Berkeley Plan would facilitate future buildout of up to 1,005,266 square feet on an 11.54-acre site (project site) of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and associated development standards at a programmatic level.

3.1.2 Potential Berkeley Forge Development

The Potential Berkeley Forge Development (conceptual development project) would be facilitated by adoption and implementation of the proposed project. The conceptual development project is a

conceptual project that could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project. It is therefore a reasonably foreseeable project and is evaluated in this EIR at the project level to the extent feasible.

3.2 PROJECT LOCATION

The following describes the precise location and boundaries of the project site, including its geographic context, and provides a brief overview of the existing land uses within and in the vicinity of the project site.

3.2.1 Regional Location and Access

The 11.54-acre project site is in West Berkeley, Alameda County. The project site is bisected by Second Street and bordered by Gilman Street to the north, the Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and Interstate 80 [I-80]/Interstate 580 [I-580]) to the west. Figure 3-1 shows the site's regional and local context.

The project site is east of the I-80/I-580 corridor,[1] which traverses the San Francisco Bay (Bay) shoreline in a north-south direction. Land uses east and south of the project site generally consist of a mix of manufacturing, warehouse, office, and commercial uses. Recreational facilities, including a sports complex, parks, and marina are located to the west of I-80/I-580, along the Bay. Figure 3-2 shows an aerial photograph of the project site and surrounding land uses in the vicinity.

Regional vehicular access to the project site is provided by I-80/I-580 and the Gilman Street freeway ramp, west of the project site. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART). AC Transit operates two routes (12 and 72) that provide service to the project site with the closest bus stop at Gilman Street and Sixth Street, approximately 900 feet east of the project site. The nearest BART station is the North Berkeley Station at 1750 Sacramento Street, 1.06 miles east of the project site. Local roadways providing access to the project site include Gilman Street, I-80/I-580, and Camelia Street.

[1] The I-80/I-580 freeway corridor is sometimes referred to as the Eastshore Freeway. The roadway along the western boundary of the project site, its predecessor, is Eastshore Highway.

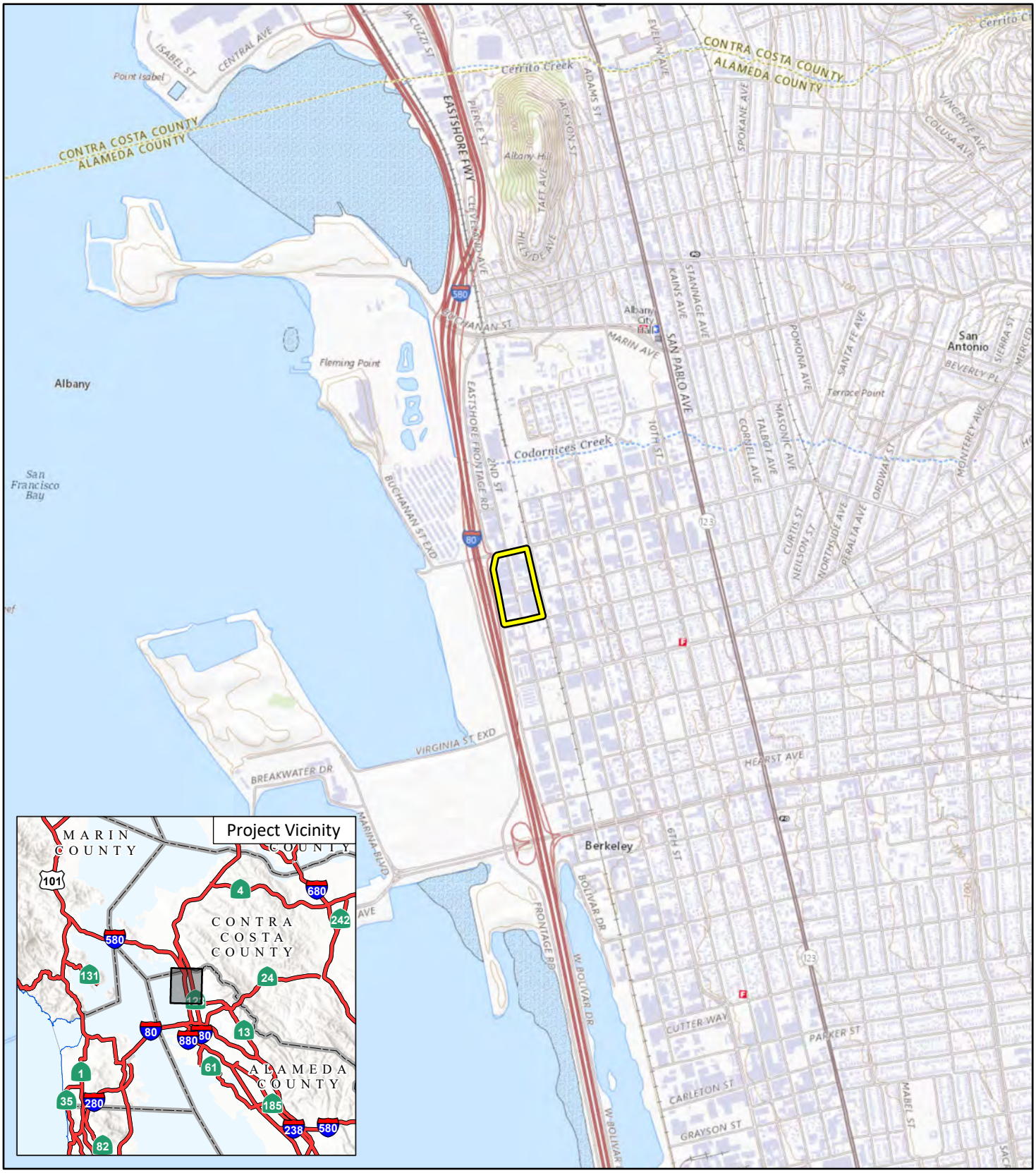

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FIGURE 3-1

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SOURCE: USGS The National Map (2017)

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Gilman Gateway Rezone Project EIR

Project Location and Regional Vicinity

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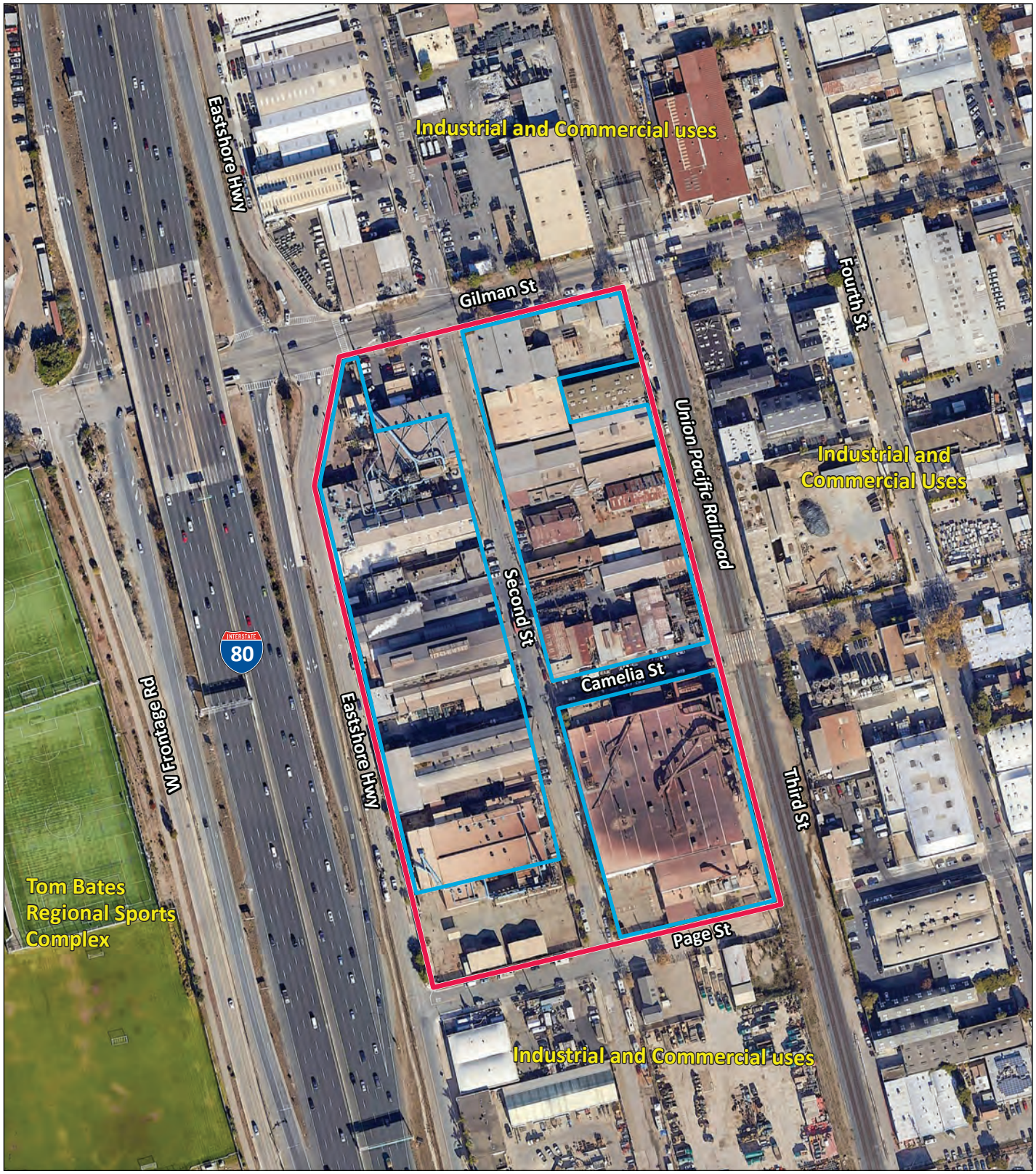

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Project Site Boundary

Potential Berkeley Forge Development Site

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FIGURE 3-2

Gilman Gateway Rezone Project EIR

Aerial Photograph of the Project Site and Surrounding Land Uses

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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3.2.2 Site Characteristics and Current Site Conditions

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The project site includes one property, 1306 Third Street, that meets the criteria for listing in the California Register of Historical Places (California Register), meets the criteria for designation as a City of Berkeley Landmark, and meets the definition of an historical resource pursuant to *State CEQA Guidelines* Section 15064.5. Vegetation on the site is limited to sparse street and ornamental trees. Of the 18 parcels, nine are associated with the former Pacific Steel Casting site and total approximately 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels totaling 1.47 acres. Figure 3-3 shows parcel ownership boundaries. Photos of select viewpoints of the project site and surrounding area were taken to depict the existing conditions of the area. The locations of the viewpoints are shown on Figure 3-4, and the existing views from the select viewpoints are depicted on Figure 3-5.

Pacific Steel Casting was established in 1934 and operated as a manufacturer of custom industrial-use metal products until 2018. Berkeley Forge and Tool has been in operation since at least 1957, providing custom metal products to a variety of customers, and is currently in the process of closing operations.

The project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials, including total petroleum hydrocarbon products, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). There are multiple leaking underground storage tank (LUST) sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the “Cortese List”).

The properties located at 600 Gilman Street (a former gas station in the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site in the central portion of the project site) are identified on GeoTracker as LUST sites. Although the LUST site for the former Pacific Steel Casting site is listed on GeoTracker under the address of 1333 Second Street, which is the address associated with the former Pacific Steel Casting site office, the LUSTs were actually located on other properties within the project site, including a property in the northeast portion of the project site with the address of 640 Gilman Street (Assessor’s Parcel Number [APN] 59-2345-1); a property in the southwest corner of the project site with the address of 1433 Eastshore Highway (APN 59-2341-3-2); and a property in the central portion of the project site with the address of 1320 Second Street (APN 59-2344-4-1).

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Gilman Gateway Rezone Project Site (proposed project)

Former Berkeley Forge and Tool

Former Pacific Steel Casting

Other Parcels

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FIGURE 3-3

Gilman Gateway Rezone Project EIR
Project Site Parcel Ownership Boundaries

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Project Site Boundary

Potential Berkeley Forge Development Site

Photo Viewpoints

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FIGURE 3-4

Gilman Gateway Rezone Project EIR
Viewpoint Locations

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Photo 1: Camelia St. at Second St., east. Photo taken November 2022.

Photo 2: Camelia St., south. Photo taken November 2022.

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FIGURE 3-5
Page 1 of 9

Gilman Gateway Rezone Project EIR
Representative Site Photographs

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Photo 3: Camelia St. at Third St., west. Photo taken November 2022.

Photo 4: Third St. at Camelia St., north. Photo taken November 2022.

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Photo 5: Third St., South. Photo taken November 2022.

Photo 6: 1306 Third St. Photo taken November 2022.

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Photo 7: Third St. at Gilman St., south. Photo taken November 2022.

Photo 8: Gilman St. at Third St., west. Photo taken November 2022.

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FIGURE 3-5
Page 4 of 9

Gilman Gateway Rezone Project EIR
Representative Site Photographs

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Photo 9: Gilman St. at Second St., east. Photo taken November 2022.

Photo 10: Second St. at Gilman St., south. Photo taken November 2022.

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Photo 11: Second St. and Berkeley Steel Building, north. Photo taken November 2022.

Photo 12: Second St. at Camelia St., south. Photo taken November 2022.

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Photo 13: Second St. at Page St., north. Photo taken November 2022.

Photo 14: Page St. at Second St., east. Photo taken November 2022.

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Photo 15: Second St. at Page St., south. Photo taken November 2022.

Photo 16: Eastshore Hwy and Interchange, north. Photo taken November 2022.

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Photo 17: Eastshore Hwy, north. Photo taken November 2022.

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The project site is also immediately adjacent to the approved I-80/Gilman Interchange Project, which is currently under construction.[2] The I-80/Gilman Interchange Project, expected to be completed in 2024, would include the following improvements that are considered existing conditions for purposes of this EIR:

- Activation of the third rail line on Third Street and an 18-foot-wide, gravel fire lane that would be one-way from Gilman Street to Camelia Street with a fence along the railroad. South of Camelia Street, Third Street is a dirt railroad operating easement. The right-of-way belongs to the City and does not include any barriers such as a wall or fence.

- Closure/removal of the at-grade railroad crossing at Camelia Street. With this closure, Camelia Street would terminate at the railroad tracks instead of Second Street.

- Conversion of Second Street to a one-way roadway between Gilman Street and Camelia Street, and conversion to a two-way street with a sidewalk south of Camelia Street.

- Creation of a two-way cycle track on the south side of Gilman Street between the eastern I-80/Gilman Street ramps and Fourth Street.

As shown in Table 3.A, the existing buildings on the project site, the majority of which are currently vacant, total 320,070 square feet. Approximately 56 persons are employed on the project site, and the 1306 Third Street building (APN 58-2345-2-1) contains seven commercial tenant spaces and four residential units, three of which are occupied by 11 individuals, the fourth is currently vacant. Residential units are not allowed in the underlying zoning district; therefore, the use is considered non-conforming.

3.2.3 Regulatory Setting

The project site is currently designated as Manufacturing in the Berkeley General Plan and is zoned Manufacturing (M) pursuant to the Berkeley Zoning Ordinance and West Berkeley Area Plan. The purpose of the M district is to encourage development dedicated to manufacturing and industrial uses, including “heavy manufacturing”; encourage the creation and continuation of well-paid (often unionized) industrial jobs for people without advanced degrees; retain the stock of manufacturing and industrial buildings wherever possible; support the development of industrial businesses that contribute to the maintenance and improvement of the environment; maintain and improve the quality of the West Berkeley environment while allowing operation of the full range of manufacturers; support the development of retail automobile sales uses; and provide opportunities for vehicle sales. Table 3.B shows the development standards for the M district.

[2] California Department of Transportation and Alameda County Transportation Commission. 2019. *Interstate 80/Gilman Street Interchange Improvement Project Final Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact.* June.

Table 3.A: Existing Parcel and Building Summary

Assessor's Parcel Number	Street Address	Building Use	Lot Size (square feet)	Building Size (square feet)
Pacific Steel Casting				
59-2344-1-2	1305 Eastshore Highway	Vacant - Former Industrial/Manufacturing	7,657	1,010
59-2341-4	1401 Eastshore Highway		40,022	26,217
59-2340-8-2	1421 Second Street		102,399	73,640
59-2341-5	1420 Second Street		27,995	19,942
59-2344-4-1	1320 Second Street		54,496	44,343
59-2344-3-1	1314 Second Street		14,000	12,504
59-2345-9	1333 Second Street		36,581	14,840
59-2345-2-2	1310 Third Street		26,604	26,550
59-2345-1	1311 Second Street; 630 Gilman Street; 640 Gilman Street		44,563	31,560
Berkeley Forge and Tool				
59-2344-7	1331 Eastshore Highway	Industrial/Manufacturing	39,186	31,092
59-2344-5-1	1330 Second Street		12,076	12,030
59-2345-8-1	1337 Second Street	Industrial/Manufacturing	14,632	2,432
59-2345-6-1	635 Camelia Street	Industrial/Manufacturing	13,002	9,024
59-2345-4	643 Camelia Street	Industrial/Manufacturing	5,501	Undeveloped land* current uses include storage of materials; no permanent structures are on the site
Other Ownership				
58-2345-2-1	1306 Third Street	4 dwelling units and 7 commercial tenant spaces	6,651	7,524
59-2344-2-1	600 Gilman Street	Vehicle Rental	11,624	1,008
59-2341-3-2	1433 Eastshore Highway	Approved Recycled Materials Processing use no longer operational. Property currently used for storage of materials.	37,543	1,944
59-2345-7	631 Camelia Street 625 Camelia Street	Industrial/Manufacturing (Clearflow Valves)	8,101	5,730
		Total	**502,633**	**321,390**

Source: City of Berkeley Planning Department Staff (2022).

Table 3.B: Manufacturing Zone Development Standards

Basic Standards		Supplemental Standards
Lot Area, Minimum	20,000 square feet	BMC 23.304.020 – Lot Requirements
Usable Open Space Per Dwelling Unit, Minimum	N/A	–
Floor Area Ratio, Maximum	2.0	–
Main Building Height, Maximum	45 feet	BMC 23.304.050 – Building Height
Lot Line Setbacks, Minimum		BMC 23.304.030 – Setbacks
Front	No minimum	
Rear	No minimum	
Interior Side	No minimum	
Street Side	No minimum	
Building Separation, Minimum	No minimum	–
Lot Coverage, Maximum	100 percent	–

Source: Table 23.206-10, Berkeley Municipal Code (City of Berkeley 2023).
BMC = Berkeley Municipal Code
N/A = not applicable

3.2.4 Surrounding Land Uses

The project site is in West Berkeley, which is generally characterized by a mix of uses, including manufacturing, light industrial, office, residential, and commercial/restaurant uses. The project site is bounded by Gilman Street to the north, the UPRR and Amtrak heavy rail corridor to the east, Page Street to the south, and the Eastshore Highway and I-80/I-580 freeway corridor to the west. The site is surrounded by a mix of manufacturing, warehouse, office, and commercial uses. Residential uses are to the northeast and the southeast. Figure 3-2 shows an aerial photograph of the project site and surrounding land uses in the vicinity.

- **North of the Project Site:** The project site is bordered to the north by Gilman Street and various light industrial, vehicle service, and heavy commercial uses. These land uses extend 0.6 mile north to Buchanan Street. Recreational fields and open space areas are 0.18 mile northeast of the project site. University Village, a residential community, is 0.3 mile northeast. Golden Gate Fields,[3] a horse racing track in Albany (the venue's horse stables are in West Berkeley) that closed in June 2024 is 0.35 mile northwest along the Bay.

- **East of the Project Site:** The project site is bordered to the east by a UPRR and Amtrak heavy rail corridor (rail tracks), various heavy and light industrial and commercial uses, and several dwelling units. Food and entertainment uses are east of the project site between Fourth Street and San Pablo Avenue, beyond which are residential land uses. Additional residential land uses are south of Camelia Street, 0.2 mile to the east.

- **South of the Project Site:** The project site is bordered to the south by Page Street and heavy and light industrial and heavy commercial uses. These land uses extend to Virginia Street, across from which are commercial uses, including food service and retail uses. The Berkeley Amtrak Station is located approximately 0.6 mile south of the project site. An industrial campus is located at 600 Addison Street, approximately 0.7 mile south of the project site, with approximately 500,000 square feet of combined R&D and office uses. A linear 100-acre aquatic park is located approximately 0.7 mile south of the project site.

- **West of the Project Site:** The project site is directly bordered to the west by I-80/I-580. A Caltrans-Alameda County project (i.e., a recently constructed pedestrian and bicycle overcrossing of I-80/I-580) is 0.02 mile west of the project site. The Tom Bates Regional Sports Complex is west of I-80/I-580, 0.08 mile west of the project site. The McLaughlin Eastshore State Seashore, the Caesar E. Chavez Park, and the Berkeley Marina are 0.12 mile, 0.60 mile, and 0.70 mile southwest of the project site, respectively.

3.3 PROJECT BACKGROUND AND OBJECTIVES

The purpose of the current zoning designation on the project site—Manufacturing (M)—is to encourage heavy manufacturing uses, whereas development interest for the project area is shifting

[3] Stumes, Larry. 2023. "Golden Gate Fields horse racing track gets approval for major redevelopment." *San Francisco Chronicle*. September 24. Website: https://www.sfchronicle.com/sports/article/golden-gate-fields-horse-racing-track-gets-18384837.php.

toward biotechnology laboratories, warehouse and commercial uses, and office space. Accordingly, in 2021, the City Council referred to the Planning Commission the creation of a zoning overlay at the project site to enable all MU-LI uses and override existing constraints on MU-LI uses on the property in order to facilitate redevelopment that would contribute to the City's tax base and the vitality of the local economy. Typically, a zoning overlay is applied to multiple underlying districts to provide additional regulations that serve a public purpose (e.g., airport noise, creek setbacks). Also, since the objective is to remove constraints on MU-LI uses to facilitate redevelopment, re-zoning to MU-LI with exceptions would be insufficient. Therefore, the proposed Gilman Gateway Rezone Project was developed by the City to provide a new set of zoning regulations as part of a new district that meet the Council objective and revitalize the underutilized project site. The creation of a new zoning district would further enable the City to invest in environmental clean-up costs, which are unique to the project site.

For the purposes of this EIR, the objectives of the proposed project are to:

- Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that adds significantly to the City's economic base and facilitates job creation.

- Establish an M-RD zoning district with land use and development standards that are consistent with the General Plan Manufacturing land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office.

- Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.

- Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management strategies that reduce vehicle miles traveled, while providing sufficient parking to meet the needs of employment-generating uses.

- Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

3.4 PROPOSED PROJECT

The project described in this section and evaluated in this EIR consists of two elements: (1) the proposed Gilman Gateway Rezone Project (proposed project), which is evaluated at a programmatic level, and (2) the Potential Berkeley Forge Development (conceptual development project), which is evaluated at a project level to the extent feasible.

The proposed project would aim to facilitate the future development of up to 1,005,266 square feet of non-residential space and a minimum of 1,300 off-street automobile parking spaces on the approximately 11.54-acre project site, with adoption and implementation of:

1. A newly established zoning district – M-RD in BMC Chapter 23.206, which would permit development of light manufacturing, R&D, laboratory, and/or office uses.
2. Rezoning the project site from the M district to the M-RD zoning district.
3. Amendments to the Berkeley General Plan and West Berkeley Plan to add the M-RD zoning district to the Manufacturing land use designation, which would also include development standards for the project site.

The Potential Berkeley Forge Development consists of a conceptual future development plan, which would be facilitated by adoption and implementation of the Gilman Gateway Rezone Project. The City anticipates the submittal of a formal application for the conceptual development project , and it is therefore a reasonably foreseeable project. The conceptual development project would include the construction and operation of up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses and 1,900 automobile parking spaces on a 10.26-acre portion of the project site.

In this EIR, the most intensive future uses that could occur with implementation of the proposed project are evaluated at the programmatic level, while the conceptual development project is evaluated to determine if the potential project would fit within the programmatic development assumptions at the project level, to the extent that project details are available. Future development of the project site, including the conceptual development project, would be subject to further environmental review to determine if the future program of development fits within the development assumptions and conclusions identified in this EIR.

Individual elements of the proposed project and the conceptual development project are described below. The proposed project and conceptual development project site boundaries are depicted in Figure 3-6.

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FIGURE 3-6

Gilman Gateway Rezone Project Site (proposed project)

Potential Berkeley Forge Development Site (conceptual development project)

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Gilman Gateway Rezone Project EIR

Proposed Project and Conceptual Development Project Site Boundaries

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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3.4.1 Proposed Manufacturing, Research and Development Zoning District

The purpose of the proposed M-RD zoning district is to support a mix of industrial and heavy commercial uses that can provide high-quality employment and add significantly to the tax base, such as light manufacturing and R&D; allow office and laboratory uses that support light industrial and R&D uses; provide flexibility to facilitate the development and reuse of large sites with an urban campus-like environment, demonstrating high-quality design and site planning that includes amenities for employees and customers; and support the development of industrial uses that would comply with environmental protection standards.

While the proposed rezoning and General Plan/West Berkeley Plan amendments would not result in any physical alterations to the project site, implementation of the proposed M-RD zoning district would facilitate development of the entire project site and assumes demolition of all existing structures on the site. Chapter 23.206 of the BMC would be amended to include the proposed M-RD zoning district to establish regulations for any potential redevelopment project. Accordingly, Table 23.206-1 and Table 23.206-2 of the BMC would be amended as shown in double-underlined text below in Table 3.C. As shown in Table 3.C, the M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D.

Table 3.D provides the new floor area permit requirements for the manufacturing districts, including the M-RD zoning district. A summary of the development standards for the proposed M-RD zoning district are included in Tables 3.E and 3.F.

As shown in Table 3.G, with a 2.0 floor area ratio, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would also require approximately 1,300 off-street automobile parking spaces. Approximately 470 bicycle parking spaces would be required. The maximum building height within the M-RD zoning district would be 55 feet, unless a modification is sought via a Use Permit (UP), in which case the maximum building height would be 105 feet.

Table 3.C: Allowed Uses in Manufacturing Districts

Land Uses	Manufacturing Districts					Use Specific Standards (BMC)
	M	MM	MU-LI	MU-R	M-RD	
Residential Uses						
Accessory Dwelling Unit	NP	NP	NP	See 23.306	NP	
Dwellings						
Single-Family	NP	NP	NP	AUP*	NP	23.206.090.B.8
Two-Family	NP	NP	NP	AUP*	NP	23.206.090.B.8
Multi-Family	NP	NP	NP	UP(PH)*	NP	23.206.090.B.7&8
Group Living Accommodation	NP	NP	NP	UP(PH)*	NP	23.206.090.B.8
Hotel, Residential	NP	NP	NP	NP	NP	
Mixed-Use Residential	NP	NP	NP	UP(PH)*	NP	23.206.090.B.8&9
Senior Congregate Housing	NP	NP	NP	See 23.302.070.H	NP	
Public and Quasi-Public Uses						
Child Care Center	NP	NP	AUP*	UP(PH)*	AUP*	23.206.040.C&D
Cemetery/Crematory/Mausoleum	NP	NP	NP	NP	NP	
Club/Lodge	UP(PH)*	UP(PH)*	UP(PH)*	UP(PH)	UP(PH)	23.206.040.F
Columbaria	NP	NP	NP	--	NP	
Community Care Facility	NP	NP	NP	ZC*	NP	23.206.090.B.3
Community Center	NP	NP	NP	UP(PH)	NP	
Emergency Shelter	NP	NP	NP	--	NP	
Hospital	NP	NP	NP	NP	NP	
Library	NP	NP	NP	UP(PH)	NP	
Mortuaries and Crematories	NP	NP	NP	UP(PH)*	NP	23.206.090.B.6
Municipal Animal Shelter	UP(PH)	UP(PH)	UP(PH)	--	UP(PH)	
Nursing Home	NP	NP	NP	UP(PH)	NP	
Park/Playground	NP	NP	NP	UP(PH)*	NP	23.206.040.C
Public Safety and Emergency Service	UP(PH)	UP(PH)	UP(PH)	UP(PH)	UP(PH)	
Public Utility Substation/Tank	UP(PH)	UP(PH)	UP(PH)	UP(PH)	UP(PH)	
Religious Assembly	NP	NP	NP	UP(PH)	NP	
School	NP	NP	NP	UP(PH)*	NP	23.206.040.Q
School, Vocational	NP	NP	ZC*[1]	UP(PH)	ZC*[1]	23.206.080.B.12
Supportive Housing	NP	NP	NP	ZC*	NP	23.302.070(I) Supportive Housing
Retail Uses						
Alcoholic Beverage Retail Sale	NP	NP	UP(PH)*[2]	NP*	NP	23.206.080.B.3; 23.206.090.B.2; 23.310
Firearm/Munitions Business	NP	NP	NP	NP	NP	
Industrial and Mining Products	AUP[2]	AUP[2]	AUP[4]	NP	NP	
Pawn Shop/Auction House	NP	NP	NP	NP	NP	
Pet Store	NP	NP	NP	NP	NP	
Retail, General	NP	NP	AUP*[5]	AUP*[3]	AUP*	23.206.040.G; 23.206.090.B.4
Smoke Shop	NP	NP	NP	NP	NP	
Personal and Household Service Uses						
Personal and Household Services, General	NP	NP	NP	AUP	NP	
Kennels and Pet Boarding	NP	NP	NP	UP(PH)	NP	
Laundromats and Cleaners	NP	NP	NP	AUP	NP	
Veterinary Clinic	NP	NP	NP	UP(PH)	NP	
Video Tape/Disk Rental	NP	NP	NP	NP	NP	
Office Uses						
Business Support Services	NP	NP	AUP[6]	AUP[3]	AUP[6]	
Banks and Financial Services, Retail	NP	NP	--	NP	NP	
Insurance Agents, Title Companies, Real Estate Agents, Travel Agents	NP	NP	--	--	NP	
Medical Practitioners	NP	NP	NP	AUP[3]	NP	

Table 3.C: Allowed Uses in Manufacturing Districts

Land Uses	Manufacturing Districts					Use Specific Standards (BMC)
	M	MM	MU-LI	MU-R	M-RD	
Non-Chartered Financial Institutions	NP	NP	--	--	NP	
Office, Business and Professional	NP	ZC*	AUP[4]	AUP[3]	AUP[4]	23.206.070.B.2
Food and Alcohol Service, Lodging, Entertainment, and Assembly Uses						
Adult-oriented Business	--	--	NP	NP	NP	
Amusement Device Arcade	NP	NP	ZC	ZC	NP	See 23.302.070.B
Bar/Cocktail Lounge/Tavern/Tap Room/Wine Tasting	NP	NP	NP	See 23.306	NP	
Commercial Recreation Center	NP	NP	--	NP	NP	
Entertainment Establishment	NP	NP	--	UP(PH)	NP	
Food Service Establishment under 5,000 sq ft	--	--	AUP*	AUP*	AUP*	See 23.302.070.E
Food Service Establishment 5,000 sq ft larger	--	--	UP(PH)*	UP(PH)*	UP(PH)*	See 23.302.070.E
Group Instruction	ZC	ZC	--	ZC	ZC	
Health and Fitness Facilities	NP	NP	--	NP	NP	
Hotel, Tourist	NP	NP	NP	NP	NP	
Motel, Tourist	NP	NP	NP	NP	NP	
Theater	NP	NP	UP(PH)*	NP	NP	23.206.080.B.4
Vehicle Service and Sale Uses						
Alternative Fuel Station	AUP[4]	AUP[4]	AUP[4]	AUP	AUP[4]	
Gasoline/Vehicle Fuel Station	NP	NP	NP	NP	NP	
Large Vehicle Sales and Rental	--	NP	AUP[4]	NP	AUP[4]	
Small Vehicle Sales and Rental	--	NP	NP	NP	NP	
Tire Sales and Service	--	--	--	NP	NP	
Vehicle Parts Store	NP	NP	NP	UP(PH)	NP	
Vehicle Repair and Service	UP(PH)	UP(PH)	UP(PH)	UP(PH)	UP(PH)	
Vehicle Rentals	NP	--	--	NP	NP	
Vehicle Sales, New	AUP*[7]	NP	NP	NP	NP	23.206.060.B.3
Vehicle Sales, Used	AUP*[7]	NP	NP	NP	NP	23.206.060.B.3
Vehicle Wash	NP	NP	NP	NP	NP	
Vehicle Wrecking	AUP*[7]	AUP[4]	AUP[4]	NP	NP	23.206.080.B.5
Industrial and Heavy Commercial Uses						
Bus/Cab/Truck/Public Utility Depot	AUP[8]	AUP[8]	AUP*[4]	UP(PH)	AUP*[4]	23.206.040.B
Commercial Excavation	UP(PH)	UP(PH)	UP(PH)	NP	NP	
Contractors Yard	AUP[7]	AUP[7]	AUP[4]	UP(PH)	AUP*[4]	
Dry Cleaning and Laundry Plant	ZC*[9]	ZC[9]	ZC[1]	UP(PH)	NP	23.206.060.B.2
Laboratory						
Commercial Physical or Biological	NP	AUP[4]	UP(PH)*	NP	AUP[4]	23.206.040.S
Cannabis Testing	NP	AUP[4]	UP(PH)	NP	AUP[4]	
Manufacturing						
Construction Products	ZC*[9]	ZC*[9]	UP(PH)*	NP	UP(PH)*	
Light Manufacturing	ZC*[7]	ZC*[7]	ZC*[1]	AUP*[3]	ZC*[1]	23.206.040.H; 23.206.090.B.5
Pesticides/Herbicides/Fertilizers	NP	NP	NP	--	NP	
Petroleum Refining and Products	NP	NP	NP	--	NP	
Pharmaceuticals	AUP[4]	AUP[4]	AUP*[4]	--	AUP*[4]	23.206.040.J
Primary Production Manufacturing	AUP[4]	AUP[4]	NP	NP	NP	
Semiconductors	UP(PH)	UP(PH)	NP	--	UP(PH)	
Material Recovery Enterprise	--	--	UP(PH)	--	UP(PH)	
Media Production	ZC[10]	ZC[10]	ZC[10]	AUP[11]	ZC[10]	
Mini-storage	NP	NP	NP	NP	NP	
Recycled Materials Processing	ZC*[9]	ZC*[9]	UP(PH)*	--	UP(PH)*	23.206.040.L; 23.206.040.M
Recycling Redemption center	AUP[7]	ZC[9]	UP(PH)*	AUP	UP(PH)*	23.206.040.M
Repair Service, Non-Vehicle	ZC*[9]	ZC*[9]	ZC*[1]	AUP	ZC*[1]	23.206.040.I
Research and Development	--	ZC[12]	ZC[12]	--	ZC[13]	

Table 3.C: Allowed Uses in Manufacturing Districts

Land Uses	Manufacturing Districts					Use Specific Standards (BMC)
	M	MM	MU-LI	MU-R	M-RD	
Services to Buildings and Dwellings	AUP	AUP	AUP	AUP	AUP	
Warehouse	ZC[9]	ZC[9]	ZC[1]	UP(PH)	ZC[1]	
Warehouse-Based Non-Store Retailer	ZC[9]	ZC[9]	ZC[1]	--	ZC[1]	
Wholesale Trade	ZC[9]	ZC[9]	ZC*[1]	AUP[3]	ZC*[1]	23.206.040.R
Incidental Uses						
Amusement Devices	NP	NP	AUP	AUP	AUP	
Alcoholic Beverage Service	See 23.310					
Cafeteria, On-Site	ZC[2]	AUP[2]	ZC[2]	AUP	ZC[2]	
Child Care Center	NP	NP	See 23.203.040.B			
Columbaria	--	--	--	--	NP	
Food Service Establishment Under 20,000 sq. ft.	AUP*	AUP*	AUP*	AUP*	AUP*	23.302.070 (E
Food Service Establishment 20,000 sq. ft. larger	NP	AUP*	NP	AUP*	NP	23.302.070 (E)
Home Occupations	NP	NP	NP	See 23.302.040	NP	
Live Entertainment Unamplified	NP	NP	ZC	UP(PH)*	ZC	
Live Entertainment Amplified	NP	NP	AUP	AUP	AUP	
Retail Sales of Goods Manufactured On-Site	AUP*[14]	AUP*[15]	AUP*[15]	AUP*	AUP*[15]	23.206.040.N
Storage of Goods Manufactured On-Site (>25 percent gross floor area)	ZC	ZC	ZC	AUP	ZC	
Wholesale Activities	ZC	ZC	ZC	AUP	ZC	
Other Miscellaneous Uses						
Art/Craft Studio	ZC*[10]	ZC*[10]	ZC*[10]	AUP[11]	ZC*[10]	23.206.040.A
ATM, Exterior and Attached to Bank	AUP	AUP	--	AUP	NP	
ATM, Interior or Exterior and Not With Bank	AUP	AUP	AUP	AUP	AUP	
Circus/Carnival	NP	NP	UP(PH)*	AUP(PH)	UP(PH)*	23.206.040.E
Drive-In Uses	NP	NP	NP	NP	NP	
Live/Work	NP	NP	See 23.312		NP	
Parking Lot/Structure	See 23.302.070.G					
Public Market, Open Air	--	--	UP(PH)*[16]	--	UP(PH)*[16]	23.206.040.K
Public Market, Enclosed	--	--	AUP[5]	--	AUP[5]	
Short-Term Rental	--	--	--	ZC*	NP	23.314
Urban Agriculture, Low-Impact	ZC	ZC	ZC	ZC	ZC	
Urban Agriculture, High-Impact	AUP	AUP	AUP	AUP	AUP	

Source: City of Berkeley (2024).

Note: An asterisk (*) applied to a line entry in the columns under Manufacturing Districts means that the information in the Use Specific Standards column applies to that line entry.

1 Requires an AUP for uses 20,000 sf to 30,000 sf. Requires a Use Permit for uses more than 30,000 sf.
2 Not permitted for 20,000 sf or more.
3 Requires a Use Permit if 5,000 sf or more
4 Requires a Use Permit for uses more than 20,000 sf.
5 Requires a Use Permit for more than 5,000 sf of floor area
6 Not permitted over 3,000 sf.
7 Requires a Use Permit for uses more than 40,000 sf.
8 Requires a Use Permit for uses 20,000 sf to 40,000 sf.
9 Requires an AUP for uses 20,000 sf to 40,000 sf. Requires a Use Permit for uses more than 40,000 sf.
10 Requires an AUP for uses 10,000 sf to 20,000 sf. Requires a Use Permit for uses more than 20,000 sf.
11 Allowed with Zoning Certificate if under 1,000 sf. Requires Use Permit if over 20,000 sf.
12 Requires an AUP for uses more than 20,000 sf.
13 Requires an AUP for uses 60,000 sf to 100,000 sf. Requires a Use Permit for uses 100,000 sf or more.
14 Not permitted for 1,500 sf or more.
15 Requires a Use Permit for sales area 1,501–3,000 sf. Not permitted over 3,000 sf.
16 Requires Use Permit for markets over 5,000 sf.
16 Requires Use Permit for markets over 5,000 sf.

-- = Permitted with an AUP, see 23.206.020(B)
[#] = Floor Area Permit Requirement
AUP = Administrative Use Permit
BMC = Berkeley Municipal Code
M = Manufacturing
MM = Mixed Manufacturing
M-RD = Manufacturing, Research and Development
MU-LI = Mixed Manufacturing-Light Industrial
MU-R = Mixed Manufacturing-Residential
NP = Not Permitted
sf = square feet
UP(PH) = Use Permit
ZC = Zoning Certificate

Table 3.D: New Floor Area Permit Requirements

District/New Gross Floor Area	Permit Required for New Floor Area
M, MM	
Less than 20,000 sf	ZC
20,000 to less than 40,000 sf	AUP
40,000 sf or more	UP(PH)
MU-LI	
Less than 10,000 sf	ZC
10,000 to less than 20,000 sf	AUP
20,000 sf or more	UP(PH)
MU-R	
Less than 5,000 sf	ZC
5,000 to less than 10,000 sf	AUP
10,000 sf or more	UP(PH)
M-RD	
Less than 60,000 sf	ZC
60,000 to less than 100,000 sf	AUP
100,000 sf or more	UP(PH)

Source: City of Berkeley (2024).
AUP = Administrative Use Permit
M = Manufacturing
MM = Mixed Manufacturing
M-RD = Manufacturing, Research and Development
MU-LI = Mixed Manufacturing-Light Industrial
MU-R = Mixed Manufacturing-Residential
sf = square feet
UP(PH) = Use Permit
ZC = Zoning Certificate

Table 3.E: Manufacturing, Research and Development Zoning District Development Standards

Basic Standards		Supplemental Standards
Lot Area, Minimum	No minimum	BMC Section 23.304.020 – Lot Requirements
Usable Open Space Per	–	–
Dwelling Unit, Minimum	N/A	–
Floor -Area Ratio, Maximum	2.0	–
Lot Line Setbacks, Minimum		BMC Section 23.304.030 - Setbacks
Front	No minimum	
Rear	No minimum	
Interior Side	No minimum	
Street Side	No minimum	
Building Separation, Minimum	No minimum	–
Lot Coverage, Maximum	80 percent	BMC Section 23.304.120 - Lot Coverage
Non-Residential Bicycle Parking	1 per 2,000 sf	BMC Section 23.322.090 - Bicycle Parking

Source: City of Berkeley (2024).
Note: Maximum Main Building Height of 105 feet may be allowed pursuant to Section 23.206.100(D)(1) (Modification of Development Standards on Large Sites).
BMC = Berkeley Municipal Code
N/A = not applicable
sf = square feet

Table 3.F: Manufacturing, Research and Development Zoning District Off-Street Parking Standards

Land Use	Minimum Required Parking Spaces
Non-Residential Uses	
All non-residential uses except uses listed below	1 per 1,000 sf
Art/Craft Studio	1 per 1,000 sf
Food Service Establishment	1 per 300 sf
Laboratories	1 per 1,000 sf
Manufacturing	1 per 1,000 sf for spaces less than 10,000 sf; 1 per 1,500 sf for spaces 10,000 sf or more
Storage, warehousing, and wholesale trade	1 per 1,000 sf for spaces less than 10,000 sf; 1 per 1,500 sf for spaces 10,000 sf or more

Source: City of Berkeley (2024).
sf = square feet

Table 3.G: Proposed Project Maximum Allowable Buildout Summary

Assessor's Parcel No.	Street Address	Lot Size (sf)	Maximum Allowable Gross Floor Area (sf)
Formerly Pacific Steel Casting			
59-2344-1-2	1305 Eastshore Highway	7,657	15,314
59-2341-4	1401 Eastshore Highway	40,022	80,044
59-2340-8-2	1421 Second Street	102,399	204,798
59-2341-5	1420 Second Street	27,995	55,990
59-2344-4-1	1320 Second Street	54,496	108,990
59-2344-3-1	1314 Second Street	14,000	28,000
59-2345-9	1333 Second Street	36,581	73,162
59-2345-2-2	1310 Third Street	26,604	53,208
59-2345-1	1311 Second Street, 630 Gilman Street, 640 Gilman Street	44,563	89,126
Formerly Berkeley Forge and Tool			
59-2344-7	1331 Eastshore Highway	39,186	78,372
59-2344-5-1	1330 Second Street	12,076	24,152
59-2345-8-1	1337 Second Street	14,632	29,264
59-2345-6-1	635 Camelia Street	13,002	26,004
59-2345-4	643 Camelia Street	5,501	11,002
Other Ownership			
58-2345-2-1	1306 Third Street	6,651	13,302
59-2344-2-1	600 Gilman Street	11,624	23,248
59-2341-3-2	1433 Eastshore Highway	37,543	75,086
59-2345-7	631 Camelia Street, 625 Camelia Street	8,101	16,202
	Total	**502,633**	**1,005,266**

Source: City of Berkeley (2024).
Note: Maximum allowable building area was determined by multiplying the maximum floor-area ratio (FAR) by the lot size for each parcel and does not consider site-specific limiting factors, such as setbacks or parking requirements. Additionally, existing parcels could be merged in the future to exceed the total FAR shown for each parcel. However, the average 2 FAR would not be exceeded across the entire future development area.
sf = square feet

3.4.2 Potential Berkeley Forge Development

The conceptual development project would include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the proposed M-RD zoning district. The Potential Berkeley Forge Development would include the redevelopment of all but the following three parcels shown in Table 3.G: 1306 Third Street, 600 Gilman Street, and 1433 Eastshore Highway.

3.4.2.1 Conceptual Building Program

The conceptual development project would include redevelopment of 15 of the 18 parcels on the conceptual development project site consisting of the Pacific Steel Casting and Berkeley Forge and Tool parcels, and the parcels located at 631 and 652 Camelia Street (Clearflow Valves, indicated in the orange outline on Figure 3-3). The conceptual development project would consist of eight new buildings, all of which could contain a mix of R&D, laboratory, and office uses, as well as three parking structures, for a total of 11 new structures. The buildings would be split into three blocks (Blocks A, B, and C), each of which would include separate parking structures and/or open space. Collectively, the three individual blocks would comprise up to 900,000 square feet of development. The following includes a brief summary of each block:

- Block A would be at the northeast corner of the project site, bounded by Gilman Street to the north, Second Street to the west, Camelia Street to the south, and the railroad tracks to the east. Block A would include all parcels bounded by Gilman Street, Second Street, Camelia Street, and the railroad tracks except the existing building at 1306 Third Street (APN 58-2345-2-1), which would not be redeveloped as part of the conceptual development project.

- Block B would be located south of Block A across Camelia Street, bounded by Page Street to the south, as well as Second Street and the railroad tracks to the east and west, respectively.

- Block C would be located on the west side of Second Street, bounded by Gilman Street and Page Street to the north and south, and Eastshore Highway to the east. The existing buildings at 600 Gilman Street (APN 59-2344-2-1) and 1433 Eastshore Highway (APN 59-2341-3-2), which are located immediately north and south of Block C, respectively, are not part of Block C and would not be redeveloped as part of the conceptual development project.

In addition, the existing building located at 1331 Eastshore Highway, one of the Berkeley Forge and Tool buildings, would be reconstructed as an amenity space to serve users of the conceptual development project site.

3.4.2.2 Conceptual Open Space and Landscaping

Each project block would include open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and hardscape, approximately 24,000 square feet of landscaping, and a portion of the 31,092-square-foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the Potential Berkeley Forge Development site.

A total of 56 existing trees would be removed, and approximately 100 to 140 new trees would be planted throughout the project site. Approximately 70 to 100 new street trees would be planted around the perimeter of the project site. In addition, other groundcover and shrub landscaping would be provided throughout the project site in the open space areas described above.

3.4.2.3 Conceptual Access, Circulation, and Parking

The conceptual development project would refinish and widen all sidewalks along the proposed project frontages to meet City standards. No other changes to the roadway system are proposed at this time. Once a formal application for the conceptual development project is received, circulation plans will be designed to meet City standards.

A total of approximately 1,900 parking spaces would be provided throughout the conceptual development project site. Each block would include a parking structure that would be seven stories in height.

Pedestrian sidewalks and pathways would be provided throughout the conceptual development project site and would connect to the existing sidewalks along Gilman Street.

3.4.2.4 Utilities and Infrastructure

The conceptual development project site is in an urban area with existing utilities and infrastructure. The conceptual development project would require installation of the following utility connections: water, wastewater, stormwater drainage, electric, and telecommunications services. Connections to existing infrastructure would be within the adjacent public rights-of-way. Up to seven generators could be located on the conceptual development project site ranging from 200 to 500 kilowatts. Block A would include three generators, and Blocks B and C would include two generators each. As part of the formal application process, the conceptual development project would need to submit a utilities and infrastructure plan that would show how the proposed development would comply with applicable regulations.

Most of the existing 10.26-acre conceptual development project site is covered by impervious surfaces, including existing buildings, roadways, and other paved surfaces. Development of the conceptual development project would result in a reduction in impervious surfaces on the site. Runoff would be treated in accordance with the terms of the applicable Municipal Regional Permit and C.3 requirements before flowing to the City's storm drain.

3.4.2.5 Demolition, Grading, and Construction

The conceptual development project would require demolition of approximately 311,000 square feet of building area and asphalt lots on the site. Construction debris, such as old foundations, pavements, and structures, would be collected and hauled off site for disposal. However, further site investigation and remediation will be required prior to initiation of any ground-disturbing activity. Refer to Section 4.9, Hazards and Hazardous Materials, of this EIR for more information.

The conceptual development project would require approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of materials,

including imported soil and fill. The average depth of excavation across the site would be 4 feet, while the maximum depth of excavation would be approximately 12 feet for sewer connections.

If approved, construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2026–2033. It is anticipated that construction would take place in three phases as follows:

- Phase 1 (Block A) would consist of construction in and adjacent to the block bound by Gilman Street to the north, UPRR tracks to the east, Camelia Street to the south, and Second Street to the west.

- Phase 2 (Block B) would consist of construction in and adjacent to the block bound by Camelia Street to the north, UPRR tracks to the east, Page Street to the south, and Second Street to the west.

- Phase 3 (Block C) would consist of construction in and adjacent to the block bound by Gilman Street to the north, Second Street to the east, Page Street to the south, and Eastshore Highway to the west, excluding the northernmost and southernmost parcels in the block.

3.5 PERMITS AND APPROVALS

The proposed zoning and General Plan/West Berkeley Plan amendments are subject to action by the City's Planning Commission and City Council. If the proposed project is approved, future development projects, including the conceptual development project, would be evaluated for consistency with the newly established zoning and General Plan/West Berkeley Plan designation and for consistency with the development assumptions evaluated in this EIR. Future development projects could be subject to further environmental review, which would be determined at the time that individual applications are received.

The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board, pursuant to the BMC. Specific requirements will be determined once an application for the conceptual development project is received. It is anticipated that once a formal application is submitted for the conceptual development project, the conceptual development project would be more fully evaluated in a subsequent environmental document, which could tier from this program EIR, as appropriate. The appropriate level of environmental review will be determined at the time that the City receives a future application.

Other public agencies may have some authority related to the proposed project and its approvals. Table 3.H provides a list of federal, State, regional, and local agencies that are expected to use the EIR in their decision-making and the required permits and approval actions, including discretionary actions. Please note that the list included in in Table 3.H is not exhaustive; additional permits may be required.

Table 3.H: Anticipated Discretionary Approvals and Required Actions for Project Implementation

Responsible and Other Approving Agencies/Entities	Permit/Approval
California Department of Transportation	● Review of traffic circulation effects and consultation on potential traffic improvements that may affect State highway facilities, ramps, and intersections
San Francisco Bay Regional Water Quality Control Board	● Approval of NPDES permit for stormwater discharge
City/County Association of Governments	● Review of potential effects on Routes of Regional Significance
Bay Area Air Quality Management District	● Permits for on-site generators, boilers, and other utility equipment
California Department of Toxic Substances Control	● Approval of Remedial Action Workplan

Source: Compiled by LSA (2024).
NPDES = National Pollutant Discharge Elimination System

4.0 SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter presents an analysis of the potentially significant environmental impacts that could result from implementation and future development of the project described in Chapter 3.0, Project Description. As described, the project consists of two elements: (1) the proposed Gilman Gateway Rezone Project (proposed project) which would be implemented across the entire 11.54-acre project site, and (2) the Potential Berkeley Forge Development (conceptual development project) which is a reasonably foreseeable future development that could occur on a 10.26-acre portion of the project site. The following describes (1) how a determination of significance is made, (2) the environmental issues addressed in this chapter, (3) the context for the evaluation of cumulative effects, (4) the format of the topical issue sections, and (5) an evaluation of each potentially significant impact in Sections 4.1 through 4.10.

DETERMINATION OF SIGNIFICANCE

The California Environmental Quality Act (CEQA) defines a significant effect as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code (PRC) Section 21068). The "environment" means the physical conditions, which exist in the area including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (PRC Section 21060.5). Each impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the *State CEQA Guidelines*, applicable City of Berkeley (City) policies, and other applicable regulations.

As Lead Agency for environmental review of the proposed project, the City has the discretion to formulate project-specific thresholds of significance and to identify quantitative and qualitative standards, as appropriate, for the evaluation of potential environmental effects.[1,2] Given the environmental setting, the location of the project area, and the scale and complexity of the proposed project, the City has chosen to develop project-specific thresholds, which are adapted from Appendix G of the *State CEQA Guidelines* using relevant local and regional regulatory, planning, and policy documents (e.g., the City's General Plan) modified as appropriate to the local setting for the resource topic being evaluated and the potential environmental effects of the proposed project. Appendix G checklist questions that are not relevant to the project location or proposed actions are not included as significance thresholds for specific topic areas.

In determining whether a project's impacts are significant, an Environmental Impact Report (EIR) ordinarily compares the environmental conditions of a proposed project with existing environmental conditions, which are referred as the "baseline" for the impact analysis. With the exception of the I--80/Gilman Interchange Project, this EIR compares the potential environmental impacts of the proposed project with the baseline environmental conditions in existence at the time that the Notice of Preparation was published on December 21, 2022. Because the I-80/Gilman Interchange

1 *State CEQA Guidelines*. 2023. Section 15064.7.
2 *Rominger v. County of Colusa* 226 Cal. App. 4th 690 (2014).

Project was under construction as of December 21, 2022 and construction is ongoing, the baseline environmental conditions described in this EIR consider the improvements as an existing condition.

In determining the significance of potential environmental impacts compared to baseline conditions, the City's Standard Conditions of Approval (COAs) are first applied. The City's COAs are routinely required conditions applicable to development projects throughout the City and are implemented to reduce or avoid potential environmental effects. Applicable COAs are identified in the Regulatory Framework subsections for each environmental issue topic and prior to the impact determination.

ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.8 of this chapter describe the project's environmental setting as evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate. This chapter addresses the following environmental issues:

- 4.1, Land Use and Planning
- 4.2, Cultural Resources
- 4.3, Tribal Cultural Resources
- 4.4, Transportation
- 4.5, Air Quality
- 4.6, Greenhouse Gas Emissions
- 4.7, Energy
- 4.8, Noise
- 4.9, Hazards and Hazardous Materials
- 4.10, Hydrology and Water Quality
- 4.11, Biological Resources

It has been determined that the following potential environmental effects of the proposed project would be less than significant or have no impact; therefore, these topics are not evaluated in this chapter: aesthetics, agricultural and forestry resources, mineral resources, population and housing, public services, recreation, utilities and service systems, wildfire. Each of these topic areas is evaluated at a level of detail appropriate to the applicable resource topic in Chapter 6.0, Other CEQA Considerations, of this EIR.

Section 4.1 discusses consistency with the City's land use and planning policies, including the General Plan and the Zoning Ordinance. It should be noted that, according to CEQA, policy conflicts are considered environmental impacts only when they result in direct environmental effects (*State CEQA Guidelines* Section 15382). Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. Any such associated physical environmental impacts are discussed in the appropriate sections of this EIR.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines a "cumulative impact" as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. These impacts can result from a combination of the proposed project together with other projects causing related impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects (*State CEQA Guidelines* Section 15355).

The cumulative discussions in Sections 4.1 through 4.11 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, citywide, regional). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. *State CEQA Guidelines* Section 15130 requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This analysis employs both the list-based and projection-based approaches, depending on which approach best suits the resource topic being analyzed.

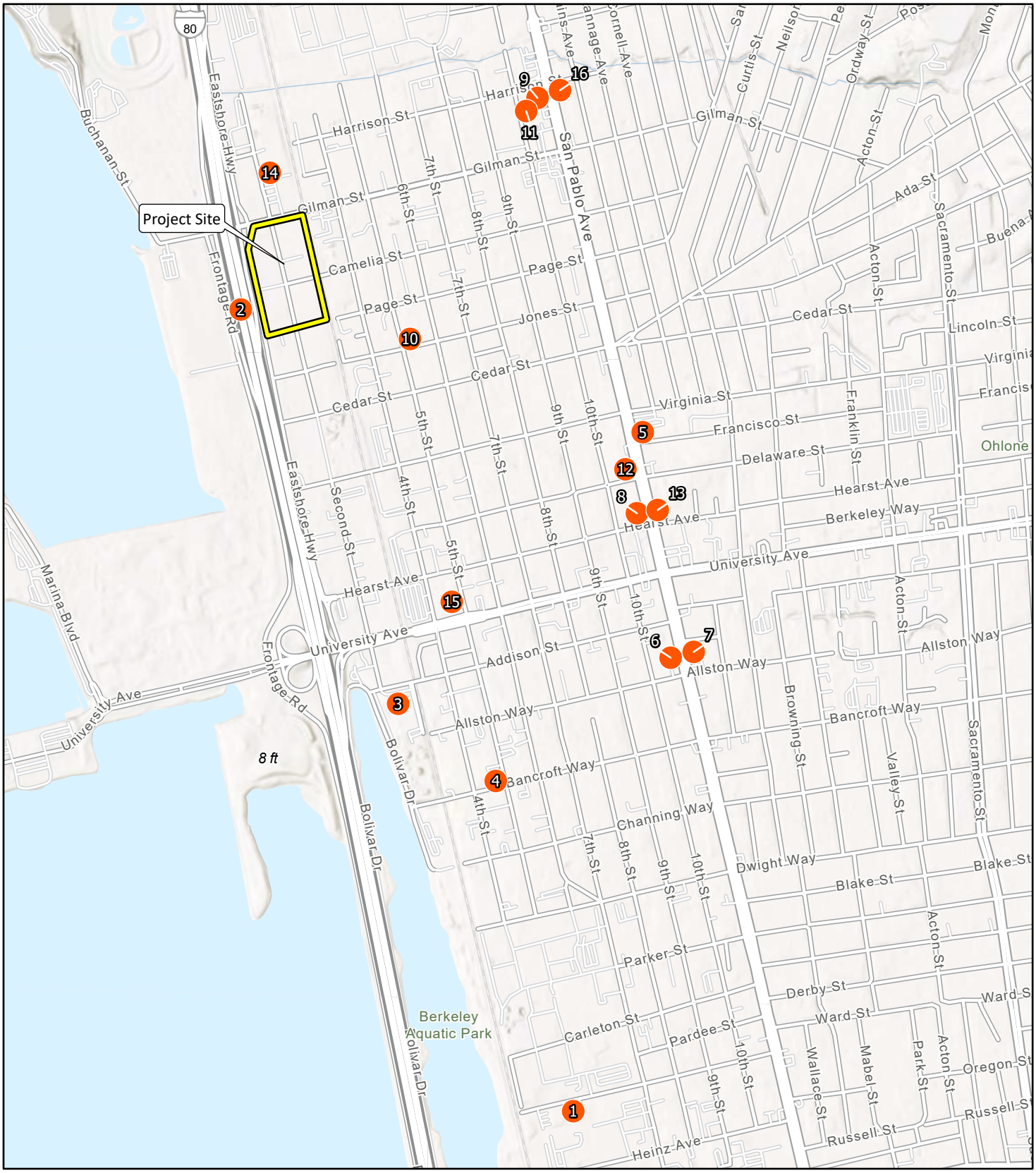
The cumulative land use assumptions include projections for year 2050 by the Association of Bay Area Governments and the Metropolitan Transportation Commission with refinements to reflect development projects under construction, approved, and pending in the city. Cumulative development in the project vicinity (within a 0.25-mile radius of the project site) includes the projects listed in Table 4.A and shown in Figure 4-1. These projects are either projects for which the City has a project application on file or projects that have been approved but were not yet operational at the time that the EIR analysis began (December 2022). Refer to the appropriate discussion in each topical section for further discussion of the cumulative assumptions relevant to each issue topic.

FORMAT OF ISSUE SECTIONS

The environmental topical section is composed of two primary parts: (1) Setting, and (2) Impacts and Mitigation Measures. The following provides an overview of the general organization and the information provided in those two parts:

- **Setting:** The Setting section for each environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the project site and its surroundings in the city. It also provides an overview of regulatory considerations that are applicable to each specific environmental topic.

- **Impacts and Mitigation Measures:** The Impacts and Mitigation Measures section for each environmental topic presents a discussion of the potential impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which are the thresholds used to determine whether an impact is potentially significant. These thresholds are adapted from Appendix G of the *State CEQA Guidelines* and apply local and regional criteria applicable to the project area, as described above. The latter part of this section presents the potential impacts from the proposed project and mitigation measures, if necessary. The potential impacts of the proposed project are organized into separate categories based on the criteria listed in each topical section. Cumulative impacts are also addressed.



LSA

FIGURE 4-1

Project Site

Cumulative Projects

1. 742 Grayson Street
2. I-80 Gilman Interchange Improvement
3. 600 Addison Street
4. 787 Bancroft Way/ TheLAB
5. 1701 San Pablo Avenue
6. 2136 San Pablo Avenue
7. 2147 San Pablo Avenue
8. 1820 San Pablo Avenue
9. 1200 San Pablo Avenue
10. 805 Jones Street
11. 1207 10th Street
12. 1740 San Pablo Avenue
13. 1835 San Pablo Avenue
14. 1201 Second/669 Gilman Transfer Station
15. 1914 Fifth Street
16. 1201 San Pablo Avenue

0 650 1300
FEET

Gilman Gateway Rezone Project EIR

Cumulative Projects Map

SOURCE: Esri World Terrain Base (2024)

J:\CBE1906.09\GIS\Pro\Gilman Gateway Rezone Project EIR\Gilman Gateway Rezone Project EIR.aprx (4/16/2024)

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Table 4.A: Cumulative Projects in the Vicinity of the Project Site

Project (Permit #)	Project Description	Project Status (Date)
I-80 Gilman Interchange Improvement	Construction of two roundabouts at Gilman Street intersections on both sides of Interstate 80/Interstate 580 (I-80/I-580), a new bicycle/pedestrian overcrossing over I-80/I-580, and bicycle facilities at and near the interchange. The project would also provide a connection to the Bay Trail from Gilman Street and create a dedicated two-way cycle track along Gilman Street from the interchange to Fourth Street.	Under Construction
805 Jones Street (ZP2022-0162 and DRCP2022-0019)	Construct three, 2-story duplexes for a total of six units (5,510 sf) with a height of 26 feet and a 455 sf second-story (22 feet) addition to the existing 1,750 sf commercial building.	Approved (1/25/2024)
1201 Second/669 Gilman Transfer Station (ZP2021-0215)	Demolish existing commercial buildings and construct new commercial buildings/structures and new recycling equipment at the City of Berkeley Transfer Station.	Under Review

Source: Compiled by the City of Berkeley (2024).
sf = square feet

Under each category, evidence is presented to show the cause-and-effect relationship between the proposed project and potential changes in the environment. In accordance with *State CEQA Guidelines* Section 15126.2(a), this EIR is required to "identify and focus on the significant effects of the proposed project on the environment." The magnitude, duration, extent, frequency, and range or other parameters of a potential impact are ascertained to the extent feasible to determine whether impacts may be significant. In accordance with CEQA, potential project impacts, if any, are classified as follows for each of the environmental topics discussed in this EIR:

- **Significant Impact:** This classification refers to impacts that are identified as potentially significant because the established threshold would be exceeded with implementation of the proposed project. This determination is made prior to identification of mitigation measures.

- **Less than Significant Impact:** Less than significant impacts are environmental impacts that have been identified but are not potentially significant. If the proposed project is approved, the decision-making body is required to make findings pursuant to *State CEQA Guidelines* Section 15091 that no significant impacts would occur.

- **Less than Significant Impact with Mitigation:** Less than significant impacts are environmental impacts that have been identified but can be feasibly mitigated to a level of insignificance. If the proposed project is approved, the decision-making body is required to make findings pursuant to *State CEQA Guidelines* Section 15091 that significant impacts have been mitigated to the extent feasible through implementation of mitigation measures, if required.

- **Significant and Unavoidable Impact:** This classification refers to impacts that are significant, cannot be mitigated with implementation of feasible mitigation measures, and that cannot be avoided with implementation of the project as proposed. If the proposed project is

approved with significant and unavoidable impacts, the decision-making body is required to adopt a statement of overriding considerations pursuant to *State CEQA Guidelines* Section 15093 explaining why the project's benefits outweigh those significant and unavoidable environmental impacts.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA). The following acronyms are used for their respective individual topics:

- LU Land Use and Planning
- CUL Cultural Resources
- TCR Tribal Cultural Resources
- TRA Transportation
- AIR Air Quality
- GHG Greenhouse Gas Emissions
- EN Energy
- NOI Noise
- HAZ Hazards and Hazardous Materials
- HYD Hydrology and Water Quality
- BIO Biological Resources

4.1 LAND USE AND PLANNING

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes the existing land uses on and around the project site. It identifies potential impacts related to land use and planning that could result from implementation of the proposed project and the conceptual development project and recommends mitigation measures, as appropriate.

This section also evaluates the proposed project's consistency with applicable planning policies. Although this section contains a discussion of the consistency of the project with relevant land use policies, policy conflicts, in and of themselves, do not constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts when they would result in adverse physical effects on the environment. Therefore, this section discusses land use policies for informational purposes only. All other associated physical impacts are discussed in this Draft Environmental Impact Report (EIR) in specific topical sections, as applicable.

4.1.1 Setting

The following subsections provide an overview of the project location, the project site, and adjacent existing and planned land uses.

4.1.1.1 Overview

Berkeley is in northwest Alameda County, one of the nine counties that make up the San Francisco Bay Area. Berkeley is bounded by Albany, El Cerrito, and Richmond to the north, Tilden Regional Park and Contra Costa County to the east, Emeryville and Oakland to the south, and the San Francisco Bay to the west. Berkeley encompasses 17.7 square miles, 10.43 of which are land, and 7.27 of which are water.[1]

The 11.54-acre project site is in West Berkeley, adjacent to the Interstate 80/Interstate 580 (I-80/I-580) freeway corridor and 0.2 mile from the San Francisco Bay shoreline. Figure 3-1 in Section 3.0, Project Description, depicts the site's regional and local context. Historically, the project site was the site of the former Pacific Steel Casting and the former Berkeley Forge and Tool. Pacific Steel Casting was established in 1934 and operated as a manufacturer of custom industrial-use parts until 2018. Berkeley Forge and Tool has been in operation since at least 1957, providing custom metal products

[1] United States Census Bureau. 2020. QuickFacts, Berkeley City, California. Website: httpd://www.census.gov/quickfacts/berkeleycitycalifornia (accessed January 25, 2023).

to a variety of customers. Berkeley Forge and Tool ended operations in 2022, and Pacific Steel Casting closed in 2018.

The site is bisected by Second Street and generally bounded by Gilman Street to the north, the Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and the Eastshore Highway and I-80/I-580 (Eastshore Freeway) corridor to the west. The site is surrounded by a mix of manufacturing, warehouse, office, and commercial uses. Residential uses are to the northeast and southeast. Figure 3-2 in Section 3.0, Project Description, is an aerial photograph of the project site and surrounding land uses in the vicinity. The I-80/I-580 freeway corridor and Gilman Street I-80/I-580 ramp, west of the project site, provide regional vehicular access to the project site.

4.1.1.2 Existing Land Uses

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Existing buildings range in height from one to three stories and were likely constructed in the mid-1900s. Vegetation on the site is limited to sparse street trees and ornamental trees. Of the 18 parcels, nine are associated with the former Pacific Steel Casting site and total 8.13 acres. The remaining parcels include five that are associated with the former Berkeley Forge and Tool, which total 1.94 acres, and four other parcels, including the Clearflow Valves parcel at the corner of Second Street and Camelia Street, the building at 1306 Third Street, a vehicle rental business, and 1433 Eastshore Highway, totaling 1.47 acres. Refer to Table 3.A in Chapter 3.0, Project Description, for a summary of the parcels and existing buildings on the project site.

The project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials including total petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls. There are multiple leaking underground storage tank (LUST) sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). The properties at 600 Gilman Street (a former gas station in the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site in the central portion of the project site) are identified on GeoTracker as LUST sites. There are multiple LUST sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5.[2] The properties at 600 Gilman Street (a former gas station on the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site on the central portion of the project site) are identified on GeoTracker[3] as LUST sites.[4]

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[2] California Environmental Protection Agency (CalEPA). 2024. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed February 21, 2024).

[3] Geotracker is the SWRCB's environmental database of hazardous materials release sites and permitted hazardous materials facilities.

[4] State Water Resources Control Board (SWRCB). 2024. Geotracker. Website: http://geotracker.waterboards.ca.gov/ (accessed February 22, 2024).

Table 3.A in Chapter 3.0, Project Description, describes the existing buildings and uses on the project site. As shown in Table 3.A, the existing buildings on the project site, the majority of which are currently vacant, total 320,070 square feet. Approximately 75 persons are employed on the project site, and the 1306 Third Street building (APN 58-2345-2-1) contains seven commercial tenant spaces and four residential units, three of which are occupied by 11 individuals, the fourth is currently vacant. Residential units are not allowed in the underlying zoning district; therefore, the use is considered non-conforming.

Figure 3-2 in Section 3.0, Project Description, depicts an aerial view of the project site. Photographs of existing site conditions are depicted in Figure 3-5 in Section 3.0, Project Description.

4.1.1.3 Existing Land Uses in the Vicinity of the Project Site

The following provides a description of the existing land uses within the vicinity of the project site. Land uses adjacent to the site are generally identified in Figure 3-2 in Chapter 3.0, Project Description.

Areas to the North. The project site is bordered to the north by Gilman Street and various light industrial, vehicle service, and heavy commercial uses. These land uses extend 0.6 mile north to Buchanan Street. Recreational fields and open space areas are 0.18 mile northeast of the project site, and University Village, a residential community, is 0.3-mile northeast. Golden Gate Fields, a horse racing track in Albany (the venue's horse stables are in West Berkeley) which closed in June 2024, is 0.35 mile northwest of the project site along the Bay.

Areas to the East. The project site is bordered to the east by a UPRR and Amtrak heavy rail corridor (rail tracks), various heavy and light industrial and commercial uses, and a building containing four residential units and seven commercial tenant spaces, which are non-conforming. Food and entertainment uses are east of the project site between Fourth Street and San Pablo Avenue, beyond which are residential land uses. Additional residential land uses are south of Camelia Street, 0.2 mile to the east.

Areas to the South. The project site is bordered to the south by Page Street and heavy and light industrial and heavy commercial uses. These land uses extend to Virginia Street, across which are commercial uses, including food service and retail uses. The Berkeley Amtrak Station is 0.6 mile south of the project site. An industrial campus is at 600 Addison Street, 0.7 mile south of the project site, with approximately 500,000 square feet of combined R&D uses including offices. Aquatic Park, a linear 100-acre park, is 0.7 mile south of the project site.

Areas to the West. The project site is directly bordered to the west by I-80/I-580. The Caltrans-Alameda County I-80/Gilman Interchange project, a pedestrian and bicycle overcrossing of I-80/I-580, is 0.02 mile west of the project site. The Tom Bates Regional Sports Complex is west of I-80/I-580 0.08-mile west of the project site. The horse stables associated with Golden Gate Fields are 0.11 mile west of the project site along the Bay. The McLaughlin Eastshore State Seashore, Cesar E. Chavez Park, and the Berkeley Marina are 0.12 mile, 0.60 mile, and 0.70 mile southwest of the project site, respectively.

4.1.1.4 Regulatory Framework

The following section provides a brief description of the regulations affecting land use and planning at the state, regional, and local level.

State Regulations. State regulations applicable to the proposed project include California State Planning and Zoning Law and the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375).

California State Planning and Zoning Law. This law, which is codified in California Government Code Sections 65000–66037, delegates most of the state's local land use and development decisions to cities and counties. The California Government Code establishes specific requirements pertaining to the regulation of land uses by local governments, including general plan requirements, specific plans, subdivisions, and zoning. California Government Code Section 65302 requires that all California cities and counties include the following seven elements in their general plans: (1) land use, (2) circulation, (3) housing, (4) conservation, (5) open space, (6) noise, and (7) safety. Cities and counties that have identified disadvantaged communities must also address environmental justice in their general plans, including air quality.[5]

Sustainable Communities and Climate Protection Act of 2008 (SB 375). This statute requires California's regional planning agencies to include a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) in their Regional Transportation Plans (RTP). SB 375 was enacted to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing, and environmental planning. The SCS provides a plan for meeting the regional emissions reduction targets established by the California Air Resources Board (CARB). If the emission reduction targets cannot be met through the SCS, an APS may be developed that shows how the targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 also offers local governments regulatory and other incentives to encourage more compact new development and transportation alternatives.

The requirements of SB 375 are reflected in Plan Bay Area 2050[6] which was adopted by the Association of Bay Area Governments and the Metropolitan Transportation Commission and serves the regional planning agencies in the nine-county region composed of Alameda, Contra

[5] Senate Bill 1000 (SB 1000), adopted in 2016, requires both cities and counties that have disadvantaged communities to incorporate environmental justice (EJ) policies into their general plans, either in a separate EJ element or by integrating related goals, policies, and objectives throughout the other elements. This update, or revision if the local government already has EJ goals, policies, and objectives, must happen "upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018."

[6] Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2021. Plan Bay Area 2050, A Vision for the Future. October 21. Website: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf (accessed December 2023).

Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties. Plan Bay Area 2050 is further discussed below.

Regional Regulations. The following regional regulations related to land use and planning that would be applicable to the project are described below.

Plan Bay Area 2050. Plan Bay Area 2050 [7], adopted October 2021, is a State-mandated, integrated long-range transportation and land use plan for the San Francisco Bay Area created by the Association of bay Area Governments and the Metropolitan Transportation Commission in collaboration with Bay Area residents, partner agencies, and nonprofit organization. As required by SB 375, all metropolitan regions in California must complete an SCS as part of an RTP. This strategy integrates transportation, land use, and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 meets those requirements. In addition, the plan sets a roadmap for future transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

To meet the GHG reduction targets, the plan identifies four growth geographies where future growth in housing and jobs should be focused: Priority Development Areas (PDAs), Priority Production Areas (PPAs), Transit-Rich Areas (TRAs), and High-Resource Areas (HRAs). The agencies estimate more than 80 percent of housing growth would occur within TRAs and nearly 30 percent would be within HRAs, and more than 60 percent of job growth would be within walking distance of high-quality transit between 2015 and 2050.[8]

A PDA is a funding and planning tool. If a local jurisdiction voluntarily nominates an area for PDA designation, the designation provides the local jurisdiction with access to funds and grants to develop and adopt area plans to plan for, design, and regulate future growth of the area as well as construct needed and/or planned infrastructure improvements. The project site is not within a PDA, PPA, TRA, or HRA.

The plan primarily discusses strategies to improve housing, the economy, transportation, and environment within the nine-county Bay Area. The plan aims to make the region more affordable, connected, diverse, healthy and vibrant, with particular attention paid to the needs of residents living in identified Equity Priority Communities (previously termed “Communities of Concern”). The identification of Equity Priority Communities is based upon eight demographic variables: people of color, low-income, limited English proficiency, seniors 75 years and over, zero-vehicle households, single parent families, people with a disability, and rent-burdened households. If an area exceeds both threshold values for low-income household and people of color shares or exceeds the threshold for low-income household and also exceeds the threshold values for three or more demographic variables, the area is considered an Equity Priority

7 Ibid.

8 Growth projections do not sum to 100 percent because PDAs, TRAs, and HRAs are not mutually exclusive.

Community. According to Plan Bay Area 2050 and the Equity Priority Communities map, the project site is within a region of Berkeley identified as an Equity Priority Community.[9]

Local Plans and Regulations. The following describes local plans and regulations related to land use and planning that would be applicable to the project.

Berkeley General Plan. The Berkeley General Plan, adopted in April 2002,[10] is a comprehensive and long-range statement of community priorities and values developed to guide public decision-making for the City of Berkeley (City) in future years. It established the basis for zoning regulations and provides guidance in the evaluation of development proposals. The General Plan consists of 11 chapters that cover issues including land use, transportation, housing, disaster preparedness and safety, open space and recreation, environmental management, economic development and employment, urban design and preservation, citizen participation, and implementation of goals and policies.

The project site is currently designated as Manufacturing in the General Plan. The Manufacturing designation represents an area devoted to manufacturing enterprises and encourages a range of development dedicated to manufacturing and industrial uses, including "heavy manufacturing". The proposed project includes a General Plan Amendment to add a description of a new zoning district - Manufacturing, Research and Development (M-RD) – to the existing Manufacturing Land Use Designation.

West Berkeley Plan.The West Berkeley Plan, adopted in December 1993 as an amendment to the General Plan and amended in 2011,[11] sets forth the City's key land use, environmental, economic development, transportation, housing, social services, and physical form policies for the West Berkeley Plan area. The West Berkeley Plan aims to reinforce the dynamic mix of industrial, office, arts and crafts, residential, retail, and institutional activities in the City's western district.

The project site is in West Berkeley and is zoned Manufacturing (M) pursuant to the Zoning Ordinance (see below) and the West Berkeley Plan.

City of Berkeley Conditions of Approval for Development Projects.The City has established standard conditions of approval (COA) for all development projects. The following COAs address land use and planning:

<u>COA: Compliance Required (BMC Section 23.102.050).</u> All land uses and structures in Berkeley must comply with the Zoning Ordinance and all applicable City ordinances and regulations. Compliance with the Zoning Ordinance does not relieve an applicant from

[9] Association of Bay Area Governments. 2021. *Plan Bay Area 2050, Equity Priority Communities: American Community Survey 2014-2018 Tracts Within Urbanized Area*. October.
[10] City of Berkeley. 2002. *Berkeley General Plan: A Guide for Public Decision Making*.
[11] City of Berkeley. 1993. *West Berkeley Plan* (as amended 2011).

requirements to comply with other federal, State, and City regulations that also apply to the property.

COA: Conformance to Approved Plans (BMC Section 23.404.060[B][4]). All work performed under an approved permit shall comply with the approved plans and any conditions of approval.

City of Berkeley Zoning Ordinance. The Zoning Ordinance consists of a Zoning Map that delineates the boundaries of zoning designations within the City and regulations that govern the use of land and placement of buildings and improvements within the various classes of districts. The purpose of the Zoning Ordinance is to protect the health, safety, peace, morals, comfort, convenience, and general welfare of the people of Berkeley, and to serve as an instrument for implementation of the General Plan.

The project site is currently zoned Manufacturing (M) pursuant to the Zoning Ordinance. The purpose of the M district is to encourage development dedicated to manufacturing and industrial uses, including heavy manufacturing; encourage the creation and continuation of well-paid (often unionized) industrial jobs for people without advanced degrees; retain the stock of manufacturing and industrial buildings wherever possible; support the development of industrial businesses that contribute to the maintenance and improvement of the environment; maintain and improve the quality of West Berkeley environment while allowing operation of the full range of manufacturers; support the development of retail automobile sales uses; and provide opportunities for vehicle sales. The development standards for the M district are shown in Table 3.B. in Chapter 3.0, Project Description.

The proposed project would create a new zoning district – M-RD – to facilitate future development of up to 1,005,266 square feet of non-residential space, which would require approximately 1,300 off-street automobile parking spaces. The purpose of the M-RD zoning district would be to support a mix of industrial and heavy commercial uses, such as light manufacturing and R&D, particularly those uses that can provide high--quality employment and add significantly to the tax base; allow office and laboratory uses that support light industrial and R&D uses; provide opportunities for an urban campus-like environment with high-quality design and site planning that includes amenities for employees and customers; and support the development of industrial uses which satisfy performance standards that protect the environment. Chapter 23.206 of the Berkeley Municipal Code (BMC) would be amended to include the new district. The M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D.

4.1.2 Impacts and Mitigation Measures

The following describes potential impacts related to land use that could result from development of the proposed project. This section begins with the criteria of significance, establishing the thresholds to determine whether an impact is significant. The latter part of this section describes the land use impacts from the proposed project and the conceptual development project and identifies applicable COAs and/or mitigation measures, as appropriate.

As noted earlier, conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves; therefore, the proposed project's consistency with applicable policies is discussed separately from the physical land use impacts associated with the proposed project. Policy inconsistency is considered to be a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect, and it is anticipated that the inconsistency would result in a significant adverse physical impact when evaluated against the established significance criteria. The proposed project's consistency with regional policies related to physical environmental topics (e.g., air quality, transportation, and noise) is analyzed and discussed in those topical sections of the EIR.

4.1.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact on the environment related to land use and planning if it would:

Threshold LU-1: Physically divide an established community; or

Threshold LU-2: Result in a conflict between the proposed project and the provisions of the following plans, policies or regulations, adopted for the purpose of avoiding or mitigating an environmental effect, due to any of the significant impacts identified in this EIR:

- Berkeley General Plan
- West Berkeley Plan
- Zoning Ordinance
- Plan Bay Area 2050

4.1.2.2 Project Impacts

The following describes the potential impacts related to land use according to the significance criteria described above. Impacts associated with the zoning and General Plan/West Berkeley amendments (i.e., proposed project) are evaluated at a programmatic level, whereas the potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible given that specific details related to construction and excavation are not fully known at this time.

Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community. (*Less than Significant*)

The division of an established community would typically involve the construction of a barrier to neighborhood access (such as a new freeway segment) or the removal of a means of access (such as a bridge or roadway) that would impair mobility within an existing community, or between a community and outlying areas. For example, the construction of an interstate highway through an existing community could constrain travel from one side of the community to another. Similarly, such construction could also impair travel to areas outside of the community.

The project site is in an urban, industrial area of West Berkeley. Development surrounds the project site on all four sides, including various light industrial and commercial uses to the north and south,

rail tracks and additional light industrial and commercial uses to the east, and the I-80/I-580 corridor to the west. The proposed project would create a new zoning district – M-RD – and incudes associated zoning, General Plan, and West Berkeley Plan amendments to facilitate future buildout of up to 1,005,266 square feet of non-residential space, including a mix of light manufacturing, R&D, and laboratory or office uses on an 11.54-acre site. Although the proposed rezoning and General Plan/West Berkeley Plan amendments would not result in any direct physical changes to the project site, implementation of the proposed zoning district would facilitate the demolition of all existing on-site structures and the development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory or office uses on the project site. However, development of the project site under the proposed project would be consistent with the surrounding uses. Therefore, future development facilitated by the proposed project would not physically divide an established community and impacts would be **less than significant**.

Additionally, the conceptual development project would include redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the M-RD district. The conceptual development project would include redevelopment of the Pacific Steel Casting and Berkeley Forge and Tool parcels, and the Clearflow Valves parcel (15 of the 18 parcels on the project site, collectively referred to herein as the "conceptual development project site") that could consist of eight new buildings, all of which could contain a mix of R&D, laboratory, and office uses, and three parking structures, for a total of 11 new structures. The buildings would be split into three blocks (Block A, B, and C), each of which would include separate parking structures and/or open space. Collectively, the three individual blocks would comprise up to 900,000 square feet of development. The conceptual development project also includes utility and infrastructure, and approximately 130,000 square feet open space/landscaping improvements on the project site. In addition, the existing building at 1331 Eastshore Highway would be reconstructed as amenity space as part of conceptual development project.

The conceptual development project would maintain the segment of Second Street between Gilman and Camelia streets as one-way southbound and narrow the segment from two to one automobile lanes. The conceptual development project would also convert the segment of Second Street between Camelia and Page streets from one-way southbound to two-way operations, consistent with current conditions. In addition, the conceptual development project would use Third Street between Gilman and Camelia streets to allow truck and emergency vehicle access and allow passenger vehicles to turn right out of a proposed parking garage and would create a private street on the east side of the development site between Camelia and Page streets. All sidewalks along the conceptual development project frontages would be refinished and widened to meet City standards. No other changes to the roadway system are proposed at this time. Once a formal application for conceptual development project is received, circulation plans will be developed in coordination with the City and required to conform to City standards and policies. Pedestrian sidewalks and pathways would also be provided throughout the conceptual development project site and would connect to the existing sidewalks along Gilman Street. As a result, the conceptual development project would improve, not limit or impede, access to the site and adjacent uses and impacts would be **less than significant**.

Impact LU-1 Summary: Implementation of the proposed project, including the conceptual development project, would not eliminate or reduce existing levels of connectivity within the City such that an existing community would become physically separated from another, or existing residents or employees would have substantially diminished access to transit, commercial centers, employment areas, schools, parks or other facilities. This impact would **less than significant**.

Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation of an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050. (*Less than Significant*)

The following sections address the proposed project's compliance and compatibility with the applicable land use regulations and policies of the General Plan, West Berkeley Plan, the Zoning Ordinance, and Plan Bay Area 2050.

Berkeley General Plan. The proposed project would establish a new zoning district (M-RD) in Chapter 23.206 of the BMC, rezone the 11.54-acre project site from M to M-RD, and amend the Berkeley General Plan to add the M-RD district to the Manufacturing land use designation. The proposed zoning and General Plan amendments are subject to action by the City of Berkeley's Planning Commission and City Council. The conceptual development project would require discretionary permits and approvals, which are subject to action by the Zoning Adjustments Board and its Design Review Committee, pursuant to the BMC. Specific requirements will be determined once an application for the conceptual development project is received. In addition, the conceptual development project would be subject to a complete General Plan consistency analysis as part of the permitting actions.

City decision-makers will evaluate the proposed project in the context of the General Plan, and, as part of the development review process for the conceptual development project, will consider potential policy conflicts.

The proposed project, including the conceptual development project, would be generally consistent with the land use and planning related policies in the City's General Plan, and no adverse physical environmental effects would result from any policy inconsistencies. The proposed project would be generally consistent with the policies found in the Land Use Element by maintaining the community character of the surrounding (predominantly industrial) area consistent with Policy LU-1 and Objective 4, encouraging infill development consistent with Policy LU-3, and undergoing discretionary review consistent with Policy LU-4, and would be generally consistent with the policies found in the Transportation Element because compliance with the City's COAs, as described further in Section 4.4, would y encourage the use of alternative transportation and transit consistent with Policy T-10, including a transportation demand management program, and would encourage] the maintenance of streets, sidewalks, and other public infrastructure to reduce long term replacement costs consistent with Policy T-25. Encouraging improvements to transit, bicycle, disabled, and pedestrian access in the vicinity of the project site consistent with Policy T-29 would also render the proposed project generally consistent with the Open Space Element and maintaining the community character of the area and site would render the proposed project generally consistent with the

Urban Design and Preservation Element. The proposed project would also be generally consistent with the policies found in the Disaster Preparedness and Safety Element through identifying, avoiding, and minimizing natural and human-caused hazards in the development of property consistent with state and local building regulations, and would be generally consistent with the policies found in the Environmental Management Element through compliance with City and State-mandated Green Building Standard Codes and federal, State and local regulations protecting groundwater water quality. Therefore, the proposed project and the conceptual development project would result in a **less than significant** impact related to consistency with General Plan policies adopted to mitigate adverse environmental impacts.

West Berkeley Plan. The proposed project would amend the West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. The proposed project, including the conceptual development project, would be generally consistent with the West Berkeley Plan, as it would maintain the community character of the surrounding (predominantly industrial) area, provide an increase in employment opportunities for West Berkeley residents, adequately mitigate impacts on traffic, and meet applicable environmental laws and standards. However, City decision-makers would evaluate the proposed project in the context of the West Berkeley Plan and consider any potential policy conflict. Should the proposed project be approved by the City Council, any future development project would also be required to undergo a policy consistency analysis by the decision-making body.

The proposed project, including the conceptual development project, would be consistent with the land use and planning related policies in the City's West Berkeley Plan for the reasons stated above, and no adverse physical environmental effects would result from any policy inconsistencies; therefore, the proposed project and the conceptual development project would result in a **less than significant** impact related to consistency with West Berkeley Plan policies adopted to mitigate adverse environmental impacts.

City of Berkeley Zoning Ordinance. The project site is currently zoned Manufacturing (M) pursuant to the City's Zoning Ordinance. The proposed project would create a new zoning district – M-RD – to facilitate future development of up to 1,005,266 square feet of non-residential space. In addition to the new zoning district, the proposed project includes buildout of the conceptual development project for up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses on a 10.26-acre portion of the site.

The purpose of the M-RD zoning district would be to support a mix of industrial and heavy commercial uses, such as light manufacturing and R&D, particularly those which can provide high quality employment and add significantly to the tax base; allow office and laboratory uses that support light industrial and R&D uses; provide opportunities for an urban campus-like environment with high-quality design and site planning that includes amenities for employees and customers; and support the development of industrial uses which satisfy performance standards that protect the environment. The M-RD Zoning district would permit a variety of uses, including office, industrial, and heavy commercial, laboratory, and light manufacturing, and R&D, as provided in Table 3.C in Chapter 3.0, Project Description. The development standards and allowed uses for the proposed M-RD zone would be similar to the City's existing Mixed-Use Light Industrial (MU-LI) zoning district. A

summary of the development standards for the proposed M-RD zoning district is shown in Table 3.E in Chapter 3.0, Project Description.

As a result of regulations built into the M-RD zoning district (i.e., zoning and design standards that must conform with the intent of the General Plan), and compliance with those regulations with implementation of the conceptual development project, the proposed rezoning and development standard changes do not represent significant land use policy impacts. This impact would be **less than significant.**

Plan Bay Area 2050. Plan Bay Area 2050 is a long-range plan that primarily discusses strategies to improve housing, the economy, transportation, and environment within the Bay Area. Throughout the plan, four types of Growth Geographies, which are geographic areas used to guide where future growth in housing and jobs would be focused, have been identified. The project site is within an area designated as a TRA and is adjacent to areas that have been identified as Transit-Rich and High-Resource Areas. This indicates that the project site is an appropriate location for infill development and employment-generating land uses. The project site is also within a region of Berkeley identified as an Equity Priority Community. Plan Bay Area does not directly govern land uses within the city and the proposed project would not conflict with any of the strategies discussed in Plan Bay Area 2050. Therefore, the proposed project and conceptual development project would not be inconsistent with Plan Bay Area 2050, and this impact would be **less than significant**.

Impact LU-2 Summary: The proposed project, including the conceptual development project, would be consistent with the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050. Therefore, impacts associated with potential conflicts with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation an environmental effect would be **less than significant**.

4.1.2.3 Cumulative Impacts

The cumulative geographic context for land use, planning, and policy considerations for development consists of the project site in addition to the surrounding areas (within 0.25 mile of the project site) and uses abutting the project site.

The area surrounding the project site is largely developed with a mix of manufacturing, light industrial, office, residential, and commercial/restaurant uses. Project development would increase the intensity of office use and light industrial development within the vicinity of the project site; however, other development projects are dispersed geographically throughout the city and would not combine with the project to result in cumulative impacts related to physical division of an established community.

In addition, all other cumulative development has been, or will be, subject to development guidance, including programs, policies, and implementation strategies, contained within the General Plan, and requirements prescribed by zoning and other applicable land use plans to avoid conflicting with plans adopted to avoid or mitigate environmental effects. Based on the information in this land use section and for the reasons summarized above, development of the proposed project would not

contribute to any significant adverse cumulative land use impacts when considered together with other cumulative development, and this impact would be **less than significant.**

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4.2 CULTURAL RESOURCES

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing cultural resources conditions within the project site and vicinity. It identifies potentially significant impacts to such resources that may result from implementation of the proposed project and the conceptual development project and recommends mitigation measures to reduce the severity of potentially significant impacts.

Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value for their historical significance. Examples of cultural resources include precontact (Native American) and historic-period archaeological sites, and historic buildings and bridges of architectural significance. The California Environmental Quality Act (CEQA) requires agencies that are considering projects that are subject to discretionary action to consider the potential impacts on cultural resources that may occur from project implementation (see Section 15064.5 and Appendix G of the *State CEQA Guidelines*). Section 4.3, Tribal Cultural Resources, of this Environmental Impact Report (EIR) addresses the topic of tribal cultural resources.

In addition to the references listed in this section, a Preliminary Cultural Resources Evaluation (CRE)[1] and Historical Resource Evaluation (HRE)[2] were prepared for the project site and built environment resources located within the project site. The CRE and HRE were used in the analysis provided in this section and are included as Appendices B and C to the Draft EIR. The HRE was peer reviewed by LSA as a consultant to the City of Berkeley (City).[3]

4.2.1 Setting

To characterize the setting for cultural resources at the project site, the following tasks were completed as part of the CRE and HRE: (1) in-person records searches of the California Historic Resources Information System (CHRIS) archives were conducted at the Northwest Information Center (NWIC); (2) geotechnical borings and soil samplings were completed to identify the potential presence of cultural resources; and (3) the existing buildings on the project site were evaluated to determine their eligibility for listing in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), and the City of Berkeley Landmark

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1 Archeo-Tec. 2022. *Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California.* June.

2 Bridget Maley, architecture + history llc, Caitlin Himba, Left Coast Architectural History. 2023. *Gilman Gateway Historic Resources Evaluation.* May.

3 LSA Associates, Inc. 2023. *Peer Review of the Gilman Gateway Historic Resource Evaluation, Berkeley, California (LSA Project No. CBE1906.09).* March 24.

and Structure of Merit criteria. The results of these tasks are summarized below. This section also includes an overview of the applicable regulatory context related to cultural resources.

4.2.1.1 Records Searches

The results of the records searches at the NWIC are discussed below.

Northwest Information Center. The NWIC records search was conducted on April 19, 2022. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official State repository of cultural resource records and reports for Alameda County. The NWIC database indicates there are no previously recorded cultural resource studies of the project site. The NWIC database also indicates that there are 14 recorded cultural resources located within the 0.5-mile radius. Of these resources, there are prehistoric sites that include a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound Complex, as well as 11 historic resources, including a portion of the Union Pacific Railroad (UPRR) track and a historic trash deposit. Seven are built environmental resources, and two are undated and unidentified resources. Of the seven built environmental resources identified during the records search, three are located within the boundaries of the project site. These three are Berkeley Steel, General Petroleum, and Pacific Steel Casting.

The Schoolhouse Creek site and West Berkeley Shellmound complex are considered highly significant prehistoric resources. In 2000, a prehistoric-period shell midden deposit (the Schoolhouse Creek site) was identified during archaeological monitoring of trench excavation for the installation of fiber optic cables. The site was left in place. Based on the proximity of the site to disturbances associated with the railroad line, combined with the established history of using shellmound deposits for surface leveling and fill during development of the area, it is possible that the Schoolhouse Creek site was deposited as fill displaced from a nearby shellmound. However, no study of the site integrity was completed.

Standing as tall as 15 feet above the surrounding area, the primary West Berkeley Shellmound was a prominent feature of the landscape in the vicinity of the proposed project until well into the 20th century. It was located only a short distance from the north bank of Strawberry Creek, in close proximity to the stream's entrance into San Francisco Bay. The first documented study of the West Berkeley Shellmound occurred in 1902 by E.L. Furlong, and the limited excavation yielded 265 artifacts and many burials. Intensive investigation of the West Berkeley Shellmound took place in the mid-20th century. By this time, however, most of the West Berkeley Shellmound had been systematically demolished by development and related ground disturbance. It is estimated that the West Berkeley Shellmound measured approximately 300 yards north-south and roughly 100 yards east-west. Numerous nearby archaeological investigations have identified cultural resources that have been associated with the West Berkeley Shellmound.

During a 2016 program of geotechnical borings, both intact and displaced prehistoric-period buried midden soil deposits were identified in a location adjacent to the project site. Intact midden deposits were identified at a depth of between 4.6 and 6.1 feet below the ground surface. Cultural materials included burned and unburned wood, charcoal, flaked stone, marine shell fragments, faunal bone, and lignite coal pieces. Radiocarbon testing of marine shell indicated that the midden

deposit was contemporaneous with the early phases of the occupation of the West Berkeley Shellmound complex. Due to the close proximity, it is possible that intact and/or displaced portions of this known midden deposit extend into the project site.

4.2.1.2 Fieldwork

As part of the CRE, qualified archaeologists accompanied a field technician to monitor the excavation and recovery of 13 direct push geotechnical borings placed through the project site. The borings were analyzed in the field and select soil samples were collected for further analysis in the laboratory. The findings of the boring examinations and soil sampling are discussed below.

Fieldwork. Qualified archaeologists examined each boring on April 20, 2022, and April 21, 2022. Each boring was carefully opened longitudinally so that soils could be examined, photographed, and described. Few culture constituents, primarily consisting of modern and historic material found within disturbed/artificial fill nearest the ground surface, were noted during boring recovery and field analysis.

No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified during boring excavation. One fragment of burned bone of potential prehistoric-period archaeological interest was recovered. However, in the absence of any cultural context or association, the bone fragment cannot be interpreted as a cultural resource. Coal and charcoal associated with the adjacent midden deposits were sampled from fill layers. The CRE determined that the recovered coal and charcoal have no prehistoric cultural associations and are most likely historic. However, due to the project site's proximity to a midden site, the possibility that they represent displaced midden could not be ruled out entirely.

Laboratory. Selected soil samples were brought to and investigated in a laboratory. No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified in the targeted soil analysis.

4.2.1.3 Geomorphology

The project site is located on a low-lying plain that is underlain by Quaternary (primarily Holocene) alluvial fan and levee deposits. The West Berkeley area is a zone of bajada development that began during the Pleistocene, and west of San Pablo Avenue and extending to the Bay shoreline, creeks and slough have deposited levee and overbank sediments since at least the Pleistocene. The source material for this bajada and levee development was the stratigraphic sequence of the Berkeley Hills, from which the headwaters of the Schoolhouse and Strawberry creeks originate. The stratigraphic sequence of the Berkeley Hills is largely confined to middle and upper Miocene age units that are clearly distinct, including the Sobrante Formation, the Claremont Chert, the Orinda Formation, the Moraga Formation, the Siesta Valley Formation, and the Bald Peak Basalt. In addition to this Miocene package, creeks cut through fragments of Jurassic to Late Cretaceous age rocks of the Franciscan and Great Valley Complexes.

A previous geomorphological study, based on cores recovered from near the project site, determined that the project vicinity exhibits "extensive horizontal variability of soils" with "tidal

beach sands and estuarine marsh deposits with pockets of discrete stable landforms."[4] Small portions of an intact, prehistoric site identified in that study area were located superior to just one such stable landform "island". The dynamism of the geomorphological processes and soils means that predicting where remnants of stable alluvial depositions, and therefore possible remnants of prehistorical cultural resources, may lie beneath the current ground surface of the project site is extremely difficult.

Although now situated approximately 300 meters inland, almost half of the project site was once an estuarine marsh of San Francisco Bay. In the early 20th century, the marsh and its slough appear to have been choked and partially filled such that the project site now lays almost directly along the Bay shoreline. In the late 1930s, construction of the Eastshore Highway included extensive infilling of the Bay shallows west of the project site. The result is that the shoreline was artificially shifted to the west. Therefore, all ground surfaces between the current shoreline and the western portions of the project site are composed of imported, artificial fill overlaying geologically recent shoreline sands and marshy clays.

4.2.1.4 Prehistoric and Historical Background

The prehistoric and historical context of the project site is discussed below.

West Berkeley. Studies and analysis of archaeological materials uncovered in the San Francisco Bay Area (Bay Area) indicate that native peoples have occupied the Bay region for over 11,000 years. The area of West Berkeley where the project site is located was originally inhabited by the indigenous Ohlone people, who maintained villages, hunted and gathered, and created shellmounds along the Bay shore and inland from approximately 500 CE (Common Era) until the coming of European settlers in 1776.

Originally called "Costanoans" after the Spanish derivative for "coastal people," the terms Ohlone/Costanoan imply a loose linguistic affiliation encompassing six or seven distinct dialect clusters. The Costanoan languages derived from Penutian Stock, a theoretical linguistic construct which appears to have its origins in the northwestern Great Basin. Penutian-speaking peoples presumably slowly migrated into Central California as early as 2500 BCE (Before Common Era). As Penutian-speaking peoples continued to spread west, they would have come in contact with existing Hokan populations. The fusion of Hokan and Penutian-speaking peoples may have become the Miwok and Ohlone cultures. By 300–500 CE, proto-Ohlone speakers of Penutian stock were firmly ensconced in the San Francisco Bay region.

At the time of the European settlement in the Bay Area, the project site was part of the Huchiun Ohlone territory, where the Chochenyo Ohlone dialect was spoken. The Ohlone were semi-sedentary collectors and hunters of fish and game. In 1770, it is estimated that the Ohlone population was at most around 10,000, perhaps fewer. Forty years later, by 1810, much of the native population and their traditional culture and languages had been subjected to the disastrous

[4] Archeo-Tec. 2022. *Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California.* June.

effects of European encroachment, primarily disease and displacement due to the California mission system.

Post-contact history for the State is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period begin with the establishment of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769–1822). Despite early exploration of the San Francisco Bay by British explorer Sir Francis Drake, the first Spanish explorer to arrive to the San Francisco Bay was Gaspar de Portolo and his party in 1769. By 1770, the Fages Expedition had reached the East Bay and made it as far north as Oakland or Emeryville, opposite the Golden Gate. The East Bay was again explored in 1772 during the Fages-Crespi Expedition.

Beyond exploration, a major emphasis during the Spanish Period in California was the construction of missions and associated presidios to convert the Native American population to Christianity and integrated communal enterprise. Mission San Francisco de Asís, commonly known as Mission Dolores, was established in San Francisco in 1776. Beginning in the first decade of the 19th century and continuing until 1822, the lands encompassing the project site were part of the extensive East Bay ranch holdings of Mission Dolores in present-day San Francisco and later Mission San Jose in what is now Fremont.

Outside of the Mission sites, several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. In 1783, Pedro Fages served as the fifth Governor of Alta California and was given permission from the King of Spain to make land grants in California as an incentive to settlers to form pueblos or towns. The majority of these Spanish-era land grants were presented to Spanish military officers following the conclusion of their life-long military service.

Mexican Period (1822-1848). After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade and decreed that California ports be open to foreign merchants. In addition to eliminating the system of Spanish nobility in California, the Spanish missions across the territory were secularized during this period. The secularization of the Spanish Missions meant that all communal mission property was placed in a trust with the intention of being eventually returned to the local Native American population.

Extensive land grants called ‘Ranchos’ during the Mexican period were established in part to increase the population inland from the more settled coastal areas where the Spanish first concentrated their colonization efforts. During the supremacy of the ranchos in the Mexican Period, landowners largely focused on the cattle industry and devoted large tracts to grazing.

The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants.

By the end of 1823, the Castro and Peralta families, whose heads of family were ranking members of the Spanish military, had taken control of the entire eastern bay shore north of San Leandro Creek. Peralta's 43,000-acre Rancho San Antonio included all of present-day Albany, Berkeley, Emeryville, Oakland, Piedmont, and Alameda, as well as part of San Leandro. In 1842, Don Peralta subdivided his ranch between his four sons. The project site fell within the portion of Rancho San Antonio, which was given to his fourth son, Jose Domingo Peralta. In 1841, the first known structure in the area, Jose Domingo Peralta's residence, was constructed in the vicinity of what is today the intersection of Hopkins Street and Albina Avenue in the city, just over one mile east of the project site. The Peralta family most likely utilized the project site for cattle grazing.

American Period (1848-Present). Mexican control of California was brief, and the territory became part of the United States following the end of the Mexican-American War with the Treaty of Guadalupe Hidalgo in 1848. This ushered California into its American Period. Prior to California becoming a state in 1850, the discovery of gold in 1848 prompted a massive influx of fortune seekers who steadily flooded into the rural counties throughout Northern California. The first intensive settlement of the East Bay region during the historical era occurred in what is today downtown Oakland. The city of Oakland was formally named and incorporated in 1852 and Alameda County was created in 1853. The earliest known historical-period settlement in the vicinity of the project site dates to the 1850s, when Captain James Jacobs first anchored his ship at the mouth of Strawberry Creek. This unincorporated town, now the West Berkeley neighborhood in the city, was originally called Ocean View until it was absorbed into the newly incorporated City of Berkeley in 1878. The industries that developed around the wharf demanded many workers, which generated an early center of population. Ocean View was characterized by a diverse demographic mix that included both white-collar factory owners and blue-collar laborers, both immigrants and second-generation Americans.

Despite the settlement of nearby areas, the project site and surrounding area, which lay along a marshy shoreline estuary/slough, remained undeveloped through the 1850s. The first documented topographic modification of the project site occurred during the 1860s, when tracks for the Central Pacific Railroad were laid along the eastern edge of the project site. The completion of the transcontinental railroad in 1869 resulted in a population and productivity boom in West Berkeley and in 1877, the Southern Pacific Railroad established its transcontinental mainline along Third Street, along the eastern edge of the project site.

In 1885 and into the 1890s, West Berkeley's industry was primarily focused on heavy manufacturing, including planing mills and lumber yards, soap factories, cement works, mine reduction works, lubricating oil and kerosene works, gunpowder factories, acid works, and paraffin paint works. Lighter industries included cigar manufacturing, blacksmithing, brewing, and the sale of raw building materials such as plaster, cement, and hardware. Continuing into the 20th century, West Berkeley developed as both an industrial district and a residential neighborhood, with workers and their jobs existing side by side.

The 1906 earthquake that struck the entire Bay Area resulted in relatively little damage in the city compared to San Francisco. Following the earthquake, refugees fled San Francisco to Berkeley, which resulted in a population increase in the city. Between 1910 and 1930, West Berkeley supported 173 manufacturing businesses and 3,400 workers. The Great Depression of the 1930s brought a downturn in the City's economy and West Berkeley suffered substantial job losses. However, in 1941 with the United States' entry into World War II, workers were in high demand and poured in from out of state to fill positions at shipyards and other local industrial enterprises. Berkeley played a significant role in war-time industries and West Berkeley, situated on the shoreline and almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

West Berkeley Redevelopment. In 1956, the City made zoning refinements, with the land west of Sixth Street zoned as "special industrial." This change was intended to concentrate heavy industry toward the highway and waterfront, while lighter industry and mixed-uses were to create a buffer for the rest of Berkeley to the east.

In 1970, the West Berkeley Redevelopment Project was initiated to revitalize the area. This effort involved the demolition of 42 residential buildings deemed "blighted." Local concern, and some federal assistance, halted the demolitions and created the Delaware Street Historic District, located between Fourth Street and Sixth Street, where a cluster of residential building dating from 1875 to 1910 were preserved. Through the 1970s and 1980s, Berkeley citizens continued to support less development and redevelopment along the Bay shore. Remaining industrial facilities have predominantly been repurposed for lighter industrial and commercial uses such as research and development labs, specialized retail, restaurants, and live-work spaces. Currently, a few small clusters of heavy industrial uses, similar to those that characterize the project site, remain.

4.2.1.5 Regulatory Framework

The following describes the federal, State and local regulatory and policy requirements for cultural resources that are relevant to the proposed project.

Federal Regulations. The following federal regulations related to historic resources that would be applicable to the proposed project are described below.

National Register of Historic Places (National Register). The National Register was first established in 1966, with major revisions in 1976. The register is set forth in 36 Code of Federal Regulations (CFR 60) which establishes the responsibilities of the State Historic Preservation Officers (SHPOs), standards for their staffs and review boards, and describes the statewide survey and planning process for historic preservation. Within these regulations, guidelines are set forth concerning the National Register (36 CFR 60.6). In addition, further regulations are found in 36 CFR 63-66, -800, and 1982 *Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Bulletin 15)[5], which define procedures for determination of eligibility, identification of historic properties, recovery, reporting, and protection procedures. The

[5] U.S. Department of the Interior National Park Service (NPS). 1982. *Bulletin 15: How to Apply the National Register Criteria for Evaluation*.

National Register was established to recognize resources associated with the accomplishments of all peoples who have contributed to the country's history and heritage. Guidelines were designed for federal and State agencies in nominating cultural resources to the National Register. These guidelines are based upon integrity and significance of the resource. Integrity applies to specific items such as location, design, setting, materials, workmanship, feeling, and association. Quality of significance in American history, architecture, archaeology, engineering, and culture is present in resources that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following criteria:

- **Criterion A:** Associated with events that have made a significant contribution to broad patterns of our history
- **Criterion B:** Associated with the lives of persons significant in our past
- **Criterion C:** Embodies distinctive characteristics of type, period, or method of construction, or that represent the work of master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- **Criterion D:** Have yielded, or are likely to yield, information important in prehistory or history

Integrity is defined in the United States Department of the Interior National Park Service (NPS) Bulletin 15 as "…the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. If a property retains the physical characteristics it possessed in the past then it has the capacity to convey association with historical patterns or persons, architectural or engineering design and technology, or information about a culture or peoples." There are also seven aspects of integrity that are used: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

State Laws and Regulations. The following State regulations related to cultural and historic resources that would be applicable to the proposed project are described below.

California Environmental Quality Act (CEQA). CEQA, codified in Public Resources Code [PRC] Sections 21000 et seq., applies to all discretionary projects undertaken or subject to approval by the State's public agencies (14 California Code of Regulations [CCR] Section 15002(i)). Pursuant to the *State CEQA Guidelines*, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (14 CCR Section 15064.5(b)).

State CEQA Guidelines Section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (as defined under California PRC, Section 5024.1; 14 CCR Section 4850, et seq.)

- Listed in a local register of historical resources (as defined at PRC Section 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g)
- Determined to be a historical resource by a project's lead agency (14 CCR Section 15064.5(a))

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (14 CCR Section 15064.5(a)(3)).

If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (14 CCR Section 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project would have on the resource. Generally, a project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* shall be considered mitigated to a level of a less than significant impact on the historical resource (14 CCR Section 15064.5(b)(3)). As stated in Section 15126.4(b)(2) of the *State CEQA Guidelines,* "In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment will occur." Finally, CEQA requires that all feasible mitigation be undertaken even if the mitigation does not reduce impacts to less than significant levels (14 CCR Section 15126.4(a)(1)).

California Register of Historical Resources (California Register). PRC Section 5024.1 established the California Register. The requirements for listing in the California Register, including the criteria for listing and having integrity, are similar to those of the National Register. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register (14 CCR Section 15064.5(a)(3)). For a cultural resource to qualify for listing in the California Register, it must be significant under one or more of the following criteria:

- **Criterion 1:** Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- **Criterion 2:** Associated with the lives of persons important in our past
- **Criterion 3:** Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

- **Criterion 4:** Has yielded, or may be likely to yield, information important in prehistory or history

In addition to being significant under one or more of these criteria, a resource must retain enough of its historic character and appearance to be recognizable as a historical resource and be able to convey the reasons for its significance (14 CCR Section 4852(c)). Generally, a cultural resource must be 50 years or older to be eligible for the California Register (14 CCR Section 4852(d)(2)).

In addition to meeting one or more of the significance criteria, a cultural resource must retain its historical integrity to be considered eligible for listing in the California Register. Historical integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance."[6] The evaluation of integrity must be grounded in an understanding of a resource's physical features and its environment, and how these relate to its significance. There are seven aspects of integrity to consider when evaluating a cultural resource (i.e., location, design, setting, materials, workmanship, feeling, and association), which are described as follows:[7]

1. ***Location*** is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.

2. ***Design*** is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

3. ***Setting*** is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.

4. ***Materials*** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

5. ***Workmanship*** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan's labor and skill in constructing or altering a building, structure, object, or site.

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[6] California Office of Historic Preservation. n.d. California Office of Historic Preservation Technical Assistance Series #6. *California Register and National Register: A Comparison.* California Office of Historic Preservation. California Office of Historic Preservation, Sacramento.

[7] National Park Service. 1997. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. U.S. Department of the Interior, Washington, D.C.

6. ***Feeling*** is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character.

7. ***Association*** is the direct link between an important historic event or person and an historic property.

California PRC Section 5097.98. Section 5097.98 of the PRC states that the Native American Heritage Commission (NAHC), upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5 (discussed below), shall immediately notify those persons (i.e., the Most Likely Descendant or "MLD") it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

California Health and Safety Code Section 7050.5. Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Local Plans and Regulations. The City plans and regulations related to cultural and historic resources that would be applicable to the proposed project are described below.

City of Berkeley General Plan. The following policies of the Berkeley General Plan Urban Design and Preservation Element pertaining to cultural resources would be applicable to the proposed project:

- **Policy UD-5: Architectural Features.** Encourage, and where appropriate require, retention of ornaments and other architecturally interesting features in the course of seismic retrofit and other rehabilitation work.

- **Policy UD-6: Adaptive Reuse.** Encourage adaptive reuse of historically or architecturally interesting buildings in cases where the new use would be compatible with the structure itself and the surrounding area.

- **Policy UD-16: Context.** The design and scale of new or remodeled buildings should respect the built environment in the area, particularly where the character of the built environment is largely defined by an aggregation of historically and architecturally significant buildings. *(Also see Land Use Policies LU-3, LU-4, LU-7, LU-17, and LU-21.)*

- **Policy UD-20: Alterations.** Alterations to a worthwhile building should be compatible with the building's original architectural character.

West Berkeley Plan.The following Urban Design Goals and Policies of the West Berkeley Plan[8] pertaining to cultural resources would be applicable to the proposed project:

Goal 7: Preserve West Berkeley's existing architectural and historic resources in the context of the district goals, permitted uses, and other goals of the West Berkeley Plan. Seek to develop the built environment as a whole in a way consistent with this goal.

Policy 7.3: To improve the economic feasibility of preserving historic buildings, the City should creatively use the tools which the West Berkeley Plan Preferred Land Use Concept provides, and should explore the possibilities for changes in development standards, fees, or placement of uses, without, however, violating Plan policies, district purposes, or district permitted uses. In situations where a whole building cannot be preserved, preservation of facades should be explored. In very exceptional cases, where all variance findings can be made—with particular reference to the finding that the variance not be detrimental to people working in the neighborhood or to property in the neighborhood—allow use variances.

Policy 7.4: The City should encourage infill development to be sensitive to the character and scale of existing development in areas which are architecturally or historically cohesive.

Goal 8: Preserve West Berkeley's architecturally and historically valuable buildings.

Policy 8.1 The City should encourage building maintenance and rehabilitation in West Berkeley and if possible, offer financial incentives or assistance.

Policy 8.2 The City should encourage the sensitive reuse of existing buildings in West Berkeley and offer incentives such as permit-streamlining and other assistance.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address cultural resources:

<u>COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction).</u> Pursuant to *CEQA Guidelines* Section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:

[8] Berkeley, City of. 1993. West Berkeley Plan. Amended 2011.

a. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian or paleontologist to assess the significance of the find.

b. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.

c. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations.

d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation measures for cultural resources are carried out.

e. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the Northwest Information Center.

COA: Human Remains(Ongoing Throughout Demolition, Grading, and/or Construction). In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and follow the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

City of Berkeley Municipal Code Section 3.24.110 – Landmarks, Historic Districts, and Structures of Merit Designation, Criteria for Consideration. The following set of criteria is applied by the Landmarks Preservation Commission and by the City Council in designating buildings, places, and areas as historic landmarks, historic districts, or structures of merit:

A. *Landmarks and Historic Districts.* General criteria which the commission shall use when considering structures, sites and areas for landmark or historic district designation are as follows:

1. Architectural Merit:

   (a) Property that is the first, last, only or most significant architectural property of its type in the region;

   (b) Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; or

   (c) Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

2. Cultural Value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City;

3. Educational Value: Structures worth preserving for their usefulness as an educational force;

4. Historic Value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military;

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

B. Structures of Merit. Criteria which the commission shall use when considering a structure for structure of merit designation are as follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

2. Specific criteria include, but are not limited to one or more of the following:

   (a) The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of

buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

(b) The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

(c) The structure is a good example of architectural design.

(d) The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings. (Ord. 5686-NS § 1 (part), 1985: Ord. 4694-NS § 3.1, 1974)

4.2.1.6 Historical Evaluations

This section is based on the HRE prepared for the proposed project. The project site is located in the West Berkeley neighborhood and consists of approximately four city blocks (2340, 2341, 2344, and 2345) bounded by Gilman Street to the north, Third Street and the railroad right-of-way to the east, Page Street to the south, and Eastshore Highway/Interstate 80 (I-80) to the west. Twelve (12) properties within the project site area were surveyed, and the summary of the findings related to each property-specific analysis are provided in Table 4.2.A. The HRE indicated that only one property, 1306 Third Street, meets the criteria for listing in the California Register and as a City of Berkeley Landmark. Therefore, this property meets the definition of a historical resource pursuant to CEQA, while the remainder of the properties on the project site are not considered historic resources for the purposes of this analysis or otherwise.

Table 4.2.A: HRE Summary of Findings

Property Address(s)	APN(s)	Historic Name	California Register Status Code	City of Berkeley Landmark or Structure of Merit?[2]
1331, 1441 Eastshore Highway; 1330 Second Street	59-2344-7 59-2344-4 59-2344-5-1	Berkeley Steel Construction Company/Berkeley Forge and Tool	6Z[1]	No
1305 Eastshore Highway; 1314, 1320, and 1420 Second Street; 600 Gilman Street	59-2344-3-1 59-2344-4-1 59-2341-5 59-2344-1-2 59-2344-2-1	Pacific Steel Casting Company	6Z[1]	No
1421 Second Street	59-2340-8-2	Pacific Steel Casting Company	6Z	No
1333 Second Street	59-2345-9	NA	6Z	No
1337 Second Street	59-2345-8-1	NA	6Z	No
1310 Third Street	59-2345-2-2	NA	6Z	No
1306 Third Street	59-2345-2-1	NA	3CS	Yes
631 Camelia Street	59-2345-7	NA	6Z	No
635 Camelia Street	59-2345-6-1	NA	6Z	No
643 Camelia Street	59-2345-4	NA	6Z	No

Table 4.2.A: HRE Summary of Findings

Property Address(s)	APN(s)	Historic Name	California Register Status Code	City of Berkeley Landmark or Structure of Merit?[2]
640 Gilman Street	69-2345-1	Gilmore Oil Company/General Petroleum Company, Pacific Steet Casting Company	6Z	No
648 Page Street	59-2323-1	NA	6Z	No

Source: Bridget Maley, architecture + history llc, Caitlin Himba, Left Coast Architectural History. 2023. Gilman Gateway Historic Resources Evaluation. May

[1] Determination made by the "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project."

[2] Eligible as a City of Berkeley Landmark and/or Structure of Merit

6Z = Found ineligible for National Register, California Register, or Local designation through survey evaluation.

3CS = Appears eligible for California Register as an individual property through survey evaluation.

A number of the properties within the project site share common early owners (prior and in addition to the dominant Pacific Steel Casting Company and Berkeley Steel Construction Company), including Ray W. Van Deusen and the Chemical Packaging Company. Many of the existing buildings also share common designers and builders, such as architect Alben Froberg and contractors Christensen and Lyons. However, the HRE indicated that none of these owners constitute significant historical figures and none of the designers or builders constitute important creative individuals. Photos of each of the 12 surveyed properties within the project site area are provided in Appendix 4 of the HRE, which is provided as Appendix C of this Draft EIR.

California Register of Historical Resources. The existing 1306 Third Street building was found eligible under Criterion 2 (Persons) for its association with American master artist and sculptor Peter Voulkos. The eligibility criteria for 1306 Third Street as required by the California Register are discussed below.

Criterion 1 (Event): No specific events of historical importance are known to have occurred at the property. Historically, the property was used by various small light-industrial businesses, primarily for warehousing purposes. This is consistent with the industrial context of the area; however, the property is not outstanding or influential within the industrial context that dominates the West Berkeley area and East Bay shoreline. In addition, although the building was briefly used by American master artist and sculptor Peter Voulkos, no significant historical events are known to have occurred on the property during his presence. Therefore, the property is not eligible for listing in the California Register under Criterion 1.

- **Criterion 2 (Persons):** The existing 1306 Third Street building is associated with American master artist and sculptor Peter Voulkos, an innovative, prolific expressive ceramicist and metallurgist who taught at the University of California, Berkeley. His works are found in almost every major American art museum that has a significant sculpture collection and in other museums worldwide. Therefore, the property appears eligible for listing in the California Register under Criterion 2 at the local level for its long association (1963–2002) with Peter Voulkos, who created significant works of art in this space.

- **Criterion 3 (Architecture):** The existing 1306 Third Street building is industrial in character and utilitarian in architectural aesthetic. As a utilitarian industrial building, it was designed and constructed strictly to fulfill its intended warehousing functions and has no definable architectural style or artistic value. The building is common and unremarkable within the context of West Berkeley with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. Further, the building was modified in 1991. Architect Alben Froberg and builders Christensen and Lyons were involved in the original design and construction in 1946; however, neither professional is considered an important creative individual. Therefore, the property is not eligible for listing in the California Register under Criterion 3.

- **Criterion 4 (Information Potential):** Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which the 1306 Third Street building is not an example. Therefore, the property is not eligible for listing in the California Register under Criterion 4.

City of Berkeley Landmark. Structures that have a Landmark status are designated historical resources within the city. Resources may be designated as Landmarks if they meet one of more of the five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of the 1306 Third Street building according to local significant criteria:

- **Architecture Merit:** As previously discussed, the existing 1306 Third Street building is industrial in character and utilitarian in architectural aesthetic, and neither the architect nor builders are considered an important creative individual. Therefore, the property provides no exceptional architectural value to the neighborhood and does not qualify as a City of Berkeley Landmark under this criterion.

- **Cultural Value:** As previously discussed, the existing 1306 Third Street building is associated with American master artist and sculptor Peter Voulkos. Therefore, the property appears to have high cultural value that would qualify it as a City of Berkeley Landmark under this criterion.

- **Educational Value:** The existing 1306 Third Street building does not have any use as an educational tool as it not outstanding as an example of industry or commerce in the city. Therefore, the property would not qualify as a City of Berkeley Landmark under this criterion.

- **Historic Value:** The property does not reflect the industrial or commercial growth of Berkeley. The existing building's construction in 1946 occurred after World War II and does not reflect West Berkeley's initial industrial development nor its war-era boom. However, the building's association with Peter Voulkos is historically significant within the area of culture and art at the local and national level. Therefore, the building possesses high historic value that would qualify it as a City of Berkeley Landmark under this criterion.

- **National Register Listing:** The 1306 Third Street building is not listed in the National Register and therefore does not qualify as a City of Berkeley Landmark under this criterion.

- **City of Berkeley Structure of Merit:** City of Berkeley Structures of Merit are designated historical resources within the city. Resources may be designated as Structure of Merit if they meet general and/or specific criteria. If the Landmarks Preservation Commission determines that a structure does not currently meet the criteria for designation as a Landmark, but is worthy of preservation as part of a neighborhood, a block or street frontage, or as part of a group of buildings that includes landmarks, the structure may be designated a Structure of Merit. Although 1306 Third Street was determined to be a City of Berkeley Landmark based on its cultural and historical association with Peter Voulkos, the existing building associated with 1306 Third Street does not qualify as a Structure of Merit.

- **Integrity:** In order to qualify for historic designation, a property must possess significance under the aforementioned criteria and have historic integrity. The existing building at 1306 Third Street appears to possess the historic significance for its association with the work of innovative American sculptor and ceramicist Peter Voulkos. Although the front façade of the building has been altered, and its integrity of design, materials, and workmanship have been slightly altered from the period of significance, it retains its integrity of location and setting, its integrity of association with Peter Voulkos, and the feeling of an industrial building converted to artist use.

Based on the above analysis, the property at 1306 Third Street appears to be eligible for listing in the California Register and as a City of Berkeley Landmark. Therefore, it qualifies as a historic resource under CEQA. Actions that result in the diminishment of any of the features of the property located at 1306 Third Street, such as removal or alteration, could result in a significant impact under CEQA.

The HRE also examined the West Berkeley area around the project site and indicated there is not a historically significant industrial historical district present. The industrial development in this area was piecemeal, dependent on the slow filling of the salt marshes, which began in the 19th century and continued into the 1980s. While there are many industrial buildings in the area, these structures are not temporally linked to a specific important period of development, and none are associated with historically significant contributions to their various industries. Further, none of the businesses evaluated in the surrounding area date to the pioneering period of metal-working industries and none were demonstrably important individually, which does not support identification of a historic district. Moreover, the diverse businesses and construction types now present in the area prevent a visual linkage among the current industries in the surrounding area. Therefore, the HRE determined that the area would not be considered a historic district.

4.2.2 Impacts and Mitigation Measures

As described above, the presence of and potential for significant cultural resources was determined by assessing previously documented cultural resources through archival background research, geotechnical borings and soil sampling, and an evaluation of cultural resources in the project site to determine their eligibility for listing in the California Register. These findings were then compared to the *State CEQA Guidelines'* cultural resource significance criteria to determine if the proposed project would have the potential to result in significant impacts to specific categories of cultural resources.

The following describes the proposed project's potential impacts on cultural resources, consisting of historical resources, archaeological resources, and human remains. This section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures, as appropriate.

4.2.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to cultural resources if it would:

Threshold CUL-1: Cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5;

Threshold CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to *State CEQA Guidelines* Section 15064.5; or

Threshold CUL-3: Disturb any human remains, including those interred outside of formal cemeteries.

For the proposed project to have "a substantial adverse change" in the significance of a historical resource, it would have to demolish, destroy, relocate, or alter the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*State CEQA Guidelines* Section 15064.5(b)). Archaeological sites may qualify as historical resources under CEQA (*State CEQA Guidelines* Section 15064.5(c)(1)).

Generally, for purposes of CEQA, the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register or an officially recognized local register of historical resources, or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g).

4.2.2.2 Project Impacts

The following section discusses the potential impacts to cultural resources associated with implementation of the proposed project and conceptual development project according to the significance criteria described above. Potential impacts associated with the proposed project are evaluated at a programmatic level, while potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible.

As defined in the *State CEQA Guidelines*, "historical resources" can include both significant built-environment resources and archaeological sites. *State CEQA Guidelines* Section 15064.5(a)(3) defines a "historical resource" as any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. *State CEQA Guidelines* Section 15064.5(c) states that if an

archaeological site does not meet the criteria defined in *State CEQA Guidelines* Section 15064.5(a), the resource may still meet the definition of a "unique archaeological resource" described in PRC Section 21083.2. Potential impacts to these two types of historical resources are discussed under the separate threshold discussions below.

Impact CUL-1: The impact discussion for Threshold 1 above is split into two parts: Impact CUL-1a – discussing potential impacts and mitigation measures as they pertain to the proposed project; and Impact CUL-1b for impacts associated with the conceptual development project. The discussion is followed by a CUL-1 Impact Summary to summarize the EIR findings.

Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5 because implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to *State CEQA Guidelines* Section 15064.5. *(Significant and Unavoidable)*

The properties within the project site area were evaluated for their eligibility for listing in the California Register and potential for classification as City of Berkeley Landmarks and Structures of Merit. As shown in Table 4.2.A above, only one property within the project site area, 1306 Third Street, meets the criteria for listing in the California Register and as a City of Berkeley Landmark. A number of the properties within the project site area share common early owners (prior and in addition to the dominant Pacific Steel Casting Company and Berkeley Steel Construction Company), including Ray W. Van Deusen and the Chemical Packaging Company. Many of the existing buildings also share common designers and builders, such as architect Alben Froberg and contractors Christiensen and Lyons. However, the HRE indicated that none of these owners constitute significant historical figures, and none of the designers or builders constitute important creative individuals.

The proposed rezoning would not result in any physical alterations to the project site; however, implementation of the proposed rezoning would facilitate future development of the entire project site. The existing on-site industrial buildings are unlikely to be suitable for rehabilitation due to their age and deterioration. Regarding the existing building at 1306 Third Street, pursuant to BMC Chapter 3.24, a project applicant can apply to demolish or substantially alter a City of Berkeley Landmark site, Structure of Merit, or an initiated landmark site. Therefore, it is reasonable to assume the potential for demolition of all existing structures on the project site, including the existing building at 1306 Third Street. Actions that result in the diminishment of any of the features of the property located at 1306 Third Street, such as removal or alteration, could result in a significant impact under CEQA. This is a **potentially significant** impact.

Based on *State CEQA Guidelines* Section 15064.5(b), the proposed project would have a significant impact on historical resources if it would cause a substantial adverse change in the significance of a historical resource. Historical resources include properties eligible for listing on the National Register, the California Register, or a local register or survey of historical resources, including designation as a City of Berkeley Landmark and/or Structures of Merit. In addition, as described in *State CEQA Guidelines* Section 15064.5, "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be

materially impaired." Demolition is considered a material impairment of the historical resource, and other than avoiding demolition, no feasible mitigation measures are available to fully mitigate the demolition of the historical resource to a less than significant level. However, implementation of mitigation measures could reduce significant adverse impacts. If the historical significance of the building is thoroughly documented, well photographed, and publicly available, the demolition of the building would have a reduced impact on the historical significance of the building. Implementation of Mitigation Measure CUL-1, below, which requires documentation of the historic resource in accordance with the Historic American Building Survey (HABS) standards, would reduce, but not avoid, adverse impacts to the historical resource.

Mitigation Measure CUL-1 would apply to potential future projects that propose the demolition of the structure located at 1306 Third Street or modification to the structure to the extent that it would not retain its eligibility for the California Register or as a City of Berkeley Landmark.

Mitigation Measure CUL-1

Documentation. Prior to the issuance of a demolition permit for the existing structure at 1306 Third Street, the project sponsor shall obtain a qualified Historic American Building Survey (HABS) photographer to document the existing structure at 1306 Third Street and its setting. Generally, this documentation shall be done in accordance with the HABS "Outline" format, which includes:

- **Photographs:** HABS standards require large-format, black-and-white photography with large-format safety film negative (4" x 5", 5" x 7", or 8" x 10") and a contact print, archivally processed, on fiber-based paper. The HABS photographer must be familiar with the recordation of historical resources in accordance with current HABS guidelines. Photographs should include context views of the general environment to illustrate setting, including landscaping, adjacent building(s), and roadways, views of character-defining features, exterior elevations of significant façades, views of interior spaces, and detailed views of specific materials or elements. Overgrowth, board-up plywood, and other obstacles shall be removed by the project sponsor prior to photography at the direction of the professional HABS photographer. Photographs must include a photo index, photo sketch plans, and field notes, and be identified and labeled using HABS standards outlined in Preparing HABS/HAER/HALS Documentation – Transmittal Guidelines.

- **Measured Drawings or 3D Laser Scanning "As-Builts":** Measured drawings for HABS are considered "as-built" drawings. Accordingly, they illustrate the existing condition of a building at the time of documentation, including additions, alterations, and demolitions which have occurred since the building was first constructed. Where sufficient knowledge exists concerning the sequence of changes to a building over

time, it may be useful to provide appropriate notation on the drawings. Alternatively, delineators may wish to produce additional interpretive drawings illustrating the building at an earlier date, to explain its historic significance more fully. In lieu of measured architectural drawings, 3D laser scanning and 2D CAD documentation can be done to create as-built drawings from the scanned data in AutoCAD to provide archival-quality printed and digital images that can be utilized for future exhibits, documentation, and research associated with the 1306 Third Street building. The 3D images can then be printed as measured drawings and will also be available digitally.

- **Historical Background Information:** An architectural historian, meeting the Secretary of the Interior's Professional Qualification Standards, shall assemble historical background information, drawings, maps, and historic photographs relevant to the 1306 Third Street building and its setting using the HABS "Outline" format to produce a HABS historical report. The historical report will be formatted to HABS Guidelines for Historical Reports (updated January 2020).

- **Public Access to Documentation:** HABS documentation must be prepared using specific archival materials and archival processes to comply with the permanence standards that govern the collection. By adhering to these standards, even the very earliest HABS records from the 1930s are still available for researchers and will be in the future. Non-archival material deteriorates for two principal reasons: harmful substances in the environment attack it, and/or the physical and chemical composition is such that it will deteriorate regardless of how it is stored. Accordingly, it is recommended that one archival set of the HABS documentation is submitted to the Library of Congress or the Berkeley Architectural Heritage Association (BAHA). Digital copies are also recommended to be submitted to the Northwest Information Center (NWIC)/ California Historic Resources Information System (CHRIS), the City of Berkeley, the City of Berkeley Library, the Berkeley Historical Society, the California State Library, and the California Historical Society. This mitigation would create a collection of preservation materials that would be available to the public and inform future research.

Implementation of the proposed project could facilitate the demolition of the structure at 1306 Third Street and therefore would result in a substantial adverse change to a historic architectural resource under CEQA. Implementation of Mitigation Measure CUL-1 would require documenting

this resource, but it would not avoid demolition of the resource; therefore, impacts to built-environment historic resources as defined in *State CEQA Guidelines* Section 15064.5 would be **significant and unavoidable.**

Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resource defined in *State CEQA Guidelines* Section 15064.5. *(Less than Significant)*

As explained above, the conceptual development project would not include redevelopment of the 1306 Third Street parcel and would not result in the demolition of the existing building at 1306 Third Street; however, it would include development on the parcels that surround the property and existing structures to the north, south, and west.

The 1306 Third Street property was found eligible for listing in the California Register under Criterion 2 (Persons) for its association with American master artist and sculptor Peter Voulkos and is therefore considered a historical resource under CEQA. The 1306 Third Street structure was not found eligible for listing in the California Register under any other criteria. Because this resource was found eligible based on its association with the work of Peter Voulkos, the character of the surrounding area does not influence the property's eligibility for listing. Therefore, redevelopment of the surrounding parcels would not substantially affect the 1306 Third Street property or its eligibility for listing in the California Register. Further, because the conceptual development project would redevelop the surrounding parcels with light industrial uses, which are similar to the existing industrial uses present on the parcels, implementation of the conceptual development project would result in **less than significant** impacts to 1306 Third Street as a historical resource. Therefore, Mitigation Measure CUL-1 does not apply to the conceptual development project.

Impact CUL-1 Summary: Potential demolition of the 1306 Third Street building that may result from implementation of the proposed project would result in a significant and unavoidable impact on a historical resource as defined in *State CEQA Guidelines* Section 15064.5. Implementation of Mitigation Measure CUL-1, which requires documentation of the historic resource in accordance with HABS standards, would reduce, but not avoid, adverse impacts to the historical resource, therefore impacts would be **significant and unavoidable** (CUL-1a).

The conceptual development project would not include the demolition of the existing building at 1306 Third Street, and redevelopment of the surrounding parcels under the conceptual development project would not substantially affect the 1306 Third Street property eligibility for listing in the California Register. Therefore, the conceptual development project would result in a **less than significant impact** on the historical resource, and Mitigation Measure CUL-1 does not apply to the conceptual development project (CUL-1b).

Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of unique archaeological resources, as defined in PRC 21083.2(g). *(Less than Significant with Mitigation)*

As described above, no traces of intact or disturbed midden, or any other conclusively prehistoric cultural materials were identified during boring excavation or subsequent soil sampling. However, given the project site's proximity to known prehistoric sites, including a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound complex, and the project site's location atop alluvial deposits, the project site is considered sensitive for buried prehistoric cultural resources, and some areas of the site are to be considered extremely sensitive for intact and disturbed prehistoric resources that may extend into untested soils within the project site. It is also possible that small pockets of displaced midden material may be mixed with the modern fill (secondary deposits). This is because, historically, shellmound (midden) deposits were used for surface leveling and fill. Such secondary midden deposits could be found at any level below the ground surface and have been reported within the proposed project's area. It is also possible that historic-era deposits associated with past residential and industrial use of the site could be encountered. Therefore, there is a high potential for the discovery of prehistoric archaeological resources during any ground-disturbing activities at the project site. Ground-disturbing activity associated with project implementation has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in the significance of a unique archaeological resource, as defined in *State CEQA Guidelines* Section 15064.5. This is a **potentially significant impact**.

While rezoning of the project site to the newly created M-RD zoning district would not result in any direct physical alterations to the project site, these actions would facilitate potential demolition of on-site structures and construction of new buildings. For example, the conceptual development project would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site. Approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of materials including imported soil and fill, would be required. The average depth of excavation across the site would be 4 feet, while the maximum depth of excavation would be approximately 12 feet for sewer connections. If significant archaeological deposits or resources were to be unearthed during future ground-disturbing activities associated with future construction, a substantial adverse change in the significance of an archaeological resource could occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired through loss of information important in understanding Berkeley's prehistory (*State CEQA Guidelines* Section 15064.5(b)(1)). Accordingly, potential ground-disturbing activity associated with implementation of the proposed project, including the conceptual development project, would result in a **potentially significant impact** to archaeological resources.

Compliance with *COA: Archaeological Resources* and *COA: Human Remains,* and implementation of Mitigation Measures CUL-2a through 2d would reduce impacts associated with implementation of the proposed project, including the conceptual development project. *COA: Archaeological Resources* and *COA: Human Remains,* included below, incorporate text revisions provided by the Confederated Villages of Lisjan Nation during the consultation process as required by Assembly Bill (AB) 52 and Senate Bill (SB) 18 (these revisions are denoted via underline). The City hereby incorporates the COAs as revised.

COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction). Pursuant to *State CEQA Guidelines* Section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:

a. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian, or paleontologist to assess the significance of the find. In the event that these resources are of Native American origin, all work within 50 feet of the resources shall be halted and the lead agency shall consult with a Tribal representative of the Confederated Villages of Lisjan Nation to assess the significance of the find. The archaeologist will stake the area of discovery, placing stakes no more than 10 feet apart, forming a circle around the point of discovery.

b. If any find is determined to be significant, representatives of the project proponent and/or lead agency, and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure with the ultimate determination to be made by the City. If the resource is determined to be a Tribal Cultural Resource and thus significant under CEQA, the project proponent and/or lead agency shall retain a qualified archaeologist and a Tribal monitor, at the applicant's expense, to prepare a mitigation plan, which shall be implemented by the appropriate entity in accordance with State CEQA guidelines and in consultation with the consulting Tribe. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.

c. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations. For Tribal Cultural Resources, avoidance is always preferred.

d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. For Tribal Cultural Resources, data recovery is never an appropriate mitigation. If avoidance is not feasible, the mitigation plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for Tribal Cultural Resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, and/or heritage recovery. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out.

e. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the NWIC.

COA: Human Remains(Ongoing Throughout Demolition, Grading, and/or Construction).In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the NAHC, pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. There shall be no pictures taken or testing done on any Native American human remains, and all bone, if not identifiable as human or animal, shall be treated as human remains and the appropriate protocols followed. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and time frame required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously. A report containing this information should be submitted to the lead agency, project proponent, the NWIC, and the consulting Tribe. Tribal representatives will rebury the Native American human remains and associated funerary objects with the appropriate dignity either in accordance with the recommendations of the MLD if available, or in the project vicinity at a location agreed upon between the Tribe and the lead agency where the reburial would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial are to be kept confidential and secure to prevent any further disturbance.

Mitigation Measure CUL-2a **Archaeological Testing Plan for Future Site Development.** Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (i.e., basement slab removal, topsoil removal, mass excavation, and grading) individual project proponents shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to conduct a non-invasive archaeological study of the project area initially, including an analysis of historical maps and aerial imagery, systematic surface reconnaissance, and ground-penetrating radar. This non-invasive phase of work may be followed by more invasive testing where necessary, following consultation with the Confederated Villages of Lisjan Nation, which may include archaeological borings and/or shovel test pits, in accordance with a pre-construction archaeological testing program as recommended in the Cultural Resources Evaluation (CRE) prepared by Archeo-Tec (pages 25 and 26 of the report). As described in the CRE, the only way to determine if the known midden site, or any other as-yet-unidentified subsurface cultural resources, extend into the project site is to carry out additional testing. Archaeological monitoring of building demolition followed

by the implementation of a target pre-construction archaeological testing plan would be required, and demolition-related excavation (such as basement slab removal, topsoil removal, mass excavation, and grading) would be monitored by a qualified archaeologist. Individual project sponsors shall submit the pre-construction archaeological testing program to the City of Berkeley's Planning and Development Department for review and approval.

Mitigation Measure CUL-2b

Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development. Prior to issuance of a building permit, grading permit, or demolition permit involving any potential ground-disturbing activity (e.g., building foundation removal), all personnel involved in project-related, ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative.

The WEAP training shall be conducted before any project-related, ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

The WEAP training shall be presented by an archaeologist and a representative from the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. Individual project sponsors shall maintain a record of all construction personnel that have received the WEAP training and provide the record to the City of Berkeley. WEAP training recipient

records shall be maintained by the individual project sponsor throughout the duration of construction. A final WEAP training recipient record shall be submitted to the City prior to issuance of a certificate of occupancy.

Mitigation Measure CUL-2c **Cultural Resources Monitoring Plan for Future Site Development.** Prior to issuance of any permit that involves ground disturbance (i.e., grading or construction permits), individual project sponsors shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the designated Confederated Villages of Lisjan Nation and/or Ohlone Native American tribal representative. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring:

- Person(s) responsible for conducting archaeological monitoring
- Person(s) responsible for Native American monitoring. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or other Tribal Cultural Resources be identified during monitoring;
- Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation); and
- Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur.

The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 50 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced from full-time to part-time based on the conditions and only if the designated tribal representative and the qualified archaeologist agree.

Mitigation Measure CUL-2d **Accidental Discovery Measures for Future Site Development.** Should an archaeological deposit be encountered during project

construction activities while an archaeological or tribal monitor is not on site, all ground-disturbing activities within 50 feet shall be redirected, and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and a tribal representative contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the project sponsor shall be responsible for funding and implementing appropriate mitigation measures.

The proposed project and the conceptual development project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains,* and implementation of Mitigation Measures CUL-2a through CUL-2d to ensure that: (1) if archaeological cultural resources are identified during excavation, these would be evaluated, documented, and studied in accordance with standard archaeological practice, and (2) archaeological deposits and human remains would be treated in a culturally appropriate manner and in accordance with appropriate State codes and regulations. Therefore, implementation of these mitigation measures would reduce potential impacts to archaeological historical resources to **less than significant with mitigation**.

Impact CUL-2 Summary: Implementation of the proposed project would facilitate future development of the project site under the newly created M-RD zoning district, including the conceptual development project, which would include ground-disturbing activities during construction. Ground disturbance associated with future development of the project site, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources. Accordingly, both the proposed project and the conceptual development project would require implementation of Mitigation Measures CUL-2a through CUL-2d and compliance with *COA: Archaeological Resources* and *COA: Human Remains*, as revised through tribal consultation; therefore, potential impacts to archaeological resources would be **less than significant with mitigation**.

Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin. *(Less than Significant with Mitigation)*

There are no known human remains on the project site. However, the site is known to be sensitive for the presence of Native American burials due to the proximity of the West Berkeley Shellmound complex.

In the event that human remains are identified during future ground-disturbing activities, these remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98, as described below.

Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify an MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

PRC Section 5097.98 states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons it believes to be descended from the deceased (i.e., the Most Likely Descendant or "MLD"). With permission from the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. Additionally, development projects that require a use permit are required to comply with the City's *COA: Human Remains* that addresses potential impacts to human remains (refer to Section 4.2.1.5, Regulatory Framework).

The proposed project and the conceptual development project would be required to comply with the appropriate procedures required under State law, *COA: Human Remains*, as revised through tribal consultation, for the treatment of Native American remains, and implementation of Mitigation Measures CUL-2a through CUL-2d in order to ensure that descendant communities have significant input in the treatment and final disposition of human remains, if encountered at the project site during future development activities. The impact would be **less than significant with mitigation.**

Impact CUL-3 Summary: Implementation of the proposed project would facilitate future development of the project site under the newly created M-RD zoning district, including the conceptual development project, which would include ground-disturbing activities during construction. Ground disturbance associated with future development of the project site, including the conceptual development project, has the potential to unearth human remains. Both the proposed project and the conceptual development project would be required to comply with *COA: Human Remains*, as revised through tribal consultation, and implement Mitigation Measures CUL-2a through CUL-2d. Therefore, the impact to human remains would be **less than significant with mitigation**.

4.2.2.3 Cumulative Impacts

For cultural resources, the scope for assessing cumulative impacts encompasses other past, current, or probable future projects under review by the City. The proposed project would have a significant effect on the environment if it would contribute to a significant cumulative impact on cultural resources.

As discussed above, it is assumed for the purposes of this analysis that implementation of the proposed project would result in the demolition of the structure located at 1306 Third Street, a

historic resource under CEQA. Similar to the proposed project, other development that would impact historic resources would implement mitigation measures similar to Mitigation Measure CUL-1, which requires documentation of the 1306 Third Street structure in compliance with HABS standards. As described above, implementation of Mitigation Measure CUL-1 would not avoid the demolition of the historic resource; therefore, the impact of the proposed project on built-environment historic resources would be significant and unavoidable**.** The structure at 1306 Third Street is an individual historic resource, however, and is not part of a historic district, it does not share a historic context or use with other historic built resources in the cumulative projects within 0.25 mile of the project site, including 805 Jones Street and 1201 Second/669 Gilman Transfer Station. Therefore, the proposed project would not result in a cumulatively considerable contribution to a **significant and unavoidable impact**.

Similar to the proposed project, ground disturbance associated with cumulative projects could result in **potentially significant impacts** on previously unidentified archaeological sites and associated human remains that may be unearthed. However, impacts on resources accidentally discovered during implementation of these projects would be mitigated to **less than significant** levels with appropriate mitigation measures and conditions of approval. Proposed projects in the area would also be required to comply with the City's *COA: Archaeological Resources*, or more specific measures through the environmental review process, similar to project Mitigation Measures CUL-2a through CUL-2d, developed according to the particular sensitivity of an individual site. Collectively, recent past, approved, and probable future projects that may occur in the vicinity—including the proposed project—would not result in a cumulative increase in impacts on archaeological historical resources, archaeological resources, or human remains because these resources would be avoided or otherwise removed, analyzed, and documented (i.e., by a qualified archaeologist).

When the City considers future development proposals, these proposals would undergo environmental review pursuant to CEQA and, when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project mitigation measures, conditions of approval and relevant policies of the General Plan would ensure that significant impacts on cultural resources would be avoided or otherwise mitigated to **less than significant** levels. Based on the information in this Cultural Resources section, and for the reasons summarized above, implementation of the proposed project would not make a cumulatively considerable contribution to significant adverse cumulative impacts related to cultural resources when considered together with other cumulative development. Therefore, the cumulative impact on cultural resources would be **less than significant**.

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4.3 TRIBAL CULTURAL RESOURCES

As described in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section identifies the known tribal cultural resources on the project site and vicinity, evaluates potentially significant impacts to such resources that may result from implementation of both the proposed project and the conceptual development project, and recommends mitigation measures to reduce the severity of potentially significant impacts. California Public Resources Code (PRC) Section 21074 defines "tribal cultural resources" as:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either: (A) included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register); or (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1 or

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

Information in this section is based on the Preliminary Cultural Resources Evaluation (CRE)[1] prepared for the proposed project (and included as Appendix B), Native American consultation efforts pursuant to Senate Bill (SB) 18 and Assembly Bill (AB) 52, and the City of Berkeley General Plan.

4.3.1 Setting

4.3.1.1 Prehistory

Studies and analysis of archaeological materials uncovered in the San Francisco Bay Area indicate that native peoples have occupied the Bay region for more than 11,000 years. The area of West Berkeley where the project site is located was originally inhabited by the indigenous Ohlone people who maintained villages, hunted and gathered, and created shellmounds along the Bay shore and inland from approximately 500 CE (Common Era) until the coming of European settlers in 1776.

Originally called "Costanoans" after the Spanish derivative for "coastal people," the terms Ohlone/Costanoan imply a loose linguistic affiliation encompassing six or seven distinct dialect clusters. The Costanoan languages derived from Penutian Stock, a theoretical linguistic construct that appears to have its origins in the northwestern Great Basin. Penutian-speaking peoples presumably slowly migrated into Central California as early as 2500 BCE (Before Common Era). As

[1] Archeo-Tec. 2022. *Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California.* June.

Penutian-speaking peoples continued to spread west, they would have come in contact with existing Hokan populations. The fusion of Hokan and Penutian-speaking peoples may have become the Miwok and Ohlone cultures. By 300–500 AD, proto-Ohlone speakers of Penutian stock were firmly ensconced in the San Francisco Bay region.

At the time of the European settlement in the Bay Area, the project site was part of the Huchiun Ohlone territory, who spoke the Chochenyo Ohlone dialect. The Ohlone were semi-sedentary collectors and hunters of fish and game. In 1770, it is estimated that the Ohlone population was at most around 10,000, perhaps fewer. Forty (40) years later, by 1810, much of the native population and their traditional culture and languages had been subjected to the disastrous effects of European encroachment, primarily disease and displacement from the California mission system.

4.3.1.2 Project Site

Although now situated approximately 300 meters (984 feet) inland, almost half of the project site was once an estuarine marsh of San Francisco Bay. The first documented topographic modification of the project site's immediate vicinity took place during the 1860s, when tracks for the Central Pacific Railroad were laid along the eastern edge of the subject property. In the early 20th century, the marsh and its slough appear to have been choked and partially filled such that the project site now lays almost directly along the Bay shoreline. By 1903, the project site was developed with mixed residential and commercial uses. In the late 1930s, construction of the Eastshore Highway included extensive infilling of the bay shallows west of the project site. The result is that the shoreline was artificially shifted to the west. Therefore, all ground surfaces between the current shoreline and the western portions of the project site are composed of imported, artificial fill overlaying geologically recent shoreline sands and marshy clays. The dynamism of the geomorphological processes and soils means that predicting where remnants of stable alluvial depositions, and therefore possible remnants of prehistorical cultural resources, may lie beneath the current ground surface of the project site is extremely difficult.

Today, the 11.54-acre project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The site is almost entirely covered by buildings and surface pavements. Vegetation on the site is limited to sparse street trees and ornamental trees.

As further described in Section 4.2, Cultural Resources, the project site has been the subject of a records search and limited archaeological testing. No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials have been identified on the site. However, the site is close to the Schoolhouse Creek site and West Berkeley Shellmound complex, both of which are considered highly significant prehistoric resources. In addition, during a 2016 program of geotechnical borings, both intact and displaced prehistoric-period buried midden soil deposits were identified in a location adjacent to the project site. Intact midden deposits were identified at a depth of between 4.6 and 6.1 feet below the ground surface. Cultural materials included burned and unburned wood, charcoal, flaked stone, marine shell fragments, faunal bone, and lignite coal pieces. Radiocarbon testing of marine shell indicated that the midden deposit was contemporaneous with the early phases of the occupation of the West Berkeley Shellmound Complex. Due to the close

proximity, it is possible that intact and/or displaced portions of this known midden deposit extend into the project site.

4.3.1.3 Regulatory Framework

The following discusses applicable laws, standards, and policies related to tribal cultural resources, including those from State and local agencies.

State Laws and Regulations. The following State regulations, related to tribal cultural resources that would be applicable to the project, are described below.

California Health and Safety Code Section 7050.5. California Health and Safety Code Section 7050.5 states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the Coroner's authority. If the human remains are of Native American origin, the County Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Public Resources Code (PRC) Section 5097.5. Section 5097.98 of the PRC states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5 (discussed above), shall immediately notify those persons (i.e., the MLD) it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. See also *State CEQA Guidelines* Section 15064,5(d) and (e).

Assembly Bill 52 Tribal Consultation. California PRC Sections 21080.3.1 and 21080.3.2 and Chapter 532, Statutes 2014 (i.e., AB 52), require that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. AB 52, specifically PRC Section 21080.3.1(d), requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether an Environmental Impact Report (EIR) (among other types of environmental documents) is required for a project. The bill specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The bill makes the above provisions applicable to projects that have a Notice of Preparation (NOP) filed on or after July 1, 2015. By requiring the lead agency to consider these effects relative to

tribal cultural resources and to conduct consultation with California Native American tribes, this bill imposes a State-mandated local program.

Senate Bill 18. SB 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to "provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places."[2]

Local Plans and Regulations. The City of Berkeley General Plan policies, programs, and other applicable requirements related to tribal cultural resources that would be applicable to the project are described below.

City of Berkeley General Plan.The following policies of the City of Berkeley General Plan Urban Design and Preservation Element pertaining to tribal cultural resources would be applicable to the proposed project:

Policy UD-1: Techniques. Use a wide variety of regulatory, incentive, and outreach techniques to suitably protect Berkeley's existing built environment and cultural heritage.

A. Identify and protect historically significant structures, sites, districts, and neighborhoods. (Also see Land Use Policy LU-2.)

B. Develop a comprehensive program that will indicate, in more detail, needed in-depth surveys and other actions to protect Berkeley's built environment and cultural heritage.

C. Conserve and update the Landmarks Preservation Ordinance.

D. Encourage widespread public participation in the identification and designation of historically or culturally important buildings, sites, and areas.

E. Review and revise the Zoning Ordinance, in general, as appropriate to further the protection of historic and cultural resources.

F. Take full advantage of all State of California preservation programs such as the Certified Local Government program.

G. Through code enforcement and other activities, provide early intervention to promote timely upkeep of historic and cultural resources, and thereby avoid continued neglect that could eventually make such resources unsavable.

[2] Governor's Office of Planning and Research. 2005. Tribal Consultation Guidelines. November 14, Website: https://opr.ca.gov/docs/011414_Updated_Guidelines_922.pdf (accessed August 19, 2022).

Policy UD-4: Inventory. On an ongoing basis, maintain, expand, and update the inventory of historic and cultural resources.

A. Actively expand the inventory of historic and cultural resources, with particular attention to areas where development pressure is expected, and make the inventory results prominently available to citizens and potential developers.

B. Fully incorporate the identity of inventoried historic and cultural resources into the City's Geographic Information System and permit system.

C. Acquire and maintain generalized information on what parts of Berkeley, and which types of sites, are sufficiently likely to contain notable archaeological materials as to warrant further, site-specific investigation.

City of Berkeley Conditions of Approval for Development Projects. The City of Berkeley (City) has established standard conditions of approval (COA) for all development projects. The following COAs address cultural resources:

<u>COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction).</u> Pursuant to *State CEQA Guidelines* Section 15064.5(f), a lead agency should make "provisions for historical or unique archaeological resources accidentally discovered during construction." Therefore:

a. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian or paleontologist to assess the significance of the find.

b. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.

c. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations.

d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out.

e. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the Northwest Information Center (NWIC).

COA: Human Remains (Ongoing Throughout Demolition, Grading, and/or Construction).In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and time frame required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously.

4.3.2 Impacts and Mitigation Measures

This section discusses potential tribal cultural resources impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and identifies mitigation measures, as appropriate.

4.3.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to tribal cultural resources if it would:

Threshold TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: (i) listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k); or (ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.3.2.2 Project Impacts

The following section discusses the potential impacts associated with implementation of the proposed project and the conceptual development project to tribal cultural resources according to the significance criteria described above. Potential impacts associated with the proposed project are evaluated at a programmatic level, while potential impacts associated with the conceptual development project are evaluated at a project level to the extent feasible.

Impact TCR-1: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074. *(Less Than Significant with Mitigation)*

The City consulted with tribal representatives traditionally or culturally affiliated with the project site pursuant to the requirements outlined in AB 52 and SB 18. On February 28, 2023, the City sent outreach letters to the tribal contacts for tribes that have requested notice pursuant to PRC Section 21080.3.1 and formally invited each representative to consult with the City on the proposed project. Appendix D provides the NAHC's response letter, including the results of the Sacred Lands File search and the list of recommended tribal contacts.

No response to the tribal outreach letters were received within the 30-day and 90-day time periods provided by AB 52 and SB 18, respectively. On February 14, 2024, the City again reached out to tribal contacts to offer the opportunity for consultation. On February 17, 2024, the Ohlone Indian Tribe requested to initiate consultation, and the City responded with a request to schedule a meeting. As of the time of this writing, the City has not received any additional response or communication from the Ohlone Indian Tribe. On February 20, 2024, the Confederated Villages of Lisjan Nation requested to initiate consultation. A meeting took place with the Confederated Villages of Lisjan Nation on May 8, 2024, and again on July 3, 2024. On May 30, 2024, the Confederated Villages of Lisjan Nation requested text additions to Mitigation Measures CUL-2a through CUL-2d, *COA: Archaeological Resources*, and *COA: Human Remains* to better address potential impacts on tribal cultural resources. These requested revisions have been incorporated into Mitigation Measures CUL-2a through CUL-2d, described in Section 4.2, Cultural Resources, and *COA: Archaeological Resources* and *COA: Human Remains,* as discussed further below.

As discussed above, even though no trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials have been identified on the project site, the project site is close to the Schoolhouse Creek site and West Berkeley Shellmound complex, both of which are considered highly significant prehistoric resources. Given the project site's proximity to known sites, including a midden site, the Schoolhouse Creek site, and the West Berkeley Shellmound complex, and the project site's location atop alluvial deposits, the project site is considered sensitive for buried prehistoric cultural resources and undiscovered tribal cultural resources. Some areas of the site are to be considered extremely sensitive for intact and disturbed resources, which may extend into untested soils within the project site. It is also possible that small pockets of displaced midden material may be mixed with the modern fill (secondary deposits). This is because, historically, shellmound (midden) deposits were used for surface leveling and fill. Such secondary midden deposits could be found at any level below the ground surface and have been reported within the project area. It is also possible that historic-era deposits associated with past residential and industrial use of the site could be encountered.

The proposed rezoning of the project site to the newly created M-RD zoning district, including amendments to the General Plan, and West Berkeley Plan, to add the M-RD district to the Manufacturing land use designation would not result in any direct physical alterations to the project site; however, these actions would facilitate future development, including demolition of site structures and construction of new buildings.

For example, the conceptual development project would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site. Approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of materials, including imported soil and fill, would be required. The average depth of excavation across the site would be 4 feet, while the maximum depth of excavation would be approximately 12 feet for sewer connections. Therefore, the proposed project could result in a **potentially significant** impact to tribal cultural resources if previously undiscovered tribal cultural resources were to be unearthed during ground-disturbing activity, including human remains of Native American origin. Therefore, the proposed project and conceptual development project shall implement Mitigation Measures CUL-2a through CUL-2d, as identified below and in Section 4.2, Cultural Resources.

Mitigation Measure CUL-2a **Archaeological Testing Plan for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

Mitigation Measure CUL-2b **Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

Mitigation Measure CUL-2c **Cultural Resources Monitoring Plan for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

Mitigation Measure CUL-2d **Accidental Discovery Measures for Future Site Development.** (*Refer to Section 4.2, Cultural Resources*)

In addition to the Mitigation Measures CUL-2a through CUL-2d, the proposed project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains,* included below, incorporate text revisions provided by the Confederated Villages of Lisjan Nation during the consultation process as required by AB 52 and SB 18. The City hereby incorporates the COAs as revised. Revisions proposed through the AB 52 consultation process are <u>underlined</u> in the text below.

> <u>COA: Archaeological Resources (Ongoing Throughout Demolition, Grading, and/or Construction).</u> Pursuant to *State CEQA Guidelines* Section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:

a. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian, or paleontologist to assess the significance of the find. In the event that these resources are of Native American origin, all work within 50 feet of the resources shall be halted and the lead agency shall consult with a Tribal representative of the Confederated Villages of Lisjan Nation to assess the significance of the find. The archaeologist will stake the area of discovery, placing stakes no more than 10 feet apart, forming a circle around the point of discovery.

b. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City. If the resource is determined to be a Tribal Cultural Resource and thus significant under the California Environmental Quality Act (CEQA), the project proponent and/or lead agency shall retain a qualified archaeologist and a Tribal monitor, at the applicant's expense, to prepare a mitigation plan that shall be implemented by the appropriate entity in accordance with State CEQA guidelines and in consultation with the consulting Tribe. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.

c. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations. For Tribal Cultural Resources, avoidance is always preferred.

d. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. For Tribal Cultural Resources, data recovery is never an appropriate mitigation. If avoidance is not feasible, the mitigation plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for Tribal Cultural Resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, and/or heritage recovery. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out.

e. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the NWIC.

COA: Human Remains(Ongoing Throughout Demolition, Grading, and/or Construction). In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt, and the Alameda County Coroner shall be contacted to evaluate the remains following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *State CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the NAHC, pursuant to subdivision

(c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. There shall be no pictures taken or testing done on any Native American human remains, and all bone, if not identifiable as human or animal, shall be treated as human remains and the appropriate protocols followed. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and time frame required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously. A report containing this information should be submitted to the lead agency, project proponent, the NWIC and the consulting Tribe. Tribal representatives will rebury the Native American human remains and associated funerary objects with the appropriate dignity either in accordance with the recommendations of the MLD if available, or in the project vicinity at a location agreed upon between the Tribe and the lead agency, where the reburial would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial are to be kept confidential and secure to prevent any further disturbance.

The proposed project and the conceptual development project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains* and implement Mitigation Measures CUL-2a through CUL-2d in order to ensure that: (1) if tribal cultural resources are identified during excavation, and avoidance is not feasible, a mitigation plan shall be prepared and outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist, and (2) human remains would be treated in a culturally appropriate manner and in accordance with the consulting Tribe. Therefore, implementation of these mitigation measures would reduce potential impacts to tribal cultural resources to **less than significant with mitigation**.

Impact TCR-1 Summary: Implementation of the proposed project would facilitate future development of the project site under the newly created M-RD zoning district, including the conceptual development project, which would include ground-disturbing activities during construction. Future ground-disturbing activity has the potential to unearth previously undiscovered tribal cultural resources. Both the proposed project and the conceptual development project would be required to comply with *COA: Archaeological Resources* and *COA: Human Remains* and implement Mitigation Measures CUL-2a through CUL-2d. Therefore, the potential impacts to tribal cultural resources would be **less than significant with mitigation**.

4.3.2.3 Cumulative Impacts

As defined in Section 15130 of the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and reasonably foreseeable projects causing related impacts. Potential impacts of the proposed project, including any actions required for the conceptual development project, to unknown tribal cultural resources, when combined with other past, current, and reasonably foreseeable projects in the city and on land traditionally used by culturally affiliated tribes, could contribute to a cumulatively significant impact due to the overall loss of tribal cultural resources in the region. However, each

development proposal received by the City is required to undergo individual environmental review pursuant to CEQA, including AB 52 outreach. Furthermore, impacts of other projects on tribal cultural resources are generally site-specific because they result from ground -disturbing activities that would require a site-specific impact analysis to determine the nature and extent of the resources and identify appropriate mitigation measures that would reduce or avoid significant impacts. Thus, there is no potential for the proposed project to contribute to a significant cumulative impact associated with the significance of a tribal cultural resource pursuant to California Code of Regulations (CCR) Section 15064.5.

Similar to the proposed project, ground disturbance associated with these projects could result in potentially significant impacts on previously unidentified archaeological sites and associated human remains that may be unearthed. However, impacts on resources that may be inadvertently discovered during implementation of these projects would be mitigated to less than significant levels with appropriate mitigation measures adopted as conditions of approval. Proposed projects in the area would also be required to comply with the City's *COA: Archaeological Resources* and *COA: Human Remains*, or more specific measures through the environmental review process, similar to Mitigation Measures CUL-2a through CUL-2d. Collectively, recent past, approved, and probable future projects that may occur in the vicinity—including the proposed project—would not result in a cumulative increase in impacts on tribal cultural resources or human remains, because these resources would be avoided or otherwise removed, analyzed, and reported (i.e., by a qualified archaeologist). In addition, through required tribal consultation, additional mitigation measures for ensuring tribal cultural resources are not significantly impacted would also be developed and prescribed on a project-specific basis.

When the City considers future development proposals, both on the project site and citywide, these proposals would undergo environmental review pursuant to CEQA and when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project conditions of approval and relevant policies of the General Plan would ensure that significant impacts on tribal cultural resources would be avoided or otherwise mitigated to less than significant levels. Based on the information in this section (Section 4.3, Tribal Cultural Resources), and in Section 4.2 Cultural Resources, and for the reasons summarized above, the proposed project would not contribute to significant adverse cumulative impacts related to tribal cultural resources when considered together with other cumulative development. Therefore, this cumulative impact would be **less than significant**.

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4.4 TRANSPORTATION

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes the existing and future transportation and circulation conditions on the project site and its vicinity, describes the analysis methodology and regulatory framework, identifies potential transportation-related impacts of the proposed project and conceptual development project, and identifies the recommended mitigation measures for identified potentially significant impacts. Topics evaluated in the analysis include an assessment of vehicle miles traveled (VMT), site access and circulation, hazards, and emergency vehicle access.

For purposes of determining potentially significant environmental impacts related to transportation, this analysis focuses only on VMT as the threshold of significance. Information in this section is provided by the Transportation Impact Analysis[1] (TIA) (Appendix E) prepared for the proposed project, including the proposed M-RD zoning, General Plan, and West Berkeley Plan amendments and the conceptual development project. The analyses were conducted in accordance with the current standards and methodologies required by law and set forth by the City. The TIA includes a discussion of the existing circulation systems in the vicinity of the project site, trip generation analysis, VMT screening assessment and project VMT estimate, Transportation Demand Management Plan (TDM Plan), congestion management program analysis, and a discussion of site access, circulation, and parking.

4.4.1 Setting

This section describes the existing transportation conditions, including the roadway network, bicycle facilities, pedestrian facilities, and transit service within the study area. In addition, the I-80/Gilman Street Interchange Project, currently under construction, is described in this section and the proposed changes are considered part of baseline conditions as detailed in the TIA (Appendix E). The applicable regulatory framework is also described, below.

4.4.1.1 Existing Transportation and Circulation System

Existing Roadway Network. Regional highways, arterials, major collectors, collectors, and local streets run throughout the project area. Regional access to the project site is provided by the Interstate 80/Interstate 580 (I-80/I-580) freeway corridor and Gilman Street. Descriptions of roadways in the project area are provided below using roadway classifications defined in the City of Berkeley General Plan Land Use and Transportation Element.[2]

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1 Fehr & Peers. 2024. Transportation Impact Analysis, Gilman Gateway Rezone Project. January.

2 City of Berkeley. 2002. *Berkeley General Plan, Transportation Element.*

- **I-80/I-580** is a 10-lane, north-south freeway facility with a high-occupancy vehicle lane in each direction.[3] I-80/I-580 is on the western edge of the city. The freeway has a dual designation (I-80 and I-580) through Berkeley and splits just to the north and south of the Berkeley city limits. The freeway connects Berkeley to southern Alameda County to the south, San Francisco and the Peninsula to the west, the Sacramento region to the east, and Marin County to the north. I-80 is also designated with I-580 between Albany and Emeryville. Access between I-80/I-580 and the project site is provided primarily through the interchange at Gilman Street. I-80/I-580 is designated as a Freeway in the City 's General Plan.

- **San Pablo Avenue/State Route 123 (SR 123)** is a divided, four-lane, north-south major street that extends between Rodeo in the north and downtown Oakland in the south. The divided roadway has a center median and left turn pockets at major intersections in the city. San Pablo Avenue also has sidewalks and metered parallel parking on both sides of the street near the project site. San Pablo Avenue is designated as a Major Street[4] in the City's General Plan.

- **Eastshore Highway** is a two-lane, two-way, north-south road that runs parallel to I-80/I-580 and bounds the project site to the west. This roadway serves as an access road to several residential and collector streets. It extends between Buchanan Street in the north and Hearst Avenue in the south, and forms the west border of the project area. Within the project area, Eastshore Highway provides an intermittent sidewalk and parallel parking on the east side of the street. Eastshore Freeway is designated as a Collector Street[5] in the City's General Plan.

- **Gilman Street** is a two-lane, east-west street that bounds the project site to the north and extends between Golden Gate Fields in the west and Hopkins Street in the east. It provides access to I-80/580 through an interchange at the northwest corner of the project site. Gilman Street is designated as a Major Street in the City's General Plan. Gilman Street is also designated as a bikeway, Secondary Transit Route, and Emergency Access and Evacuation Route for the City.

- **Cedar Street** is a two-lane, east-west street that extends between Eastshore highway in the west and La Loma Avenue in the east. In the project vicinity, it generally has unrestricted on-street parking and sidewalks along both sides of the street, except for the block between Second Street and the railroad tracks, which does not have a sidewalk on the south side of the street. Cedar Street is designated as a Collector Street in the City's General Plan.

- **Page Street** is a two-lane, east-west street that bounds the project site to the south and extends between Eastshore Highway in the west and Cornell Street in the east with a discontinuous segment between Second and Fourth streets due to the railroad tracks. Page Street has

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3 The I-80/I-580 freeway corridor is sometimes referred to as the Eastshore Freeway. The roadway along the western boundary of the project site, its predecessor, is Eastshore Highway.

4 Major Streets serve the movement of vehicles, pedestrians and bicycles across the city, connecting to the regional transportation network or other jurisdictions.

5 Collector Streets serve the movement of automobiles, buses, pedestrians, and bicycles between neighborhoods and across the City.

unrestricted on-street parking and intermittent sidewalks on both sides of the street within the project area. Page Street is designated as a Local Street[6] in the City's General Plan.

- **West Frontage Road** is a two-lane, north-south street west of and parallel to I-80/I-580. It extends between Gilman Street in the north and Emeryville in the south. In the project vicinity, parking is prohibited along the roadway, and a paved bicycle/pedestrian path (San Francisco Bay Trail) is provided west of the roadway. West Frontage Road is designated as a Collector Street in the City's General Plan.

- **Camelia Street** is a two-lane, east-west street that bisects the project site and extends between Second Street in the west and Santa Fe Avenue in the east. Within the project area, Camelia Street has unrestricted on-street parking and sidewalks on both sides of the street. Camelia Street is designated as a Local Street in the City's General Plan. Camelia Street between Fifth and Ninth streets, east of the project site, is also considered a bikeway in the City's General Plan.

- **Second Street** is a two-lane, north-south street that bisects the project site and extends between Codornices Creek in the north and Addison Street in the south. The segment of Second Street between Gilman and Harrison streets is currently one-way northbound, and the segment between Cedar and Virginia streets is closed to the public. Within the project area, Second Street has intermittent sidewalks and on-street parking on both sides of the street. Second Street is designated as a Local Street in the City's General Plan. Improvements to Second Street are currently under construction as part of the I-80/Gilman Interchange Project, discussed later in this section.

- **Third Street** is a two-lane, north-south street that bounds the project site to the east. Third Street is designated as a Local Street in the City's General Plan.

- **Fourth Street** is a two-lane, east-west street that bisects the project site and extends between Harrison Street in the north and Dwight Way in the south. In the project vicinity, Fourth Street has unrestricted on-street parking and continuous sidewalks on both sides of the street. Fourth Street is designated as a Collector Street in the City's General Plan.

- **Sixth Street** is a two-lane, north-south street that extends between the Albany University Village in the north and Dwight Way in the south. In the project vicinity, it has unrestricted on-street parking and continuous sidewalks on both sides of the street. Sixth Street also has dedicated bicycle lanes on both sides of the street south of Gilman Street. Sixth Street is designated as a Collector Street in the City's General Plan.

Existing Pedestrian Facilities. Pedestrian facilities consist of a combination of paved and unpaved sidewalks or shoulders. The streets within the project vicinity, including Second, Camelia, and Page Streets and Eastshore Highway, generally do not have continuous paved sidewalks with curbs on both sides of the street. Gilman Street has sidewalks on both sides of the street, including under the I-80/I-580 overcrossing, with marked crosswalks across the side street and a marked unprotected

[6] Local Streets serve local, slow traffic, bicycles, and pedestrians.

crosswalk across Gilman Street just east of Eastshore Highway. The I-80/Gilman Street Interchange Project, which is currently under construction, will provide sidewalks with curbs and gutters on both sides of Second Street and on the east side of Eastshore Highway and improve the pedestrian facilities on both sides of Gilman Street.

Existing Bicycle Facilities. Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the Highway Design Manual (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities: Class I, Class II, Class III, and Class IV. In addition, the Alameda County Transportation Commission (CTC) has adopted a set of sub-classifications for each Caltrans classification. These facility types are described below.

- **Class I Bikeways** (Multi-Use Paths) provide a completely separate right-of-way, are designated for the exclusive use of bicycles and pedestrians, and minimize vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed. **Class IA Bikeways** are paved paths and **Class IB Bikeways** are unpaved paths.

- **Class II Bikeways** (Bicycle Lanes) are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally 5 feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. When grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways. **Class IIA Bikeways** are conventional bicycle lanes. **Class IIB** are upgraded bicycle lanes that include either a striped bike lane with striped buffer between the bike lane and the traffic lane, or bike lanes with green conflict markings. **Class IIC** are climbing bike lanes (a bike lane in the uphill or downhill direction), and **Class IID** are contraflow bike lanes[7].

- **Class III Bikeways** (Bicycle Routes) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to (a) provide continuity to other bicycle facilities or (b) designate preferred routes through high-demand corridors. Bicycle routes are implemented on low-speed (less than 25 mile-per-hour) and low-volume (fewer than 3,000 vehicles per day) streets. **Class IIIA** are signage-only routes, **Class IIIB** have a wide curb lane or shoulder, **Class IIIC** are routes with standard shared lane markings or other pavement stenciling, **Class IIID** are routes with green-backed shared lane markings (also known as “super sharrows”), and **Class IIIE** are Bicycle Boulevards.

- **Class IV Bikeways** (Cycle tracks), also known “protected bike lanes”, provide a right-of-way designated exclusively for bicycle travel within a roadway and that are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts,

[7] Contraflow bicycle lanes are bicycle lanes designed to allow bicyclists to ride in the opposite direction of motor vehicle traffic.

inflexible physical barriers, or parked cars. **Class IVA** are one-way cycle tracks or protected bikeways, and **Class IVB** are two-way cycle track or protected bikeways.

- **Bicycle Boulevards (Class IIIE)** are mostly installed along residential streets with low traffic volumes and prioritize bicycle travel. Assignment of right-of-way to the route, traffic calming measures and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.

Table 4.4.A, below, shows the existing Bicycle Boulevard Network in the City, including the total miles of bicycle facilities with Caltrans classification and Alameda CTC subclassifications as indicated. Table 4.4.B provides the existing and proposed bicycle facilities in the project vicinity.

Table 4.4.A: Existing Bicycle Boulevard Network

Bikeway Type	Mileage
Class I	
Class IA: Paved Paths	13.9 miles
Ohlone Greenway	1.2 miles
San Francisco Bay Trial	7.4 miles
Aquatic Park Path	2.5 miles
9th Street Path	0.1 mile
West Street Path	0.5 mile
Other Paths	2.2 miles
Class IB: Unpaved Paths	5.3 miles
Class II	
Class IIA: Standard Bicycle Lane	11.7 miles
Class IIB: Upgraded Bicycle Lane	0.3 mile
Buffered Bicycle Lanes	0.3 mile
Class IID: Contraflow Bicycle Lane	0.4 mile
Class III	
Class IIIA: Signage-only Bicycle Route	4.5 miles
Class IIIC: Standard Sharrows	2.7 miles
Class IIIE: Bicycle Boulevard	1.9 miles
Class IV	
Class IVA: One-way Cycle Track/Protected Bikeway	0.1 mile
Total	**50.8 miles**
Berkeley Bicycle Boulevard Network[1]	15.8 miles

Source: *Berkeley Bicycle Plan, Table 3-5: Existing Bicycle Boulevard Network* (City of Berkeley, May 7, 2017).

[1] Berkeley's Bicycle Boulevard network comprises segments of Class I, II, and II facilities.

Table 4.4.B: Existing and Proposed Bicycle Facilities in the Project Vicinity

Bikeway Type	Description and Location Relative to Project Vicinity
Existing	
Class I multi-use path	West side of West Frontage Road, which is part of the Bay Trail.
Class II dedicated bike lane	Both sides of Gilman Street between I-80/I-580 and San Pablo Avenue.
Class II dedicated bike lane	Both sides of Sixth Street south of Gilman Street.
Bicycle Boulevard and Class III bike route	Eighth Street between Albany University Village and Camela Street, Camelia Street between Eighth and Ninth Streets, and Ninth Street south of Camelia Street.
Planned	
Class I multi-use path	Bicycle/pedestrian bridge on the Gilman Street overcrossing over the I-80 freeway to connect the Bay Trail west of the freeway and Gilman Street east of the freeway.
Class II bike lanes	Upgrades to the existing Class II bike lanes on Sixth Street, including the provision of striped buffers.
Class IV cycletrack	On Gilman Street from Eastshore Freeway to Hopskins Street and San Pablo Avenue from Dartmouth Street to Folger Avenue.
Bicycle Boulevard	Extension of the bicycle boulevard on Camelia Street east to Santa Fe Avenue, including a new pedestrian hybrid beacon at the Camelia Street/San Pablo Avenue intersection.

Sources: Transportation Impact Analysis, Gilman Gateway Rezone Project (Fehr and Peers, January 2024); Bicycle Plan (City of Berkeley, 2017).

Existing Transit Services and Facilities. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), and passenger rail services along the Union Pacific Railroad (UPRR) corridor is provided by Amtrak.

AC Transit. AC Transit operates five local routes (12, 52, 72, 72M, and 72R), one night route (800), and one transbay route (G) that provide service to the project site, with the closest bus stops at Gilman Street and Sixth Street, approximately 0.4 mile east of the project site, and San Pablo Avenue at Gilman Street, approximately 0.7 mile east of the project site. The Gilman Street/Sixth Street bus stop provides service for Route 12 and the San Pablo Avenue/Gilman Street bus stop provides service for Routes 52, 72, 72M, 72R, 800, and G. Existing transit routes in the study area are described below.

- **Route 12** is a north-south local line that provides service between Northwest Berkeley and the Amtrak Station at Jack London Square in Oakland. The route serves Berkeley, Oakland, and Piedmont, and the following transit centers: Ashby BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Amtrak, and Oakland Jack London Square Ferry Terminal.

- **Route 52** is a northwest-southeast local that provides service between Albany University Village to the University of California, Berkeley campus. The route serves Albany and Berkeley and the following transit centers: Berkeley BART and North Berkeley BART.

- **Route 72** is a north-south local line that provides service between Hilltop Mall/Contra Costa College and Jack London Square in Oakland. The route serves Albany, Berkeley, El Cerrito, El Sobrante, Emeryville, Oakland, Richmond, and San Pablo, and the following transit centers:

El Cerrito Plaza BART, El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Ferry Terminal, Hilltop Mall, and Contra Costa College.

- **Route 72M** is a north-south local line that provides service between Point Richmond and Jack London Square in Oakland. The route serves Albany, Berkeley, El Cerrito, Emeryville, Oakland, and Richmond and the following transit centers: El Cerrito Plaza BART, El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Ferry Terminal, and Richmond BART/Amtrak.

- **Route 72R** is a north-south local line that provides service between Contra Costa College and Jack London Square. The route serves Albany, Berkeley, El Cerrito, Emeryville, Oakland, Richmond, and San Pablo and the following transit centers: El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, Oakland Jack London Square Ferry Terminal, and Contra Costa College.

- **Route 800** is a north-south all-night line that provides service between Richmond BART and San Francisco. The route serves Albany, Berkeley, El Cerrito, Oakland, Richmond, and San Francisco and the following transit centers: Ashby BART, Berkeley BART, El Cerrito del Norte BART, 12th Street/Oakland City Center BART, 19th Street Oakland BART, MacArthur BART, West Oakland BART, Civic Center BART, Montgomery Street BART, Powell Street BART, and Salesforce Transit Center.

- **Route G** is a north-south transbay line that provides service between Salesforce Transit Center in San Francisco to El Cerrito Plaza BART. The route serves Albany, Berkeley, El Cerrito, Kensington, and San Francisco and the following transit centers: El Cerrito Plaza BART and Salesforce Transit Center.

BART. BART is the regional rapid transit provider and connects Berkeley to other parts of Alameda County, Contra Costa County, San Francisco, and northern San Mateo County. The BART system operates trains along five routes: (1) Richmond-Fremont, (2) Richmond-Daly City/San Francisco Airport (SFO)/Millbrae, (3) SFO/Millbrae-Dublin/Pleasanton, (4) SFO/Millbrae-Pittsburg/Bay Point, and (5) Fremont-Daly City. The nearest BART station is the North Berkeley Station at 1750 Sacramento Street, 1.06 miles east of the project site.

Amtrak Capital Corridor and Union Pacific Railroad. Amtrak's Capitol Corridor and San Joaquin services provide intercity rail service to the Berkeley Amtrak station at University Avenue and Third Street, below the University Avenue overpass. Capitol Corridor service connects Berkeley to San Jose, Oakland, Davis, and Sacramento, and smaller communities along the route. In total, passenger operations contribute to 44 daily trains running through the station, with four to five trains per hour in both the weekday AM and PM peak-hours. The UPRR mainline tracks through West Berkeley, east of the project site, provide a key link for freight and passenger activity in the Bay Area.

The I-80/Gilman Street Interchange Project, currently under construction, primarily consists of installing two roundabouts at the intersections of the I-80/I-580 Ramps on Gilman Street. The

roundabouts would replace the existing stop-signs on the I-80/I-580 Northbound and Southbound Off-Ramps, West Frontage Road, and Eastshore Highway. Construction of the I-80/Gilman Street Interchange Project is expected to be completed by 2025. The interchange project is part of the baseline conditions because it would be completed prior to proposed project implementation. The following improvements are part of the I-80/Gilman Street Interchange Project and are also considered to be baseline conditions:

- Provide a two-way cycletrack (separated bikeway) on the south side of Gilman Street between the I-80/I-580 Interchange and Fourth Street.
- Provide a non-motorized overcrossing of I-80/I-580 about 500 feet south of the Interchange that will connect to the Bay Trail west of I-80/I-580 and the Gilman Street cycletrack east of I-80/I-580 through a path between the freeway and Eastshore Highway.
- Improve the at-grade railroad crossing on Gilman Street, including installation of medians with bollards on both directions of Gilman Street.
- Remove most on-street parking on Gilman Street between I-80/I-580 and Fourth Street.
- Repave Second Street and provide sidewalk, curb, and gutter on both sides of the street.
- Convert Eastshore Highway between Harrison and Gilman streets to one-way southbound.
- Convert about 150 feet of Eastshore Highway south of Gilman Street to one-way northbound.
- Convert Second Street to one-way southbound between Gilman and Camelia streets and prohibit left-turns from westbound Gilman Street onto Second Street.
- Open Third Street just west of the railroad tracks to emergency vehicles only, and local access to the existing 1306 Third Street building. This segment of Third Street will be designed as a one-way southbound street between Gilman and Camelia streets with access at the Gilman Street/Third Street intersection limited to right-turns only from eastbound Gilman Street to southbound Third Street.
- Signalize the Gilman Street/Fourth Street intersection and the at-grade railroad crossing with a signal interconnect to minimize the potential for queues on Gilman Street to spill back onto the railroad tracks.
- Close the existing at-grade railroad crossing on Camelia Street and provide a fence west of the railroad tracks along the project frontage between Gilman and Camelia Streets.

As described above, the I-80/Gilman Street Interchange Project would modify vehicular access to and from the north and the east for the project area. Vehicles would only be able to turn right from eastbound Gilman Street to Second Street to access the project area. Thus, vehicles from the east would either travel westbound on Gilman Street and navigate through the east roundabout to

access eastbound Gilman Street and turn right onto southbound Second Street, or use westbound Cedar Street and turn right onto northbound Second Street or Eastshore Highway. Vehicles leaving the project area to the north would use northbound Eastshore Highway and either use the roundabouts to access the freeway ramps or travel eastbound on Gilman Street.

4.4.1.2 Regulatory Framework

The following state, regional, Alameda County and local transportation plans, policies, and regulations guide transportation planning in the city.

State Regulations. This section summarizes applicable state regulations guiding transportation planning in the city.

California Department of Transportation. Caltrans is responsible for the maintenance and operation of state routes/highways. In the city, Caltrans facilities include I-80/I-580 and State Route 123. Caltrans maintains a volume monitoring program and reviews local agencies planning documents (such as this Environmental Impact Report [EIR]) to assist in its forecasting of future volumes and congestion points. The Guide for the Preparation of Traffic Impact Studies published by Caltrans is intended to provide a consistent basis for evaluating traffic impacts to State facilities. The City recognizes that "Caltrans endeavors to maintain a target level of service at the transition between level of service (LOS) C[8] and LOS D[9] on State highway facilities"; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans states that, for existing state highway facilities operating at less than the target LOS, the existing LOS should be maintained. In addition, according to Caltrans' Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance, queue spillovers on freeway off-ramps are considered significant impacts only if the speed differential between the off-ramp and the mainline freeway is more than 30 miles per hour.

Caltrans released a VMT-Focused Transportation Impact Study Guide (May 20, 2020) that recommends use of the Governor's Office of Planning and Research (OPR) recommendations for land use projects and plans. For transportation projects, Caltrans has suggested that any increase in VMT would constitute a significant impact for transportation projects. This has been referred to as the "Net Zero VMT threshold."

Senate Bill 375. As a means to achieve the Statewide emission reduction goals set by Assembly Bill 32 ("The California Global Warming Solutions Act of 2006"), Senate Bill (SB) 375 ("The Sustainable Communities and Climate Protection Act of 2008") directs the CARB to set regional targets for reducing GHG emissions from cars and light trucks. Using the template provided by the state's Regional Blueprint program to accomplish this goal, SB 375 seeks to align

8 LOS C is defined as: Driver speeds are near the free-flow speed, and maneuvering requires driver focus and care. Negative conditions regarding service quality will impact drivers, and any significant blockages or incidents are likely to cause queues.

9 LOS D is defined as: Density increases faster, and speed begins to decline. There is limited ability for drivers to maneuver, and drivers experience reduced comfort. Traffic is unable to absorb disruptions, and minor incidents will cause queueing.

transportation and land use planning to reduce VMT through modified land use patterns. There are five basic directives of the bill: (1) creation of regional targets for GHG emission reduction tied to land use, (2) a requirement that regional planning agencies create a sustainable communities strategy (SCS) to meet those targets (or an Alternative Planning Strategy if the strategies in the SCS would not reach the target set by CARB), (3) a requirement that regional transportation funding decisions be consistent with the SCS, (4) a requirement that the Regional Housing Needs Allocation numbers for municipal general plan housing element updates must conform to the SCS, and (5) California Environmental Quality Act (CEQA) exemptions and streamlining for projects that conform to the SCS. Plan Bay Area is the implementation mechanism for SB 375 that applies to land use in the city.

Senate Bill 743. Until July 1, 2020, roadway congestion or LOS was used as the primary metric for planning and environmental review purposes in the city. However, SB 743 required the OPR to establish a new metric for identifying and mitigating transportation impacts under CEQA in an effort to meet the State's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. SB 743 was signed into law in 2013 and fundamentally changed the way transportation impacts under CEQA are analyzed. It required the OPR to "prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the [CEQA] guidelines …establishing criteria for determining the significance of transportation impacts of projects" to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Public Resources Code (PRC) Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts pursuant to PRC Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA. OPR identified VMT as the required CEQA transportation metric for determining potentially significant environmental impacts.[10]

On December 28, 2018, the Natural Resources Agency adopted *State CEQA Guidelines* Section 15064.3, which establishes specific criteria for evaluating a project's transportation impacts and states that "vehicle miles traveled is the most appropriate measure of transportation impacts". It gives agencies the "discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure" provided that "[a]ny assumptions used to estimate vehicle miles traveled…should be documented and explained in the environmental document prepared for the project."

Section 15064.3 further states that, except for certain transportation projects, "a project's effect on automobile delay shall not constitute a significant environmental impact." See *Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 Cal. App. 5th 609, 626 (holding that a general plan's impact on LOS, which effectively measures automobile delay, can no longer

[10] Governor's Office of Planning and Research (OPR). 2016. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013)*. January 20.

constitute a significant environmental impact). OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA,* which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.[11] As of July 1, 2020, VMT (not LOS) is the only legally acceptable threshold for analyzing the transportation-related environmental impacts of land use projects pursuant to CEQA. The technical advisory memorandum recommends evaluating VMT impacts using an efficiency-based version of the metric, such as VMT per resident for residential developments or VMT per worker for office or other employment-based developments. Consistent with OPR's guidelines, the City uses the metric of home-work VMT per worker for evaluating the impacts of employment-based uses, such as the proposed project. The home-work VMT per worker measures all of the worker commute VMT by a motor vehicle on a typical weekday between homes and workplaces and divides that VMT by the number of workers. Based on the City's guidelines, the following significance threshold is applicable to the proposed project:

- An employment-generating project's VMT impact is considered less than significant if its home-work VMT per worker is at least 15 percent below the regionwide average home-work VMT per worker.

The VMT analysis performed for this EIR uses the latest version of the Alameda CTC Countywide Travel Demand Model (May 2019), as recommended by City guidelines, as the tool to estimate VMT for the proposed project. The Alameda CTC Model, which covers the entire nine-county Bay Area, is a regional travel demand model that uses socioeconomic data and roadway and transit network assumptions to forecast traffic volumes, transit ridership, and VMT. The Model is based on the Metropolitan Transportation Commission (MTC) Plan Bay Area 2040 (i.e., Sustainable Communities Strategy) transportation network and land use for 2020 and 2040. For these reasons, the Model was used to estimate home-work VMT per worker for the project and the entire nine-county Bay Area region under 2020 and 2040 conditions.

Regional Regulations. This section summarizes applicable regional regulations guiding transportation planning in the region.

Metropolitan Transportation Commission. The MTC is responsible for planning, coordinating, and financing transportation projects in the nine-county Bay Area. The local agencies that comprise these nine counties help the MTC prioritize projects based on need, feasibility, and conformance with federal and local transportation policies. In addition to coordinating with local agencies, the MTC distributes State and federal funding through the Regional Transportation Improvement Program.

Plan Bay Area. Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. This strategy integrates transportation, land use and housing to meet greenhouse gas reduction targets set by the CARB. Plan Bay Area meets the requirements for an SCS. In addition, the plan sets a roadmap for future

[11] OPR. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA.* December 18. Website: opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed March 2024).

transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

The MTC and the Association of Bay Area Governments adopted Plan Bay Area 2050 in October 2021. To meet the GHG reduction targets, the plan identifies four Growth Geographies where future growth in housing and jobs should be focused: priority development areas (PDAs), priority production areas, transit-rich areas (TRAs), and high-resource areas (HRAs). The agencies estimate that more than 80 percent of housing growth would take place within TRAs, nearly 30 percent would be within HRAs, and more than 60 percent of job growth would be within walking distance of high-quality transit between 2015 and 2050.[12] The project site is not within a Growth Geography.

Alameda County Congestion Management Program Land Use Analysis Program. The Alameda CTC as part of the Alameda County Congestion Management Program (CMP) Land Use Analysis Program, requires the assessment of development-driven impacts on the Metropolitan Transportation System (MTS) roadways. The Alameda CTC requires that projects that would generate more than 100 net new PM peak-hour trips over existing conditions use the Countywide Travel Demand Model to assess the impacts on nearby regional roadways.

Local Plans and Regulations. This section summarizes applicable local plans and regulations guiding transportation planning in the city.

City of Berkeley General Plan. The City adopted the Transportation Element of the Berkeley General Plan in December 2001. The applicable circulation goals, policies, and programs related to transportation impacts related to the construction of the project are included below.

Policy T-4 Transit-First Policy: Give priority to alternative transportation and transit over single-occupant vehicles on Transit Routes identified on the Transit Network map (General Plan Figure 7: Transit Map, page T-31).

Policy T-6 Transportation Service Fee: Ensure that new development does not impact existing transportation services and facilities. (*Also see Land Use Policy LU-28*).

Policy T-10 Trip Reduction: To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips, such as:

- Participation in a citywide Eco-Pass Program.
- Participation in the Commuter check Program.
- Carpooling and provision of carpool parking and other necessary facilities.

[12] Note: Growth projections do not sum to 100 percent because PDAs, TRAs, and HRAs are not mutually exclusive.

- Telecommuting programs.
- "Free bicycle" programs and electric bicycle programs.
- "Car-sharing" programs.
- Use of pedal-cab, bicycle delivery services, and other delivery services.
- Programs to encourage neighborhood-level initiatives to reduce traffic by encouraging residents to combine trips, carpool, telecommute, reduce the number of cars owned, shop locally, and use alternative modes.
- Programs to reward Berkeley citizens and neighborhoods that can document reduced car use.
- Limitations on the supply of long-term commuter parking and elimination of subsidies for commuter parking.
- No-fare shopper shuttles connecting all shopping districts through the city.

Policy T-14 Private Employers: Encourage private employers to reduce the demand for automobile travel through transportation demand management programs that include elements such as:

- Trip reduction incentives such as Commuter Check and Eco-Pass.
- Flexible work hours and telecommuting to reduce peak-hour commute congestion.
- Carpool and vanpool incentives to reduce single-occupancy vehicle use.
- Provision of mass transit pass/credit instead of free employee parking (parking "cash-out" programs).
- Providing bicycle facilities.
- Market pricing mechanisms for employee paring to reduce automotive use and discourage all-day parking.
- Local hiring policies.
- Numerical goals for trip reduction.

Policy T-18 Transportation Impact Analysis and Vehicle Miles Traveled: When considering transportation impacts under CEQA, the City shall consider how a plan or project affects all modes of transportation, including transit riders, bicyclists, pedestrians, and motorists to determine the transportation impacts of a plan or project. Plans and projects shall be designed to deliver significant benefits to travel by pedestrians, bicycle, or transit, and/or reduced impacts on air quality, greenhouse gas emissions, and safety. For the purposes of CEQA, Vehicle Miles Traveled (VMT) shall be the metric used to analyze the transportation impacts of a plan or project. (Reso. 69,618-NS (Exh. A), 2020).

Policy T-19 Air Quality Impacts: Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile. (*Also see Environmental Management Policies EM-18 through EM-22)*

Policy T-25 Street Maintenance: Maintain streets, sidewalks, and other public infrastructure to reduce long term replacement costs.

Policy T-26 City Streets: Do not widen local, collector, or major streets unless necessary to allow passage of emergency vehicles or remove parking from residential streets for the purpose of expanding automobile traffic lanes. (*Also see Disaster Preparedness and Safety Policy S-22).*

Policy T-29 Infrastructure Improvements: Facilitate mobility and the flow of traffic on major and collector streets, reduce the air quality impacts of congestion, improve pedestrian and bicycle access, and speed public transportation throughout the city by making improvements to the existing physical infrastructure.

Policy T-33 Disabled Parking and Passenger Zones: Ensure adequate disabled parking and passenger drop-off zones.

Policy T-42 Bicycle Planning: Integrate the consideration of bicycle travel into City planning activities and capital improvement projects, and coordinate with other agencies to improve bicycle facilities and access within and connecting Berkeley.

Policy T-43 Bicycle Network: Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists and provide bicycle-parking facilities to promote cycling.

Policy T-49 Disabled Access: Improve pedestrian access for the entire disabled community.

Policy T-50 Sidewalks: Maintain and improve sidewalks in residential and commercial pedestrian areas throughout Berkeley and in the vicinity of public transportation facilities so that they are safe, accessible, clean, attractive, and appropriately lighted.

Policy T-51 Pedestrian priority: When addressing competing demands for sidewalk space, the needs of the pedestrian shall be the highest priority.

Policy T-52 Pedestrian Safety and Accessibility: Provide safe and convenient pedestrian crossing through the city.

City of Berkeley Bike Plan. On May 2, 2017, the City approved the Berkeley Bicycle Plan 2017. The vision of the Bicycle Plan is to make Berkley a model bicycle-friendly city where bicycling is a safe, attractive, easy, and convenient form of transportation and recreation for people of all

ages and abilities. The Plan recommends a core network of "Low Stress" bikeways, a continuous and connected system of safe and comfortable bikeways that serve all types of people riding bicycles in the city. The core Low Stress network is part of a larger overall bikeway system in the city that is supported by wayfinding signage, bike parking, a high standard of maintenance, and education, encouragement, and outreach programs.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address transportation:

> COA: Nonresidential Electric Vehicle (EV) Charging (*prior to issuance of any building [construction] permit*). At least 10 percent of project parking spaces for nonresidential use shall have installed Level 2 (40 amp) electric vehicle (EV) charging stations and/or DC Fast Charging Stations, and least 40 percent shall be "EV Capable" equipped with raceway, electrical panel service capacity, and an electrical system to support future Level 2 (40 amp) EV charging stations, or any more stringent EV charging requirements, as specified by the Berkeley Green Code (Berkeley Municipal Code [BMC] Chapter 19.37). EV charging station installations and EV Capable spaces shall be noted on the construction plans. Public access parking spaces shall provide any applicable mandatory accessibility provisions. (A project is required to meet applicable code at time of building permit application, if different from above.)
>
> COA: Transportation Construction Plan (*prior to demolition or start of construction*). The applicant and all persons associated with the project are hereby notified that a Transportation Construction Plan (TCP) may be required, particularly for the following activities:
>
> a. Alterations, closures, or blockages to sidewalks, pedestrian paths or vehicle travel lanes (including bicycle lanes);
>
> b. Storage of building materials, equipment, dumpsters, debris anywhere in the public ROW;
>
> c. Provision of exclusive contractor parking on-street; or
>
> d. Significant truck activity.
>
> Please contact the Office of Transportation at (510) 981-7010, or 1947 Center Street, and ask to speak to a traffic engineer. In addition to other requirements of the Traffic Engineer, this plan shall include the locations of material and equipment storage, trailers, worker parking, a schedule of site operations that may block traffic, and provisions for traffic control. The TCP shall be stamped and signed by a registered engineer prior to submittal. The TCP shall be consistent with any other requirements of the construction phase. A current copy of this Plan shall always be available at the construction site for review by City Staff.

COA: Construction/No Parking Permits (*prior to demolition or start of construction*).Contact the Permit Service Center (PSC) at 1947 Center Street or 981-7500 for details on obtaining Construction/No Parking Permits (and associated signs and accompanying dashboard permits). Please note that the Zoning Officer and/or Traffic Engineer may limit off-site parking of construction-related vehicles if necessary to protect the health, safety or convenience of the surrounding neighborhood.

COA: Transportation Demand Management (*at all times*). A Transportation Demand Management compliance report shall be submitted to the Zoning Officer, on a form acceptable to the City, prior to occupancy, and on an annual basis for ten years thereafter, which demonstrates that the project complies with the applicable requirements. After three years of timely compliant submittals, staff has the option to accept less frequent submittals (minimum one every three years). Property owners may be required to pay administrative fees associated with compliance with this Condition, pursuant to BMC Section 23.334.040(B).

COA: Loading (*at all times*). All loading/unloading activities associated with deliveries to all uses shall be restricted to the hours of 7:00 a.m. to 10:00 p.m. daily.

COA: Required Bike Parking (*at all times*). Secure and on-site bike parking shall be provided for the life of the building.

4.4.2 Impacts and Mitigation Measures

The following describes the project's potential impacts on the transportation network. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the conceptual development project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.4.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to transportation if it would:

Threshold TRA-1: Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;

Threshold TRA-2: Conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b);

Threshold TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

Threshold TRA-4: Result in inadequate emergency access.

To apply the significance criteria listed above, the analysis in this section uses the following significance thresholds, which are based on federal, state, and local regulations.

Threshold TRA-1: Conflict with Applicable Plans, Ordinances, or Policies. The following thresholds are used to determine whether the proposed project would conflict with an applicable plan, ordinance, or policy, including the congestion management program.

Transit. Based on General Plan Policy T-4 and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to transit would be considered significant if the project would:

a. Disrupt existing transit services or facilities. This includes disruptions caused by project access points or staging areas near streets used by transit and transit stops/shelters; or

b. Interfere with planned transit services or facilities; or

c. Conflict or create inconsistencies with adopted transit system plans, guidelines, policies, or standards.

Roadway System. Per SB 743, transportation impacts related to vehicle delay or LOS are no longer considered significant environmental impacts. Based on General Plan T-18 and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance, or policy related to the roadway system would be considered significant if the project would exceed the applicable VMT threshold of significance (see Threshold 4.4.2).

Bicycle and Pedestrian Facilities. Based on General Plan Policies T-42, T-43, T-49, T-50, T-51, T-52, and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance, or policy related to bicycle and pedestrian facilities would be considered significant if the project would:

a. Disrupt existing or planned bicycle or pedestrian facilities (e.g., Berkeley Bike Plan); or

b. Create inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

Threshold TRA-2: Vehicle Miles Traveled. Based on thresholds adopted by the City, impacts related to VMT would be considered significant if the project would:

a. Generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker.

Threshold TRA-3: Hazards and Incompatible Uses. Based on CEQA Appendix G, impacts related to hazards would be considered significant if the project would:

a. Substantially increase hazards due to a geometric design feature; or
b. Result in an incompatible land use.

Threshold TRA-4: Emergency Access. Based on CEQA Appendix G, impacts related to emergency access would be considered significant if the project would:

a. Limit emergency vehicle access routes or roadway facilities; or
b. Create a project site that is inaccessible to emergency vehicles.

4.4.2.2 Project Impacts

This following describes the project's potential impacts to the transportation and circulation network in the study area according to the significance criteria described above. Impacts associated with the proposed project (i.e. zoning and General Plan/West Berkeley Plan amendments) are evaluated at a programmatic level, whereas the impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible given that specific details related to construction and excavation are not fully known at this time.

Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. (*Less than Significant*)

As discussed in more detail below, for CEQA purposes, future development facilitated by the proposed project, including the conceptual development project, would be required to comply with applicable plans, ordinances, and policies that address the circulation system. In addition, Section 4.1, Land Use and Planning, of this EIR evaluates the proposed project and the conceptual development project's consistency with applicable planning policies, including those that regulate transportation and the circulation system. As discussed in Section 4.1 (Impact LU-2), the proposed project and the conceptual development project would be consistent with applicable plans, ordinances, and policies that address the circulation system; therefore, impacts would be **less than significant**.

Transit. As previously discussed, transit service in the vicinity of the project site is provided by AC Transit, BART, and Amtrak. Based on the current proximity of various transit services to the project area, minimal transit ridership is expected, and most people are expected to arrive by automobile to the project site. Therefore, future development facilitated by the proposed project, including the conceptual development project, is not expected to generate a substantial number of new transit trips that would cause any transit route to require additional capacity. However, the TDM Plan required for the conceptual development project (*COA: Transportation Demand Management*) includes the provision of a shuttle service to connect the project site to BART and/or Amtrak, and coordination with AC Transit to potentially extend bus service closer to or through the project area. The proposed project and the conceptual development project would not include features that would disrupt existing or planned transit routes or facilities but would instead support AC Transit to potentially expand transit routes and facilities. The project site's driveways would not cause disruptions to existing or planned transit service or transit stops. Therefore, the proposed project and the conceptual development project would not conflict with any adopted transit system plans, guidelines, policies, or standards and impacts to transit facilities would be **less than significant**.

Roadway System. As part of the proposed project and the conceptual development project, it is expected that all sidewalks along the project frontages would be refinished and widened to meet City standards. No other changes to the roadway system are proposed at this time. As previously mentioned, no formal application for development on the project site has been submitted at this time. During the project review process, final circulation plans would be refined in coordination with the City and designed to meet City standards, including for the conceptual development project.

Pursuant to SB 743, transportation impacts related to vehicle delay or LOS are no longer considered significant environmental impacts. Therefore, conflicts with a program, plan, ordinance, or policy related to the roadway system would be considered significant if the project would exceed the applicable VMT threshold of significance. As discussed in further detail below, implementation of the required TDM Plan (*COA: Transportation Demand Management*) would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Therefore, with implementation of the proposed TDM Plan, the VMT generated by the proposed project and the conceptual development project would result in a **less than significant impact.**

The Alameda CTC, as part of the Alameda County CMP Land Use Analysis Program, requires the assessment of development-driven impacts on the MTS roadways. Since the conceptual development project would generate more than 100 net new PM peak-hour trips over existing conditions, the Alameda CTC requires the use of the Countywide Travel Demand Model to assess the impacts on nearby regional roadways.

The CMP analysis performed as part of the TIA used volume-to-capacity (V/C) ratios to assess the impact of vehicle volumes on roadway segments. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface streets, a per-lane capacity of 800 vph is used. Roadway segments with a V/C ratio greater than 1.00 signify LOS F. The Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. Consistent with other recent environmental documents, the CMP analysis used the following performance standards to determine if the Potential Berkeley Forge Development would result in a substantial effect1 on the CMP roadway segments:

- A segment operating at LOS E or better to deteriorate to LOS F, or
- A segment operating at LOS F to continue to operate at LOS F with an increase in the V/C ratio of 0.03 or more.

The results of the CMP analysis determined that buildout of the Potential Berkeley Forge Development would not result in a substantial effect on the analyzed CMP roadway segments because it would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the V/C ratio by 0.03 or more on segments that operate at LOS F under existing conditions.

Because project implementation would not result in a significant VMT impact or conflict with the Alameda County CMP Land Use Analysis Program, and would comply with all required City COAs, the

proposed project and the conceptual development project would not conflict with an applicable plan, ordinance, or policy governing the roadway system and impacts would be **less than significant**.

Bicycle and Pedestrian Facilities. Under existing conditions, the streets in the project vicinity have intermittent discontinuous sidewalks. The Gilman Street Interchange Project, currently under construction, will upgrade the sidewalks along both sides of Second Street, east side of Eastshore Highway, and north side of Page Street to provide continuous 10-foot sidewalks with curb and gutters. The Gilman Street Interchange Project will also provide marked crosswalks with directional curb ramps across the north, east, and south approaches of the Gilman Street/Second Street intersection.

Implementation of the proposed project and the conceptual development project would improve the streets within the project vicinity and provide sidewalks along the project frontages. Pedestrian sidewalks and pathways would be provided throughout the conceptual development project site and provide connections to existing pedestrian facilities in the project area.

The proposed project and the conceptual development project would be required to comply with City *COA: Required Bike Parking*. A summary of the development standards for the proposed M-RD zoning district are included in Tables 3.E and 3.F in Chapter 3.0, Project Description. As shown in Table 3.G, with a floor area ratio of 2.0, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would require approximately 591 bicycle parking spaces. All future development facilitated by the proposed project, including the conceptual development project, would be required to comply with City policies regarding bicycle parking and other infrastructure. With adherence to *COA: Required Bike Parking*, no inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards would occur, and potential impacts related to bicycle and pedestrian facilities would **less than significant**.

Impact TRA-1 Summary: Future development facilitated by the proposed project, including the conceptual development project, would be consistent with all programs, plans, ordinances, and policy addressing the circulation system, including those regulating transit, roadway, bicycle, and pedestrian facilities. Therefore, impacts would be **less than significant**.

Impact TRA-2: The proposed project, including the conceptual development project, would not result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). (*Less than Significant*)

Based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker of 18.1 in 2040, or 18.2 in 2040, which would require a home-worker VMT per worker of 15.4 in 2020 and 15.5 in 2040.

Table 4.4.C summarizes the VMT estimates for the proposed project, including the conceptual development project under 2020 and 2040 conditions as estimated by the Alameda CTC Model. Under both 2020 and 2040 conditions, the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1. The proposed project's TDM

Plan as required by *COA: Transportation Demand Management* and described below, would achieve a reduction in VMT between 6 and 10 percent.

Table 4.4.C Vehicle Miles Traveled Summary

Geographic Area	Home-Work VMT Per Worker (2020)	Home-Work VMT Per Worker (2040)
Bay Area Regionwide Average[1]	18.1	18.2
Bay Area Regionwide Average minus 15% (i.e., threshold of significance)	15.4	15.5
Project (TAZ 79)[1]	16.1	16.1
Below Threshold without TDM?	No	No
Project with TDM[2]	14.5 to 15.1	14.5 to 15.1
Below Threshold with TDM?	Yes	Yes

Source: Fehr & Peers (2022).
[1] Based on the results of the Alameda CTC Countywide Travel Demand Model.
[2] See Table 4.4.C for TDM Plan details and effectiveness.
TDM = Transportation Demand Management
VMT = vehicle miles traveled

Proposed Transportation Demand Management Plan. The proposed creation of a new zoning district would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the conceptual development project. The project sponsor for a future development project, including the conceptual development project, would be required to implement the proposed TDM Plan for the Gilman Gateway Rezone Project (Proposed TDM Plan) in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Based on the VMT analysis presented below, both the 2020 and 2040 home-work VMT per worker for the proposed project would be above the threshold of significance (i.e., 15 percent below the regionwide Bay Area average) by about 5 percent, without a TDM Plan. Accordingly, any future development, including the conceptual development project, would be required to implement the Proposed TDM Plan.

The potential effectiveness of the TDM measures for the proposed project was evaluated using the Alameda CTC VMT Reduction Calculator Tool, which is a tool that accounts for the particular location of a development project and quantifies the effects of various strategies in reducing VMT consistent with the research compiled in the *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers* prepared by the California Air Pollution Control Officers Association (CAPCOA).[13] The quantification methods provided in the CAPCOA report are based on an extensive literature review and are appropriate for use in this project-level analysis. Based on this assessment, the Proposed TDM Plan could reduce the project-generated VMT by between 6 and 10 percent.

[13] California Air Pollution Control Officers Association. 2021. *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers.* December.

Proposed TDM measures are described below and summarized in Table 4.4.D.

Table 4.4.D: Preliminary TDM Plan VMT Reduction Estimates

TDM Strategy	Description	Estimated VMT Reduction[1]
BART Shuttle	Provide peak commute period shuttle service to BART and Amtrak.	3%–6%
Bus Service Extension	Extend AC Transit bus service into the project area.	N/A[2]
Bicycle Amenities	Provide secure bicycle parking, showers and lockers, and repair station.	< 1%
Bike Share	Allow and facilitate installation of a potential bikeshare station in the project area.	
Carpool and Ride-Matching Assistance	Assist project area employees in forming carpools and provide preferential carpool parking spaces.	1%
Carshare Parking Spaces	Dedicate on-site carshare parking spaces.	< 1%
Transit fare Subsidy	Require tenants to provide transit subsidies.	1%–2%[3]
Pre-Tax Commuter Benefits	Require tenants to provide pre-tax commuter benefits.	
Marketing and Education	Active marketing and education of employees on various commuting options.	N/A[4]
	Total Estimated Vehicle Trip Generation Reduction	**6%–10%**

Source: Fehr & Peers (2024).

[1] Primarily based on the results on the Alameda CTC VMT Reduction Calculator Tool.

[2] Since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, effectiveness of this strategy cannot be quantified at this time.

[3] Assuming a transit subsidy of about $2.50 per day per employee (value to transit user and not necessarily the cost) available to all employees.

[4] The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that existing literature does not provide a robust methodology for calculation of its effectiveness. In addition, many of the strategies referenced in Table 4.4.E are complementary to each other and isolating their specific effectiveness may not be feasible.

AC Transit = Alameda-Contra Costa Transit District
Alameda CTC = Alameda County Transportation Commission
BART = Bay Area Rapid Transit
TDM Plan = Transportation Demand Management Plan
VMT = vehicle miles traveled

- **Shuttle Service:** Future development facilitated by the proposed project would be required to provide shuttle service between the project site, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m.). If feasible, the project would also coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley.

- **Extend or Provide New Bus Service:** If feasible, future development facilitated by the proposed project would be required to coordinate with AC Transit to either extend existing bus service or provide new bus service through or near the project area.

- **Bicycle Storage, Lockers, Showers, and Repair Station for Cyclists:** Future development facilitated by the proposed project would be required to provide bike lockers, showers, personal lockers, and a repair station on-site to encourage bicycling to the site.

- **Bikeshare Station:** Future development facilitated by the proposed project would be required to coordinate with the City and/or regional agencies to facilitate the potential installation of a bikeshare station in the project area.

- **Carpool/Ride-Matching Service:** Future development facilitated by the proposed project would be required to offer carpool/ride-matching services to pair employees interested in forming commute carpools.

- **Free Parking for Carshare:** Future development facilitated by the proposed project would be required to provide free parking to carshare companies.

- **Preferential Parking for Carpools:** Future development facilitated by the proposed project would be required to include free parking for carpoolers.

- **Transit Subsidy:** Future development facilitated by the proposed project would require tenants to provide full or partial transit subsidies to employers.

- **Pre-tax Commuter Benefits:** Future development facilitated by the proposed project would require tenants to provide pre-tax commuter benefits for employers.

- **Ongoing Marketing and Information:** Future development facilitated by the proposed project would be required to regularly provide tenants and employees information about various transportation options in the area and about the TDM strategies provided by the project. In addition, the project sponsor would be required to provide information on the Bay Area Commuter Benefits Program to all tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers much select one of four Commuter Benefit options to offer their employees: a pre-tax benefit an employer-provided subsidy, employer provided transit or an alternative commute benefit.

As shown in Table 4.4.D, implementation of the Proposed TDM Plan would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Future development of project site facilitated by the proposed project would be required to prepare and implement the Proposed TDM Plan with similar measures. Therefore, with implementation of the Proposed TDM Plan, future development facilitated by the proposed project, including the conceptual development project, would result in a **less than significant** impact associated with VMT rates.

Impact TRA-2 Summary: With implementation the Proposed TDM Plan, future development facilitated by the proposed project, including the conceptual development project, would not result in VMT impacts or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b). Impacts would be **less than significant**.

Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature. (*Less than Significant with Mitigation*)

For purposes of CEQA, transportation-related hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This analysis focuses on hazards that could reasonably stem from the project, beyond collisions that may result due to unsafe drivers or collisions that could not be prevented by design of the circulation system.

As previously discussed, the proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical changes to the site but would facilitate future development consistent with the buildout assumptions described in Chapter 3.0, Project Description of this EIR, including the conceptual development project. Implementation of *COA: Transportation Construction Plan* would minimize any potential impacts due to traffic hazards during construction to a less than significant level.

However, future project operations would potentially propose changes to the existing circulation system. If the circulation plans include proposed changes that would result in hazardous traffic conditions, project impacts would be **potentially significant**. Therefore, Mitigation Measure TRA-1, Circulation Plan shall be required.

Mitigation Measure TRA-1: **Circulation Plan.** Project-specific circulation plans shall be developed for individual development projects in coordination with the City. The Circulation Plans shall be designed to meet City standards in order to preclude hazards due to design features and allow for improved emergency vehicle access. The Circulation Plans shall include details pertaining, but not limited, to potential street modifications, identification of new facility location, ingress and egress for the project site as a whole and individual facilities like parking lots or loading docks, speed, turning movements, complex designs, substantial distance between street crossings, and sight lines. Prior to final project approvals, the project sponsor shall submit a final circulation plan for City approval.

Implementation of approved project-specific circulation plans would ensure that implementation of the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature. Therefore, impacts would be **less than significant with mitigation**.

Impact TRA-3 Summary: With implementation of Mitigation Measure TRA-1, which requires project-specific circulation plans be developed in coordination with the City, circulation modifications associated with future development facilitated by the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature or incompatible use. Impacts would be **less than significant with mitigation**.

Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access. (*Less than Significant with Mitigation*)

As previously discussed, the proposed zoning and General Plan and West Berkeley Plan amendments would not result in any physical changes to the site but would facilitate future development consistent with the buildout assumptions described in Chapter 3.0, Project Description of this EIR, including the conceptual development project. Implementation of *COA: Transportation Construction Plan* would minimize any potential impacts due to traffic hazards during construction to a less than significant level.

However, future projects, including the conceptual development project, would potentially propose circulation changes to the existing circulation system. The proposed changes could result in inadequate emergency access on the project site and project impacts would be **potentially significant**.

As discussed in Section 4.9, Hazards and Hazardous Materials, there are multiple emergency response and evacuation related plans that apply to the city, including the City's Emergency Operations Plan,[14] Local Hazard Mitigation Plan,[15] and the General Plan's Disaster Preparedness and Safety Element.[16] The proposed project, including the conceptual development project, would not obstruct designated emergency evacuation routes in the area of the project site, which include Gilman Street, Cedar Street, and Sixth Street,[17] and would not alter or interfere with any critical facilities identified in the LHMP. Refer to Section 4.9, Hazards and Hazardous Materials, for further discussion of potential impacts associated with impairing implementation or physically interfering with an adopted emergency response plan or emergency evacuation plan.

If proposed circulation changes would result in inadequate emergency access, Mitigation Measure TRA-1, as detailed above, shall be required. In addition, as part of the City's project approval process, the proposed project and the conceptual development project would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access.

As required in Mitigation Measure TRA-1, the conceptual development project and any additional development that would be facilitated by the proposed project would be required to implement the recommendations provided in the proposed circulation plan as refined as part of the future application submittal. Implementation of project-specific recommendations relating to emergency access would ensure that implementation of the proposed project and the conceptual development

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14 City of Berkeley. 2016. Emergency Operations Plan, Base Plan.

15 City of Berkeley. 2019. Local Hazard Mitigation Plan, Final. December 10.

16 City of Berkeley . 2001. Disaster Preparedness and Safety Element, April 23. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Disaster_Preparedness_and_Safety_Element.aspx (accessed November 3, 2021).

17 Ibid.

project would not result in inadequate emergency access and impacts to emergency vehicle access would be **less than significant with mitigation**.

Impact TRA-4 Summary: With implementation of Mitigation Measure TRA-1, which requires project-specific circulation plans be developed in coordination with the City, circulation modifications associated with future development facilitated by the proposed project, including the conceptual development project, would not result in inadequate emergency access, and impacts to emergency vehicle access would be **less than significant with mitigation**.

4.4.2.3 Cumulative Impacts

This section discusses potential cumulative impacts to the transportation and circulation network in the surrounding area, which includes projects listed in Table 4.A in Section 4.0, Setting, Impacts and Mitigation Measures of this Draft EIR. As discussed in this section, the proposed project, in combination with cumulative projects, would have **less than significant impacts** with respect to conflicts with applicable plans, VMT, hazards, and emergency access.

Conflicts with Applicable Plans, Ordinances, or Policies. Future development would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies that have been adopted to minimize impacts related to transportation and circulation. The City would implement the General Plan and West Berkeley Plan policies that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes. Therefore, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Vehicle Miles Traveled. Consistent with the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA, a project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." A project that falls below an efficiency-based threshold that aligns with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. With implementation of *COA: Transportation Demand Management*, the proposed project would generate less VMT compared to the existing countywide VMT and, therefore, would be below the City's efficiency-based threshold. For these reasons, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to VMT.

Hazards or Incompatible Uses. Overall, cumulative land use development and transportation projects would promote accessibility for people walking to and through the site by conforming to General Plan / West Berkley Plan policies and Zoning regulations, and by adhering to planning principles that emphasize providing convenient connections and safe routes for people walking, bicycling, driving, and taking transit. As with current practice, projects would be designed and reviewed in accordance with the City's Public Works Department requirements and the department would provide oversight engineering review to ensure that the project is constructed according to

City specifications. Additionally, the proposed project, including buildout of the conceptual development project, would be required to implement Mitigation Measure TRA-1, which requires coordination with the City to develop a project-specific circulation plan that would be designed to meet City standards to preclude hazards due to design features and allow for improved emergency vehicle access. Preparation of a circulation plan in coordination with the City would ensure that implementation of the proposed project, including the conceptual development project, would not substantially increase hazards due to a design feature or incompatible uses. As a result, the cumulative projects would not generate activities that would increase hazards due to a design feature or incompatible use. For these reasons, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to design features or incompatible uses.

Emergency Access. Future development as part of the City's project approval process would be required to comply with existing regulations, including General Plan and West Berkeley Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access. The City would implement the General Plan programs that require the City's continued coordination with the Berkeley Police Department and the Alameda County Fire Department to establish circulation standards, adopt an emergency response route map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Furthermore, the implementation of the zoning regulations would help to minimize traffic congestion that could impact emergency access. The proposed project, including the conceptual development project, would be required to implement Mitigation Measure TRA-1, which requires coordination with the City to develop a project-specific circulation plan that would be designed to meet City standards to preclude hazards due to design features and allow for improved emergency vehicle access. Preparation of a circulation plan in coordination with the City would ensure that implementation of the proposed project, including the conceptual development project, would not result in inadequate emergency access. For these reasons, the proposed project and the conceptual development project, in combination with cumulative projects, would have a **less than significant cumulative impact** with respect to emergency access.

Based on the information in this transportation section and for the reasons stated above, development of the proposed project and conceptual development project would not contribute to any significant adverse cumulative transportation impacts when considered together with other cumulative development and this impact would be **less than significant**.

4.4.3 Non-CEQA Analysis

4.4.3.1 Trip Generation

Although VMT (not LOS) is the only legally acceptable threshold for analyzing the transportation-related environmental impacts of land use projects pursuant to CEQA, the following LOS analysis has been provided as the City uses LOS to evaluate potential impacts to the roadway network as part of the Use Permit process. This analysis is provided in addition to the CEQA analysis discussed above.

The CMP analysis performed as part of the TIA used volume-to-capacity (V/C) ratios to assess the impact of vehicle volumes on roadway segments. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface

streets, a per-lane capacity of 800 vph is used. Roadway segments with a V/C ratio greater than 1.00 signify LOS F. The Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. Consistent with other recent environmental documents, the CMP analysis used the following performance standards to determine if the conceptual development project would result in a substantial effect on the CMP roadway segments:

- A segment operating at LOS E or better to deteriorate to LOS F, or
- A segment operating at LOS F to continue to operate at LOS F with an increase in the V/C ratio of 0.03 or more.

The results of the CMP analysis determined that buildout of the conceptual development project would not result in a substantial effect on the analyzed CMP roadway segments because it would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the V/C ratio by 0.03 or more on segments that operate at LOS F under existing conditions.

Trip generation rates were determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The ITE rate for R&D/Office Building was used to determine project trip generation, and are included for informational purposes only. Table 4.4.G summarizes the trip generation for the full buildout of the proposed project and Table 4.4.E presents the trip generation for the conceptual development project. As shown in Tables 4.4.E and 4.4.F below, the proposed project is estimated to generate about 9,980 daily, 918 AM, and 868 PM peak-hour automobile trips. It should be noted that this trip generation estimate is conservative in that it does not account for the existing trips generated by the current active or permitted uses at the project site that would be demolished as part of the proposed project, or the TDM Plan that would be implemented at the project site.

Table 4.4.E: Automobile Trip Generation for Gilman Gateway Rezone Project

Land Use	Size	Daily[1]	AM Peak-Hour			PM Peak-Hour		
			In	Out	Total	In	Out	Total
R&D/Office[2]	1,003.4 KSF	9,980	753	165	918	139	729	868

Source: Fehr & Peers (2024).
[1] Daily trip generation rounded to nearest 10.
[2] ITE Trip Generation Manual (11th Edition) land use category 760 (Research and Development Center) in general urban/suburban setting:
Daily: T = 9.70 * X + 247.71
AM Peak-Hour: T = 0.89 * X + 24.54 (82% in, 18% out)
PM Peak-Hour: T = 0.84 * X + 25.08 (16% in, 84% out)
KSF = 1,000 square feet
ITE = Institute of Transportation Engineers

Table 4.4.F: Automobile Trip Generation for Potential Berkeley Forge Project

Project Component	Size	Daily[1,2]	AM Peak-Hour[2]			PM Peak-Hour[2]		
			In	Out	Total	In	Out	Total
Berkeley Forge	890.0 KSF	8,860	669	146	815	123	647	770

Source: Fehr & Peers (2024).
[1] Daily trip generation rounded to nearest 10.
[2] The trip generation for each project component is estimated by proportioning the trip generation for the proposed project as presented in Table 4.4.C above, based on the size of each project component.
KSF = 1,000 square feet

4.4.3.2 Parking Assessment

Code Requirements. Chapter 23.322.030, Required Parking Spaces, of the BMC requires new development projects to provide off-street parking facilities in Manufacturing Districts. For manufacturing land uses in the Manufacturing District, 1 parking space per 1,000 square feet is required for spaces less than 10,000 square feet, and 1 parking space per 1,500 square feet for spaces 10,000 square feet or more. [18]

Parking Supply. The proposed project would create a new zoning district – M-RD – which would facilitate future development of up to 1,005,266 square feet of non-residential space, which would require approximately 1,300 off-street automobile parking spaces on the project site. In addition to the new zoning district, the proposed project includes the conceptual development project, which would result in up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses and up to 1,900 automobile parking spaces on an approximately 10.26-acre portion of the site.

Even though the conceptual development project would exceed the parking requirements in the BMC, the additional parking would not result in any secondary environmental impacts beyond those outlined in this Draft EIR. With implementation of Mitigation Measures and TRA-1 and 2, as well as the *COA: Transportation Demand Management*, the proposed project and the conceptual

[18] City of Berkeley. n.d. *Berkeley Municipal Code, Title 23 - Zoning, Title 23, Division 3 - Citywide Provisions, Chapter 23.322 Parking and Loading, Table 23.3222-4. Required Off-Street Parking in Manufacturing Districts*. https://berkeley.municipal.codes/BMC/23.322.030 (accessed March 30, 2023).

development project would result in a **less than significant** impact associated with secondary effects from parking implementation.

Accessible Parking Supply. The California Building Code requires accessible parking spaces to be provided when parking is provided for new buildings. Although no formal application for development on the project site has been submitted at this time, all accessible parking spaces would be on the ground level of the garages and located on the shortest accessible route to an accessible entrance. Therefore, the conceptual development project would be required to meet the accessible parking requirements in the California Building Code.

Electric Vehicle Parking Supply. The BMC (Section 19.37.040) requires non-residential developments to provide 20 percent of the total number of parking spaces provided with EV capable stations and 10 percent of the total number of parking spaces provided with EV charging stations, pursuant to *COA: Nonresidential Electric Vehicle*. Although no formal application for development on the project site has been submitted at this time, final design plans would be refined in coordination with the City and designed to meet City EV parking standards pursuant to City of Berkeley Municipal Code (Section 19.37.040) and *COA: Nonresidential Electric Vehicle*. Also refer to Section 4.6, Greenhouse Gas Emissions, which specifies more stringent standards for EV charging capabilities consistent with Air District requirements (refer to Mitigation Measure GHG-1).

Bicycle Parking Supply. A summary of the development standards for the proposed M-RD zoning district are included in Tables 3.E and 3.F in Chapter 3.0, Project Description. As shown in Table 3.G, with a floor-area ratio of 2.0, full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would require approximately 470 bicycle parking spaces. Although no formal application for development on the project site has been submitted at this time, the conceptual development project would be required to comply with the development standards for the M-RD zoning district, including providing an adequate number of bike parking spaces.

4.5 AIR QUALITY

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section uses the methodologies and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).[1] In keeping with these guidelines, this section describes existing air quality, impacts of the proposed project, and the conceptual development project, on local carbon monoxide (CO) levels, impacts of vehicular emissions that have regional effects, and exposure of sensitive receptors to toxic air contaminants (TACs). This section identifies mitigation measures to reduce or eliminate potentially significant air quality impacts, where appropriate. Air quality modeling data are included in Appendix F.

4.5.1 Setting

The following discussion provides an overview of existing air quality conditions in the region and in the city. It summarizes ambient air quality standards and the regulatory framework and describes climate, air quality conditions, and typical air pollutant types and sources.

4.5.1.1 Air Pollutants and Health Effects

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and lead are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern in the project area are O_3, CO, and suspended particulate matter. Significance thresholds established by an air district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants.

Because of the conservative nature of the significance thresholds, and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and

[1] Bay Area Air Quality Management District (BAAQMD). 2023. *California Environmental Quality Act, Air Quality Guidelines*. April 20.

regional air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_x) and reactive organic gases (ROG).

Further, by its very nature, air pollution is largely a cumulative impact. No single project normally is sufficient in size to by itself result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, the air districts have considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have greater susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions, than they do in commercial or industrial areas. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise. These populations are referred to as sensitive receptors.

Air pollutants and their health effects, and other air pollution-related considerations are summarized in Table 4.5.A and are described in more detail below.

Ozone. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_X. The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the San Francisco Bay Area (Bay Area), automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited – it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated

with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Table 4.5.A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	• Precursor sources:[1] motor vehicles, industrial emissions, and consumer products.	• Respiratory symptoms. • Worsening of lung disease leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter ($PM_{2.5}$)	• Cars and trucks (especially diesels). • Fireplaces, woodstoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease. • Asthma-related emergency room visits. • Increased symptoms, increased inhaler usage.
Particulate Matter Less than 10 Microns in Aerodynamic Diameter (PM_{10})	• Cars and trucks (especially diesels). • Fireplaces, woodstoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death and hospitalization, primarily for worsening of respiratory disease. • Reduced visibility and material soiling.
Nitrogen Oxides (NO_x)	• Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Lung irritation. • Enhanced allergic responses.
Carbon Monoxide (CO)	• Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Chest pain in patients with heart disease. • Headache. • Light-headedness. • Reduced mental alertness.
Sulfur Oxides (SO_X)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits.
Lead (Pb)	• Contaminated soil.	• Impaired mental functioning in children. • Learning disabilities in children. • Brain and kidney damage.
Toxic Air Contaminants (TACs)	• Cars and trucks (especially diesels). • Industrial sources, such as chrome platers. • Neighborhood businesses, such as dry cleaners and service stations. • Building materials and products.	• Cancer. • Reproductive and developmental effects. • Neurological effects.

Source: California Air Resources Board (2018).

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Particulate matter is categorized in two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulates, through tailpipe emissions as well as brake pad, tire wear, and entrained road dust. Wood burning in fireplaces and stoves, industrial processes, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the California Air Resources Board (CARB), studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children.[2] Statewide attainment of particulate matter standards could reduce premature deaths, hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide. NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde,

[2] California Air Resources Board (CARB). 2020a. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10})*. Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed January 2024).

and hydrogen sulfide. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the USEPA and the CARB. In 1998, the CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The CARB has completed a risk management process that identified potential cancer risks for a range of activities and land uses that are characterized by use of diesel fueled- engines.[3] High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

The BAAQMD regulates TACs using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.[4] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emission data from industrial and commercial sources of air pollution throughout the Bay Area. Monitoring data and emission inventories of TACs helps the BAAQMD determine health risk to Bay Area residents.

Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for a substantial portion of the ambient background risk in the Bay Area.[5] According to the BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of Phase 2 reformulated gasoline. Due to this reduction, the calculated average cancer risk based on monitoring results has also dropped.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources – primarily “off-road” sources such as construction and mining equipment, agricultural equipment, truck-mounted refrigeration units, and trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in urban parts of the Bay Area, while construction equipment typically operates for a limited

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3 California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Website: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf (accessed January 2024).

4 In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

5 BAAQMD. 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1.* May. Website: www.baaqmd.gov/research-and-data/air-toxics/annual-report (accessed January 2024).

time at various locations. As a result, the readily identifiable locations where diesel particulate matter is emitted in the Bay Area include high-traffic roadways and other areas with substantial truck traffic.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1 million) that is greater than all other measured TACs combined.[6] The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel – a step already implemented – and cleaner-burning diesel engines.[7] The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions.

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

4.5.1.2 National and State Ambient Air Quality Standards

Both the USEPA and the CARB have established ambient air quality standards for the following common pollutants: CO, O_3, NO_2, SO_2, lead, and suspended particulate matter (of both 10 and 2.5 microns in diameter). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. These ambient air quality standards are levels of contaminants that avoid specific adverse health effects associated with each pollutant.

Federal standards include both primary and secondary standards. Primary standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against

[6] BAAQMD. 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1.* May. Website: www.baaqmd.gov/research-and-data/air-toxics/annual-report (accessed January 2024).

[7] CARB. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf (accessed January 2024).

decreased visibility, and damage to animals, crops, vegetation, and buildings.[8] Table 4.5.B lists State and federal standards for the criteria air pollutants.

Table 4.5.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3) [8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10}) [9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$) [9]	24-Hour	–		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9.0 µg/m^3	12 µg/m^3	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2) [10]	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)	–	
Sulfur Dioxide (SO_2) [11]	1-Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m^3)	
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas) [11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) [11]	–	
Lead (Pb) [12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas) [12]	Same as Primary Standard	
	Rolling 3-Month Average [9]	–		0.15 µg/m^3		
Visibility-Reducing Particles [14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal		

8 United States Environmental Protection Agency. 2017. Criteria Air Pollutants. October. Website: https://www.epa.gov/criteria-air-pollutants (accessed January 2024).

Table 4.5.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography	Standards		
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: Ambient Air Quality Standards (California Air Resources Board 2024).
Table notes continued on the following page

Table 4.5.B Footnotes:

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the three-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the three-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

4.5.1.3 Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in the Berkeley area.

Regional and Local Air Quality. Berkeley is in the eastern part of the San Francisco Bay Area Air Basin (Air Basin), a large, shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist. One is through the strait known as the Golden Gate, a direct outlet to the Pacific Ocean. The second extends to the northeast, along the west delta region of the Sacramento and San Joaquin rivers.

Berkeley is within the jurisdiction of the BAAQMD, which regulates air quality in the Bay Area. Air quality conditions in the Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither State nor national ambient air quality standards of the following chemicals have been violated in recent decades: NO_2, SO_2, sulfates or lead. Those exceedances of air quality standards that do occur primarily happen during meteorological conditions conducive to high pollution levels such as cold, windless nights or hot, sunny summer afternoons.

Ozone levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the BAAQMD and other regional, State and federal agencies. The reduction of peak concentrations represents progress in improving public health outcomes; however, the Bay Area still exceeds the State standard for 1-hour ozone as well as the State and federal 8-hour standards. Levels of PM_{10} have exceeded State standards 2 of the last 3 years, and the area is considered a nonattainment area for this pollutant relative to the State standards. The Bay Area is an unclassified area for the federal PM_{10} standard.

Since 1991, none of the region's monitoring stations have recorded exceedances of the State or federal CO standards. The Bay Area is currently considered an attainment area for State and federal CO standards.

Local Climate and Air Quality. Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Two meteorological factors affect air quality in the city: wind and temperature. Winds affect the direction of transport of any air pollution emissions and wind also controls the volume of air into which pollution is mixed in a given period of time. Although winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

Air Quality Monitoring Results. Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and State air quality regulating agencies. The USEPA uses ambient air data collected at permanent monitoring stations to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary National Ambient Air Quality Standards (NAAQS). Attainment areas are required to maintain their status through air quality maintenance plans. The USEPA requires nonattainment areas to develop implementation plans outlining how areas will attain and maintain the standards by reducing emissions. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the State on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data. Table 4.5.C lists the Air Basin's attainment status for each criteria pollutant.

Table 4.5.C: San Francisco Bay Area Basin Attainment Status

Pollutant	Averaging Time	California Standards	Attainment Status	National Standards	Attainment Status
Ozone (O_3)	8-Hour	0.070 ppm	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm	Nonattainment	Not Applicable	Not Applicable
Carbon Monoxide (CO)	8-Hour	9.0 ppm	Attainment	9 ppm	Attainment
	1-Hour	20 ppm	Attainment	35 ppm	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm	Attainment	100 ppb	Unclassified/ Attainment
	Annual	0.030 ppm	Attainment	0.053 ppm	Unclassified
Sulfur Dioxide (SO_2)	24-Hour	0.04 ppm	Attainment	Not Applicable	Not Applicable
	1-Hour	0.25 ppm	Attainment	75 ppb	Unclassified/ Attainment
Particulate Matter (PM_{10})	Annual	20 µg/m^3	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual	12 µg/m^3	Nonattainment	9 µg/m^3	Unclassified/ Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3 [j]	Nonattainment

Table 4.5.C: San Francisco Bay Area Basin Attainment Status

Pollutant	Averaging Time	California Standards	Attainment Status	National Standards	Attainment Status
Lead (Pb)	30-Day Average	1.5 µg/m^3	Not Applicable	Not Applicable	Attainment
	Rolling 3-Month Average [n]	Not Applicable	Not Applicable	0.15 µg/m^3	Unclassified/ Attainment

Source: Bay Area Attainment Status (Bay Area Air Quality Management District 2023).
µg/m^3 = micrograms per cubic meter
ppb = parts per billion
ppm = parts per million

The CARB and the USEPA maintain ambient air quality monitoring stations throughout California. The air quality monitoring station closest to the project site is the 1 Bolivar Drive monitoring station in Berkeley, which monitors criteria air pollutant data.[9] The air quality trends from this station are used to represent the ambient air quality in the project area. Table 4.5.D shows ambient air quality in the project area from 2020 to 2022. The pollutants monitored were CO, O_3, $PM_{2.5}$, and NO_2.

Table 4.5.D: Ambient Air Quality at the 1 Bolivar Drive, Berkeley Monitoring Station

Pollutant	Standard	2020	2021	2022
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)		2.0	1.3	2.2[1]
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.8	1.0	1.8[1]
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)		0.058	0.049	0.054[1]
Number of days exceeded:	State: > 0.09 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.044	0.043	0.041[1]
Number of days exceeded:	State: > 0.07 ppm	0	0	0
	Federal: > 0.07 ppm	0	0	0
Coarse Particulates (PM_{10}) [2]				
Maximum 24-hour concentration (µg/m^3)		114.0	37.0	42.0
Number of days exceeded:	State: > 50 µg/m^3	1	0	0
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		20.7	18.7	20.8
Exceeded for the year:	State: > 20 µg/m^3	No	0	Yes
	Federal: > 50 µg/m^3	No	0	No
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hour concentration (µg/m^3)		158.2	23.0	33.8[1]

9 CARB gathers ambient air quality data for the State of California and ensures the quality of these data. CARB provides ambient air quality monitoring sites throughout California's counties and air basins.

Table 4.5.D: Ambient Air Quality at the 1 Bolivar Drive, Berkeley Monitoring Station

Pollutant	Standard	2020	2021	2022
Number of days exceeded:	Federal: > 35 µg/m^3	7	0	0
Annual arithmetic average concentration (µg/m^3)		11.8	ND	8.1[1]
Exceeded for the year:	State: > 12 µg/m^3	No	ND	0
	Federal: > 15 µg/m^3	No	ND	0
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)		0.047	0.049	0.058
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.013	ND	ND
Exceeded for the year:	Federal: > 0.053 ppm	No	ND	ND
Sulfur Dioxide (SO_2) [a]				
Maximum 1-hour concentration (ppm)		0.0154	0.0109	0.0080
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0.0025	0.0012	0.0012
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.0003	0.00003	0.0002
Exceeded for the year:	Federal: > 0.030 ppm	0	0	0

Source: California Air Resources Board and United States Environmental Protection Agency (2023).
[1] Data taken at the 1100 21st Street air quality monitoring station in Oakland.
[2] Data taken at the 1865 Rumrill Boulevard air quality monitoring station in San Pablo.
µg/m^3 = micrograms per cubic meter
ND = No data. There were insufficient (or no) data results to determine the value.
ppm = parts per million

The Berkeley station did not monitor air quality trends for $PM_{2.5}$, PM_{10}, SO_2, and CO in 2022; therefore, the air quality trends for these pollutants are derived from data from the 1100 21st Street air quality monitoring station in Oakland and 1865 Rumrill Boulevard air quality monitoring station in San Pablo.

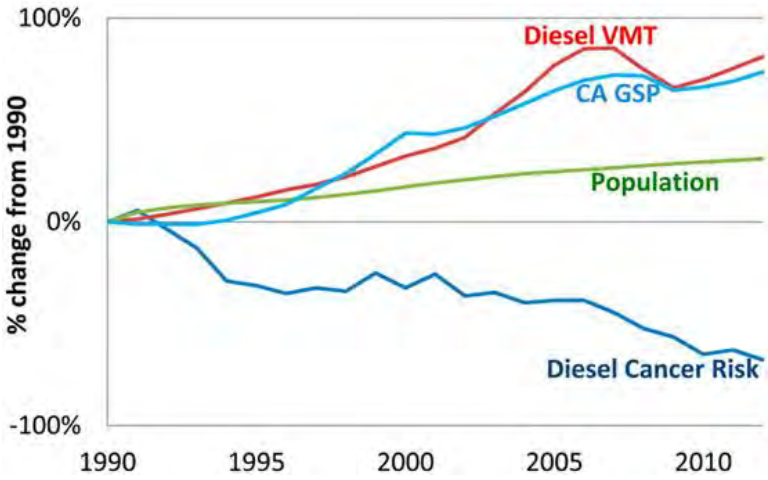
Pollutant monitoring results indicate that air quality in the project area has generally been good. As indicated in the monitoring results, the State PM_{10} standard was exceeded once in 2020 and was not exceeded in 2021 or 2022. The federal $PM_{2.5}$ standard was not exceeded between 2020 and 2022. The federal $PM_{2.5}$ standard was exceeded seven times in 2020 but was not exceeded in 2021 or 2022. The federal $PM_{2.5}$ standard was exceeded nine times in 2020. The O_3, CO, NO_2, and SO_2 standards were not exceeded in this area during the 3-year period.

Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.[10] Concentrations of diesel particulate matter, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in

[10] Propper, Ralph, et al. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. Website: https://pubmed.ncbi.nlm.nih.gov/26340590/ (accessed January 2024).

State population and an 81 percent increase in diesel vehicle miles traveled (VMT), as shown on Figure 4.4-1. The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxics controls are likely to continue.

Figure 4.5-1: California Population, Gross State Product (GSP), Diesel Cancer Risk, and Diesel Vehicle Miles Traveled (VMT) Regulatory Context



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper, Ralph, et al. 2015).

The USEPA and the CARB regulate direct emissions from motor vehicles. The BAAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

4.5.1.4 Regulatory Framework

The BAAQMD is primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as for monitoring ambient pollutant concentrations. BAAQMD's jurisdiction encompasses seven counties – Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa – and portions of Solano and Sonoma counties. The USEPA and the CARB regulate direct emissions from motor vehicles.

The applicable federal, State, regional, and local regulatory framework is discussed below.

Federal Regulations. At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA's air quality mandates are drawn primarily from the federal Clean Air Act (FCAA), discussed below.

> ***Federal Clean Air Act.*** The FCAA was enacted in 1963 and was amended in 1970, 1977, and 1990. The FCAA required the USEPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP).

The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emission inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The USEPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAA and determine if implementation will achieve air quality goals. If the USEPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area, which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions on transportation funding and stationary air pollution sources in the air basin.

The USEPA is also required to develop National Emission Standards for Hazardous Air Pollutants, which are defined as those that may reasonably be anticipated to result in increased deaths or serious illness, and that are not already regulated. An independent science advisory board reviews the health and exposure analyses conducted by the USEPA on suspected hazardous pollutants prior to regulatory development.

State Regulations. The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), as discussed below.

California Clean Air Act. The CCAA, adopted in 1988, requires that all air districts in the State achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources, and provides districts with the authority to regulate indirect sources.

The CARB is also primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The CARB is primarily responsible for state-wide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. The CARB combines these data and submits the completed SIP to the USEPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for mobile sources, consumer products, small utility engines, and off-road vehicles. The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel – a step already implemented – and cleaner-burning diesel engines.[11]

Because of the robust evidence relating proximity to roadways with a range of non-cancer and cancer health effects, the CARB also created guidance for avoiding air quality conflicts in land use

[11] CARB. 2000b. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October. Prepared by the Stationary Source Division and Mobile Source Control Division.

planning in its *Air Quality and Land Use Handbook: A Community Health Perspective*.[12] In its guidance, the CARB advises that new sensitive uses (e.g., residences, schools, day care centers, playgrounds, and hospitals) not be within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day, or within 1,000 feet of a distribution center (warehouse) that accommodates more than 100 trucks or more than 90 refrigerator trucks per day.

The CARB guidance suggests that the use of these guidelines be customized for individual land use decisions, and take into account the context of proposed development projects. The Air Quality and Land Use Handbook specifically states that these recommendations are advisory and acknowledges that land use agencies must balance them against other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

California Energy Code. Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, in Part 6 of Title 24 of the California Code of Regulations (CCR), known as the Energy Code. The CEC first adopted the Building Energy Efficiency Standards for Residential and Non-residential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The Energy Code is updated every 3 years, with the most recent update consisting of the 2022 Energy Code that became effective January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024. The efficiency standards apply to both new construction and rehabilitation of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Energy Code and the California Green Building Standards Code.

California Green Building Standards Code. In 2010, the California Building Standards Commission adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2022 CALGreen Code standards that became effective January 1, 2023. The CALGreen Code established mandatory measures for residential and nonresidential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and nonresidential buildings subject to the standard.

[12] California Environmental Protection Agency and California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April. Website: https://sfmohcd.org/sites/default/files/20%20-%20CARB%2C%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf (accessed January 2024).

Regional Regulations. The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan. The Clean Air Plan guides the region's air quality planning efforts to attain the CAAQS.[13] The BAAQMD 2017 Clean Air Plan, which the BAAQMD Board of Directors adopted on April 19, 2017, is the current Clean Air Plan, which contains district-wide control measures to reduce ozone precursor emissions (e.g., ROG and NO_X), particulate matter and greenhouse gas (GHG) emissions.

The Bay Area 2017 Clean Air Plan:

- Describes the BAAQMD plan to attain all State and federal air quality standards and eliminate health risk disparities from exposure to air pollution among Bay Area communities.
- Defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050.
- Provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve GHG reduction targets.
- Includes a wide range of control measures designed to decrease emissions of air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "Super-GHGs" that are potent climate pollutants in the near term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

BAAQMD CARE Program. The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that include an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TACs, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and

[13] BAAQMD. 2017. *Final 2017 Clean Air Plan*. April 19, 2017. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed January 2024).

a high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area.

For commercial and industrial sources, the BAAQMD regulates TACs using a risk-based approach. This approach uses an HRA to determine what sources and pollutants to control as well as the degree of control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.[14] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. The BAAQMD has identified seven impacted communities;[15] the City of Berkeley (City) has been identified as an affected community.[16]

BAAQMD CEQA Air Quality Guidelines. The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions.

In 2023, the BAAQMD published an updated version of the CEQA Guidelines.[17] The BAAQMD CEQA Guidelines include thresholds to evaluate project impacts to protectively evaluate the potential effects of the project on air quality. These protective thresholds are appropriate in the context of the size, scale, and location of the proposed project.

Local Plans and Regulations. The City plans and regulations related to air quality that would be applicable to the project are described below.

City of Berkeley General Plan. The following policies from the Environmental Management Element and Transportation Element of the City of Berkeley General Plan specifically address air quality.[18]

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14 In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

15 The seven impacted communities include Richmond/San Pablo; eastern San Francisco, including Treasure Island; San Jose; western Alameda County; Concord, Vallejo; and Pittsburg/Antioch.

16 BAAQMD. 2014. *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area Version 2*. March. Website: www.baaqmd.gov/~/media/Files/Planning% 20and%20Research/ CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx?la=en (accessed January 2024).

17 Bay Area Air Quality Management District (BAAQMD). 2023. *California Environmental Quality Act, Air Quality Guidelines*. April 20.

18 City of Berkeley. 2003. *City of Berkeley General Plan: A Guide for Public Decision-Making*. April.

Policy EM-18: Regional Air Quality Action. Continue working with the Bay Area Air Quality Management District and other regional agencies to:

- Improve air quality though pollution prevention methods.
- Ensure enforcement of air emission standards
- Reduce local and regional traffic (the single largest source of air pollution in the city) and promote public transit.
- Promote regional air quality pollution prevention plans for business and industry.
- Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves.
- Locate parking appropriately and provide adequate signage to reduce unnecessary "circling" and searching for parking.

Policy T-10: Trip Reduction. To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips.

Policy T-19: Air Quality Impacts. Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.

Policy T-29: Infrastructure Improvements. Facilitate mobility and the flow of traffic on major and collector streets, reduce the air quality impacts of congestion, improve pedestrian and bicycle access, and speed public transportation throughout the city by making improvements to the existing physical infrastructure.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address air quality.

<u>COA: Public Works – Implement Bay Area Air Quality Management District (BAAQMD)-Recommended Measures During Construction.</u> For all proposed projects, BAAQMD recommends implementing all the Basic Construction Mitigation Measures listed below to meet the best management practices threshold for fugitive dust:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

<u>COA: Air Quality – Diesel Particulate Matter Controls During Construction.</u> All off-road construction equipment used for projects with construction lasting more than 2 months shall comply with one of the following measures:

- The project applicant shall prepare a health risk assessment that demonstrates the project's on-site emissions of diesel particulate matter during construction will not exceed health risk screening criteria after a screening-level health risk assessment is conducted in accordance with current guidance from BAAQMD and OEHHA. The health risk assessment shall be submitted to the Land Use Planning Division for review and approval prior to the issuance of building permits; or
- All construction equipment shall be equipped with Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by the California Air Resources Board. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.
- In addition, a Construction Emission Minimization Plan (Emission Plan) shall be prepared that includes:
    - An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date.

- A Certification Statement that the Contractor agrees to comply fully with the Emission Plan and acknowledges that a significant violation of the Emission Plan shall constitute a material breach of contract. The Emission Plan shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.

4.5.2 Impacts and Mitigation Measures

This section provides an assessment of the potential impacts related to air quality that could result from implementation of the proposed project and the conceptual development project. The section begins with the significance criteria, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project, including the conceptual development project, and identifies mitigation measures, as appropriate.

4.5.2.1 Significance Criteria

Based on CEQA Appendix G, implementation of the proposed project, or the conceptual development project, would have a significant impact related to air quality if it would:

Threshold AIR-1: Conflict with or obstruct implementation of the San Francisco Bay Area Clean Air Plan by:

- Not supporting the primary goals of the plan by resulting in a significant unavoidable air quality impact;
- Failing to include applicable control measures from the plan; or
- Disrupting or hindering implementation of any applicable control measure outlined in the plan.

Threshold AIR-2: Result in a cumulatively considerable impact related to the net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

- According to the BAAQMD 2022 CEQA Guidelines, to meet air quality standards for criteria air pollutant and air precursor impacts, the proposed project must not:
  - Generate average daily construction emissions of ROGs, NO_X or $PM_{2.5}$ (exhaust) greater than 54 lbs/day or PM_{10} exhaust emissions greater than 82 lbs/day; or
  - Generate operational emissions of ROGs, NO_X or $PM_{2.5}$ of greater than 10 tons/yr or 54 lbs/day or PM_{10} emissions greater than 15 tons/yr or 82 lbs/day.
- Carbon Monoxide (CO) Hot Spot:

- Create a new or contribute to an existing CO hot spot (9.0 ppm [8-hour average], 20.0 ppm [1-hour average]);

Threshold AIR-3: Expose sensitive receptors to substantial pollutant concentrations as follows:

- Local Community Risk:
  - Be subject to but not comply with a qualified risk reduction plan;
  - Result in an excess cancer risk level of more than 10 in 1 million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 within a 1,000-foot radius; or
  - Result in an incremental increase of greater than 0.3 µg/m^3 annual average $PM_{2.5}$ within a 1,000-foot radius.
  - In combination with other projects within a 1,000-foot radius of the project site, would result in the exposure of sensitive receptors to TACs resulting in an increased cancer risk greater than 100 in 1 million, an increased non-cancer risk of greater than 10 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 µg/m^3 on an annual average basis.

Threshold AIR-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.5.2.2 Project Impacts

The following section discusses the potential air quality impacts associated with implementation of the proposed project and the conceptual development project according to the significance criteria described above. Potential impacts associated with the proposed project are evaluated at a programmatic level, whereas potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible.

Where potential impacts of the proposed project and the conceptual development project are different, the impact discussions and conclusions are presented in two parts: one for the proposed project and one for the conceptual development project. Impacts associated with operational emissions and impacts associated with sensitive receptors would result in different impact conclusions. All the impact discussions are followed by an Impact Summary, to summarize EIR findings.

Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan. (*Less than Significant*)

For the purposes of Impact AIR-1 discussion, the impacts associated with the proposed project and the conceptual development project are the same, and this section will refer to the proposed project only.

The applicable air quality plan is the BAAQMD's 2017 Bay Area Clean Air Plan (Clean Air Plan).[19] The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce GHG emissions to protect the climate. Consistency with the Clean Air Plan can be determined if a project (1) supports the goals of the Clean Air Plan, (2) includes applicable control measures from the Clean Air Plan, and (3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

The following evaluates the proposed project's consistency with each of these criteria and, as discussed below, concludes that the proposed project would not conflict with the Clean Air Plan goals or control measures and would not obstruct its implementation. Therefore, this impact would be less than significant.

Clean Air Plan Goals. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed in more detail in the analysis below, implementation of the proposed project would result in less than significant operation-period emissions and, with implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, the project would result in less than significant construction-period emissions. Therefore, the project would not conflict with the Clean Air Plan goals.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures, Waste Management Measures, Water Measures, and Super-GHG Pollutant Measures. The following discusses the proposed project's consistency with each of these strategies.

Stationary Source Control Measures. The Stationary Source Measures, which are designed to reduce emissions from stationary sources such as metal-melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by BAAQMD permit and inspection programs. Because the proposed project would

[19] BAAQMD. 2017. Final 2017 Clean Air Plan. April 19. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed January 2024).

not include any such stationary sources, the Stationary Source Measures of the Clean Air Plan do not apply to the project.

Transportation Control Measures. The BAAQMD identifies Transportation Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site; however, future development, including the conceptual development project, would be required to comply with the development standards of the newly created M-RD district that would require 470 bicycle parking spaces to be located on the site. In addition, as discussed in Section 4.4, Transportation, any future development project would be subject to the proposed Transportation Demand Management Plan for the Gilman Gateway Rezone Project to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART) and passenger rail services along the Union Pacific Railroad (UPRR) corridor is provided by Amtrak. These public transit services in the project area help to reduce the demand for travel by single--occupancy vehicles. Therefore, the project would promote BAAQMD initiatives to reduce vehicle trips and VMT and would increase the use of alternate means of transportation.

Energy Control Measures. The Clean Air Plan also includes Energy Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG intensive fuel sources for electricity generation. Because these measures apply to electrical utility providers and local government agencies (and not to individual projects), the Energy Control Measures of the Clean Air Plan are not directly applicable to the proposed project. However, future development facilitated under the proposed rezone and the conceptual development project would be required to comply with all federal, State, and local requirements for energy efficiency, including the latest California Energy Code and California Green Building Standards Code (CALGreen) standards. Therefore, the proposed project would comply with applicable Energy Measures.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best GHG control practices and policies. Therefore, the Building Control Measures of the Clean Air Plan are not applicable to the proposed project. However, the proposed project would comply with California Energy Code and CALGreen standards.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Because the proposed project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan do not apply to the project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands and encouraging local governments to adopt ordinances that promote urban tree plantings. Because the proposed project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the project.

Waste Management Control Measures. The Waste Management Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Because these measures apply to POTWs and local government agencies (and not individual projects), the Water Control Measures are not directly applicable to the proposed project.

Super GHG Control Measures. Super GHGs include GHGs with very high global-warming potential, such as methane, black carbon, and fluorinated gases. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Because these measures do not apply to individual projects, the Super-GHG Control Measures are not applicable to the proposed project.

Clean Air Plan Implementation. As discussed above, the proposed project would implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures. Therefore, the proposed project would not disrupt or hinder implementation of a control measure from the current Clean Air Plan and this impact would be **less than significant**.

The BAAQMD is currently designated as a nonattainment area for State and national O_3 (produced in the atmosphere through ROG and NO_X) standards and national particulate matter (PM_{10} and $PM_{2.5}$) ambient air quality standards. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

The following sections describe the construction- and operation-related air quality impacts associated with the proposed project.

Impact AIR-1 Summary: Implementation of the proposed project and the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan. Therefore, impacts would be **less than significant**.

Impact AIR -2: The impact discussion for Threshold AIR-2 is presented in 3 discussion subtopics:

- **Impact AIR-2a**: Fugitive dust emissions for both the proposed project and the conceptual development project
- **Impact AIR-2b**: Operational ROG emissions
  - AIR-2.b.1 for the proposed project
  - AIR-2.b.2 for the conceptual development project
- **Impact AIR-2c**: Operational localized CO concentrations for both the proposed project and the conceptual development project

Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}). (*Less than Significant with Mitigation*)

Construction Emissions. During construction, of future projects, including the conceptual development project, short-term degradation of air quality may occur due to the release of particulate emissions generated by demolition, grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_X, VOCs, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Project construction activities would include demolition, site preparation, grading, building, paving, and architectural coating (painting). Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase for each area due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, whereas fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emissions reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust

emissions (PM_{10}). BAAQMD's CEQA Guidelines provide that implementation of these Basic Best Management Practices will result in a less-than-significant criteria air pollutant impact related to construction-related fugitive dust emissions. The City has established *COA: Public Works - Implement BAAQMD-Recommended Measures During Construction*, which requires the implementation of the BAAQMD's Basic Best Management Practices.

In addition to dust related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

The proposed creation of the M-RD zoning district would not result in any physical development on the project site but would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. Additionally, as previously discussed, although no formal application for development on the project site has been submitted at this time, this EIR evaluates the reasonably foreseeable conceptual development project.

Construction emissions were estimated for both the future buildout envisioned under the proposed project and the conceptual development project, using the California Emissions Estimator Model version 2022.1 (CalEEMod), consistent with BAAQMD recommendations.

Potential buildout under the Proposed Project. As discussed above, the proposed project would rezone the project site to the newly created M-RD zoning district and adopt amendments to the General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to the project site, but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory, or office uses, which would involve demolition of site structures and new construction. Therefore, the CalEEMod modeling conducted for buildout under the proposed project assumes the construction of up to 1,005,266 square feet of R&D uses and up to three parking spaces per 1,000 square feet of building area (approximately 3,016 parking spaces).[20] Additionally, buildout under the proposed project would include the demolition of 320,070 square feet of building area. An additional 10 percent (approximately 32,000 square feet) of demolition square footage was included to account for the demolition of the asphalt lots on the site.

This analysis assumes, and CalEEMod modeled, that construction activities associated with buildout under the proposed project would require the import of approximately 150,000 cubic yards of material, including imported soil and fill. Construction activities associated with the proposed project are anticipated to begin in 2025 and continue over approximately 7 years; this timing was included in the CalEEMod modeling.

[20] The air quality analysis assumed three parking spaces per 1,000 square feet of building area to provide a conservative estimate.

This analysis uses default construction equipment in CalEEMod with the addition of pile driving equipment as pile driving is expected. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.5.E. CalEEMod output sheets are included in Appendix F.

Table 4.5.E: Buildout Under the Gilman Gateway Rezone Project Construction Emissions

Project Construction	Average Daily Pollutant Emissions (pounds per day)					
	ROG	NO_X	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
2025	0.5	13.6	0.2	3.4	0.2	1.4
2026	1.7	18.3	0.2	5.9	0.2	1.8
2027	2.1	16.7	0.2	6.7	0.2	1.8
2028	2.1	16.4	0.2	6.7	0.2	1.8
2029	1.9	15.9	0.2	6.7	0.1	1.8
2030	1.9	15.6	0.1	6.7	0.1	1.8
2031	1.8	15.2	0.1	6.7	0.1	1.8
2032	27.6	3.8	<0.1	0.9	<0.1	0.3
2033	1.2	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Average Daily Emissions	**27.6**	**18.3**	**0.2**	**6.7**	**0.2**	**1.8**
BAAQMD Thresholds	54.0	54.0	82.0	BMPs	54.0	BMPs
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024)
BAAQMD = Bay Area Air Quality Management District
BMPs = best management practices
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

As shown in Table 4.5.E, estimated construction ROG, NO_x, and $PM_{2.5}$ and PM_{10} exhaust emissions would be below the BAAQMD's thresholds. As identified above in the Regulatory Section, BAAQMD's BMPs are required to ensure construction $PM_{2.5}$ and PM_{10} fugitive dust impacts would be less than significant. Therefore, the analysis above assumes that BAAQMD BMPs would be implemented. In addition to the BAAQMD regulations, the City requires the implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, which are consistent with BAAQMD requirements for fugitive dust impacts. The City also requires the implementation of *COA: Air Quality – Diesel Particulate Matter Controls During Construction* to require cleaner construction equipment for projects with construction lasting more than 2 months. Impacts related to fugitive dust emissions from implementation of the proposed project would be **less than significant**.

Potential buildout under the Conceptual Development Project. The conceptual development project would construct up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, a 1,900-space parking lot, and would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site, which was included in CalEEMod. Additionally, the conceptual development project would require approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of material, including imported soil and fill, which was also included in CalEEMod. Construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2027–2034. Therefore, CalEEMod assumes that construction would begin in 2025 and would take place over a 7-year period. This analysis uses default construction equipment in CalEEMod with the addition of pile driving equipment. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.5.F. CalEEMod output sheets are included in Appendix F.

Table 4.5.F: Potential Berkeley Forge Development Construction Emissions

Project Construction	Average Daily Pollutant Emissions (pounds per day)					
	ROG	NO_X	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
2025	0.5	7.2	0.1	3.7	0.1	1.3
2026	1.5	9.0	0.1	4.9	0.1	1.2
2027	1.5	8.6	0.1	4.9	0.1	1.2
2028	1.5	8.4	0.1	5.0	0.1	1.2
2029	1.4	8.0	0.1	4.9	0.1	1.2
2030	1.4	7.8	0.1	4.9	0.1	1.2
2031	24.0	3.1	<0.1	1.9	<0.1	0.5
2032	1.8	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Average Daily Emissions	**24.0**	**9.0**	**0.1**	**5.0**	**0.1**	**1.3**
BAAQMD Thresholds	54.0	54.0	82.0	BMPs	54.0	BMPs
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024)
BAAQMD = Bay Area Air Quality Management District
BMPs = best management practices
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

As shown in Table 4.5.F, construction ROG, NO_x, and $PM_{2.5}$ and PM_{10} exhaust emissions would be below the BAAQMD's thresholds. As identified above in the Regulatory Section, BAAQMD's BMPs are required to ensure construction $PM_{2.5}$ and PM_{10} fugitive dust impacts would be less than significant. Therefore, the analysis above assumes that BAAQMD BMPs would be implemented. In addition to the BAAQMD regulations, the City requires the

implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, which are consistent with BAAQMD requirements for fugitive dust impacts. The City also requires the implementation of *COA: Air Quality – Diesel Particulate Matter Controls During Construction* to require cleaner construction equipment for projects with construction lasting more than 2 months. Impacts related to fugitive dust emissions from conceptual development project implementation would be **less than significant**.

In addition, the BAAQMD strongly encourages projects near schools, residential areas, or other sensitive land uses to implement enhanced best management practices to control fugitive dust emissions. The proposed project assumes that the building at 1306 Third Street, which is a residential use, would be demolished. Accordingly, the nearest sensitive receptors to the proposed project would include the Duck's Nest Preschool, located 410 feet east of the project site along Fourth Street, and residential uses, located approximately 500 feet east of the project site along Fifth Street.

Under the conceptual development project, the building at 1306 Third Street would be retained and occupied during construction and operation. Accordingly, the nearest sensitive receptors to the conceptual development project would also include the residents and workers in 1306 Third Street, which is approximately 5 feet east of the conceptual development project site, has residential uses.

Because the closest sensitive receptors are within 500 feet of the project site, for both the proposed project and the conceptual development project, Mitigation Measure AIR-1 which includes the BAAQMD's enhanced best management practices to control fugitive dust emissions is required. These measures apply to all future development under the proposed project, including the conceptual development project, and shall be implemented during construction.

Mitigation Measure AIR-1

BAAQMD Enhanced Best Management Practices for Future Development Projects Located within 500 Feet of Sensitive Receptors. Consistent with BAAQMD recommendations, the following controls are required to be included as specifications for future development projects and implemented at the construction site:

- Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
- Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimize the amount of excavated material or waste materials stored at the site.
- Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

The proposed project and the conceptual development project would be required to comply with *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction, consistent with BAAQMD requirements for fugitive dust impacts* and COA: *Air Quality – Diesel Particulate Matter Controls During Construction to require cleaner construction equipment;* and implement Mitigation Measure AIR-1. The BAAQMD's Basic Best Management Practices for Construction-Related Fugitive Dust Emissions and Enhanced Best Management Practices would be implemented during the construction period and as required by COA: Air Quality – Diesel Particulate Matter Controls During Construction, construction equipment would be equipped with Tier 4 (or Tier 2 or higher engines with the most effective VDECS available) engines. This measure would reduce fugitive dust emissions for sensitive receptors located within 500 feet of a construction site. Therefore, construction associated with buildout of the proposed project and the conceptual development project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard, and impacts would be **less than significant with mitigation.**

Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard. (*Less than Significant with Mitigation*).

Long-term air pollutant emission impacts that would result from future buildout envisioned under the proposed project are those that are associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generators). Mobile source emissions include ROG and NO_X emissions, which contribute to the formation of ozone. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Energy source emissions would typically result from activities in buildings for which natural gas is used.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings, consumer products, and the use of landscape maintenance equipment. Stationary source emissions are associated with the use of diesel emergency generators.

As discussed above, the proposed creation of the M-RD zoning district would not result in any physical development on the project site, but would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. Operational emissions estimated for the potential future buildout envisioned under the proposed project are discussed below.

Emission estimates for operation of development envisioned under the proposed project were calculated using CalEEMod, assuming 1,005,266 square feet of R&D uses as identified in Table 3.G in Chapter 3.0, Project Description. Trip generation rates used in CalEEMod for the project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). It is not yet known whether future buildout under the proposed project would include natural gas; therefore, this analysis conservatively uses default assumptions for natural gas usage. In addition, up to seven generators could be located on the conceptual development project site ranging from 200 to 500 kilowatts (670 horsepower); therefore, this analysis conservatively assumes up to 10 generators for buildout under the proposed project that would run up to 50 hours annually. Where project-specific data were not available, default assumptions (e.g., electricity usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily and annual emissions associated with project operational trip generation, energy, area, and stationary sources are identified in Table 4.5.G for ROG, NOX, PM10, and PM2.5. CalEEMod output sheets are included in Appendix F.

Table 4.5.G: Unmitigated Buildout Under the Gilman Gateway Rezone Project Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Mobile Source Emissions	24.8	22.6	68.9	17.7
Area Source Emissions	32.2	0.4	0.1	0.1
Energy Source Emissions	0.4	6.4	0.5	0.5
Stationary Source Emissions	1.5	4.2	0.2	0.2
Total Emissions	**58.8**	**33.7**	**69.7**	**18.5**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**Yes**	**No**	**No**	**No**
Tons Per Year				
Mobile Source Emissions	4.5	4.1	12.6	3.2
Area Source Emissions	5.9	0.1	<0.1	<0.1
Energy Source Emissions	0.1	1.2	<0.1	<0.1
Stationary Source Emissions	0.3	0.8	0.1	0.1
Total Emissions	**10.7**	**6.1**	**12.7**	**3.4**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

The results shown in Table 4.5.G indicate that operation of future development envisioned under the proposed project would not exceed the significance criteria for NOX, PM10 or PM2.5 emissions. However, operation of future development would exceed the significance criteria for ROG. Mitigation Measure AIR-2 would require all architectural coatings to be limited to 50 grams per liter or less of VOCs to reduce ROG emission levels to below the established threshold. This measure shall apply to all future development under the proposed rezone, including the conceptual development project.

Mitigation Measure AIR-2 **Architectural Coatings.** To address the impact related to reactive organic gas (ROG) emissions, all interior and exterior paints and other architectural coatings shall be limited to 50 grams per liter or less of volatile organic compounds (VOCs). The project sponsor's construction contractor shall procure architectural coatings from a supplier in compliance with the requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings).

Tables 4.5.H identifies the results of the analysis with implementation of Mitigation Measure AIR-2.

Table 4.5.H: Mitigated Buildout under the Gilman Gateway Rezone Project Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Mobile Source Emissions	24.8	22.6	68.9	17.7
Area Source Emissions	22.8	0.3	0.1	<0.1
Energy Source Emissions	0.4	6.4	0.5	0.5
Stationary Source Emissions	1.5	4.2	0.2	0.2
Total Emissions	**49.4**	**33.5**	**69.7**	**18.4**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Mobile Source Emissions	4.5	4.1	12.6	3.2
Area Source Emissions	4.2	0.1	<0.1	<0.1
Energy Source Emissions	0.1	1.2	<0.1	<0.1
Stationary Source Emissions	0.3	0.8	0.1	0.1
Total Emissions	**9.0**	**6.2**	**12.7**	**3.4**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

As shown in Tables 4.5.H, with implementation of Mitigation Measure AIR-2, operation of buildout envisioned under the proposed project would not result in a cumulatively considerable net increase

of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standards, and impacts would be **less than significant with mitigation**.

Health Effect. Although the emissions from project operations are not expected to exceed the BAAQMD's numeric regional mass daily emission thresholds, this does not in itself constitute a less than significant health impact within the Air Basin.

The BAAQMD's project level thresholds are based in part on Section 180(e) of the CCAA. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.

Lead agencies must describe the rationale behind the thresholds of significance for evaluating criteria air pollutant and ozone precursor emissions. The City relies on the BAAQMD's thresholds, which are justified in Appendix A, Thresholds of Significance Justification in the BAAQMD CEQA Air Quality Guidelines.[21] The project-level mass emission thresholds are developed in consideration of long-term air quality planning in the Air Basin and are designed to capture excess emissions that would inhibit attainment of the NAAQS and CAAQS for various pollutants. Projects that exceed these mass emission thresholds, whether before mitigation or following application of mitigation measures, may contribute emissions that would degrade the ambient air quality of the Air Basin and expose receptors to concentrations of criteria air pollutants found by the USEPA and the CARB to be hazardous to human health. CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects.

As described above, ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. Air pollutants and their health effects are summarized in Table 4.5.A.

Various modeling tools are available to estimate project-level emissions (e.g., CalEEMod). Additionally, the EMission FACtors (EMFAC) model that was developed by CARB generates emission estimates from transportation sources using factors that account for various state and federal regulations that affect gasoline and diesel fuel consumption, as well as the deployment of electric vehicles throughout the State. However, these models do not predict the locations of exceedances of the NAAQS or CAAQS from one project's emissions alone.

Photochemical grid-based models simulate the chemical interactions and three-dimensional dispersion patterns on a regional, state-wide, and national scale. These models are complex and require significant expertise, knowledge, and resources as they build on other third-party models and processing tools that characterize meteorology, emissions, and other

[21] BAAQMD. 2023. *Air Quality Guidelines Appendix A: Thresholds of Significance Justification*. April 20. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9&sc_lang=en (accessed March 2024).

environmental conditions, such as land cover, radiative properties, and boundary conditions. Use of these models is typically beyond the resources available for air quality analysis prepared pursuant to the CEQA, and even if such an analysis were to be completed, consideration would need be given to ensure the results would be meaningful based on modeling and data limitations.

The Environmental Benefits Mapping and Analysis Program (BenMAP) is an open-source computer program that calculates the number and economic value of air pollution–related death and illnesses. BenMAP relies on national data such as age, health, and economic conditions, to characterize and map health impacts associated with air pollution exposure. The data applicability of using this model was considered and it was determined that based on the relatively low emissions associated with implementation of the project, the model would not provide results that would be meaningful based on modeling and data limitations that would be appropriate for an air quality analysis prepared pursuant to CEQA.

As explained above, with implementation of Mitigation Measure AIR-2, buildout envisioned under the proposed project would not exceed the significance criteria for ROG, NO_x, PM_{10} or $PM_{2.5}$ emissions. The increase in emissions associated with the proposed project would be a small fraction of the Air Basin's emissions.

Therefore, the emissions associated with implementation of the proposed project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for ozone or PM_{10}. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NOX, ROG, and ozone (which, as explained above, is a byproduct of NOX and ROG) have been trending downward within the Air Basin even as development has increased over the last several years. Therefore, implementation of the proposed project is not expected to result in any Air Basin wide increase in health effects. Therefore, impacts are considered **less than significant.**

Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD. (*Less than Significant*)

No formal application for the conceptual development project has been submitted to the City at this time; however, the City anticipates the submittal of a formal application. Therefore, the conceptual development project is reasonably foreseeable project and evaluated herein.

Emission estimates for operation of the conceptual development project were calculated using CalEEMod, assuming 900,000 square feet of R&D uses. Trip generation rates used in CalEEMod for the project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). Based on communication received from the proponent of the conceptual development project, the City anticipates that future buildout would be all electric. Therefore, the conceptual development project would not increase the demand for

natural gas; this assumption was included in CalEEMod calculations. In addition, up to seven generators could be located on the proposed project site ranging from 200 to 500 kilowatts. Therefore, this analysis conservatively assumes that there would be seven 500-kilowatt diesel generators that would run up to 50 hours annually. Where project-specific data were not available, default assumptions (e.g., electricity usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily and annual emissions associated with project operational trip generation, energy, area, and stationary sources are identified in Table 4.5.I for ROG, NO_X, PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix F.

Table 4.5.I: Unmitigated Potential Berkeley Forge Development Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Mobile Source Emissions	22.8	21.0	61.7	15.9
Area Source Emissions	27.7	0.3	0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0
Stationary Source Emissions	1.1	2.9	0.2	0.2
Total Emissions	**51.5**	**24.3**	**61.9**	**16.1**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Mobile Source Emissions	4.2	3.8	11.3	2.9
Area Source Emissions	5.1	0.1	<0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0
Stationary Source Emissions	0.2	0.5	<0.1	<0.1
Total Emissions	**9.4**	**4.4**	**11.3**	**2.9**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2024).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases

The results shown in Table 4.5.I indicate that operation of the conceptual development project would not exceed the significance criteria for ROG, NO_X, PM_{10} or $PM_{2.5}$ emissions and conceptual development project impacts would be **less than significant**.

Health Effects. As explained above, the conceptual development project is below BAAQMD significance criteria without mitigation. The increase in emissions associated with the conceptual development project would be a small fraction of the Air Basin's emissions. Therefore, the emissions associated with implementation of the conceptual development project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for

ozone or PM10. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NOX, ROG, and ozone (which, as explained above, is a byproduct of NOX and ROG) have been trending downward within the Air Basin even as development has increased over the last several years. Therefore, implementation of the conceptual development project is not expected to result in any Air Basin wide increase in health effects. Therefore, impacts are considered **less than significant.**

Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards. (*Less than Significant*)

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. BAAQMD CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed development projects.

A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine the project's impacts. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

Future development envisioned under the proposed project, including the conceptual development project, would not conflict with standards established by the Alameda County Transportation Commission for designated roads and highways, a regional transportation plan, or other agency plans. The project site is not in an area where vertical or horizontal mixing of air is substantially limited. Some study area intersections would result in increased levels of service due to intersection delay. However, trip generation for all future development on the site that would be allowed under the proposed zoning and General Plan/West Berkeley Plan amendments

would be 918 AM peak-hour trips and 868 PM peak-hour trips (refer to Table 4.4.D in Section 4.4, Transportation, for additional discussion); therefore, the project's contribution to peak -hour traffic volumes at intersections in the vicinity of the project site would not increase traffic volumes to more than 44,000 vehicles per hour. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards, and this impact would be **less than significant**.

Impact AIR-2 Summary: Implementation of the proposed project and the conceptual development project would require the implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, consistent with BAAQMD requirements for fugitive dust impacts, and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* to require cleaner construction equipment for projects with construction lasting more than 2 months. In addition, because the closest sensitive receptors are within 500 feet of the project site, including the conceptual development project, Mitigation Measure AIR-1, which includes the BAAQMD's enhanced best management practices to control fugitive dust emissions, shall be required. With implementation of the City-required COAs and MM AIR-1, proposed project and conceptual impacts would be **less than significant with mitigation**. (Impact AIR-2a)

Construction associated with future development of the project site facilitated by the proposed project, including the conceptual development project, could result in a cumulatively considerable net increase of fugitive dust emissions; however, implementation of Mitigation Measure AIR-1 and compliance with *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would ensure potential construction impacts would be reduced to **less than significant with mitigation**. (Impact AIR-2a)

Operation of future development of the project site with full buildout under the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD; however, implementation of Mitigation Measure AIR-2 would ensure potential operational impacts would be reduced to **less than significant with mitigation**. (Impact AIR-2b-1)

Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD and impacts would be **less than significant**. (Impact AIR-2b-2)

In addition, implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards, and impacts associated with localized CO concentrations would be **less than significant.** (Impact AIR-2c)

Impact AIR-3: The impact discussion for Threshold AIR-3, exposure of sensitive receptors to substantial pollutant concentrations, is presented in three discussion subtopics:

- **Impact AIR-3a**: Construction impacts,
    - **Impact AIR-3a.1** for the proposed project
    - **Impact AIR-3a.2** for the conceptual development project

- **Impact AIR-3b**: TAC health risk exposure due to operation for both the proposed project and the conceptual development project
- **Impact AIR-3c**: Operational localized CO Concentrations both the proposed project and the conceptual development project

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter include children, whose lung tissue is still developing, and the elderly, who may have serious health problems that exposure to diesel particulate matter can aggravate. The closest sensitive receptors to the project site are Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. For the proposed project, it is assumed that the 1306 Third Street parcel, a non-conforming residential use, would be demolished and thus would not represent a sensitive receptor. In addition to residential, school and medical uses, sensitive receptors for the purposes of the Health Risk Assessment, include onsite workers. Therefore, onsite workers at 1306 Third Street, 600 Gilman Street, 1433 Eastshore Highway, and north of the project site across Gilman Street are also discussed below.

Unlike the proposed project assumptions, the parcel at 1306 Third street was assumed to be occupied during construction and operation of the conceptual development project. Therefore, the sensitive receptors for the conceptual development project include 1306 Third Street located approximately 5 feet from east of the conceptual development project, as well as the Duck's Nest Preschool located 410 feet east, residential uses located 500 feet east of the project site, and workers located at 1306 Third Street, 600 Gilman Street, 1433 Eastshore Highway, and north of the project site across Gilman Street as described above.

According to the BAAQMD CEQA Guidelines, a project would result in a significant impact related to TAC exposure if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). A significant cumulative impact would occur if the project, in combination with other projects within a 1,000-foot radius of the project site, would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100 in 1 million, an increased non-cancer risk of greater than 10 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis.

Construction – Toxic Air Contaminants. A construction health risk assessment (HRA), which evaluates construction-period health risk to off-site receptors, was prepared for construction associated with buildout of the proposed project and the conceptual development project. To estimate the potential cancer risk associated with construction activities from equipment exhaust (including diesel particulate matter), a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence and worksites). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis.

For the purposes of an HRA, emissions are analyzed for acute health impacts, chronic, and carcinogenic health impacts. A multi-pathway assessment was conducted to evaluate the project's emissions during construction following the modeling techniques recommended in the CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxic Hot Spots Program Risk Assessment Guidelines*.[22] The analysis herein has been conducted in accordance with BAAQMD requirements for HRAs.

The HRA analysis was conducted using three models: (1) CalEEMod to determine diesel particulate matter (DPM) emissions during project construction; (2) the USEPA AERMOD air dispersion model to determine how the TACs would move through the atmosphere; and (3) CARB's HARP2 model to translate the pollutant concentrations from AERMOD into individual health risks at any sensitive receptor locations surrounding the project site.

The OEHHA has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. Exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, DPM made people with allergies more susceptible to the materials to which they were allergic, such as dust and pollen. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. For risk assessment procedures, the OEHHA specifies that the surrogate for whole diesel exhaust is DPM. The HRA analyses used PM_{10} emissions to represent DPM emissions, consistent with OEHHA guidance.

The conservative nature of this analysis is due primarily to the following factors:

- The CARB-adopted diesel exhaust unit risk factor (URF) of 300 in 1 million per $\mu g/m^3$ is based on the upper 95th percentile of estimated risk for each of the epidemiological studies used to develop the URF. Therefore, the risk factor is representative of DPM.

- The exposure to DPM is assumed to be constant for the given period analyzed (i.e., 70 years for the residential receptors and 25 years for the worker receptors). However, emissions from DPM are expected to substantially decrease in the future with the implementation of standard regulatory requirements and technological advancement to reduce DPM.

Potential impacts associated with buildout under the proposed project and the conceptual development project are discussed below.

Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. (*Less than Significant*)

[22] California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. March. Website: https://oehha.ca.gov/air/air-toxics-hot-spots (accessed May 2024).

As discussed above, a construction HRA was prepared for construction associated with buildout envisioned under the proposed project. Table 4.3.J, below, identifies the results of the analysis assuming the use of Tier 4 interim construction equipment, as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*. As identified above, the closest sensitive receptors to the proposed project site are Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. In addition, worker receptors are located north of the project site across Gilman Street. The results of the analysis at the maximally exposed individual (MEI) are shown in Table 4.3.J below. Model outputs and snapshots of the sources are shown in Appendix G.

Table 4.5.J: Unmitigated Health Risks from Construction of Buildout under the Gilman Gateway Rezone Project to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Residential Receptor MEI	6.74	0.004	0.000	0.016
School Receptor MEI	3.86	0.004	0.000	0.016
Worker Receptor MEI	0.73	0.010	0.000	0.044
Threshold	**10.0**	**1.0**	**1.0**	**0.30**
Exceeds threshold?	**No**	**No**	**No**	**No**

Source: LSA (May 2024).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter
MEI = maximally exposed individual

As shown in Table 4.3.J, the maximum cancer risk for the residential receptor MEI would be 6.74 in 1 million, which would not exceed the BAAQMD cancer risk threshold of 10 in 1 million. The school receptor MEI and worker receptor MEI risk would be lower at 3.86 in 1 million and 0.73 in 1 million, respectively, which would also not exceed the BAAQMD cancer risk threshold. The chronic hazard index would be 0.010 for the worker receptor MEI and 0.004 for both the residential receptor MEI and school receptor MEI, which are below the threshold of 1. In addition, the acute hazard index would be nominal (0), which would also not exceed the threshold of 1. The results of the analysis indicate that the $PM_{2.5}$ concentration would be 0.044 $\mu g/m^3$ for the worker receptor MEI and 0.016 $\mu g/m^3$ for both the residential receptor MEI and school receptor MEI, which also would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$. Therefore, construction associated with buildout envisioned under the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. No significant health risk would occur from project construction emissions impacts would be **less than significant**.

Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. (*Significant and Unavoidable*)

A construction HRA was prepared to evaluate health risks associated with potential future construction associated with the conceptual development project. Table 4.3.L, below, identifies the results of the analysis assuming the use of Tier 4 interim construction equipment, as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*. The conceptual development project would include the redevelopment of all onsite structures except the following three parcels: 1306 Third Street, 600 Gilman Street and 1433 Eastshore Highway.

The building located at 1306 Third Street includes existing non-conforming residential uses that would be located adjacent to construction activities associated with the conceptual development project. In addition, Duck's Nest Preschool is located approximately 410 feet east of the project site along Fourth Street and worker receptors are located at 1306 Third Street, 600 Gilman Street, 1433 Eastshore Highway, and north of the project site across Gilman Street. The results of the analysis at the MEI are shown in Table 4.3.L below. Model outputs and snapshots of the sources are shown in Appendix G.

Table 4.5.K: Unmitigated Health Risks from Construction of the Potential Berkeley Forge Development to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Residential Receptor MEI	23.42	0.015	0.000	0.073
School Receptor MEI	3.21	0.001	0.000	0.097
Worker Receptor MEI	0.73	0.011	0.000	0.044
Threshold	**10.0**	**1.0**	**1.0**	**0.30**
Exceeds threshold?	**Yes**	**No**	**No**	**No**

Source: LSA (May 2024).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter
MEI = maximally exposed individual

As shown in Table 4.3.K, the maximum cancer risk for the residential receptor MEI would be 23.42 in 1 million, which would exceed the BAAQMD cancer risk threshold of 10 in 1 million. The school receptor MEI and worker receptor MEI risk would be lower at 3.21 in 1 million and 0.73 in 1 million, respectively, which would also not exceed the BAAQMD cancer risk threshold. This is a **potentially significant** impact.

The chronic hazard index would be 0.009 for the worker receptor MEI and 0.020 for both the residential receptor MEI and school receptor MEI, which are below the threshold of 1.0. In addition, the acute hazard index would be nominal (0), which would also not exceed the threshold of 1.0. The results of the analysis indicate that the $PM_{2.5}$ concentration would be 0.073 $\mu g/m^3$ for the residential receptor MEI, 0.097 $\mu g/m^3$ for the school receptor MEI, and 0.044 $\mu g/m^3$ for the worker receptor MEI, which would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

As described above, construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2027–2034. Therefore, this analysis uses default construction equipment in CalEEMod with the addition of pile

driving equipment. For construction, TAC emissions and exposure to the nearest sensitive receptors would vary across the 7-year construction period based on construction activities and phasing. However, because a formal application has not yet been submitted for the Potential Berkeley Forge Project, specific construction fleet activities and phasing is not yet known, and this analysis conservatively assumes construction of the entire conceptual development project would take place at once over the 7-year period. Once a formal application for the conceptual development project has been submitted and project-specific construction information is available, the project applicant could submit an updated project-specific HRA to the City demonstrating that construction of the project would not expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 $\mu g/m^3$.

It should be noted that 1306 Third Street is outside the boundaries of the conceptual development project site (refer to Figure 3-2 in Chapter 3.0, Project Description; the 1306 Third Street parcel is shown outside of this boundary just southwest of the Gilman Street and UPRR intersection). Mitigation Measure AIR-3 would apply to the conceptual development project and any future projects that would not include the demolition of the structure located at 1306 Third Street.

Mitigation Measure AIR-3 would require the use of cleaner construction equipment to reduce the significant cancer risk from construction of the conceptual development project or allow the project applicant to prepare an updated project-specific HRA once project-specific construction information is available.

Mitigation Measure AIR-3 **Off-Road Construction Equipment Requirements.** The project contractor shall comply with the following requirements:

- All off-road diesel-powered construction equipment of 25 horsepower or more used for project construction shall have engines that meet or exceed the California Air Resources Board Tier 4 Final emissions standards.
- Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps.
- Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions and safe operating conditions). The contractor shall post legible and visible signs in designated

queuing areas and at the construction site to remind operators of the two-minute idling limit.

- The project sponsor shall instruct construction workers and equipment operators in the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

- Before starting onsite construction activities, the project contractor shall submit a construction emissions minimization plan (plan) to the City for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the engine requirements.

  - The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.

  - The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan.

  - The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

- Alternatively, once project-specific construction information is available, prior to the start of construction activities, the project contractor may submit documentation to the City demonstrating that construction of the project would not

exceed expose sensitive receptors to toxic air contaminants resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter (µg/m^3).

Table 4.5.L identifies the results of the analysis with implementation of Mitigation Measure AIR-3.

Table 4.5.L: Mitigated Health Risks from Construction of the Potential Berkeley Forge Development to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration (µg/m^3)
Residential Receptor MEI	17.33	0.010	0.000	0.052
School Receptor MEI	2.37	0.001	0.000	0.070
Worker Receptor MEI	0.54	0.009	0.000	0.032
Threshold	**10.0**	**1.0**	**1.0**	**0.30**
Exceeds threshold?	**Yes**	**No**	**No**	**No**

Source: LSA (May 2024).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
µg/m^3 = micrograms per cubic meter
MEI = maximally exposed individual

As shown in Table 4.5.L, the mitigated cancer risk at the residential receptor MEI would be 17.33 in 1 million, which would exceed the BAAQMD cancer risk of 10 in 1 million. Therefore, with implementation of Mitigation Measure AIR-3, construction of the conceptual development project would exceed BAAQMD thresholds and would expose nearby sensitive residential receptors to substantial pollutant concentrations. School and worker receptors would not experience pollution in excess of the BAAQMD thresholds for cancer risk.

Alternatively, as provided for above in Mitigation Measure AIR-3, once a formal application for the Potential Berkeley Forge Project has been submitted and project-specific construction information is available, the project applicant could prepare an updated project-specific construction HRA to the City demonstrating to the City that construction of the project would not expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 µg/m^3. However, without quantification to guarantee a less than significant finding, the conceptual development project and any future projects under the proposed project that would not include the demolition of the structure located at 1306 Third Street may still exceed the BAAQMD cancer risk significance thresholds.

The project sponsor for the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would also be required to offer residential occupants of the 1306 Third Street building temporary relocation, consistent with the requirements of BMC Chapter 13.84, as outlined in Mitigation Measure AIR-4.

Mitigation Measure AIR-4

Temporary Relocation of 1306 Third Street Residents During Construction Activities. Prior to approval of any ground disturbing activity on the project site, the City shall require the project sponsor to provide detailed construction plans, a project specific technical Air Quality Assessment, and Health Risk Assessment (HRA) evaluating construction-related air quality impacts. If the HRA determines that construction-related criteria air pollutants would expose sensitive receptors at 1306 Third Street to pollutant concentrations in exceedance of the cancer risk threshold established by the Bay Area Air Quality District (BAAQMD) in effect at the time of recalculation, then the project sponsor shall be responsible for offering and paying for moving and relocation assistance to the residential occupants of the four dwelling units located at 1306 Third Street.

The project sponsor shall be given an opportunity to prepare a technical Air Quality Assessment that identifies the specific time intervals during which constructions activities would generate an excess of pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD in use at the time of recalculation. The moving and relocation assistance shall be provided by the project sponsor during those specific time intervals. However, if specific time intervals are not clearly identified, moving and relocation assistance shall be provided for the entire duration of ground disturbing activity on the project site. Once the City reviews the technical Air Quality Assessment, HRA, and time intervals identified therein, the City shall require the sponsor to do the following:

- Provide the four residential households at 1306 Third Street with a notice of temporary relocation that clearly identifies the City approved time interval(s) for relocation, a copy of Mitigation Measure AIR-4, and a copy of the City's *Request for Relocation Payment from Property Owner* form (Relocation Form) - for temporary relocations lasting 30 days or longer. These documents shall be provided to individual households at 1306 Third Street at least sixty (60) days in advance of the required relocation (i.e., prior to the start of ground disturbing activities). If interested in relocation assistance, the households residing in the four residential units at 1306 Third Street shall provide completed copies of the Relocation Form to the project sponsor and the City of Berkeley within thirty (30) days of receipt.

- Households to be relocated shall be entitled to relocation payments that include the following:
  - A one-time dislocation allowance to help defray incidental relocation expenses. The amount of the dislocation allowance shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution.
  - The household's choice of reimbursement for actual moving and storage expenses or a fixed payment, subject to the following requirements:
    - If a fixed payment is chosen, no documentation of expenses is necessary. The amount of the fixed payments shall be consistent with the amounts listed on the City of Berkeley Relocation Form, and established by City Council resolution.
    - Reimbursement for actual documented moving and storage expenses shall include both moving costs to the replacement unit(s) and moving costs back to the original unit. Moving costs shall consist of actual reasonable costs of moving, including transportation of personal property, packing and unpacking, insurance of personal property while in transit, compensation for any damage occurring during moving, storage of personal property, disconnection and reconnection of utility services and any additional reasonable costs associated with the required moving. Payments for a one-way move shall not exceed rates established in the fixed residential moving cost schedule approved by the Federal Highway Administration and published in the federal register on a periodic basis.
  - If the rental costs incurred by the household during the period of relocation exceed the amount of rent being paid on the unit at 1306 Third Street, the household shall be eligible for a rent differential payment. The rent differential payment shall be equal to the difference between the rent paid on the unit at 1306 Third Street and the rent paid for a unit temporarily leased during the period of relocation, with the following restrictions:

- The rent differential payment shall not exceed a ceiling established annually by the City based on the average market rent statistics gathered and published by the rent stabilization program for the prior calendar year.
- The ceiling for the rent differential payment shall be based on the bedroom size of the unit to be vacated at 1306 Third Street.
- The rent differential payment for a household receiving a rental subsidy shall be based on the amount of rent paid by the household for the unit at 13063 Third Street by the tenant household during the period of relocation.

▪ Reimbursement for the documented utility cost(s) that the household incurs in their replacement housing, if the owner of 1306 Third Street had been paying that particular utility cost for the vacated unit.

- The project sponsor shall make the initial relocation payment directly to the household within ten (10) days after receipt of a completed Relocation Form, the payment shall include:

  ▪ The dislocation allowance;

  ▪ The fixed payment for moving and storage costs if applicable, or payment for moving costs based on a reasonable estimate from a qualified professional mover; or

  ▪ The rent differential payment for one month or, if the relocation is anticipated to exceed ninety (90) days, then the initial payment shall include the rent differential payment for the first three-month period.

- Subsequent payments for rent differential, utilities and storage costs, when applicable, shall be made on a monthly basis thereafter. Such payments shall be made at least seven (7) days in advance of when the tenant household's monthly rental payment is due. Instead of monthly payments the project sponsor may make one lump sum payment for the full amount due for the rent differential payments to the household over the period of relocation. If the tenant household qualifies for reimbursement for monthly storage or utilities costs, these payments shall continue on a monthly basis or upon receipt by

the owner of documentation that verifies the household's expenses.

- Relocation payments shall continue until constructions activities on the project site would no longer exceed pollutant concentrations in exceedance of the cancer risk levels established by BAAQMD, as evidenced in the technical Air Quality Assessment and HRA, prepared by the project sponsor and approved by the City of Berkeley. Based on the information in the technical Air Quality Assessment and HRA, the City of Berkeley shall monitor on-site construction at the expense of the project sponsor, to confirm when on-site construction activities no longer exceed the cancer risk levels established by BAAQMD. The relocation payments shall stop and the households shall return to the unit from which the household was relocated, when the City of Berkeley clears the site for reoccupation.

- The project sponsor shall send a formal notice to the relocated households thirty (30) days prior to the end of the relocation interval. If the household does not notify the project sponsor and the City of Berkeley within fifteen (15) days of its intent to reoccupy the previously vacated unit and seeks to remain in its alternate unit, it thereby surrenders its right to reoccupy the unit from which it has relocated and terminates its tenancy of that unit, the rental assistance outlined in this mitigation measure shall cease.

- A household that is relocated for thirty (30) days or more shall continue to be responsible for any rent due on the unit from which it was relocated during the period of relocation. Therefore, relocation shall not constitute relinquishment of tenancy rights. The project sponsor shall directly furnish the tenant household with an amount equal to the monthly rent payments at least seven (7) days in advance of when the tenant household's monthly rental payment is due for the unit from which the tenant household was relocated.

The relocation of existing residents would ensure that they would not experience the construction-related TAC health risks; however, there is no guarantee that the existing residents would agree to relocate during construction. Therefore, in an abundance of caution, potential construction-related TAC health risks are considered a **significant and unavoidable** impact even with implementation of Mitigation Measures AIR-3 an AIR-4.

Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant

concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city. (*Significant and Unavoidable*)

Operation – Toxic Air Contaminants. Buildout under the proposed project would facilitate the development of up to 1,005,266 square feet zoned for M-RD, which would support a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D uses. In addition, the conceptual development project would include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the newly created M-RD district. Commercial and industrial processes associated with the M-RD zone (e.g., industrial, manufacturing, and warehouse/storage) allowed under both the proposed project and conceptual development project would be expected to release TACs. Industrial land uses have the potential to be substantial stationary sources that would require a permit from the BAAQMD for emissions of TACs. Emissions of TACs would be controlled through permitting issued by the BAAQMD and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Since it is not possible to determine the amount of TAC concentrations at the time of this analysis, it is not possible to calculate the risks for a particular health effect within the project area. The proposed project consists of programmatic zoning and General Plan/West Berkeley Plan amendments. No specific site plans are available for the conceptual development project or other future projects; therefore, until specific future projects are proposed, the associated TAC emissions cannot be determined or modeled at this time. Future development projects subject to environmental review under CEQA would be required to analyze potential TAC emissions and include mitigation as appropriate.

In addition to stationary sources of TACs, commercial and industrial operations could generate a substantial amount of diesel particulate matter emissions from off-road equipment use and truck idling. New land uses that use diesel trucks, including trucks with transport refrigeration units, could generate an increase in diesel particulate matter that would contribute to cancer and noncancer health risk in the Air Basin. Furthermore, trucks would travel on regional transportation routes throughout the Air Basin, contributing to near-roadway diesel particulate matter concentrations. Land use projects are required to comply with Assembly Bill 2588 and the CARB standards for diesel engines. As stated above, until specific future projects are proposed, the associated emissions cannot be determined or modeled at this time. This is a **potentially significant** impact**.**

Future projects would be subject to environmental review under CEQA and would be required to analyze potential emissions and include mitigation as appropriate. Mitigation Measure AIR-5 would require the preparation of project-specific health risk assessments for certain discretionary large industrial or warehousing uses to evaluate operational-related health risk impacts to further ensure that operational-related emissions would be reduced to a less than significant level.

Mitigation Measure AIR-5 **Health Risk Assessments for Future Development Projects.** For projects that require discretionary approval, prior to approval by the City, the City Land Use Planning Division staff shall evaluate new development proposals for new industrial or warehousing

land uses that (1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 500 feet of an existing or proposed sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Land Use Planning Division. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the BAAQMD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the BAAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis; therefore, cumulative growth within the city could result in potential TAC health risks that could cumulatively contribute to elevated health risks in the city. Therefore, in an abundance of caution, potential TAC health risks are considered a **significant and unavoidable** impact.

Impact AIR-3 Summary: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. Therefore, impacts associated with the proposed project would be **less than significant**. (Impact AIR-3a.1)

Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. The conceptual development project would be required to implement Mitigation Measures AIR-3 and AIR-4; however, residential tenants may not agree to be relocated during construction. Therefore, in an abundance of caution, potential construction-related TAC health risks would remain **significant and unavoidable**. (Impact AIR-3.a2)

In addition, operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health

risks in the city. Both the proposed project and the conceptual development project would be required to implement Mitigation Measure AIR-5; however, in an abundance of caution, potential TAC health risks would still be **significant and unavoidable**. (Impact AIR-3b)

Impact AIR-4: Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people. (*Less than Significant with Mitigation)*

During construction, the diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and localized and are not likely to be noticeable for extended periods of time outside of the project site. Because the project's potential construction-related odor impacts are localized and temporary, they would not adversely affect a substantial number of people and would not result in frequent odor complaints. The potential for diesel odor impacts is therefore considered less than significant.

Odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. The BAAQMD considers a significant odor impact as a substantial number of odor complaints, specifically, more than five confirmed complaints per year average over the past 3 years. The BAAQMD has determined the common land use types that are known to produce odors in the Basin. These types are shown in Table 4.5.M.

Table 4.5.M: Screening Levels for Potential Odor Sources

Odor Generator	Distance
Wastewater Treatment Facilities	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: BAAQMD (2023).

Buildout under the proposed project would facilitate up to 1,005,266 square feet of M-RD uses, which would support a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D uses. In addition, the conceptual development project would include the redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the

newly created M-RD district. It is not yet known if future development facilitated under the proposed project would include uses that would produce offensive odors that would result in frequent odor complaints. The closest sensitive receptors to the project site are Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. Additionally, the conceptual development project would include the redevelopment of all but the following three parcels: 1306 Third Street, 600 Gilman Street, and 1433 Eastshore Highway. The 1306 Third Street site includes existing residential uses that would be adjacent to construction activities associated with the conceptual development project. Because the closest sensitive receptors are within the 1-mile screening distance for odors established by the BAAQMD, if future development facilitated under the proposed project, including the conceptual development project, would include any of the uses identified in Table 4.5.M, operation of future development facilitated under the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. This is a **potentially significant** impact.

Mitigation would be required to ensure the project would not adversely affect a substantial number of people. Accordingly, Mitigation Measure AIR-6 would require preparation of an odor control plan if certain uses are proposed for the site.

Mitigation Measure AIR-6 **Odor Control Plan for Future Development Projects.** If future development facilitated under the proposed M-RD zoning district would include any of the following uses, preparation of an odor control plan would be required: Wastewater Treatment Facilities, Wastewater Pumping Facilities, Sanitary Landfill, Transfer Station Composting Facility, Petroleum Refinery, Asphalt Batch Plant, Chemical Manufacturing, Fiberglass Manufacturing, Painting/Coating Operations (e.g., auto body shop), Rendering Plant, Coffee Roaster, Food Processing Facility, Confined Animal Facility/Feed Lot/Dairy, Green Waste and Recycling Operations, or Metal Smelting Plants. The project sponsor shall develop the odor control plan detailing all methods of nuisance odor control as it applies to operation of the proposed uses prior to issuance of grading or building permits, and shall submit it to the Bay Area Air Quality Management District (BAAQMD) and the City Land Use Planning Division for review and approval, to be issued prior to the City's approval of certificate of occupancy. The odor control plan shall be made available to all employees and shall be used as a training aid for new employees.

With implementation of Mitigation Measure AIR-6, the proposed project, including the conceptual development project, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and impacts would be **less than significant with mitigation**.

AIR-4 Impact Summary: Operation of future development at the project site facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people. Both the

proposed project and the conceptual development project would be required to implement Mitigation Measure AIR-6, which would reduce impacts to less than significant with mitigation.

4.5.2.3 Cumulative Impacts

According to the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The BAAQMD is currently designated as a nonattainment area for State and national O_3 standards and national particulate matter ambient air quality standards. BAAQMD nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Therefore, if the proposed project's daily average or annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would result in a considerable contribution to a cumulatively significant impact. As shown in Table 4.5.E through Table 4.5.J, with implementation of Mitigation Measures AIR-1 and AIR-2, future development envisioned under the proposed project and the conceptual development project would not generate significant construction or operational emissions. As shown in the project-specific air quality impacts discussion above, the proposed project would not result in individually significant impacts and, therefore, cumulative regional air quality impacts of the proposed project would be **less than significant**.

As explained in the analysis, even with the implementation of Mitigation Measure AIR-3, health risk levels to nearby residents from construction-related emissions of TACs associated with construction of the conceptual development project and future projects that would not include the demolition of the structure at 1306 Third Street would exceed the BAAQMD's thresholds. In addition, because information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis, it is assumed that cumulative growth within the city could result in potential TAC health risks that could cumulatively contribute to elevated health risks in the city. Therefore, in an abundance of caution, potential TAC health risks are considered a significant impact, even with implementation of Mitigation Measures AIR-3, AIR-4, and AIR-5. Cumulative impacts would be **significant and unavoidable**.

As discussed above, it is not yet known if future development facilitated under the proposed project would include uses that would produce offensive odors that would result in frequent odor complaints. Because the closest sensitive receptors are within the 1-mile screening distance for odors established by the BAAQMD, if any future development facilitated under the proposed project would include any of the uses identified in Table 4.5.M, Mitigation Measure AIR-6 would be required to prepare an odor control plan if any of these types of uses are proposed for the site. With implementation of Mitigation Measure AIR-6, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be **less than significant with mitigation**.

4.6 GREENHOUSE GAS EMISSIONS

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing greenhouse gas (GHG) emissions and discusses global climate change, its causes, and the contribution of human activities. This section also discusses potential GHG impacts that would result from construction and operational activities associated with implementation of the proposed project and conceptual development project, including vehicular traffic, energy consumption and other emission sources and evaluates whether the proposed project and conceptual development project would result in a significant effect on the environment. Mitigation measures are recommended, where appropriate, to reduce potential impacts. The analysis in this section is based on guidance provided in the Bay Area Air Quality Management District (BAAQMD) *California Environmental Quality Act (CEQA) Air Quality Guidelines*.[1]

4.6.1 Setting

The following describes existing GHG emissions in the city, beginning with typical GHG types and sources, impacts of global climate change, the regulatory framework related to these issues, and current emission levels.

4.6.1.1 Background

The following section provides background information on GHGs and global climate change.

Greenhouse Gases. Global climate change is the observed shift in the average temperature of the Earth's atmosphere, weather patterns, and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose approximately 0.6 degrees Celsius or approximately 1.1 degrees Fahrenheit in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-

[1] Bay Area Air Quality Management District (BAAQMD). 2023. *California Environmental Quality Act, Air Quality Guidelines*. April 20.

induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[2]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are the following:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively only to the six gases listed above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere compared to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). Table 4.6.A shows the GWP for each type of GHG. For example, SF_6 is 23,500 times more potent at contributing to global warming than CO_2.

[2] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect". Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

Table 4.6.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	28
Nitrous Oxide	120	265
HFC-23	260	12,400
HFC-134a	1	1,300
HFC-152a	1	138
PFC: Tetrafluoromethane (CF_4)	50,000	6,630
PFC: Hexafluoromethane (C_2F_6)	10,000	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,500

Source: *Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5)* (IPCC 2014).
HFC = hydrofluorocarbons
PFC = perfluorocarbons

The following summarizes the characteristics of the six GHGs and black carbon. Black carbon also contributes to climate change and is therefore discussed below.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants, volcanic out gassing, decomposition of organic matter, and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation.

In 2021, total annual CO_2 accounted for 81.2 percent of California's overall GHG emissions.[3] Transportation, which is primarily composed of on-road travel, is the single largest source of CO_2 in California. Electricity production, industrial, and residential sources also make important contributions to CO_2 emissions in California.

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for 9.8 percent of GHG emissions in California in 2021.[4]

Nitrous Oxide. N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is a product of the reaction between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as

[3] California Air Resources Board (CARB). 2022a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed January 2024).

[4] Ibid.

maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. N_2O emissions accounted for 3.4 percent of GHG emissions in California in 2021.[5]

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[6] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the semiconductor industry involves use of PFCs. HFCs, PFCs, and SF_6 and accounted for about 5.6 percent of GHG emissions in California in 2021.[7]

Black Carbon. Black carbon is the most strongly light-absorbing component of particulate matter (PM) formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of particulate matter less than 2.5 microns in size ($PM_{2.5}$) and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[8] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

Most United States emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The California Air Resources Board (CARB) estimates that the annual black carbon emissions in California will be reduced approximately 50 percent below 2013 levels by 2030.[9]

Emission Inventories. An emission inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions. Worldwide emissions of GHGs in 2021, the latest inventory year available, totaled 19.2 billion metric tons of CO_2e. Global estimates are based on country inventories

5 Ibid.

6 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

7 California Air Resources Board (CARB). 2022a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed January 2024).

8 United States Environmental Protection Agency (USEPA). 2015. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed January 2024).

9 California Air Resources Board (CARB). 2017b. *Short-Lived Climate Pollutant Reduction Strategy.* March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed January 2024).

developed as part of the programs of the United Nations Framework Convention on Climate Change.[10]

United States Emissions. In 2022, the year for which the most recent data are available, the United States emitted about 6,343.2 million metric tons of CO_2e (MMT CO_2e). Overall, emissions in 2022 increased by 0.2 percent compared to the 2021 total GHG emissions. This increase in total GHG emissions was driven by fossil fuel combustion due primarily to economic activity rebounding after the height of the COVID-19 pandemic. However, GHG emissions in 2022 were 16.7 percent below those of 2005 levels. Of the five major sectors—residential and commercial, agricultural, industry, transportation, and electricity generation—transportation accounted for the highest amount of GHG emissions in 2022 (28 percent), with electricity generation second at 25 percent and emissions from industry third at 23 percent.[11]

State of California Emissions. The State emitted approximately 381.3 MMT CO_2e emissions in 2021, 12.1 MMT CO_2e higher than 2020 levels and 49.7 MMT CO_2e below the 2020 GHG limit of 431 MMT CO_2e established by Assembly Bill (AB) 32.[12] CARB estimates that transportation was the source of 38 percent of the State's GHG emissions in 2021. The next largest sources included industrial sources at 19 percent and electricity generation at 16 percent. The remaining sources of GHG emissions were commercial and residential activities at 10 percent, agriculture at 8 percent, high GWP at 6 percent, and waste at 2 percent.[13]

San Francisco Bay Area Emissions. The BAAQMD established a climate protection program in 2005 to acknowledge the link between climate change and air quality. The BAAQMD regularly prepares inventories of criteria and toxic air pollutants to support planning, regulatory and other programs. The most recent emissions inventory estimates GHG emissions produced by the San Francisco Bay Area (Bay Area) in 2015.[14]

In 2015, 86.5 MMT CO_2e of GHGs were emitted in the Bay Area. Fossil fuel consumption in the transportation sector was the single largest source of the Bay Area's GHG emissions in 2015. The transportation sector (including passenger cars/trucks, heavy duty trucks, aviation, ships and boats, industrial equipment, buses/motorhomes, motorcycles, and locomotives) contributed 39.7 percent of GHG emissions and the industrial and commercial sectors (excluding electricity

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10 United Nations Framework Convention on Climate Change (UNFCCC). 2023. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed January 2024).

11 United States Environmental Protection Agency (USEPA). 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022 (accessed June 2024).

12 California Air Resources Board (CARB). 2023. *California Greenhouse Gas Emissions for 2000 to 2021, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/2023-12/2000_2021_ghg_inventory_trends.pdf (accessed January 2024).

13 Ibid.

14 Bay Area Air Quality Management District (BAAQMD). 2017. *Final 2017 Clean Air Plan*. April 19, 2017. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed January 2024).

and agriculture) contributed 41 percent of GHG emissions in the Bay Area. Energy production activities such as electricity generation and co-generation were the third largest contributor with approximately 14 percent of the total GHG emissions. Stationary sources, such as oil refineries, natural gas combustion, cement plants, natural gas distribution, and fugitive and process emissions contributed 26 percent of GHG emissions.

City of Berkeley Emissions. Based on the Climate Action Plan and Resilience Update Report prepared by staff for the Berkeley City Council on December 12, 2023, Berkeley's GHG emissions totaled approximately 546,388 metric tons in 2021, approximately 25 percent below 2000 levels.[15] The major source of GHG emissions in the city is transportation, contributing 54 percent. Residential natural gas and commercial natural gas consumption is the second largest source, contributing 29 percent to the City's GHG emissions. The remaining 17 percent is made up by other sources such as commercial and residential electricity, landfill waste, municipal buildings, and water consumption and wastewater.

4.6.1.2 Regulatory Framework

This section describes applicable regulations related to GHG emissions at the federal, State, regional, and local level.

Federal Regulations. Federal regulations applicable to GHG emissions are described below.

Federal Clean Air Act. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the United States Environmental Protection Agency (USEPA) has the authority to regulate CO_2 emissions under the federal Clean Air Act (CCA). Although there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the federal Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

In October 2012, the USEPA and the National Highway Traffic Safety Administration (NHTSA), on behalf of the United States Department of Transportation, issued final rules to further reduce GHG emissions and improve Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* 62624). The NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and

[15] City of Berkeley. 2023. Climate Action Plan and Resilience Update. December 12. Website: https://berkeleyca.gov/sites/default/files/documents/2023%20Climate%20Action%20Plan%20and%20Resilience%20Staff%20Update%20to%20Council_2023-12-12.pdf (accessed May 2024).

other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 *Federal Register* 62630).

On March 31, 2022, the NHTSA finalized the CAFE standards for Model Years 2024–2026 Passenger Cars and Light Trucks. The amended CAFE standards would require an industry wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

State Regulations. The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 1493 (2002), Pavley Standards. In a response to the transportation sector's significant contribution to California CO_2 emissions, AB 1493 was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of Clean Air Act Preemption was not granted by the EPA until June 30, 2009. CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025. The Trump administration revoked California's waiver in 2019, but the Biden administration restored California's waiver in 2021.

Executive Order S-3-05 (2005). Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To address those concerns, the EO established California's GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010;
- GHG emissions should be reduced to 1990 levels by 2020; and
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State Legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 MMT of CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The CARB approved the Scoping Plan on December 11, 2008 which contains the main strategies California will implement to achieve the reduction goals and includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and sets the groundwork to reach long-term goals set forth in Executive Orders (EOs) S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[16] to reflect the 2030 target set by EO B-30-15 and codified by Senate Bill (SB) 32.

The 2022 Scoping Plan[17] was approved in December 2022 and assesses progress toward achieving the SB 32 2030 target and laying out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Executive Order B-30-15 (2015). Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. SB 350, which Governor Jerry Brown signed on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent
- Increasing energy efficiency in buildings by 50 percent by the year 2030

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission (CEC) for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in

[16] California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November.
[17] California Air Resources Board (CARB). 2022b. *2022 Scoping Plan*. November 16. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed January 2024).

buildings must be achieved using existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016 the Legislature passed, and the Governor signed, SB 32, and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emission reductions target of at least 40 percent below 1990 levels by 2030 found in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps the State on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's Renewables Portfolio Standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18. EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other state-wide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279. AB 1279 was signed in September 2022 and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85 percent compared to 1990 levels by 2045 and directs CARB to work with relevant State agencies to achieve these goals.

California Building Standards Code (Title 24). The California Building Standards Code, or Title 24 of the California Code of Regulations (CCR) contains the regulations that govern the construction

of buildings in California. Within the Building Standards Code, two parts pertain to the incorporation of both energy efficient and green building elements into land use development. Part 6 is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. These standards were first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption and are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. In November 2008, the California Building Standards Commission established the California Green Building Standards Code, Title 24, Part 11 (CALGreen Code), which sets performance standards for residential and non-residential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The current standards were adopted in 2022 and apply to projects seeking building permits on or after January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024.

Executive Order N-79-20. EO N-79-20, which the Governor signed on September 23, 2020, sets the following goals for the State: 100 percent of in-state sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

Low Carbon Fuel Standard and Advanced Clean Cars. EO S-01-07 established a low carbon fuel standard (LCFS) with a Statewide goal to be established to reduce the carbon intensity of California's transportation fuels that applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment. CARB approved amendments in 2018 to readjust carbon intensity benchmarks to meet California's 2030 GHG reductions targets under SB 32. These amendments include opportunities to promote zero emission vehicle (ZEV) adoption, carbon capture and sequestration, and advanced technologies for decarbonization of the transportation sector. The Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of ZEVs, into a single package of regulatory EO B-48-18. In January 2018, Governor Brown signed EO B-48-18, requiring all State entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program, and recommend how to ensure affordability and accessibility for all drivers.

Regional Regulations. Regional regulations that are applicable to GHG emissions generated by the proposed project are implemented by the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), and BAAQMD, as discussed below.

Plan Bay Area 2050. Plan Bay Area 2050[18] is a State-mandated, integrated, long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. In the Bay Area, MTC and ABAG are jointly responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 connects the elements of housing, the economy, transportation and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG, and partner organizations to take over the next 5 years to make headway on each of the 35 strategies.

Bay Area Air Quality Management District. The BAAQMD is the regional government agency that regulates sources of air pollution and GHG emissions within the nine Bay Area counties.

BAAQMD's Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans.In April 2022, the BAAQMD adopted the *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* document, which incorporates updated GHG significance thresholds.[19] The BAAQMD recommends these thresholds of significance for use in determining whether a proposed project will have a significant impact related to climate change. These thresholds evaluate a project based on its effect on California's efforts to meet the State's long-term climate goals. Applying this approach, the BAAQMD identifies and provides supporting documentation underlying the requirements for new land use development projects necessary to achieve California's long-term climate goal of carbon neutrality by 2045. Based on the analysis, the BAAQMD found that new land use development projects need to incorporate design elements to contribute their "fair share" to implement the goal of carbon neutrality by 2045. If a project is designed and built to incorporate the identified design elements, then it will contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project will not make a cumulatively considerable contribution to global climate change. The document concludes that if a project does not incorporate these design elements, then it should be found to make a significant climate impact because it will hinder California's efforts to address climate change.

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18 Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2021. *Plan Bay Area 2050*. October. Website: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf (accessed February 2024).

19 Bay Area Air Quality Management District (BAAQMD). 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

Local Regulations. Local regulations that are applicable to GHG emissions generated by the proposed project are implemented by the City of Berkeley (City) through the General Plan, Climate Action Plan, Resilience Strategy, and Municipal Code, as discussed below.

City of Berkeley General Plan. The following policies from the Environmental Management Element and Transportation Element of the City of Berkeley General Plan address the City's goal of reducing GHG emissions.[20]

Policy EM-5: "Green Buildings". Promote and encourage compliance with "green" building standards.

Policy EM-7: Reduced Wastes. Continue to reduce solid and hazardous wastes.

Policy EM-8: Building Reuse and Construction Waste. Encourage rehabilitation and reuse of buildings whenever appropriate and feasible in order to reduce waste, conserve resources and energy, and reduce construction costs.

Policy EM-18: Regional Air Quality Action. Continue working with the Bay Area Air Quality Management District and other regional agencies to:

- Improve air quality though pollution prevention methods.
- Ensure enforcement of air emission standards
- Reduce local and regional traffic (the single largest source of air pollution in the city) and promote public transit.
- Promote regional air quality pollution prevention plans for business and industry.
- Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves.
- Locate parking appropriately and provide adequate signage to reduce unnecessary "circling" and searching for parking.

Policy EM-19: 15% Emission Reduction Global Warming Plan. Make efforts to reduce local emissions by 15% by the year 2010.

Policy EM-35: Energy-Efficient Design. Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.

Policy EM-41: Fossil Fuel. Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.

[20] City of Berkeley. 2003. *City of Berkeley General Plan: A Guide for Public Decision-Making*. April.

Policy T-19: Air Quality Impacts. Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.

Policy T-43: Bicycle Network. Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle-parking facilities to promote cycling.

City of Berkeley Climate Action Plan. The City adopted a Climate Action Plan (CAP)[21] in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP are based on the following topics:

- Sustainable Transportation and Land Use
- Building Energy Use
- Waste Reduction and Recycling
- Community Outreach and Empowerment
- Preparing for Climate Change Impacts

While the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Since publication of the CAP, the City added additional climate goals to support implementation of the CAP:[22]

- 100 percent renewable electricity by 2035
- Net-Zero Carbon Emissions by 2045, in alignment with Governor Brown's Executive Order B-55-18
- Declared a Climate Emergency and resolved to become a Fossil Fuel Free City
- Cities Race to Zero Campaign: Committed to reducing emissions 60.5 percent from 2018 levels by 2030, an emission reduction target that reflects Berkeley's fair share of the 50 percent global reduction in CO_2e

City of Berkeley Resiliency Strategy. In 2016, the City adopted its Resilience Strategy[23] to advance preparedness and equity in the city. The Resilience Strategy identifies six long-term goals and short-term actions to help address some of Berkeley's most pressing challenges. The six goals of the Resilience Strategy are:

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21 City of Berkeley. 2009. *City of Berkeley Climate Action Plan*. June.

22 City of Berkeley. 2022. *City of Berkeley 2023–2031 Housing Element Update Environmental Impact Report*. August.

23 City of Berkeley. 2016. *Berkeley Resilience Strategy.* April. Website: https://berkeleyca.gov/sites/default/files/2022-03/Berkeley_Resilience_Strategy.pdf (accessed June 2024).

- Build a Connected and Prepared Community
- Accelerate Access to Reliable and Clean Energy
- Adapt to the Changing Climate
- Advance Racial Equity
- Excel at Working Together within City Government to Better Serve the Community
- Build Regional Resilience

City of Berkeley Municipal Code. Berkeley Municipal Code (BMC) Chapter 19.37 includes the City's Green Code, which adopts the 2022 CALGreen standards with local amendments.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects, including the following COAs addresses electric vehicle (EV) charging and air quality, which would reduce GHG emissions from development projects undertaken pursuant to the proposed project.

> <u>COA: Nonresidential Electric Vehicle (EV) Charging.</u> *(Prior to issuance of any building [construction] permit).* At least 10 percent of the proposed project parking spaces for nonresidential use shall have installed Level 2 (40 amp) EV charging stations and/or DC Fast Charging Stations, and least 40 percent shall be "EV Capable" equipped with raceway, electrical panel service capacity, and an electrical system to support future Level 2 (40 amp) EV charging stations, or any more stringent EV charging requirements, as specified by the Berkeley Green Code (BMC Chapter 19.37). EV charging station installations and EV Capable spaces shall be noted on the construction plans. Public access parking spaces shall provide any applicable mandatory accessibility provisions. (Project required to meet applicable code at time of building permit application, if different from above.)
>
> <u>COA: Public Works – Implement Bay Area Air Quality Management District (BAAQMD) Recommended Measures During Construction.</u> For all proposed projects, BAAQMD recommends implementing all the Basic Construction Mitigation Measures listed below to meet the best management practices threshold for fugitive dust:
>
> - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
> - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
> - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
> - All vehicle speeds on unpaved roads shall be limited to 15 mph.
> - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be checked by a certified visible emissions evaluator.

- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

COA: Air Quality – Diesel Particulate Matter Controls During Construction. All off-road construction equipment used for projects with construction lasting more than 2 months shall comply with one of the following measures:

- The project applicant shall prepare a health risk assessment that demonstrates the proposed project's on-site emissions of diesel particulate matter during construction will not exceed health risk screening criteria after a screening-level health risk assessment is conducted in accordance with current guidance from BAAQMD and OEHHA. The health risk assessment shall be submitted to the Land Use Planning Division for review and approval prior to the issuance of building permits; or

- All construction equipment shall be equipped with Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by the CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.

- In addition, a Construction Emission Minimization Plan (Emission Plan) shall be prepared that includes:

    - An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date.

    - A Certification Statement that the Contractor agrees to comply fully with the Emission Plan and acknowledges that a significant violation of the Emission Plan shall constitute a material breach of contract. The Emission Plan shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.

4.6.2 Impacts and Mitigation Measures

The following describes the proposed project's potential impacts related to GHG emissions that could result from implementation of the proposed project.

4.6.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to GHG emissions if it would:

Threshold GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment. The project would be assumed to result in a less than significant impact related to GHG emissions if the project would either (must include A or B):

A. Include the following project design elements:

1. Buildings

   a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

   b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*.

2. Transportation

   a. Achieve compliance with electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

   b. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent), or meet a locally adopted SB 743 VMT target reflecting the recommendations provided in the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA:

      (1) **Residential Projects:** 15 percent below the existing VMT per capita

      (2) **Office Projects:** 15 percent below the existing VMT per employee

      (3) **Retail Projects:** No net increase in existing VMT.

B. Be consistent with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b).

Threshold GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.6.2.2 Project Impacts

The following section describes potential impacts associated with GHG emissions that could occur with development of the proposed project, including the conceptual development project. The proposed zoning and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site. However, while no formal application for development on the project site has been submitted at this time, the conceptual development project application is anticipated to be submitted soon after creation of the M-RD zoning district and is therefore reasonably foreseeable and evaluated in this EIR at the project level.

Impact GHG-1: The discussion for both the proposed project and the conceptual development project is not separated below, even though impact conclusions are presented as GHG-1a and GHG-1b. The impact determinations are the same with respect to construction emissions, but differ with respect to operational emissions as the proposed project could potentially include natural gas, thus would conflict with BAAQMD policies regarding new natural gas use, while the conceptual development project would be all electric. As such, the impact findings for GHG-1a as significant and unavoidable are related to the usage of natural gas during operation.

Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. *(Significant and Unavoidable)*

Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment. *(Less than Significant with Mitigation)*

Construction GHG Emissions. The BAAQMD has not addressed emission thresholds for construction in its *State CEQA Guidelines*; however, the BAAQMD encourages quantification and disclosure of construction-generated emissions.

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. GHG emissions generated during construction of the proposed project would be short term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

As discussed in Section 4.5, Air Quality, construction emissions were estimated for both the future buildout of the proposed project and the conceptual development project using the California Emissions Estimator Model version 2022.1 (CalEEMod), consistent with BAAQMD recommendations.

Buildout under the Gilman Gateway Rezone Project. The proposed project would rezone the project site to the new M-RD zoning district and amendments to the General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to the project site, but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory, or office uses, which would involve demolition of all on-site structures and new construction. Therefore, the CalEEMod modeling conducted for buildout envisioned under the proposed project assumes the construction of up to 1,005,266 square feet of R&D uses and up to three parking spaces per 1,000 square feet of building area (approximately 3,016 parking spaces). Additionally, buildout under the proposed project would include the demolition of 320,070 square feet of building area. An additional 10 percent (approximately 32,000 square feet) of demolition square footage was included to account for the asphalt lots on the site.

This analysis assumes that construction activities associated with buildout under the proposed project would require the import of approximately 150,000 cubic yards of material, including imported soil and fill, which was also included in CalEEMod. Construction of the activities associated with the proposed project are anticipated to begin in 2025 and continue over approximately 8 years; this timing was included in CalEEMod.

This analysis utilizes default construction equipment in CalEEMod with the addition of pile driving equipment. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required by *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. CalEEMod output sheets are included in Appendix F.

Using CalEEMod, it is estimated that the construction associated with buildout envisioned under the proposed project would generate approximately 14,282.0 metric tons of CO_2e during construction of the project. The implementation of *COA: Public Works - Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would serve to reduce GHG emissions, such as the requirement for reducing idling times and using construction equipment equipped with Tier 4 Final engines (or Tier 2 with the most effective Verified Diesel Emission Control Strategies) during project construction. Therefore, construction GHG emissions under the proposed project would **be less than significant.**

Buildout of the Potential Berkeley Forge Development. The conceptual development project would construct 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, a 1,900-space parking lot, and would require demolition of approximately 319,000 square feet of building area and asphalt lots on the project site, which was included in CalEEMod. Additionally, the conceptual development project would require approximately 81,000 cubic yards of cut earthwork and approximately 44,000 yards of fill, resulting in 125,000 cubic yards of

material, including imported soil and fill, which was also included in CalEEMod. Construction of the conceptual development project is anticipated to begin in 2025 and continue over approximately 7 years, with occupancy anticipated over 2027–2034. Therefore, CalEEMod assumes that construction would begin in 2025 and would take place over a 7-year period. In addition, this analysis assumes the use of Tier 4 interim construction equipment as required *by COA: Air Quality – Diesel Particulate Matter Controls During Construction*, which was also included in CalEEMod. No other construction details are known at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. CalEEMod output sheets are included in Appendix F.

Using CalEEMod, it is estimated that construction of the conceptual development project would generate approximately 12,908 metric tons of CO_2e during construction of the project. The implementation of *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would serve to reduce GHG emissions, such as the requirement for reducing idling times and using construction equipment equipped with Tier 4 Final engines (or Tier 2 with the most effective Verified Diesel Emission Control Strategies) during project construction. Therefore, construction GHG emissions under the conceptual development project would be **less than significant.**

Operational GHG Emissions. As discussed above, a project would have a less than significant impact related to GHG emissions if it would include the project design elements related to natural gas, energy, VMT, and electric vehicles or if it would be consistent with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). The City's CAP does not meet the State's requirements for a local GHG reduction strategy; therefore, the City's CAP would not be applicable for CEQA streamlining under the BAAQMD thresholds. Therefore, this section evaluates the proposed project's consistency with the BAAQMD's project design elements.

Natural Gas Usage. As required by the BAAQMD, future development projects facilitated by the proposed zoning and General Plan/West Berkeley Plan amendments must not include natural gas appliances or natural gas plumbing. The proposed M-RD zoning district would not result in any physical development on the project site; however, it would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. It is not yet known whether future development under the proposed M-RD zoning district would be all-electric. Potential uses under the proposed M-RD zoning district, such as laboratories, may require natural gas connections. Therefore, the proposed project would not be consistent with this design element. As explained below, the City does not intend to prohibit natural gas connections for certain uses allowed under the proposed M-RD zoning district, thus the proposed project would not be consistent with this project design element, and the impact would be **potentially significant**. The conceptual development project would be all electric and would not include natural gas usage.

Energy Usage. The proposed project must not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*. Energy usage associated

with the proposed project and the conceptual development project is evaluated in Section 4.7, Energy. As discussed in Section 4.7, energy use consumed by the full buildout envisioned under the proposed project, including the conceptual development project, would be associated with electricity and natural gas consumption and fuel used for vehicle trips associated with the project. Energy consumption was estimated for the buildout under the proposed project using default energy intensities by land use type in the California Emissions Estimator Model output, which is included in Appendix F.

As identified in Section 4.7, Energy, the estimated potential increase in electricity demand associated with development envisioned under the proposed project, including the conceptual development project, is 24,679,742 kilowatt-hours (kWh) per year. Total electricity consumption in Alameda County in 2022 was 10,395 gigawatt-hours (GWh) (10,395,384,395 kWh). Therefore, operation of future projects facilitated by the proposed project, including the conceptual development project, would increase the annual electricity consumption in Alameda County by 0.2 percent.

Additionally, as explained in Section 4.7, Energy, the estimated potential increase in natural gas demand associated with future development envisioned under the buildout of the proposed project is 238,801 therms per year. Total natural gas consumption in Alameda County in 2022 was approximately 377 million therms or 377,309,788 therms. Therefore, operation of future projects facilitated by the proposed project, including the conceptual development project, would increase the annual natural gas consumption in Alameda County by 0.1 percent.

Electricity demand associated with future operations would not be considered inefficient, wasteful, or unnecessary. Furthermore, the proposed project and the conceptual development project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. All future development, including the conceptual development project, would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and CALGreen Code standards, as required by BMC Chapters 19.36 and 19.37. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting, which would reduce energy usage.

Future development envisioned under buildout of the proposed project, including the conceptual development project, would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As discussed in Section 4.7, Energy, the increase in fuel use associated with the vehicle trips generated by the future projects is estimated at 1,288,549.2 gallons of gasoline and 179,721.2 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel will be consumed from vehicle trips in Alameda County in 2024. Therefore, vehicle trips associated with the proposed project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage.

As discussed in Section 4.7, Energy, the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*, as shown in Section 4.7, found that the full buildout of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. Accordingly, the proposed project and the conceptual development project would be consistent with this design element, and the impact would be **less than significant**.

Vehicle Miles Traveled. To meet the BAAQMD's VMT threshold, the proposed project must achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. As discussed in Section 4.4, Transportation, based on the significance thresholds adopted by the City, impacts related to VMT would be considered significant if the project would generate home-work VMT that is higher than 15 percent below the regionwide average home-work VMT per worker.

As explained in Section 4.4, Transportation, under both 2020 and 2040 conditions, the home-work VMT per worker for the proposed project, including the conceptual development project, is estimated to be 16.1. As discussed in Section 4.4, Transportation, future projects envisioned under the proposed project, including the conceptual development project, would implement a Transportation Demand Management Plan (TDM Plan), as required by City *COA: Transportation Demand Management*, which would achieve a reduction in VMT between 6 and 10 percent. Implementation of a TDM Plan would reduce the average daily VMT per employee for the proposed project to between 14.5 and 15.1, which is below the threshold of significance of 15.4. Therefore, with implementation of a TDM Plan, the VMT generated by the proposed project and conceptual development project would result in a **less than significant** impact. Accordingly, the proposed project and conceptual development project would be consistent with this design element.

Electric Vehicle Requirements. This project design threshold requires that the proposed project achieve compliance with off-street electric vehicle requirements in the most recently adopted version of the CALGreen Tier 2 Voluntary Standards. Currently, these standards require that a project with 201 or more parking spaces provide 45 percent of total parking spaces as EV-capable spaces, and 33 percent of the EV-capable spaces (meaning 15 percent of total parking spaces) as EV charging stations. These requirements are more stringent than the City's *COA: Nonresidential Electric Vehicle Charging*. Full buildout of the project site would allow up to 1,005,266 square feet of non-residential space, which would also require approximately 1,300 off-street automobile parking spaces. A total of approximately 1,900 parking spaces area assumed to be provided throughout the conceptual development project site. As previously discussed, because no formal application for development on the project site has been submitted at this time, it is not yet known whether the conceptual development project would include electric vehicle charging. If the conceptual development

project does not include electric vehicle charging, the proposed project would be inconsistent with off-street electric vehicle requirements in the most recently adopted version of the CALGreen Tier 2 measures. This is a **potentially significant** impact.

Implementation of Mitigation Measure GHG-1 would be required to ensure that future development envisioned under the proposed project, including the conceptual development project, would provide electric vehicle charging consistent with current BAAQMD requirements. With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with this design element.

Mitigation Measure GHG-1 **Electric Vehicle Charging Requirements.** Prior to the approval of building permits for future development envisioned under the Manufacturing, Research and Development (M-RD) zoning district, including the conceptual development project, in order to meet the Bay Area Air Quality Management District (BAAQMD) greenhouse gas (GHG) threshold requirements, the project sponsor shall present documentation to the satisfaction of the City of Berkeley Planning Department that the project shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs.

With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with the BAAQMD's project design elements related to energy, VMT, and electric vehicles.

As discussed above, the proposed creation of the M-RD zoning district would not result in any physical development on the project site, but would facilitate future development of up to 1,005,266 square feet of R&D uses on the project site. It is not yet known whether future development under the proposed M-RD zoning district would be all-electric. Potential uses under the proposed M-RD zoning district, such as laboratories, may require natural gas connections. Therefore, the proposed project would not be consistent with the BAAQMD design threshold recommending natural gas prohibition because natural gas may be included in the project design for certain uses allowed under the proposed M-RD zoning district. The City has determined that requiring compliance with the BAAQMD design threshold that completely prohibits natural gas usage is infeasible due to cost-effectiveness considerations, based in part on 2022 studies conducted by the California Public Utilities Commission (CPUC) and the CEC.[24] Furthermore, in 2023 and again in 2024, the Ninth Circuit Court of Appeals held that a City ordinance prohibiting natural gas infrastructure in new construction was preempted by the federal Energy Policy and Conservation Act and was

[24] Southern California Edison (SCE). 2022. *2019 Reach Code Cost-Effectiveness Analysis. Full Service and Quick-Service Restaurants.* February.

therefore unlawful.[25] For these reasons, the City, as lead agency for the environmental review of the proposed project, has found that requiring mitigation to prohibit the usage of natural gas in future projects is not feasible.

Because the proposed project would not incorporate all of the project design thresholds necessary to meet the BAAQMD thresholds, the proposed project would have a **significant and unavoidable** impact.

Impact GHG-1 Summary: If future development at the project site facilitated by the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant effect on the environment would be **significant and unavoidable,** even with implementation of Mitigation Measure GHG-1**.**

As the conceptual development project would be all electric, the conceptual development project would meet the project design thresholds recommended by the BAAQMD. Therefore, with implementation of Mitigation Measure GHG-1, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant effect on the environment would be **less than significant with mitigation**.

Impact GHG-2: The discussion for both the proposed project and the conceptual development project is not separated below, even though impact conclusions are presented as GHG-2a and GHG-2b. The impact conclusions differ as the proposed project could potentially include natural gas, thus would conflict with BAAQMD policies regarding new natural gas use, while the conceptual development project would be all electric.

Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. *(Significant and Unavoidable)*

Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. *(Less than Significant with Mitigation)*

Applicable plans adopted for the purpose of reducing GHG emissions include the Scoping Plan, the Plan Bay Area, and the City's CAP. The proposed project and conceptual development project were

[25] United States Court of Appeals for the Ninth Circuit. Filed April 17, 2023. California Restaurant Association v. City of Berkeley, (9th Cir. 2023) 65 F. 4th 1045, amended and superseded by (9th Cir. 2024) 89 F.4th 1094. https://cdn.ca9.uscourts.gov/datastore/opinions/2023/04/17/21-16278.pdf (accessed June 2024).

evaluated for consistency with those plans to demonstrate whether the proposed project and conceptual development project would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the GHG emissions.

Scoping Plan. The following discussion evaluates the proposed project and conceptual development project according to the goals of the 2022 Scoping Plan, EO B-30-15, SB 32, and AB 197.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. The CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 found in EO B-30-15. SB 32 builds on AB 32 and keeps the State on the path toward achieving the 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 is intended to provide easier public access to air emissions data that are collected by the CARB posted in December 2016.

The 2022 Scoping Plan assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that electrification will play an important role in almost all sectors. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California be zero-emission by 2035, and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

As identified above, the 2022 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by EO B-30-15 and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as qualitatively discussed below.

<u>Energy Measures.</u> Energy-efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new

technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. Future development envisioned under the proposed project, including the conceptual development project, would be required to comply with current California Energy Code and CALGreen Code standards and any locally adopted amendments, as required by BMC Chapter 19.37. As discussed above, it is not yet known whether future development under the proposed project would include natural gas; however, the conceptual development project is assumed to be all-electric. The elimination of natural gas in new development would help projects implement their "fair share" of achieving long-term 2045 carbon neutrality consistent with State goals. Accordingly, if a project does not use natural gas, a lead agency can conclude that it would be consistent with achieving the 2045 neutrality goal and will not have a cumulative considerable impact on climate change.[26] Therefore, the proposed project, if all-electric, would comply with applicable energy measures.

Water Conservation and Efficiency Measures. Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As identified above, future development envisioned under the proposed project, including the conceptual development project, would be required to comply with current CALGreen Code standards and all locally adopted amendments, as required by BMC Chapter 19.37, which include a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project and conceptual development project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project and conceptual development project would comply with applicable water conservation and efficiency measures.

Transportation and Motor Vehicle Measures. The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. The majority of vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project and conceptual development project would comply with applicable transportation and motor vehicle measures.

The proposed creation of a new zoning district and General Plan/West Berkeley Plan amendments would not result in any physical development on the project site but would facilitate future development consistent with the new zoning district, including the

[26] Bay Area Air Quality Management District (BAAQMD). 2023. *Air Quality Guidelines Appendix A: Thresholds of Significance Justification.* Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf (accessed February 2024).

conceptual development project. As discussed above, the project sponsor would implement the proposed TDM Plan as part of the conceptual development project in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation. In addition, all future development facilitated by the proposed project would be required to implement a similar TDM Plan, as required by *COA: Transportation Demand Management*.

In addition, the 2022 Scoping Plan includes key project attributes that reduce operational GHG emissions in Appendix D, Local Actions,[27] of the 2022 Scoping Plan. Table 4.6.B shows a summary of the proposed project's consistency with the 2022 Scoping Plan's key project attributes identified in Appendix B of the 2022 Scoping Plan.

Table 4.6.B: Project Consistency with 2022 Scoping Plan Key Project Attributes

Priority Areas	Key Project Attribute	Project Consistency
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	***Consistent (with Mitigation Measure GHG-1).*** With implementation of Mitigation Measure GHG-1, the project sponsor for future development projects under the proposed project, including the conceptual development project, shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Code Tier 2 Voluntary Standards as part of the final project designs. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this key project attribute.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).	***Consistent.*** The proposed project would involve the creation of a new zoning district (M-RD) and related zoning and General Plan amendments to facilitate future infill development of the site with up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses, including future development of the conceptual development project. The project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The conceptual development project includes redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of light manufacturing, R&D, laboratory, and office uses, would be designed to be compatible with neighboring land uses. In addition, the project site is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer). The proposed project would be consistent with this key project attribute.
	Does not result in the loss or conversion of natural and working lands.	***Consistent.*** The project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses. The proposed project does not consist of natural or working lands; therefore, the proposed project would be consistent with this key project attribute.

[27] California Air Resources Board (CARB). 2022c. *2022 Scoping Plan, Appendix D Local Actions.* November. Website: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf (accessed February 2024).

Table 4.6.B: Project Consistency with 2022 Scoping Plan Key Project Attributes

Priority Areas	Key Project Attribute	Project Consistency
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or is in proximity to existing transit stops (within 0.5 mile), or satisfies more detailed and stringent criteria specified in the region's SCS.	***Consistent.*** As discussed in Section 4.4, Transportation, the proposed project would implement the TDM Plan as part of the conceptual development project in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. In addition, transit service in the vicinity of the project site is provided by the Alameda-Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), and passenger rail service along the UPRR corridor is provided by Amtrak. Additionally, the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation, consistent with the intent of this key attribute.
VMT Reduction (cont'd)	Reduces parking requirements by eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or providing residential parking supply at a ratio of less than one parking space per dwelling unit; or for multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	***Not Consistent.*** The proposed project would not install fewer on-site parking space than required. With development potential of up to 1,005,266 square feet of uses on the site consistent with the proposed M-RD zoning, up to 1,300 parking spaces would be required. The conceptual development project is anticipated to include up to 1,900 parking spaces, which would exceed the parking standards for the entirety of the project site. Therefore, the proposed project would not be consistent with the intent of this key attribute.
	At least 20 percent of units included are affordable to lower-income residents.	***Not Applicable.*** The proposed project would not include residential uses.
	Results in no net loss of existing affordable units.	***Consistent.*** There are no affordable units on the project site. Therefore, neither the proposed project (which assumes demolition of existing residential uses at 1306 Third Street) nor the reasonably foreseeable conceptual development project (which anticipates no demolition of 1306 Third Street), would result in a loss of existing affordable units. The proposed project would be consistent with this key project attribute.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	***Not Consistent.*** As discussed above, it is not yet known whether future development under the proposed project would include natural gas; however, the conceptual development project is assumed to be all-electric. The proposed project would not be consistent with this key project attribute.

Source: Compiled by LSA (March 2024).
CALGreen Code = California Green Building Standards Code
EV = electric vehicle
M-RD = Manufacturing, Research and Development
R&D = research and development
SCS = Sustainable Communities Strategy
TDM Plan = Transportation Demand Management Plan
UPRR = Union Pacific Railroad
VMT = vehicle miles traveled

Plan Bay Area 2050. As described above, Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. Plan Bay Area 2050 includes 11 goals and 35 performance targets covering four broad areas: housing, economics, transportation, and environment. These targets enable the plan to be evaluated by its performance in areas identified as key regional concerns, including equitable access, economic vitality, and transportation system effectiveness. Table 4.6.C includes an evaluation of the proposed project's consistency with Plan Bay Area 2050 goals and performance targets related to GHG emissions. The project site is not in a Priority Development Area (PDA) or Transit Priority Area (TPA) as identified by Plan Bay Area 2050.

As described in Table 4.6.C, the proposed project would be consistent with the applicable strategies identified in Plan Bay Area 2050.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
Protect and Preserve Affordable Housing	**H1. Further strengthen renter protections beyond state law.** Building upon recent tenant protection laws, limit annual rent increases to the rate of inflation, while exempting units less than 10 years old.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H2. Preserve existing affordable housing. Acquire homes currently affordable to low- and middle-income residents for preservation as permanently deed-restricted affordable housing.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
Spur Housing Production for Residents of All Income Levels	**H3. Allow a greater mix of housing densities and types in Growth Geographies.** Allow a variety of housing types at a range of densities to be built in Priority Development Areas, select Transit-Rich Areas and select High-Resource Areas.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H4. Build adequate affordable housing to ensure homes for all. Construct enough deed-restricted affordable homes to fill the existing gap in housing for the unhoused community and to meet the needs of low-income households.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H5. Integrate affordable housing into all major housing projects. Require a baseline of 10–20% of new market-rate housing developments of five units or more to be affordable to low-income households.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
	H6. Transform aging malls and office parks into neighborhoods. Permit and promote the reuse of shopping malls and office parks with limited commercial viability as neighborhoods with housing for residents at all income levels.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
Create Inclusive Communities	**H7. Provide targeted mortgage, rental and small business assistance to Equity Priority Communities.** Provide assistance to low-income communities and communities of color to address the legacy of exclusion and predatory lending, while helping to grow locally owned businesses.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
	H8. Accelerate reuse of public and community-owned land for mixed-income housing and essential services. Help public agencies, community land trusts and other non-profit landowners accelerate the development of mixed-income affordable housing.	***Not Applicable.*** The proposed project would not include residential uses or affect existing affordable housing.
Improve Economic Mobility	**EC1. Implement a statewide universal basic income.** Provide an average $500 per month payment to all Bay Area households to improve family stability, promote economic mobility and increase consumer spending	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EC2. Expand job training and incubator programs. Fund assistance programs for establishing new businesses, as well as job training programs, primarily in historically disinvested communities.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EC3. Invest in high-speed internet in underserved low-income communities. Provide direct subsidies and construct public infrastructure to ensure all communities have affordable access to high-speed internet.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Shift the Location of Jobs	**EC4. Allow greater commercial densities in Growth Geographies.** Allow greater densities for new commercial development in select Priority Development Areas and Transit-Rich Areas to encourage more jobs to locate near public transit.	***Not Applicable.*** The project site is not in a PDA or a transit-rich area.
	EC5. Provide incentives to employers to shift jobs to housing-rich areas well served by transit. Provide subsidies to encourage employers to relocate offices to housing-rich areas near regional rail stations.	***Consistent.*** The project site is in a mixed-use urban area with access to high-quality transit. The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the infill project site with new employment-generating uses, including up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses. Accordingly, the proposed project would increase the number of available jobs within the vicinity of housing.
	EC6. Retain and invest in key industrial lands. Implement local land use policies to protect key industrial lands, identified as Priority Production Areas, while funding key infrastructure improvements in these areas.	***Not Applicable.*** The project site is not in a Priority Production Area. However, the project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the infill project site with new employment generating uses, including up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses.
Maintain and Optimize the Existing System	**T1. Restore, operate and maintain the existing system.** Commit to operate and maintain the Bay Area's roads and transit infrastructure while reversing pandemic-related cuts to total transit service hours.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T2. Support community-led transportation enhancements in Equity Priority Communities. Provide direct funding to historically marginalized communities for locally identified transportation needs.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
	T3. Enable a seamless mobility experience. Eliminate barriers to multi-operator transit trips by streamlining fare payment and trip planning while requiring schedule coordination at timed transfer hubs.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T4. Reform regional transit fare policy. Streamline fare payment and replace existing operator-specific discounted fare programs with an integrated fare structure across all transit operators.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T5. Implement per-mile tolling on congested freeways with transit alternatives. Apply a per-mile charge on auto travel on select congested freeway corridors where transit alternatives exist, with discounts for carpoolers, low-income residents, and off-peak travel; and reinvest excess revenues into transit alternatives in the corridor.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T6. Improve interchanges and address highway bottlenecks. Rebuild interchanges and widen key highway bottlenecks to achieve short- to medium-term congestion relief.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T7. Advance other regional programs and local priorities. Fund regional programs like motorist aid and 511 while supporting local transportation investments on arterials and local streets.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Create Healthy and Safe Streets	**T8. Build a Complete Streets network.** Enhance streets to promote walking, biking and other micro-mobility through sidewalk improvements, car-free slow streets, and 10,000 miles of bike lanes or multi-use paths.	***Consistent.*** At the time that individual development projects are proposed in the new M-RD zoning district, including the conceptual development project, they would be required to comply with the City's Complete Street Policy and standards related to pedestrian and bicycle circulation and access. All sidewalks along the conceptual development project site frontages would be refinished and widened to meet City standards and pedestrian pathways and sidewalks with connect to existing sidewalks on Gilman Street. In addition, public transit facilities, including AC Transit, BART, and Amtrak, serve the project area. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation and build complete streets, consistent with the intent of this strategy.
	T9. Advance regional Vision Zero policy through street design and reduced speeds. Reduce speed limits to between 20 and 35 miles per hour on local streets and 55 miles per hour on freeways, relying on design elements on local streets and automated speed enforcement on freeways.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Build a Next-Generation Transit Network	**T10. Enhance local transit frequency, capacity and reliability.** Improve the quality and availability of local bus and light rail service, with new bus rapid transit lines, South Bay light rail extensions, and frequency increases focused in lower-income communities.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
	T11. Expand and modernize the regional rail network. Better connect communities while increasing frequencies by advancing the Link21 new transbay rail crossing, BART to Silicon Valley Phase 2, Valley Link, Caltrain Downtown Rail Extension and Caltrain/High-Speed Rail grade separations, among other projects.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	T12. Build an integrated regional express lanes and express bus network. Complete the buildout of the regional express lanes network to provide uncongested freeway lanes for new and improved express bus services, carpools and toll-paying solo drivers.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Reduce Risks from Hazards	**EN1. Adapt to sea level rise.** Protect shoreline communities affected by sea level rise, prioritizing low-cost, high-benefit solutions and providing additional support to vulnerable populations.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EN2. Provide means-based financial support to retrofit existing residential buildings. Adopt building ordinances and incentivize retrofits to existing buildings to meet higher seismic, wildfire, water and energy standards, providing means-based subsidies to offset associated costs.	***Not Applicable.*** This strategy is not applicable, as the proposed project would not consist of a building retrofit.
	EN3. Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings. Support electrification and resilient power system upgrades in all public and commercial buildings.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
Expand Access to Parks and Open Space	**EN4. Maintain urban growth boundaries.** Using urban growth boundaries and other existing environmental protections, focus new development within the existing urban footprint or areas otherwise suitable for growth, as established by local jurisdictions.	***Consistent.*** The project site is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The proposed zoning and General Plan amendments would facilitate revitalization of the infill project site with new employment generating uses, including up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses. In addition, the project site is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
	EN5. Protect and manage high-value conservation lands. Provide strategic matching funds to help conserve and maintain high-priority natural and agricultural lands, including but not limited to, Priority Conservation Areas and wildland-urban interface areas.	***Not Applicable.*** This is a community policy--based goal; therefore, this measure would not be applicable to the project.
	EN6. Modernize and expand parks, trails and recreation facilities. Invest in quality parks, trails and open spaces that provide inclusive recreation opportunities for people of all backgrounds, abilities and ages to enjoy.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project. As discussed in the Project Description, the conceptual development project would provide open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and

Table 4.6.C: Project Consistency with Plan Bay Area 2050

Strategy		Project Consistency
		hardscape, approximately 24,000 square feet of landscaping and a portion of the 31,092-square-foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the conceptual development project site. Additionally, all future development envisioned under the proposed project would be required to include landscaping and open space consistent with City standards. It should also be noted that as stated in the City's Climate Action Plan, trees provide a range of climate change benefits ranging from carbon sequestration, providing habitat to birds and insects, shading to reduce building cooling costs, and air quality. There is currently a dearth of tree canopy coverage throughout West Berkeley, and the project would contribute to an improvement by implementing additional landscaping in the area.
Reduce Climate Emissions	**EN7. Expand commute trip reduction programs at major employers.** Set a sustainable commute target for major employers as part of an expanded Bay Area Commuter Benefits Program, with employers responsible for funding incentives and disincentives to shift auto commuters to any combination of telecommuting, transit, walking and/or bicycling.	***Consistent.*** As discussed in Section 4.4, Transportation, future projects envisioned under the proposed project and the conceptual development project would implement a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.
	EN8. Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers.	***Consistent (with Mitigation Measure GHG-1).*** With implementation of Mitigation Measure GHG-1, the project sponsor for all future development projects, including the conceptual development project, shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Code Tier 2 Voluntary Standards as part of the final project designs. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this strategy.
	EN9. Expand transportation demand management initiatives. Expand investments in programs like vanpools, bikeshare, carshare and parking fees to discourage solo driving.	***Consistent.*** Future projects envisioned under the proposed project and the conceptual development project would implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.

Sources: Metropolitan Transportation Commission and Association of Bay Area Governments (2021); LSA (March 2024).
AC Transit = Alameda-Contra Costa Transit District
BART = Bay Area Rapid Transit
CALGreen Code = California Green Building Standards Code
City = City of Berkeley
M-RD = Manufacturing, Research and Development
PDA = Priority Development Area
R&D = research and development
TDM Plan = Transportation Demand Management Plan

City of Berkeley Climate Action Plan. As discussed above, the City adopted a CAP in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP are based on the following topics: Sustainable Transportation and Land Use, Building Energy Use, Waste Reduction and Recycling, Community Outreach and Empowerment, and Preparing for Climate Change Impacts. Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Table 4.6.D includes an evaluation of the proposed project's consistency with the City's CAP.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
Sustainable Transportation & Land Use	**1. Goal:** Increase density along transit corridors.	***Consistent.*** The proposed zoning and General Plan/West Berkeley Plan amendments would facilitate revitalization of the primarily vacant and underutilized infill project site with up to 1,005,266 square feet of mixed light manufacturing, R&D, and laboratory, or office uses along the Gilman Street frontage and within close proximity to active transit, including the North Berkeley Bay Area Rapid Transit (BART) Station, 1.06 miles to the east. In addition, as discussed in Section 4.4, Transportation, future projects envisioned under the proposed project and the conceptual development project would implement a TDM Plan in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. In addition, future development, including the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles. Therefore, the project would support the ability of employees and visitors to use alternative modes of transportation, consistent with the intent of this key attribute.
	2. Goal: Increase and enhance urban green and open space, including local food production, to improve the health and quality of life for residents, protect biodiversity, conserve natural resources, and foster walking and cycling.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project. However, future development of the project site would be required to comply with City open space standards. In addition, the conceptual development project would provide open space between the buildings. A total of approximately 130,000 square feet of open space would be provided throughout the project site. The open spaces would include approximately 97,000 square feet of walkways, concrete curbs and hardscape, approximately 24,000 square feet of landscaping (including trees) and a portion of the 31,092 square foot existing building at 1331 Eastshore Highway would be reconstructed as an amenity space on the conceptual development project site. In addition, the proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to utilize other transportation options and rely less on driving alone, consistent with the intent of this goal.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
	3. Goal: Manage parking more effectively to minimize driving demand and to encourage and support alternatives to driving.	***Not Consistent.*** With development potential of up to 1,005,266 square feet of uses on the site consistent with the proposed M-RD zoning, up to 1,300 parking spaces would be required. The conceptual development project is anticipated to include up to 1,900 parking spaces, which would exceed the parking standards for the entirety of the project site. Therefore, the proposed project would not be consistent with this goal.
	4. Goal: Identify opportunities for generating sustained revenue for implementing community transportation demand management programs.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	5. Goal: Accelerate Implementation of the City's Bicycle & Pedestrian Plans.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	6. Goal: Make public transit more frequent, reliable, integrated and accessible.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	7. Goal: Enhance and expand car sharing and ridesharing programs.	***Consistent.*** The proposed project would implement a TDM Plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. Accordingly, the TDM measures would encourage employees and visitors to use other transportation options and rely less on driving alone, consistent with the intent of this strategy.
	8. Goal: Encourage the use of low-carbon vehicles and fuels.	***Consistent (with Mitigation Measure GHG-1).*** With implementation of Mitigation Measure GHG-1, the individual project sponsors shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Code Tier 2 Voluntary Standards as part of the final project design. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this goal.
	9. Goal: Enhance and expand outreach, marketing and education regarding land use and transportation.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	10. Goal: Green the vehicle fleet used by the City government and increase alternative transportation options for employees of public institutions.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Building Energy Use Strategies	**1. Goal:** Make green building business as usual in the new construction & remodel market.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	2. Goal: Enhance energy services and standards and reduce costs of energy upgrades for existing residential properties.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	3. Goal: Enhance Energy Services and Standards for Existing Commercial Properties.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	4. Goal: Increase residential and commercial renewable energy use.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	5. Goal: Increase Energy Efficiency and Renewable Energy Use in Public Buildings.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.

Table 4.6.D: Project Consistency with City of Berkeley CAP

Goal		Project Consistency
	6. Goal: Enhance and expand marketing, outreach and education regarding building energy use.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	7. Goal: Prepare local residents for green collar job opportunities.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Waste Reduction & Recycling	**1. Goal:** Increase residential recycling, composting, and source reduction.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	2. Goal: Increase recycling, composting & waste reduction in the commercial sector.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	3. Goal: Increase recycling of construction & demolition (C&D) debris.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	4. Goal: Expand local capacity to process recycled materials.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	5. Goal: Expand efforts to eliminate waste at its source.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	6. Goal: Revise the City solid waste disposal rate structure in order to maintain and enhance incentives, outreach programs and other activities designed to increase waste diversion.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	7. Goal: Increase recycling, composting, and waste reduction in public institutions.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	8. Goal: Enhance and expand marketing, outreach, and education regarding waste reduction and recycling.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Adapting to a Changing Climate	**1. Goal:** Make Berkeley resilient to the impacts of climate change.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
Community Outreach & Empowerment	**1. Goal:** Mobilize the community at large to turn the climate plan into climate action.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	2. Goal: Enhance outreach and incentives to the business community.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	3. Goal: Enhance climate change-related education at local schools.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
	4. Goal: Increase awareness in the City government.	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.

Sources: City of Berkeley (2009); LSA (February 2024).
CALGreen Code = California Green Building Standards Code
City = City of Berkeley
TDM Plan = Transportation Demand Management Plan
VMT = vehicle miles traveled

Impact GHG-2 Summary: Because future development facilitated by the proposed project may include the use of natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **significant and unavoidable,** even with implementation of Mitigation Measure GHG-1. As the conceptual development project would be all-electric, the conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Therefore, with implementation of Mitigation Measure GHG-1, the conceptual development project would be consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **less than significant with mitigation**.

4.6.2.3 Cumulative Impacts

GHG impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in GHG emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. This serves to define the State's share of the reductions regardless of the activities or lack of activities of other areas of the United States or the world. Therefore, a cumulative threshold based on consistency with State targets and actions to reduce GHGs is an appropriate standard of comparison for significance determinations.

As described above, CARB most recently updated the Scoping Plan in 2022 to include a framework to meet the State's carbon neutrality goals by 2045, and the BAAQMD has determined that projects need to incorporate design elements to do their "fair share" of implementing that goal. If a project is designed and built to incorporate the design elements, then it will contribute its portion of what is necessary to achieve its "fair share" and it can be concluded that the project would result in a **less than significant impact** related to GHG emissions. If a project does not incorporate these design elements, then a project would result in a significant GHG impact. Based on the analysis presented above, the proposed project would not be consistent with all of the project design features included in the BAAQMD's *State CEQA Guidelines* due to the potential inclusion of natural gas connections for future projects. A mitigation measure prohibiting the use of natural gas in future development was found to be infeasible. Therefore, since the proposed project would not meet all of the project design features recommended by the BAAQMD to support the project achieving its "fair share" of emission reductions, the proposed project would result in the generation of GHG emissions that would have a significant impact on the environment, and the cumulative GHG impacts would be considered **significant and unavoidable.**

4.7 ENERGY

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development project, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section evaluates the energy use resulting from implementation of the proposed project and evaluates whether the proposed project and the conceptual development project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. The energy use analysis in this section is based on information from the California Emissions Estimator Model (CalEEMod) version 2022.1 modeling results contained in Appendix F.

4.7.1 Setting

The following discussion provides an overview of existing energy usage.

4.7.1.1 Electricity

The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).

According to the most recent data available, in 2022, California's electricity was generated primarily by natural gas (47.5 percent), renewable sources (52.2 percent), large hydroelectric (7.2 percent), nuclear (8.7 percent), coal (less than 1.0 percent), and other unspecified sources. Total electric generation in California in 2022 was 287,220 gigawatt-hours (GWh), up 3.4 percent from the 2021 total generation of 277,764 GWh.[1]

The project site is within the service territory of Pacific Gas & Electric Company (PG&E). According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2022 was 77,887 gigawatt-hours (GWh) or 77,886,999,998 kilowatt-hours (kWh).[2] Of this total, Alameda County consumed 10,395 GWh or 10,395,384,395 kWh.[3]

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1 California Energy Commission (CEC). 2023a. *2023 Total System Electric Generation*. Website: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation (accessed January 2024).

2 CEC. 2023b. Electricity Consumption by County and Entity. Website: http://www.ecdms.energy.ca.gov/elecbycounty.aspx and http://www.ecdms.energy.ca.gov/elecbyutil.aspx (accessed January 2024).

3 Ibid.

Ava Community Energy (formerly East Bay Community Energy) supplies electricity to the city using transmission infrastructure operated and maintained by PG&E.[4] Ava Community Energy is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. Ava Community Energy offers 100-percent renewable energy services to member cities, and both residential and commercial customers in Berkeley are placed in the Renewable 100 Plan by default. However, customers have the option to opt out of the Renewable 100 program and enroll in the Bright Choice Program which would be supplied by 40 percent renewable energy or to receive electricity from PG&E.

4.7.1.2 Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels form when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[5]

PG&E is the natural gas service provider for the proposed project site. According to the CEC, total natural gas consumption in the PG&E service area in 2022 was 4.422 billion therms (4,422,630,060 therms).[6] Of this total, Alameda County consumed 377 million therms, or 377,309,788 therms.[7]

4.7.1.3 Petroleum/Transportation Energy

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

The average fuel economy for light-duty vehicles (automobiles, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.9 mpg in 2021.[8] Federal fuel economy standards have changed substantially since the Energy

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4 East Bay Community Energy. 2023. *Berkeley is Going Green*. Website: https://ebce.org/berkeley/ (accessed May 2024).

5 CEC. n.d. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed January 2024).

6 CEC. 2023b. Gas Consumption by County and Entity. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx and http://www.ecdms.energy.ca.gov/gasbyutil.aspx (accessed January 2024).

7 Ibid.

8 United States Department of Transportation (USDOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles (accessed January 2024).

Independence and Security Act was passed in 2007. This act, which originally mandated a national fuel economy standard of 35 mpg by 2020,[9] applies to cars and light trucks of model years 2011 through 2020. In March 2020, the United States Environmental Protection Agency and the National Highway Traffic Safety Administration finalized the Corporate Average Fuel Economy (CAFE) standards for Model Years 2024–2026 Passenger Cars and Light Trucks, further detailed below.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent data available, in 2021, total gasoline consumption in California was 289,918 thousand barrels (12.2 billion gallons) or 1,464.7 trillion British thermal units (BTU).[10] Of the total gasoline consumption, 273,289 thousand barrels (11.5 billion gallons) or 1,380.7 trillion BTU were consumed for transportation.[11] Based on fuel consumption obtained from the California Air Resources Board's (CARB) California Emissions Factor Model, Version 2021 (EMFAC2021), approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel will be consumed from vehicle trips in Alameda County in 2024.

4.7.1.4 Regulatory Framework

Federal and State agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. On the State level, the California Public Utilities Commission (CPUC) and the CEC are two agencies with authority over different aspects of energy.

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies and serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy.

The CEC is the State's primary energy policy and planning agency. The CEC forecasts future energy needs, promotes energy efficiency, supports energy research, develops renewable energy resources, and plans for/directs State response to energy emergencies. The applicable federal, State, regional, and local regulatory framework is discussed below.

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9 United States Department of Energy. 2007. "Energy Independence & Security Act of 2007." Website: https://www.afdc.energy.gov/laws/eisa (accessed January 2024).

10 United States Energy Information Administration (EIA). 2022. California State Profile and Energy Estimates, Data. Website: www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed January 2024).

11 Ibid.

Federal Regulations. The following discusses applicable federal regulations.

Energy Policy Act of 2005. The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under this act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products (including hybrid vehicles), building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Corporate Average Fuel Economy Standards. On March 31, 2022, the National Highway Traffic Safety Administration finalized the CAFE standards for model years 2024–2026 passenger cars and light trucks. The amended CAFE standards would require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

State Regulations. The following discusses applicable State regulations.

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the CEC. The CEC's statutory mission is to forecast future energy needs; license power plants of 50 megawatts or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require Environmental Impact Reports (EIR) to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project would result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs

for zero-emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recently adopted report includes the *2023 Integrated Energy Policy Report.*[12] The *Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on State electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs.

Renewable Portfolio Standard. SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required that all the State's electricity come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[13]

California Energy Code. Energy consumption by buildings in California is regulated by the Building Energy Efficiency Standards, Part 6 of Title 24 of the California Code of Regulations, known as the Energy Code. The CEC first adopted the Building Energy Efficiency Standards for Residential and Non-residential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The Energy Code is updated every 3 years, with the most recent update consisting of the 2022 Energy Code, which became effective January 1, 2023. Mid-cycle supplements to the 2022 Code became effective on July 1, 2024. The efficiency standards apply to new construction as well as to rehabilitation of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Energy Code and California Green Building Standards Code.

California Green Building Standards Code. In 2010, the California Building Standards Commission adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1,

[12] CEC. 2023c. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

[13] California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard Program. Website: cpuc.ca.gov/rps (accessed January 2024).

2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2022 CALGreen Code standards that became effective January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024. The CALGreen Code established mandatory measures for residential and non-residential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce greenhouse gas (GHG) emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the CPUC adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that the CPUC established in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- Heating, ventilation and air conditioning will be transformed to ensure that its energy performance is optimal for California's climate.

Regional Regulations. Regional regulations applicable to energy include Plan Bay Area, described below.

Plan Bay Area 2050. Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete a Sustainable Communities Strategy (SCS) as part of a Regional Transportation Plan. In the Bay Area, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) are jointly responsible for developing and adopting an SCS that integrates transportation, land use and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 connects the elements of housing, the economy, transportation, and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the Implementation Plan for Plan Bay Area 2050 identifies more than 80 specific actions for MTC, ABAG and partner organizations to take over the next 5 years to make headway on each of the 35 strategies.

Local Plans and Regulations. The City of Berkeley plans and regulations related to energy that would be applicable to the project are described below.

City of Berkeley General Plan. The following policies from the Environmental Management Element and Transportation Element of the City of Berkeley General Plan address the City's goal of reducing energy use.[14]

Policy EM-5: "Green Buildings". Promote and encourage compliance with "green" building standards.

Policy EM-8: Building Reuse and Construction Waste. Encourage rehabilitation and reuse of buildings whenever appropriate and feasible in order to reduce waste, conserve resources and energy, and reduce construction costs.

Policy EM-35: Energy-Efficient Design. Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.

Policy EM-36: Energy Conservation. Continue to implement energy conservation requirements for residential and commercial buildings at the time of sale and at time of major improvements.

Policy EM-41: Fossil Fuel. Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.

Policy T-11: City of Berkeley. Establish the City of Berkeley as a "Model Employer" in the area of trip and emission reduction.

Policy T-15: Local Hiring. Establish Berkeley residency as a preference for hiring, and encourage other public employers, institutions, and private employers to hire locally.

Policy T-19: Air Quality Impacts. Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.

Policy UD-33: Sustainable Design. Promote environmentally sensitive and sustainable design in new buildings

City of Berkeley Conditions of Approval for Development Projects. The City of Berkeley (City) has established standard conditions of approval (COA) for all development projects. The following COA is related to energy conservation.

<u>COA: Construction and Demolition Diversion.</u> Applicant shall submit a Construction Waste Management Plan that meets the requirements of Berkeley Municipal Code (BMC) Chapter 19.37 including 100 percent diversion of asphalt, concrete, excavated soil and land-clearing

[14] City of Berkeley. 2002. *City of Berkeley General Plan: A Guide for Public Decision-Making.* April.

debris and a minimum of 65 percent diversion of other nonhazardous construction and demolition waste.

City of Berkeley Climate Action Plan. The City of Berkeley adopted a Climate Action Plan (CAP)[15] in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP are based on the following topics:

- Sustainable Transportation and Land Use
- Building Energy Use
- Waste Reduction and Recycling
- Community Outreach and Empowerment
- Preparing for Climate Change Impacts

Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Since publication of the CAP, the City has several additional climate commitments:[16]

- 100 percent renewable electricity by 2035
- Net-Zero Carbon Emissions by 2045, in alignment with Governor Brown's Executive Order B-55-18
- Declared a Climate Emergency and resolved to become a Fossil Fuel Free City
- Cities Race to Zero Campaign: Committed to reducing emissions 60.5 percent from 2018 levels by 2030, an emission reduction target that reflects Berkeley's fair share of the 50 percent global reduction in carbon dioxide equivalents

Municipal Code. BMC Chapter 19.37 is the Berkeley Green Code, which adopts the 2022 CALGreen standards with locally adopted amendments.

4.7.2 Impacts and Mitigation Measures

The following describes the project's potential impacts related to energy. The section begins with the significance criteria, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and the conceptual development project and identifies mitigation measures, as appropriate.

4.7.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to energy if it would:

[15] City of Berkeley. 2009. *City of Berkeley Climate Action Plan.* June.
[16] City of Berkeley. 2022. *City of Berkeley 2023–2031 Housing Element Update Environmental Impact Report*. August.

Threshold EN-1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

Threshold EN-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.7.2.2 Project Impacts

The following section evaluates potential energy impacts associated with buildout facilitated by the proposed project and the conceptual development project.

Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. (*Less than Significant)*

Future development facilitated by the proposed project, including the conceptual development project, would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction and operation; however, it would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, and impacts would be **less than significant.**

Construction. Future construction activities associated with buildout under the proposed project, including the conceptual development project, would include demolition, grading, site preparation, building construction, architectural coating, and paving activities. Construction activities require energy associated with the manufacture and transportation of building materials, grading activities, and building construction. Construction activities also typically require electricity to power construction-related equipment and do not involve the consumption of natural gas.

Transportation energy represents the largest energy use during construction and would be from the transport and use of construction equipment, delivery vehicles, haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from a site would be anticipated to use diesel fuel, whereas construction workers traveling to and from a site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, VMT, the fuel efficiency of the vehicles, and the travel mode.

Estimates of fuel consumption (diesel fuel and gasoline) for future buildout envisioned under the proposed project and the conceptual development project, from construction equipment, construction trucks, and construction worker vehicles, are based on default construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from EMFAC2021.

Buildout under the Gilman Gateway Rezone. As stated in Section 4.5, Air Quality, the proposed project would rezone the project site to the new M-RD zoning district and include amendments to the General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to project site,

but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory, or office uses, which would involve demolition of site structures and new construction. As described in Section 4.5, Air Quality, the CalEEMod analysis assumes the construction of up to 1,005,266 square feet of R&D uses and the demolition of 320,070 square feet of building area plus an additional 10 percent to account for the asphalt lots on the site. This analysis also assumes that construction activities associated with buildout under the proposed project would require the import of approximately 150,000 cubic yards of material, including imported soil and fill, which was also included in CalEEMod. Construction of the activities associated with the proposed project were assumed in CalEEMod to begin in 2025 and continue over approximately 8 years. Because no other construction details are known at this time, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used, with the addition of pile-driving equipment.

Table 4.7.A presents fuel consumption estimates for buildout envisioned under the proposed project. CalEEMod output sheets are included in Appendix F, and detailed energy calculations are included in Appendix H.

Table 4.7.A: Energy Consumption Estimates During Construction of Buildout under the Gilman Gateway Rezone

Energy Type	Total Energy Consumption	Annual Energy Consumption[1]	Percentage of Increase Countywide
Diesel Fuel (total gallons)	1,684,799.0	210,599.9	0.1
Gasoline (total gallons)	1,082,963.2	135,370.4	<0.1

Source: Compiled by LSA (May 2024).
Note:
[1] The annual energy consumption is the total energy consumption averaged over the 8-year construction period.

As shown in Table 4.7.A, development envisioned under the proposed project would consume 1,684,799.0 gallons of diesel fuel and 1,082,963.2 gallons of gasoline during construction. As discussed above, construction associated with the proposed project is expected to occur over approximately 8 years; therefore, when averaged over 8 years, buildout under the proposed project would consume 210,599.9 gallons of diesel fuel per year and 135,370.4 gallons of gasoline per year during construction. Based on fuel consumption obtained from EMFAC2021, trips in Alameda County will consume approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel in 2024. Therefore, construction of future development as envisioned under the proposed project would increase the annual construction generated fuel use in Alameda County by 0.1 percent for diesel fuel usage and by less than 0.1 percent for gasoline fuel usage.

Potential Berkeley Forge Development. Construction of the conceptual development project is anticipated to begin in 2025 and continue for approximately 7 years, with occupancy anticipated over 2027–2034. Because no other construction details are known at this time, default

assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used.

Table 4.7.B presents fuel consumption estimates for the conceptual development project. CalEEMod output sheets are included in Appendix F, and detailed energy calculations are included in Appendix H.

As shown in Table 4.7.B, construction of the conceptual development project would consume 1,271,535.1 gallons of diesel fuel and 728.472.5 gallons of gasoline during construction. As discussed above, construction associated with the conceptual development project is expected to take place over approximately 7 years; therefore, when averaged over 7 years, the conceptual development project would consume 181,647.9 gallons of diesel fuel per year and 104,067.5 gallons of gasoline per year during construction.

Table 4.7.B: Energy Consumption Estimates During Construction of the Potential Berkeley Forge Development

Energy Type	Total Energy Consumption	Annual Energy Consumption[1]	Percentage of Increase Countywide
Diesel Fuel (total gallons)	1,271,535.1	181,647.9	0.1
Gasoline (total gallons)	728,472.5	104,067.5	<0.1

Source: Compiled by LSA (May 2024).
Note:
[1] The annual energy consumption is the total energy consumption averaged over the 7-year construction period.

Based on fuel consumption obtained from EMFAC2021, trips in Alameda County will consume approximately 540.5 million gallons of gasoline and approximately 156.2 million gallons of diesel in 2024. Therefore, construction of the conceptual development project would increase the annual construction generated fuel use in Alameda County by 0.1 percent for diesel fuel usage and by less than 0.1 percent for gasoline fuel usage.

As shown in Tables 4.7.A and 4.7.B, above, construction activities associated with buildout envisioned under the proposed project and the conceptual development project would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Alameda County's overall use of the State's available energy resources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy, as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. The proposed project and the conceptual development project would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction would not be inefficient, wasteful, or unnecessary, and this impact would be **less than significant**.

Operation. Operational energy use is typically associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with a project. The proposed project, including the conceptual development project, would result in diesel usage associated with the emergency backup generators; however, the emergency backup generators are only expected to run a maximum of 50 hours annually, primarily for testing purposes. Therefore, use of the emergency backup generators is not expected to substantially increase diesel fuel usage and is not evaluated further. Operational energy usage was estimated for both the future buildout envisioned under the proposed project and the conceptual development project.

Buildout under the Gilman Gateway Rezone project. Energy usage estimates for operation of development envisioned under the proposed project were calculated using CalEEMod, assuming 1,005,266 square feet of R&D uses as identified in Table 3.G in Chapter 3.0, Project Description. Electricity and natural gas usage was estimated for future projects using default energy intensities by land use type in CalEEMod and are shown in Table 4.7.C for buildout envisioned under the proposed project.

Table 4.7.C: Energy Consumption Estimates During Operation of Buildout under the Gilman Gateway Rezone

Energy Type	Annual Energy Consumption	Percentage of Increase Countywide
Electricity Consumption (kWh/year)	24,679,742.0	0.2
Natural Gas Consumption (therms/year)	238,801.0	0.1
Gasoline (gallons/year)	1,288,549.2	0.2
Diesel Fuel (gallons/year)	179,721.2	0.1

Source: Compiled by LSA (May 2024).
kWh = kilowatt-hours

In addition, development envisioned under the proposed project would result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. Trip generation rates for buildout under the proposed project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). The amount of operational fuel use was estimated using CARB's EMFAC2021 model, which provided projections for typical daily fuel usage in Alameda County.

Table 4.7.C shows electricity and fuel usage estimates associated with future buildout envisioned under the proposed project.

As shown in Table 4.7.C, the estimated potential increase in electricity demand associated with future development envisioned under the buildout of the proposed project is 24,679,742 kWh per year. Total electricity consumption in Alameda County in 2022 was 10,395 GWh (10,395,384,395 kWh). Therefore, operation of future development envisioned under the proposed project would increase the annual electricity consumption in Alameda County by 0.2 percent. As previously discussed, the City has received no formal application for development on the project site under the proposed M-RD zoning district, including for conceptual development project. Once a formal application to develop the project site is submitted, the developer will be required to coordinate with PG&E regarding operational electricity usage through PG&E's

application and review process. In the case that PG&E finds that there is insufficient electricity infrastructure to serve the proposed development, or a new substation is required to serve the proposed development, subsequent CEQA review would be required. This analysis does not include any assumptions related to the construction of new electricity infrastructure.

Additionally, as shown in Table 4.7.C, the estimated potential increase in natural gas demand associated with future development envisioned under buildout of the proposed project is 238,801 therms per year. Total natural gas consumption in Alameda County in 2022 was approximately 377 million therms (377,309,788 therms). Therefore, operation of future development envisioned under buildout of the proposed project would increase the annual natural gas consumption in Alameda County by 0.1 percent.

Future development envisioned under buildout of the proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table 4.7.C, the increase in fuel use associated with the vehicle trips generated by the future development envisioned under buildout of the proposed project is estimated at 1,288,549.2 gallons of gasoline and 179,721.2 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, vehicle trips in Alameda County in 2024 will consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel. Therefore, vehicle trips associated with the future development envisioned under buildout of the proposed project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage.

Potential Berkeley Forge Development project. Energy usage estimates for operation of the conceptual development project were calculated using CalEEMod, assuming 900,000 square feet of R&D uses. Electricity usage was estimated using default energy intensities in CalEEMod and are shown in Table 4.7.D. The conceptual development project would not increase the demand for natural gas, which was included in CalEEMod.

Table 4.7.D: Energy Consumption Estimates During Operation of Potential Berkeley Forge Development

Energy Type	Annual Energy Consumption	Percentage of Increase Countywide
Electricity Consumption (kWh/year)	21,193,450.0	0.2
Natural Gas Consumption (therms/year)	0.0	0.0
Gasoline (gallons/year)	1,153,379.9	0.2
Diesel Fuel (gallons/year)	162,257.7	0.1

Source: Compiled by LSA (May 2024).
kWh = kilowatt-hours

In addition, the conceptual development project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. Trip generation rates for the conceptual development project were based on the project's trip generation estimates (refer to Table 4.4.D in Section 4.4, Transportation, for trip generation estimates). The amount of operational fuel use was estimated using CARB's EMFAC2021 model, which provided projections for typical daily fuel usage in Alameda County.

Table 4.7.D shows electricity and fuel usage estimates associated with the conceptual development project.

As shown in Table 4.7.D, the estimated potential increase in electricity demand associated with the conceptual development project is 21,193,450 kWh per year. Total electricity consumption in Alameda County in 2022 was 10,395 GWh (10,395,384,395 kWh). Therefore, operation of the conceptual development project would increase the annual electricity consumption in Alameda County by 0.2 percent.

The conceptual development project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table 4.7.D, the increase in fuel use associated with the vehicle trips generated by the conceptual development project is estimated at 1,153,379.9 gallons of gasoline and 162,257.7 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, vehicle trips in Alameda County in 2024 will consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel. Therefore, vehicle trips associated with the conceptual development project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage.

As shown in Tables 4.7.C and 4.7.D, above, electricity demand associated with future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the future projects under the proposed project, including the conceptual development project, would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. All future development would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and locally adopted amendments, as required by BMC Chapters 19.36 and 19.37. The Energy Code establishes minimum energy and water efficiency requirements for new buildings and additions or alterations to existing buildings.

Additionally, as discussed in Section 4.4, Transportation, the project sponsor of future development facilitated by the proposed project would be required to implement a Transportation Demand Management Plan (TDM Plan) in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes. The project sponsor for the conceptual development project would implement the proposed TDM Plan for the Gilman Gateway Rezone Project as part of the conceptual development project. In addition, public transit facilities serve the project area, including Alameda-Contra Costa Transit District, and the conceptual development project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles. Therefore, the proposed project and the conceptual development project would support the ability of employees and visitors to use alternative modes of transportation. As such, fuel consumption associated with vehicle trips generated by future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and this impact would be **less than significant**.

Impact EN-1 Summary: Construction activities associated with future development facilitated by the proposed project, including the conceptual development project, would have a negligible effect on local and regional energy supplies and would not cause or result in the need for additional energy

facilities or an additional or expanded delivery system. Energy usage associated with future operations facilitated by the proposed project, including the conceptual development project, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, as all future development would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Energy Code and locally adopted amendments, as required by BMC Chapters 19.36 and 19.37. Therefore, future development facilitated by the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be **less than significant.**

Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (*Less than Significant with Mitigation*)

Applicable plans adopted for the purpose of maximizing use of renewable energy sources and overall energy efficiency include the CEC's 2023 Integrated Policy Report, the City of Berkeley General Plan, City of Berkeley Climate Action Plan, and Plan Bay Area 2050. Accordingly, the proposed project and the conceptual development project were evaluated for consistency with those plans to demonstrate whether the proposed project and the conceptual development project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Integrated Energy Policy Report. The CEC's *2023 Integrated Energy Policy Report* provide the results of the CEC's assessments of a variety of energy issues facing California. As demonstrated under Impact EN-1 above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the overall use in Alameda County. In addition, energy usage associated with operation of future development facilitated by the proposed project, including the conceptual development project, would be relatively small in comparison to the overall use in Alameda County and the State's available energy resources. Therefore, energy impacts at the regional level would be negligible. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's Integrated Energy Policy Report. Additionally, as demonstrated above, the proposed project and the conceptual development project would not result in the inefficient, wasteful, and unnecessary consumption of energy. Therefore, this impact would be **less than significant**.

City of Berkeley General Plan. As discussed above, the City addresses energy in the Environmental Management Element of the General Plan (refer to Section 4.7.1.4 for the text of the applicable General Plan policies). Future development facilitated under the proposed project, including the conceptual development project would be required to comply with the current California Energy Code, CALGreen standards, and local amendments as adopted in the Berkeley Green Code, as well as the Berkeley Energy Code, consistent with the intent of General Plan Policies EM-5, EM-35, and EM-36. As required by the Berkeley Green Code, future development facilitated by the proposed project, including the conceptual development project, would also be required to implement *COA: Construction and Demolition Diversion*, which requires project sponsors to submit a Construction

Waste Management Plan that includes 100 percent diversion of asphalt, concrete, excavated soil and land-clearing debris and a minimum of 65 percent diversion of other nonhazardous construction and demolition waste, consistent with the intent of General Plan Policy EM-8. However, the use of fossil fuels and other non-renewable resources during project implementation may conflict with General Plan Policy EM-41 which requires projects to reduce fossil fuel consumption. This could result in a **potentially significant** impact.

Implementation of Mitigation Measure GHG-1, as identified below and in Section 4.6, Greenhouse Gas Emissions, requires that the project sponsor for individual future development projects shall provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Tier 2 Voluntary Standards as part of the final project designs.

Mitigation Measure GHG-1 **Electric Vehicle Charging Requirements.** (*Refer to Section 4.6, Greenhouse Gas Emissions*)

With implementation of Mitigation Measure GHG-1, the proposed project and conceptual development project would be consistent with the intent of General Plan Policy EM-41. Therefore, the proposed project and conceptual development project would be consistent with the applicable City of Berkeley General Plan policies and this impact would be **less than significant with mitigation incorporated**.

City of Berkeley Climate Action Plan. As discussed above, the City adopted a CAP in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP are based on the following topics: Sustainable Transportation and Land Use, Building Energy Use, Waste Reduction and Recycling, Community Outreach and Empowerment, and Preparing for Climate Change Impacts. Although the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emission analysis under CEQA, the City actively uses it for guiding GHG emission reduction efforts. Table 4.6.E of Section 4.6, Greenhouse Gas Emissions, includes an evaluation of the consistency of the proposed project, including the conceptual development project, with the City's CAP. As demonstrated in Table 4.6.E, the proposed project would be consistent with applicable CAP goals, and this impact would be **less than significant**.

Plan Bay Area 2050. Plan Bay Area 2050 connects the elements of housing, the economy, transportation, and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG, and partner organizations to take over the next 5 years to make headway on each of the 35 strategies. Table 4.6.D in Section 4.6, Greenhouse Gas Emissions, includes an evaluation of the consistency of the proposed project, including the conceptual development project, with Plan Bay Area 2050 strategies. As described in Section 4.6, Greenhouse Gas Emissions, the proposed project would be consistent with the applicable strategies identified in Plan Bay Area 2050 and this impact would be **less than significant**.

Impact EN-2 Summary: Implementation of the proposed project, including the conceptual development project, would be consistent with the CEC's 2023 Integrated Policy Report, City of

Berkeley CAP, and Plan Bay Area 2050. With implementation of Mitigation Measure GHG-1, which requires the project sponsor for individual future development projects to provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Tier 2 Voluntary Standards, the proposed project and the conceptual development project would be consistent with the City's General Plan. Therefore, the proposed project and the conceptual development project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts would **less than significant with mitigation**.

4.7.2.3 Cumulative Impacts

The proposed project would have a significant effect on the environment if it, in combination with other projects, would contribute to a significant cumulative impact related to energy.

Development of cumulative projects within the PG&E service area that encompasses 70,000 square miles would result in a substantial increase in electricity and natural gas demand as well as an increase in the consumption of fuel for vehicles. Although the proposed project would result in a net increase in demand for electricity and natural gas, implementation of the proposed project would not result in the construction of new electric or natural gas infrastructure beyond what has already been assumed and will be included in PG&E's regional forecasts. Once a formal application to develop the project site is submitted, the project sponsor will be required to coordinate with PG&E regarding operational electricity usage through PG&E's application and review process. In the case that PG&E finds that there is insufficient electricity infrastructure to serve the proposed development, or a new substation is required to serve the proposed development, subsequent CEQA review would be required. This analysis does not include any assumptions related to the construction of new electricity infrastructure.

As discussed previously, the total annual electricity consumption in the PG&E service area in 2022 was 77,887 GWh (77,886,999,998 kWh). As shown in Table 4.7.C, the estimated potential increase in electricity demand associated with full buildout envisioned under the proposed project is 24,679,742 kWh per year. Therefore, operation of the proposed project would increase the annual electricity consumption in the PG&E service area by less than 0.1 percent. As such, the proposed project's share of cumulative electricity consumption would negligible.

Total natural gas consumption in the PG&E service area in 2022 was 4.422 billion therms (4,422,630,060 therms). As shown in Table 4.7.C, the estimated potential increase in natural gas demand associated with full buildout envisioned under the proposed is 238,801 therms per year. Therefore, operation of the proposed project would increase the annual natural gas consumption in the PG&E service area by less than 0.1 percent. The proposed project's share of cumulative consumption of natural gas in the PG&E service area would be negligible.

In addition, in 2022, a total of 38 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[17] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's

[17] Pacific Gas & Electric Company. 2024. *Exploring Clean Energy Solutions*. https://www.pge.com/en/about/corporate-responsibility-and-sustainability/taking-responsibility/clean-energy-solutions.html (accessed February 2024).

60 percent by 2030 renewable energy mandate set forth in SB 100. In addition, PG&E plans to continue to provide reliable service to its customers and upgrade its distribution systems as necessary to meet future demand.

As discussed above, Ava Community Energy supplies electricity to the City using transmission infrastructure operated and maintained by PG&E. Ava Community Energy is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. Ava Community Energy offers 100 percent renewable energy services to member cities, and both residential and commercial customers in the city of Berkeley are placed in the Renewable 100 Plan by default. However, customers have the option to opt out of the Renewable 100 program and enroll in the Bright Choice Program, which would be supplied by 40 percent renewable energy, or receive electricity from PG&E.

Transportation energy use would also increase; however, as described above, fuel use associated with the vehicle trips generated by full buildout envisioned under the proposed project is estimated at 1,288,549.2 gallons of gasoline and 179,721.2 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, vehicle trips in Alameda County in 2024 would consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel. Therefore, vehicle trips associated with full buildout envisioned under the proposed project would increase the annual fuel use in Alameda County by 0.2 percent for gasoline fuel usage and 0.1 percent for diesel fuel usage. Therefore, gasoline and diesel fuel demand generated by vehicle trips associated with the full buildout envisioned under the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in Alameda County.

As demonstrated above, the proposed project's contribution to impacts related to the inefficient, wasteful, and unnecessary consumption of energy would not be cumulatively considerable. Impacts would be **less than significant.**

4.8 NOISE

As outlined in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing noise and vibration conditions, sets forth criteria for determining the significance of noise and vibration impacts, and estimates the likely noise and vibration impacts that would result from the implementation of the proposed project and construction and operation of future development, including the conceptual development project. Standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant noise and vibration impacts are identified, where appropriate.

4.8.1 Setting

This section describes the fundamentals of noise and vibration, summarizes the regulatory framework, and describes the existing noise environment of the project site and its vicinity. For the purposes of this analysis the project vicinity is defined as the distance from the project site to the nearest sensitive receptors. The nearest sensitive receptors and the existing noise environment are described in Section 4.8.1.3, below.

4.8.1.1 Characteristics of Sound

Noise is generally defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is the number of complete vibrations or cycles per second of a wave that results in the range of tone from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment, and it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effects on adjacent sensitive land uses.

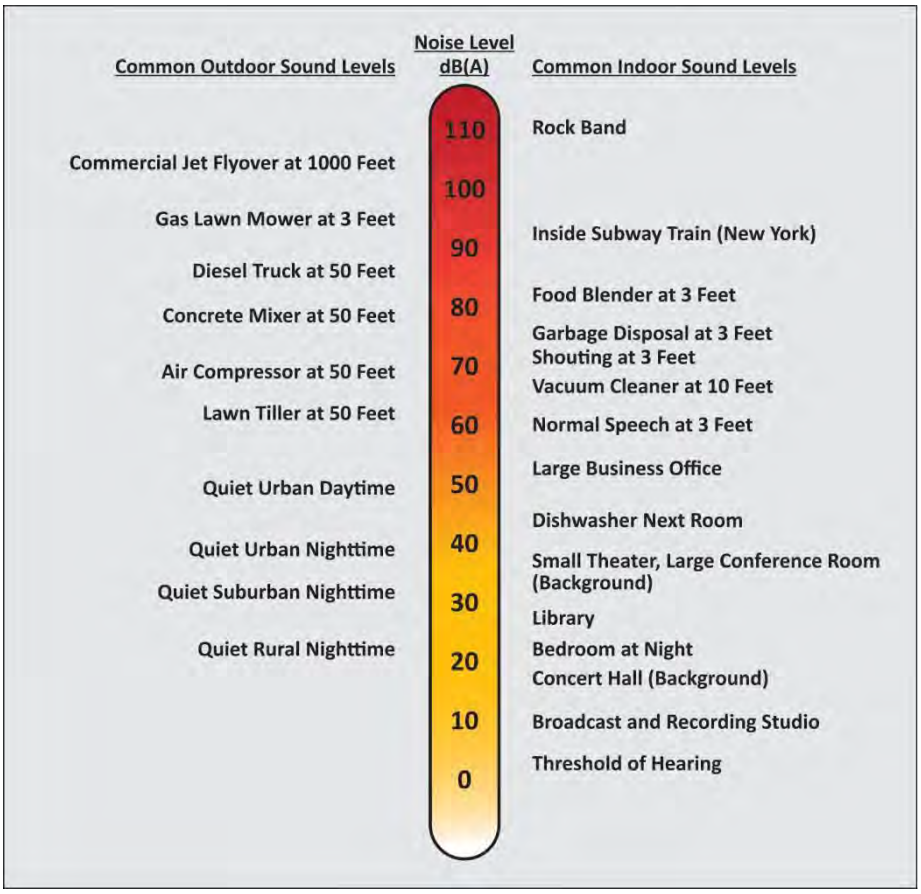
Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Table 4.8.A contains a list of typical acoustical terms and definitions. Figure 4.8-1 shows representative outdoor and indoor noise levels in units of A-weighted decibels (dBA).

Table 4.8.A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source 1: Technical Noise Supplement (Caltrans 2013)
Source 2: Transit Noise and Vibration Impact Assessment Manual (FTA 2018).
Caltrans = California Department of Transportation
FTA = Federal Transit Administration

Figure 4.8-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours. Typical A-weighted sound levels from various sources are described in Figure 4.8-1.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions, and addresses the annoying aspects of intermittent noise.

Noise standards in terms of percentile exceedance levels, L_n, are often used together with the L_{max} for noise enforcement purposes. When specified, the percentile exceedance levels are not to be exceeded by an offending sound over a stated time period. For example, the L_{10} noise level represents the level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level. For a relatively steady noise, the measured L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dBA or greater, because, as described earlier, this level of noise change has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dBA. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1 dBA that are inaudible to the human ear. A change in noise level of at least 5 dBA would be required before any noticeable change in human response would be expected and a 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise. The effects of noise on people can also be described in three categories: annoyance, interference with activities such as speech or sleep, and physiological effects such as hearing loss. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure,

functions of the ear, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling.

Unwanted community effects of noise occur at levels much lower than those that cause hearing loss and other health effects. Noise annoyance occurs when it interferes with sleeping, conversation, and noise-sensitive work, including learning or listening to the radio, television, or music. According to World Health Organization noise studies, few people are seriously annoyed by daytime activities with noise levels below 55 dBA, or are only moderately annoyed with noise levels below 50 dBA.[1]

4.8.1.2 Characteristics of Ground-borne Vibration

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause perceptible vibration from the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise. When assessing annoyance from ground-borne noise, vibration is typically expressed as root-mean-square (RMS) velocity in units of decibels of 1 microinch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB." Human perception to vibration starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at approximately 70 VdB. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive ground-borne vibration has the potential to cause structural damage to buildings. Vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Common sources of ground-borne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. Table 4.8.B shows typical vibration source levels from construction equipment.

Table 4.8.B: Typical Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (in/sec)	Approximate VdB at 25 feet
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75
Vibratory roller		0.210	94
Hoe ram		0.089	87
Large bulldozer		0.089	87

[1] World Health Organization. 1999. *Guidelines for Community Noise*.

Table 4.8.B: Typical Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)	Approximate VdB at 25 feet
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration, May 2006)
in/sec = inches per second
PPV = peak particle velocity
VdB = vibration velocity decibels

4.8.1.3 Existing Noise Environment

The ambient noise environment in the city is affected by a variety of noise sources, including vehicle traffic, aircraft, commercial, and industrial noise. The following section describes the existing noise environment and identifies the primary noise sources in the vicinity of the project site.

Existing Traffic Noise. Motor vehicles with their distinctive noise characteristics are a major source of noise in the city. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Traffic noise depends primarily on traffic speed (high-frequency tire noise increases with speed) and the proportion of truck traffic, which generates engine, exhaust, and wind noise. The proximity of freeways and major streets, and the large amount of truck traffic serving commercial uses in the area make the city susceptible to traffic noise. Traffic noise at the project site is primarily associated with vehicle traffic on Gilman Street, Eastshore Highway, and the Interstate 80/Interstate 580 (I-80/I-580) corridor (also known as the Eastshore Freeway).

Existing Railroad Noise. The existing Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor borders the project site immediately to the east. Average daily exterior noise levels at a location representing the eastern section of the project site, based on 24-hour period noise measurements, closest to the railroad were recorded at 85 dBA L_{dn} (LT-1; refer to Table 4.8.C) This includes sporadic greater noise levels that occur when horns are sounded at the nearby passing.

Existing Aircraft Noise. The airports nearest to the project site are Oakland International Airport (approximately 11 miles southeast of the project site) and San Francisco International Airport (approximately 18 miles south of the project site). The nearest private airport, Buchanan Field Airport, is approximately 15 miles northeast of the project site in Concord.

Existing Sensitive Land Uses. Pursuant to Berkeley Municipal Code (BMC) Chapter 13.40, certain sound levels and vibrations are detrimental to the public health, welfare, safety, and quality of life, and are contrary to the public interest. Within the city, certain land uses are considered more sensitive to noise than others. For this reason, the BMC establishes certain noise thresholds to maintain quiet in areas that typically exhibit low sound levels and reduce noise in areas within the city where sound levels are above acceptable values. Examples of these include residential areas, transient lodging, educational facilities, hospitals, childcare facilities, and senior housing. The project

site is surrounded by commercial, office, and light industrial uses, none of which are considered sensitive uses. The closest sensitive receptors to the project site include Duck's Nest Preschool, approximately 410 feet east of the project site along Fourth Street, and residential uses, approximately 500 feet east of the project site along Fifth Street. In addition, although this EIR assumes that the building at 1306 Third Street would be demolished and redeveloped as part of the proposed project, it is assumed that the building would be occupied during construction of the conceptual project. Therefore, 1306 Third Street is considered an off-site sensitive receptor because it is located 5 feet from the boundaries of the conceptual development project.

Ambient Noise Level Monitoring. To update and assess the existing noise conditions in the project vicinity, noise measurements were conducted at the project site. Two long-term (24-hour) measurements were taken from January 11, 2024, to January 12, 2024. Based on noise measurement results, the uses in the vicinity of the project site are exposed to noise levels between 79 dBA L_{dn} and 85 dBA L_{dn} primarily associated with vehicle traffic noise. Figure 4.8-2 shows locations of the noise measurements and Table 4.8.C summarizes the results. Noise measurement data information is provided in Appendix I of this analysis.

Table 4.8.C: Existing Noise Level Measurements

Location Number	Location Description	Daytime Noise Levels[1] (dBA L_{eq})	Nighttime Noise Levels[2] (dBA L_{eq})	Average Daily Noise Levels (dBA L_{dn})	Primary Noise Sources
LT-1	On a billboard post south of Gilman Street, between Second Street and Fourth Street, approximately 40 feet south of the Gilman Street centerline and approximately 40 feet west of the center of train tracks.	73.5-82.8	56.5-83.6	85.0	Traffic along Gilman Street, industrial noise, occasional railroad noise, occasional aircraft.
LT-2	On a tree east of Eastshore Highway and in between Page Street and Jones Street, approximately 35 feet from the Eastshore Highway centerline.	70.9-75.7	69.6-74.6	79.0	Traffic along Eastshore Freeway (I-80/I-580), Eastshore Highway, construction noise, industrial noise.

Source: Compiled by LSA (January 2024).
[1] Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
[2] Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.
I-80/I-580 = Interstate 80/ Interstate 580
L_{dn} = day/night noise level
L_{eq} = equivalent continuous sound level
dBA = A-weighted decibels

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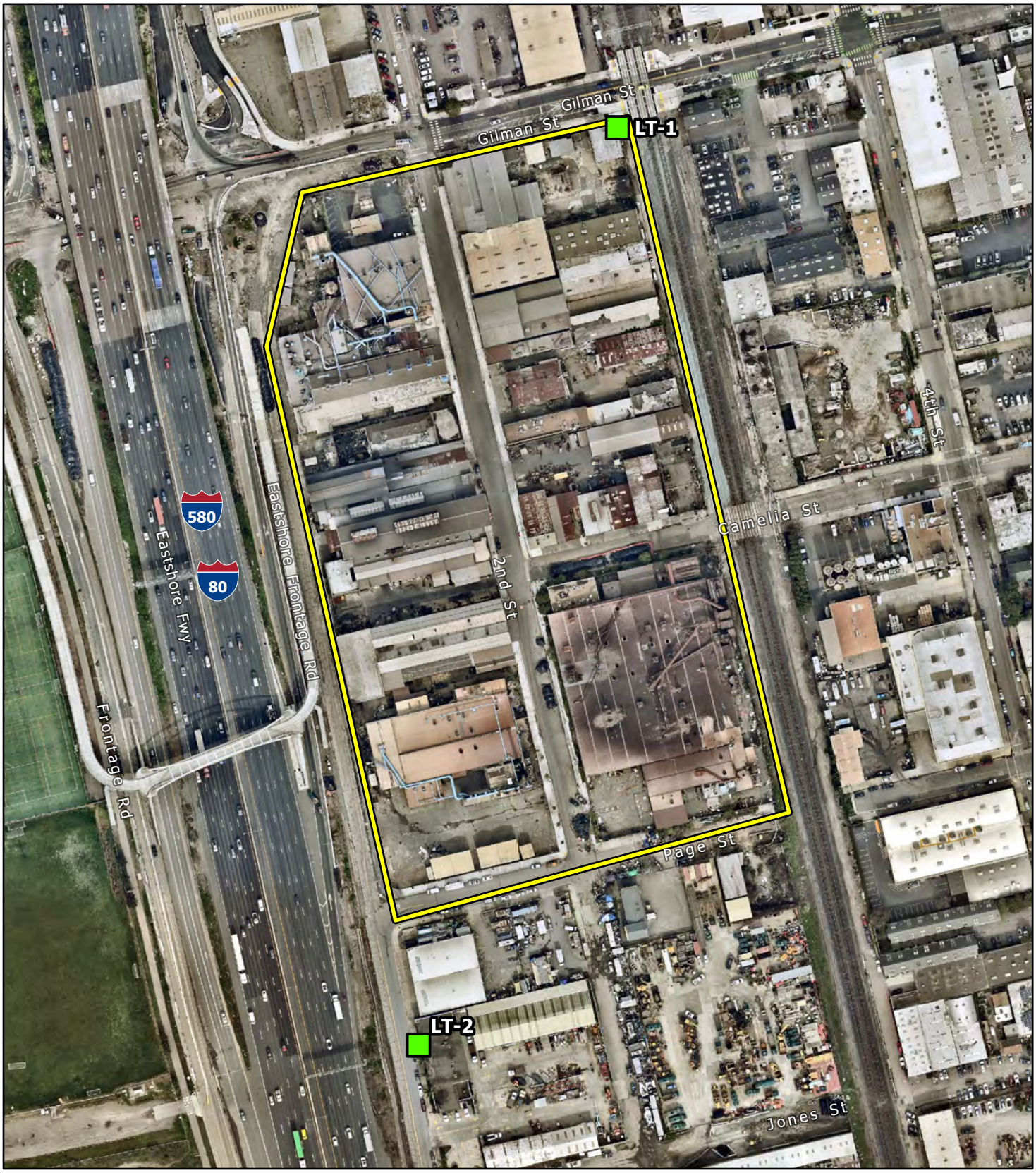

LSA

Project Site

Long-Term Noise Monitoring Locations

FIGURE 4.8-2

N

0 100 200
FEET

SOURCE: Nearmap (2/2024)

Gilman Gateway Rezone Project EIR

Noise Monitoring Locations

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4.8.1.4 Regulatory Framework

The following section provides brief discussions of the federal and local regulatory framework related to noise.

Federal Transit Administration Standards For Construction. While the Federal Transit Administration's (FTA's) Transit Noise and Vibration Impact Assessment Manual (FTA Manual) was developed for determining significant noise and vibration impacts for transit projects and is not a regulation, it is one of the few federal sources that suggest both a methodology and criteria for assessing construction noise impacts.[2] The FTA Manual does not contain standardized criteria for assessing construction noise impacts but does include guidelines for noise limits at land uses where an adverse community reaction may occur. While the City of Berkeley establishes its own construction noise limits, as outlined below and shown in Table 4.8.H: Maximum Stationary Equipment Construction Noise Levels (dBA Leq), BMC Section 13.40.070 later in this subsection, it does not establish a methodology for measuring construction noise. FTA's general construction noise assessment approach recommends assessing the two noisiest pieces of construction equipment operating concurrently at the center of the project site. Prior noise assessments conducted and approved by the City of Berkeley used FTA's construction noise assessment approach. For these reasons, this Draft EIR uses the FTA's recommended methodology.

Federal Transit Administration Ground-Borne Vibration Criteria. The criteria for environmental impacts resulting from ground-borne vibration and noise are based on the maximum levels for a single event. The City of Berkeley's Municipal Code does not include specific criteria for assessing vibration impacts associated with structural damage that could result during construction. Therefore, for the purpose of determining the significance of vibration impacts experienced at sensitive uses surrounding the project site, the guidelines within the FTA Manual have been used to determine vibration impacts associated with potential damage and are presented in Table 4.8.D below.

Table 4.8.D: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage (historic resources included)	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), Table 12-3.
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity

[2] Federal Transit Administration, Office of Planning and Environment. 2018. Transit Noise and Vibration Impact Assessment Manual, Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed August 9, 2024. September.

The FTA Manual guidelines show that a vibration level of up to 0.2 inches per second (in/sec) in PPV is considered safe for non-engineered timber and masonry buildings and a level of up to 0.12 in/sec in PPV is considered safe for historic structures and would not result in any construction vibration damage. Therefore, to be conservative, the 0.2 in/sec in PPV threshold has been used when evaluating vibration impacts at the nearest non-historic structures to the project site (i.e., a storage building north of the project site) and the 0.12 in/sec in PPV has been used for historic structures.

To provide numerical thresholds related to ground-borne vibration impacts, criteria included in the FTA Manual for human annoyance are shown in Table 4.8.E. The criteria account for the variation in project types as well as the frequency of events, which differ widely among projects. It is logical that when there are fewer events per day, it should take higher vibration levels to evoke the same community response. The variation in project times and the frequency of events is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, where the term "frequent events" is defined as more than 70 events per day. The level at which annoyance would occur within residences and buildings where people normally sleep is 72 VdB for frequent events.

Table 4.8.E: Ground-Borne Vibration Impact Criteria for General Assessment

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 µin/sec)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: Transit Noise and Vibration Impact Assessment Manual (FTA 2018), Table 8-1.

[1] Frequent events are defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

[2] Occasional events are defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

[3] Infrequent events are defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

[4] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

µin/sec = microinches per second
FTA = Federal Transit Administration
HVAC = heating, ventilation, and air-conditioning
VdB = vibration velocity decibels

City of Berkeley General Plan. The Environmental Management Element of the City's General Plan addresses excessive noise. Major noise sources in the city include transportation, industrial plant noise, and activities associated with neighborhoods. The City's Noise Ordinance (codified in Chapter 13.40 of the Berkeley Municipal Code) sets limits for permissible daytime noise levels. The Environmental Management Element provides policies and actions to protect the community from excessive noise levels. Policies and actions applicable to the proposed project are as follows:

Policy EM-43: Noise Reduction. Reduce significant noise levels and minimize sources of noise.

Policy EM-44: Noise Prevention and Elimination. Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant future degradation of the acoustic environment.

Policy EM-45: Traffic Noise. Work with local and regional agencies to reduce local and regional traffic, which is the single largest source of unacceptable noise in the city.

Policy EM-46: Noise Mitigation. Require operational limitations and all feasible noise buffering for new uses that generate significant noise impacts near residential, institutional, or recreational uses.

Policy EM-47: Land Use Compatibility. Ensure that noise-sensitive uses, including, but not limited, to residences, child-care centers, hospitals, and nursing homes, are protected from detrimental noise levels.

- **Action EM-47-A:** Noise-sensitive development proposals should be reviewed with respect to the Land Use Compatibility Guidelines below.

Table 4.8.F presents the Noise and Land Use Compatibility Guidelines for the City. If the noise level is within the "normally acceptable" level, noise exposure would be acceptable for the intended land use. Development may take place without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.

Table 4.8.F: Noise and Land Use Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (L_{dn})					
	55	60	65	70	75	80
Residential, Hotels, and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial and Professional						
Auditoriums, Concert Halls, Amphitheaters						

	NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	CONDITIONALLY ACCEPTABLE: Specific land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features have been incorporated.
	UNACCEPTABLE: New construction or development should generally not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the Project to reduce exposure of people to unacceptable noise levels.

Sources: City of Berkeley, Draft Environmental Impact Report, West Berkeley Project, January 2010; City of Berkeley General Plan, April 2003.

If the noise level is within the "conditionally acceptable" level, noise exposure would be conditionally acceptable; a specified land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools, or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

If the noise level is within the “unacceptable” level, new construction or development should not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the project reduce exposure of people to unacceptable noise levels.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address noise and vibration:

<u>COA: Construction Noise Reduction Program.</u> The applicant shall develop a site-specific noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible, subject to review and approval of the Zoning Officer. The noise reduction program shall include the time limits for construction listed above, as measures needed to ensure that construction complies with BMC Section 13.40.070. The noise reduction program should include, but shall not be limited to, the following available controls to reduce construction noise levels to as low as practical:

a. Construction equipment should be well maintained and used judiciously to be as quiet as practical.

b. Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.

c. Utilize “quiet” models of air compressors and other stationary noise sources where technology exists. Select hydraulically or electrically powered equipment and avoid pneumatically powered equipment where feasible.

d. Locate stationary noise-generating equipment as far as possible from sensitive receptors when adjoining construction sites. Construct temporary noise barriers or partial enclosures to acoustically shield such equipment where feasible.

e. Prohibit unnecessary idling of internal combustion engines.

f. If impact pile driving is required, pre-drill foundation pile holes to minimize the number of impacts required to seat the pile.

g. Construct solid plywood fences around construction sites adjacent to operational business, residences or other noise-sensitive land uses where the noise control plan analysis determines that a barrier would be effective at reducing noise.

h. Erect temporary noise control blanket barriers, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected.

i. Route construction related traffic along major roadways and away from sensitive receptors where feasible.

COA: Damage Due to Construction Vibration. The project applicant shall submit screening level analysis prior to, or concurrent with demolition building permit. If a screening level analysis shows that the project has the potential to result in damage to structures, a structural engineer or other appropriate professional shall be retained to prepare a vibration impact assessment (assessment). The assessment shall consider project specific information such as the composition of the structures, location of the various types of equipment used during each phase of the project, and the soil characteristics in the project area to determine whether project construction may cause damage to any of the structures identified as potentially impacted in the screening level analysis. If the assessment finds that the project may cause damage to nearby structures, the structural engineer or other appropriate professional shall recommend design means and methods of construction that to avoid the potential damage, if feasible. The assessment and its recommendations shall be reviewed and approved by the Building and Safety Division and the Zoning Officer. If there are no feasible design means or methods to eliminate the potential for damage, the structural engineer or other appropriate professional shall undertake study of existing conditions (study) of any structures (or, in case of large buildings, of the portions of the structures) that may experience damage.

This study shall establish the baseline condition of these structures, including, but not limited to, the location and extent of any visible cracks or spalls; and include written descriptions and photographs.

The study shall be reviewed and approved by the Building and Safety Division and the Zoning Officer prior to issuance of a grading permit. Upon completion of the project, the structures (or, in case of large buildings, of the portions of the structures) previously inspected will be resurveyed, and any new cracks or other changes shall be compared to pre-construction conditions and a determination shall be made as to whether the proposed project caused the damage. The findings shall be submitted to the Building and Safety Division and the Zoning Officer for review. If it is determined that project construction has resulted in damage to the structure, the damage shall be repaired to the pre-existing condition by the project sponsor, provided that the property owner approves of the repair.

COA: Construction Noise Management - Public Notice Required. At least 2 weeks prior to initiating any construction activities at the site, the applicant shall provide notice to

businesses and residents within 500 feet of the project site. This notice shall at a minimum provide: (1) a project description, (2) a description of construction activities during extended work hours and reason for extended hours, (3) a daily construction schedule (i.e., time of day) and expected duration (number of months), (4) the name and phone number of the Project Liaison for the project that is responsible for responding to any local complaints, and (5) that construction work is about to commence. The liaison would determine the cause of all construction-related complaints (e.g., starting too early, bad muffler, worker parking) and institute reasonable measures to correct the problem. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval.

COA: Construction Phases. The applicant shall provide the Zoning Officer with a schedule of major construction phases with start dates and expected duration, a description of the activities and anticipated noise levels of each phase, and the name(s) and phone number(s) of the individual(s) directly supervising each phase. The Zoning Officer or his/her designee shall have the authority to require an on-site meeting with these individuals as necessary to ensure compliance with these conditions. The applicant shall notify the Zoning Officer of any changes to this schedule as soon as possible.

COA: HVAC Noise Reduction. Prior to the issuance of building permits, the project applicant shall submit plans that show the location, type, and design of proposed heating, ventilation, and cooling (HVAC) equipment. In addition, the applicant shall provide product specification sheets or a report from a qualified acoustical consultant showing that operation of the proposed HVAC equipment will meet the City's exterior noise requirements in BMC Section 13.40.050. The City's Planning and Development Department shall review the submitted plans, including the selected HVAC equipment, to verify compliance with exterior noise standards.

COA: Construction Hours. Construction activity shall be limited to between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday, and between 9:00 a.m. and 4:00 p.m. on Saturday. No construction-related activity shall occur on Sunday or any Federal Holiday.

COA: Construction Hours- Exceptions. It is recognized that certain construction activities, such as the placement of concrete, must be performed in a continuous manner and may require an extension of these work hours. Prior to initiating any activity that might require a longer period, the developer must notify the Zoning Officer and request an exception for a finite period of time. If the Zoning Officer approves the request, then 2 weeks prior to the expanded schedule, the developer shall notify businesses and residents within 500 feet of the project site describing the expanded construction hours. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval. The project shall not be allowed more than 15 extended working days.

COA: Project Construction Website. The applicant shall establish a project construction website with the following information clearly accessible and updated monthly or more frequently as changes warrant.

a. Contact information (i.e. "hotline" phone number, and email address) for the project construction manager

b. Calendar and schedule of daily/weekly/monthly construction activities

c. The final Conditions of Approval, Mitigation Monitoring and Reporting Program, Transportation Construction Plan, Construction Noise Reduction Program, and any other reports or programs related to construction noise, air quality, and traffic.

COA: Loading. All loading/unloading activities associated with deliveries to all uses shall be restricted to the hours of 7:00 a.m. to 10:00 p.m. daily.

City of Berkeley Municipal Code (BMC) Title 13. Public Peace, Morals and Welfare, Chapter 13.40 (Community Noise) addresses noise impacts. The ordinance establishes exterior and interior noise standards at receiving land uses and construction activity noise regulations as included below. Table 4.8.G shows the City's exterior and interior noise limits. The hourly noise level standards vary based on the receiving land use type and the time period. To assess intermittent or maximum noise levels, the time weighted noise level additions presented in BMC Section 13.40.050 and described in further detail below, should be applied.

Table 4.8.G: Exterior and Interior Noise Limits, BMC Section 13.40.050

Zoning District	Time Period	Noise Level (dBA)
Exterior Noise Limits		
R-1, R-2, R-1A, R-2A, and ESR	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	55 45
R-3 and above	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	60 55
Commercial	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	65 60
Industry	Anytime	70
Interior Noise Limits		
All	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	45 40

Source: City of Berkeley Municipal Code Tables 13.40-1 and 13.40-2 (2023).
BMC = Berkeley Municipal Code
dBA = A-weighted decibels

The maximum noise levels vary based on the receiving land use type and the time period. The ordinance also limits noise generated by construction. The ordinance restricts construction activities to weekdays between the hours of 7:00 a.m. and 7:00 p.m. and on weekends and holidays, between 9:00 a.m. and 8:00 p.m., except for emergency work.

The following noise standards are found in BMC Chapter 13.40.050:

A. Maximum permissible sound levels shall be determined by the zoning district of the property subject to the noise, not the property from which the noise originates.

1. The noise standards for the various categories of land use in Table 6 [of BMC Chapter 13.40.050 and shown in Table 4.8.G] shall, unless otherwise specifically indicated in other codes, apply to all such property within a designated zone.

2. No person shall operate or cause to be operated any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the sound level when measured on any other property to exceed:

a. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] for a cumulative period of more than 30 minutes in any hour; or

b. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or

c. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or

d. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 15 dBA for a cumulative period of more than 1 minute in any hour; or

e. The noise standard for that land use as specified in Table 6 [Table 4.8.G of the Initial Study] plus 20 dBA for any period of time.

The following interior noise standards are found in BMC Section 13.40.060:

1) No person shall operate or cause to be operated within a multi-family dwelling unit any source of sound or allow the creation of any noise which causes the sound level when measured inside a neighboring dwelling unit to exceed:

a. The noise standard as specified in Table 6 [Table 4.8.G of the Initial Study] for a cumulative period of more than 5 minutes in any hour; or

b. The noise standard as specified in Table 6 [Table 4.8.G of the Initial Study] plus 5 dBA for a cumulative period of more than one minute in any hour; or

c. The noise standard as specified in Table 6 [Table 4.8.G of the Initial Study] plus 10 dBA for any period of time.

Construction activities are divided into two categories: mobile equipment and stationary equipment. Mobile equipment, as defined by BMC Section 13.40.070, includes sound levels for nonscheduled, intermittent, short-term operation of less than 10 days of jackhammers, drills, saws, sander grinder, and similar tools. Stationary equipment, according to BMC Section 13.40.070, would be repetitively scheduled and relatively long-term operation for longer than 10 days. Equipment used during construction of the proposed project and the conceptual development project would be considered stationary because construction would last longer than 10 days. Where technically and economically feasible, construction activities shall be conducted in such a manner that maximum sound levels at affected properties will not exceed those listed in Table 4.8.H, below.

Table 4.8.H: Maximum Stationary Equipment Construction Noise Levels (dBA L_{eq}), BMC Section 13.40.070

Time of Day	R-1, R-2 Residential	R-3 and above Multi-Family Residential	Commercial/ Industrial
Weekdays 7:00 a.m. to 7:00 p.m.	60	65	70
Weekends 9:00 a.m. to 8:00 p.m. and legal holidays	50	55	60

Source: City of Berkeley Municipal Code Table 13.40-4 (2023).
BMC = Berkeley Municipal Code
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

4.8.2 Impacts and Mitigation Measures

The following describes the project's potential impacts on noise and vibration. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and the conceptual development project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.8.2.1 Criteria of Significance

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact on noise if it would:

Threshold NOI-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies;

Threshold NOI-2: Expose persons to or generation of excessive ground borne vibration or ground borne noise levels; or

Threshold NOI-3: Be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, so that the project would result in exposure of people residing or working in the project area to excessive noise levels.

4.8.2.2 Impacts Not Evaluated in Detail

Public Airport. As previously discussed, the airports nearest to the project site are Oakland International Airport (approximately 11 miles southeast of the project site) and San Francisco International Airport (approximately 18 miles south of the project site). The nearest private airport, Buchanan Field Airport, is approximately 15 miles northeast of the site. Although aircraft-related noise is occasionally audible on the project site, the site does not lie within an airport land use plan area or within the 60 dBA L_{dn} noise contours of any of these public airports or private airfields. Therefore, the proposed project and the conceptual development project would not expose people residing or working in the project area to excessive noise levels due to the proximity of a public airport. There would be **no impact**.

4.8.2.3 Project Impacts

The following describes the proposed project's potential impacts on noise and vibration. Impacts associated with the zoning and General Plan/West Berkeley Plan amendments are evaluated at a programmatic level, whereas the potential impacts associated with the conceptual development project are evaluated at a project level, to the extent feasible, given that specific details related to construction and operation are not fully known at this time.

As discussed in Chapter 3.0, Project Description, the proposed project would create a new zoning district, Manufacturing, Research and Development (M-RD), and amend the General Plan and West Berkeley Plan, to add the newly created district to the Manufacturing land use designation. These actions would not result in any direct physical alterations to project site, but would facilitate future development of up to 1,005,266 square feet of light manufacturing, R&D, and laboratory or office uses, which would involve demolition of proposed project site structures and new construction. In addition, the analysis includes the potential project impacts from implementation of the conceptual development project, which could result in the development of a 10.26-acre portion of the project site (conceptual development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and office uses and approximately 1,900 parking spaces.

Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds. *(Less than Significant with Mitigation)*

The following describes the project's short-term construction and long-term operational noise impacts. Construction impacts are considered short term because noise generated by construction activities would be intermittent, variable, limited in duration, and would cease once the project becomes operational, as opposed to operational impacts which would generate noise levels on a

more constant basis and would occur over the life of the project. As discussed below, short-term construction noise impacts would be less than significant with implementation of recommended mitigation measures.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from 1 day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during demolition, grading, paving, and project site preparation activities associated with future development of the project site. Table 4.8.I lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet from the individual piece of equipment to allow for distance adjustment when assessing a specific site condition, as obtained from the Federal Highway Administration Roadway Construction Noise Model. Construction-related short-term noise levels would no longer occur once construction of the project is completed.

Table 4.8.I: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (Federal Highway Administration 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
L_{max} = maximum instantaneous sound level

Two types of short-term noise impacts could occur during construction of future development facilitated by the proposed project, including the conceptual development project. The first type involves construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally increase noise levels on roads leading to the project site. As shown in Table 4.8.I, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} with trucks passing at 50 feet from the project site as it is traveling on the roadway.

The second type of short-term noise impact is related to noise generated during demolition, excavation, grading, and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Generally, construction moves around a project site during different phases of construction, and therefore would not take place for any substantial duration at the perimeter of the project site. In addition, various phases of construction and equipment use and activity varies in duration and location throughout a construction site; therefore, multiple pieces of equipment would not concurrently operate for any substantial duration at any given location along the perimeter of the project site. Likewise, the noisiest construction equipment would only operate at various locations at the site perimeter for limited periods and, due to site constraints, would not concurrently operate in these locations. As such, construction noise is not calculated at the site perimeter as this would represent a narrowly-defined worst-case scenario that is not representative of typical construction conditions that would be experienced across the site or by nearby land uses and sensitive receptors. Furthermore, CEQA does not require analysis of a limited and unlikely worst-case condition rather, reasonably foreseeable consequences of project activities are to be evaluated.[3] Therefore, the center of the site is used to represent the average condition and to assess the typical noise generated during each phase of construction. This is accepted industry practice and is the methodology utilized in the short-term construction noise analysis below.[4]

The standard method for acoustical analysis of construction sites are based on the distance from the “acoustical center” or construction activity center of the site to the nearest noise-sensitive receptor. In other words, the proposed pieces of construction equipment are not modeled at the construction site boundary, but rather at the approximate center in which most of the

[3] High Sierra Rural Alliance v. County of Plumas (2018) 29 Cal.App.5th 102, 125-126 and East Oakland Stadium Alliance, et al v. City of Oakland, et al (Athletic Investment Group, et al, Real Parties in Interest) (2023) 89 Cal.App.5th 1226.

[4] The FTA’s general noise assessment approach recommends assessing the two noisiest pieces of construction equipment operating concurrently at the center of a project site.

construction activity is likely to occur.[5] This concept further supports the use of the center of the site or an average condition to assess the typical noise generated during each phase of construction.

Typical maximum noise levels range up to 90 dBA L_{max} at 50 feet during the noisiest construction phases. The project site preparation and grading phases, including excavation and grading of the project site, tend to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

The closest sensitive receptors would be the occupants of the 1306 Third Street building for both the proposed project and the conceptual development project. For the purposes of this analysis, it was assumed that the building at 1306 Third Street would be occupied and would be the last to develop with implementation of the proposed project, including the conceptual development project. The 1306 Third Street property is 380 feet from the *center* of the project site, representing the average construction distance, as discussed above. The potential short-term construction noise that sensitive receptors residing at 1306 Third Street may be subject to would be noise levels of 73 dBA L_{max}, because the 380-foot distance would decrease the noise level by 17 dBA, compared to the typical maximum noise levels of up to 90 dBA L_{max} at 50 feet as shown in Table 4.8.I, above.

As noted above, this EIR assumes that the building at 1306 Third Street would be demolished and redeveloped as part of the proposed project. Under the conceptual development project, the building at 1306 Third Street would remain; and therefore, it is considered an off-site sensitive receptor. Other off-site sensitive receptors include Duck's Nest Preschool, 410 feet east of the project site along Fourth Street, and residential uses approximately 500 feet east of the project site along Fifth Street. The building at 1306 Third Street is located 380 feet from the *center*, Duck's Nest Preschool is 730 feet east from *center* of the project site, representing the average construction distance. The potential short-term construction noise the property may be subject to would be noise levels of 67 dBA L_{max}, because the 730-foot distance would decrease the noise level by 23 dBA compared to the typical maximum noise levels of up to 90 dBA L_{max} at 50 feet as shown in Table 4.8.I, above.

According to the City of Berkeley Noise Ordinance (BMC Section 13.40.070), noise from construction activities is permitted to exceed the established maximum allowable noise performance standards, provided that the activities take place during the permissible hours for

5 City of Palo Alto, Appendix E - Construction Noise and Vibration Assessment, https://www.cityofpaloalto.org/files/assets/public/v/1/planning-amp-development-services/current-planning/uploads-for-website/new-folder-1/appendix-e-construction-noise-and-vibration-assessment.pdf, accessed September 11, 2024.

construction and all technically and economically feasible noise reduction measures are incorporated.

The proposed project and the conceptual development project would be required to implement COAs adopted for the purpose of reducing construction period noise impacts, including *COA: Construction Noise Reduction Program*, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website*, which would reduce construction noise impacts on any off-site sensitive receptors in the project vicinity and would require the project sponsor for individual development projects, including the conceptual development project, to implement all technically and economically feasible measures to reduce construction noise, consistent with the requirements of BMC Section 13.40.070.

Implementation of the City's COAs and compliance with BMC Section 13.40.070 would reduce construction noise impacts to the extent feasible; therefore, construction noise impacts would be **less than significant**.

Operational Noise Impacts. The proposed project would generate long-term noise impacts from traffic, stationary, and other operational noise sources, as discussed below.

Traffic Noise Impacts. The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the Average Daily Noise Level (L_{dn}) values. The existing and existing plus project traffic volumes in the vicinity of the project site were obtained from the Transportation Impact Analysis[6] prepared for the proposed project (Appendix E). Table 4.8.J lists the existing and existing plus project traffic noise levels adjacent to roadway segments in the project site vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. The FHWA Noise Model Printouts are provided in Appendix J.

The results indicate that the increase in noise associated with project-related traffic would be up to 2.4 dBA along the segments analyzed. A noise level increase of less than 3 dBA would not be perceptible to the human ear; therefore, the traffic noise increases resulting from the proposed project would be **less than significant** and the proposed project would not create a substantial permanent increase in ambient noise levels.

Stationary Source Noise Impacts. Stationary noise sources associated with the proposed project include rooftop mechanical equipment. Maximum noise levels from rooftop mechanical equipment depend on the specific selection of equipment. To comply with BMC Section 13.40, noise standards future projects would be required to comply with *COA: HVAC*

[6] Fehr & Peers. 2024. Transportation Impact Analysis, Gilman Gateway Rezone Project. January.

Noise Reduction. As part of compliance with City regulations, future project sponsors, including for the conceptual development project, would submit plans that show the location, type, and design of proposed HVAC equipment. In addition, the project sponsor would provide product specification sheets or a report from a qualified acoustical consultant showing that operation of the proposed HVAC equipment will meet the City's exterior noise requirements in BMC Section 13.40.050. With implementation of *COA: HVAC Noise Reduction*, it is not expected that the proposed project would substantially increase noise levels over existing conditions and impacts would be **less than significant**.

Table 4.8.J: Traffic Noise Levels Without and with Proposed Project

Roadway Segment	Existing		Opening Year		Opening Year With Project		
	ADT	L_{dn} (dBA) 50 feet from Centerline of Nearest Lane	ADT	L_{dn} (dBA) 50 feet from Centerline of Nearest Lane	ADT	L_{dn} (dBA) 50 feet from Centerline of Nearest Lane	Increase from Near-Term Conditions
Gilman Street West of Second Street	17,550	65.1	16,910	64.9	18,900	65.4	0.5
Gilman Street East of Second Street	14,360	64.2	14,650	64.3	15,650	64.6	0.3
Second Street North of Gilman Street	1,970	52.8	2,900	54.5	2,900	54.5	0.0
Second Street South of Gilman Street	1,320	51.1	1,320	51.1	2,310	53.5	2.4
Sixth Street North of Gilman Street	2,880	54.1	2,880	54.1	2,880	54.1	0.0
Sixth Street South of Gilman Street	5,560	57.0	5,560	57.0	5,690	57.1	0.1
Cedar Street East of Sixth Street	4,690	56.2	5,150	56.6	6,110	57.4	0.8
Cedar Street West of Sixth Street	3,190	54.5	3,340	54.7	4,790	56.3	1.6
Eastshore North of Cedar Street	3,570	58.5	4,370	59.4	4,790	59.8	0.4

Source: Compiled by LSA (March 2024).
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
Shaded cells indicate roadway segments adjacent to the project site.
ADT = average daily traffic
CNEL= Community Noise Equivalent Level
dBA = A-weighted decibels
L_{dn} = day/night noise level

As described above, the City establishes the acceptable daytime and nighttime maximum noise levels at receiving land uses. Daytime is considered to be between the hours of 7:00 a.m. and 10:00 p.m., and nighttime hours are between 10:00 p.m. and 7:00 a.m. BMC Chapter 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours. Although the COA establishes hours of operation for loading, it does not specify the need for loading operations to be located away from sensitive uses to avoid potential impacts. Therefore, impacts from loading operations could be potentially significant.

As described above, the City establishes acceptable daytime and nighttime noise levels. In addition, *COA: Loading* would ensure that loading operations occur within the hours of 7:00 a.m. to 10:00 p.m. daily. However, there are no proposed loading locations at this time and therefore the noise levels associated with such operations cannot be analyzed to ensure that City thresholds would be met. Therefore, Mitigation Measure NOI-1 would be required.

Mitigation Measure NOI-1 **Develop a Loading and Operations Plan (DLOP).** Future project sponsors shall prepare and submit a DLOP to the City of Berkeley Planning and Development Department showing compliance with design and noise limits established by the Berkeley Municipal Code, Title 23 – Zoning, Title 23, Division 3 – Citywide Provisions, Chapter 23.322 Parking and Loading. The DLOP shall include details requiring the location, quantity, dimensions, and access for off-street and on-street loading facilities. The DLOP shall be developed incrementally, with a stand-alone plan developed and approved for each building or phase of project construction. A project phase may not begin construction until its DLOP has received City approval. The DLOP shall include data showing that loading operations would not exceed established City noise thresholds. BMC Section 13.40 establishes interior and exterior noise level standards (as measured at receiving sensitive land uses) not to be exceeded for more than 30 minutes any hour on commercial land uses as 60 dBA during nighttime hours and 65 dBA during daytime hours, and on residential land uses as 45 dBA during nighttime hours and 55 dBA during daytime hours.

Mitigation Measure NOI-1 would ensure that future development facilitated by the proposed project, including the conceptual development project, would satisfy a performance standard to prevent excessive noise that would result in impacts to sensitive receptors. Therefore, noise impacts associated with loading operations would be **less than significant with mitigation**.

Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground-borne vibration or ground borne noise levels. *(Less than Significant)*

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause perceptible vibration from the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called ground--borne noise. When assessing annoyance from ground-borne noise, vibration is typically expressed as RMS velocity in units of decibels of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB." Human perception to vibration in indoor environments starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at 70 VdB. Ground--borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive ground--borne vibration has the potential to cause structural damage to buildings. Common sources of ground--borne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment.

The formulae for vibration transmission are:

$$L_v dB\ (D) = L_v dB\ (25\ ft) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Construction and operation of future development facilitated by the proposed project, including the conceptual development project, could expose sensitive receptors to excessive ground-borne vibration, as discussed below.

Construction Vibration. Construction vibration impact analysis assesses the potential for building damage using vibration levels in PPV (in/sec) and assesses the level of human annoyance using vibration levels in RMS (VdB). The assessment distance for potential construction vibration damage is associated with the peak condition, identified by the distance from the perimeter of construction activities to surrounding structures, while the assessment distance for potential construction vibration annoyance is associated with the average condition, identified by the distance from the center of construction activities to surrounding uses.

Construction Vibration Building Damage Potential. Construction activities that would take place at the project site have the potential to generate low levels of ground-borne vibration or ground-borne noise levels. Table 4.8.K provides reference PPV (in/sec) values from typical construction vibration sources at 25 feet. To provide an analysis of potential vibration levels expected for a project of this size, a large bulldozer would generate 0.089 PPV (in/sec) of ground-borne vibration when measured at 25 feet. As shown in Table 4.8.D, it would take a

minimum of 0.12 PPV (in/sec) to cause any potential building damage to buildings extremely susceptible to vibration damage.

Implementation of the proposed project would result in demolition of all existing structures on the project site. These activities would take place within approximately 20 feet of existing structures, because it is assumed that 1306 Third Street site, currently occupied by a structure containing occupied residential and commercial units, would be redeveloped during the last development phase. Pile driving is assumed to not be required during construction activities.

Table 4.8.K: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (in/sec)	L_V (VdB)[1]
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS VdB re 1 µin/sec.
µin/sec = microinches per second
ft = foot/feet
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity in decibels

The structure on the project site is the historic structure at 1306 Third Street, located within the project site boundaries, and immediately adjacent to the conceptual development project site boundaries (within 20 feet of the project boundary). It is expected that vibration levels generated by large bulldozers and other large equipment that would be as close as 20 feet from the property line would generate ground-borne vibration levels of up to 0.124 PPV (in/sec) at the closest structures to the conceptual development project site. This vibration level would exceed the 0.12 PPV (in/sec) threshold that is considered safe for buildings extremely susceptible to vibration damage, which would result in significant impacts that may result in vibration damage. Vibration levels would be below the 0.12 PPV (in/sec) threshold at all other buildings at a distance greater than 20 feet from the project site boundary. Implementation of *COA: Damage Due to Construction Vibration*, would require any future development facilitated by proposed project, including the conceptual development project, to conduct a screening level analysis. If the analysis shows that the project has the potential to result in damage to structures, a structural engineer or other appropriate professional shall be retained to prepare a vibration impact assessment (assessment). The assessment would be used to develop a construction vibration monitoring plan to avoid and minimize any potential impacts, and would be reviewed and approved by the City's Building and Safety Division and the Zoning Officer.

Therefore, with implementation of *COA: Damage Due to Construction Vibration,* impacts would be **less than significant**.

For all other equipment associated with the proposed construction activities, such as loaded trucks, vibration impacts would approach 0.106 PPV (in/sec) at a distance of 20 feet. This level would not exceed the 0.12 PPV (in/sec) threshold at which there is virtually no risk resulting in architectural damage to buildings extremely susceptible to vibration damage. It would be structurally safe from the construction activity and equipment operation for these adjacent buildings and no structural damages would occur as a result of on-site construction. In addition, *COA: Damage Due to Construction Vibration* requires an analysis of potential damage due to construction prior to, or concurrent with demolition building permit.

Construction Vibration Human Annoyance Potential. Using the reference vibration information, vibration levels associated with potential annoyance were also calculated. At an average distance of 380 feet, measured from the center of the project site, vibration levels would approach 52 VdB at 1306 Third Street, which includes commercial and residential units, while at an average distance of 730 feet from the center of the project site, vibration levels would approach 43 VdB at the Duck's Nest Preschool. These levels would be well below the 72 VdB threshold for residences and buildings where people normally sleep and the 75 VdB threshold for institutional uses with primarily daytime use.

With implementation of *COA: Damage Due to Construction Vibration*, construction of future development facilitated by the proposed project, including the conceptual development project, would not result in substantial ground-borne vibration on properties adjacent to the project site. Therefore, impacts associated with ground-borne vibration and ground-borne noise levels during construction would be **less than significant**.

Operational Vibration. No permanent noise sources, such as large machinery, that would expose persons to excessive ground-borne vibration or noise levels would be located within the project site. In addition, vibration levels generated from project-related traffic on the adjacent roadways are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Based on a reference vibration level of 0.076 in/sec PPV, structures greater than 20 feet from the roadways that contain project trips would experience vibration levels below the most conservative standard of 0.12 in/sec PPV. Therefore, this impact would be **less than significant**.

4.8.2.4 Cumulative Impacts

As explained above, both noise and vibration are localized impacts. For construction noise and vibration impacts, the only relevant cumulative projects, as specified in Table 4.A in Section 4.0, Setting, Impacts and Mitigation Measures, would be probable future projects near the project site that are anticipated to be under construction at the same time as the project. However, given the existing ambient noise environment and implementation of the City's construction period COAs, it is not expected that construction activity at the project site would combine with other nearby construction projects to result in excessive noise levels. Accordingly, the proposed project and the conceptual development project would not contribute to any significant cumulative construction

noise or vibration impact. In addition, future projects that could be under construction in the vicinity of the project site would undergo separate evaluation and potential environmental review and would be required to consider the proposed project in the cumulative assumptions and analyses to ensure that cumulative construction period impacts would not occur.

Regarding operational noise, the cumulative projects in the vicinity of the project site that could contribute to a cumulative stationary source or traffic noise impact would not result in a doubling of traffic rates from project baseline and, therefore, noise traffic would not increase above 3 dBA L_{dn}. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Furthermore, the projects listed in Table 4.A are also expected to comply with BMC Chapter 13.40, noise standards for operational noise. Accordingly, the project would not contribute to any significant cumulative noise impact during project operations.

Therefore, the proposed project and the conceptual development project would not contribute to a cumulatively considerable noise-related effect, and this impact would be **less than significant**.

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4.9 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section provides an overview of potential hazards and hazardous materials within and in the vicinity of the project site and assesses potential impacts to public health and safety and the environment that could result from implementation of the proposed project. Mitigation measures to reduce significant impacts are identified, where appropriate.

4.9.1 Setting

This section describes the existing conditions related to hazards and hazardous materials within and in the vicinity of the project site, as well as the applicable regulatory agency framework and local policies.

4.9.1.1 Project Site History and Current Corrective Actions

The project site is along the former shoreline of a marsh that roughly paralleled Second Street prior to the placement of fill material on the marshland in the early 1900s.[1]

The following information regarding historical land uses at the project site was obtained from the review of Historical Sanborn Fire Insurance Maps presented in a 2018 Phase I Environmental Site Assessment (ESA)[2] that evaluated much of the project site, including the parcels associated with the former Pacific Steel Casting site and the parcel at 1433 Eastshore Highway. As early as 1903, there were railroad tracks adjacent to the east of the project site and a railroad spur along Second Street. The portion of the project site east of Second Street consisted primarily of vacant lots and residential dwellings with limited industrial/commercial use, including a vacant tannery in the east-central portion of the project site. By 1911, additional industrial facilities were present in the southeast portion of the project site, including a chemical works, iron works, and foundry with a machine shop. By 1929, additional industrial facilities were present on the project site, including tile and furniture manufacturing facilities on the eastern portion, a detinning facility on the southeast portion, and the Berkeley Steel Construction Company facilities on the west-central portion, which included a foundry, machine shop, and airplane factory.[3]

By 1950, industrial uses on the project site had expanded considerably and included a bulk petroleum storage and distribution facility on the northeast portion, a warehouse on the northeast

1 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

2 AEI Consultants. 2018. Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710.

3 Detinning involves the removal of tin from tinplate scrap.

portion (which appears to be the building at 1306 Third Street that currently includes non-conforming commercial tenants and residential units), a gas station on the northwest corner, a drafting equipment factory in the northwest portion, additional steel manufacturing facilities across much of the western and east-central portion, machine shops on the east-central portion and southeast corner, and a venetian blind manufacturing facility on the southeast portion. By 1963, an additional gas station was present on the northwest portion of the project site and an automobile wrecking facility was present on the southwest portion. By 1970, a solvent mixing facility was present on the northeast corner of the project site, the current building at 1306 Third Street was identified as an ornamental art studio, and a truck service facility was present in the central-eastern portion of the project site. By 1980 new industrial buildings of the Pacific Steel Casting company were present in the southeast and southwest portions, and above-ground oil tanks were present adjacent to the new building in southwest portion of the project site. Figure 4.9-1 depicts the locations of select historical land uses of environmental concern.

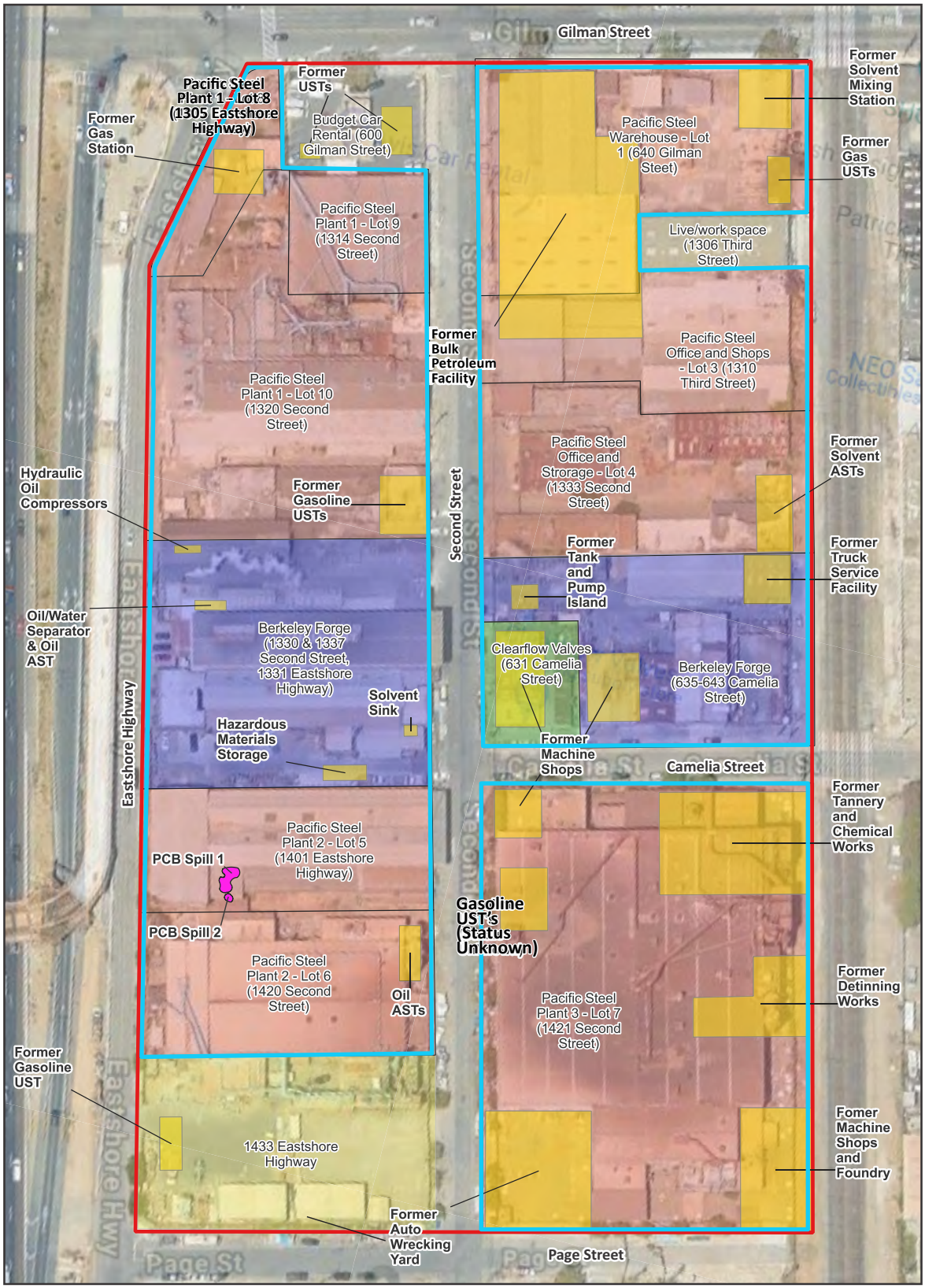
By the late 1970s, Berkeley Forge and Tool occupied a large area in the central portion of the project site. Facilities of the Berkeley Forge and Tool facility, documented in 2002, included a hammer shop with hydraulic presses, heat-treating baths, a machine shop, and a dye shop.[4]

Industrial and commercial uses of the project site continued to the present or near present. As described in Chapter 3.0, Project Description, Pacific Steel Casting occupied much of the project site and operated until 2018, and Berkeley Forge and Tool is currently in the process of closing operations. Other recent/on-going uses of the project site have included Clearflow Valves (industrial/manufacturing facility), non-conforming commercial tenant spaces and residential units, vehicle rental, recycled materials processing (no longer operational), and storage of materials.

The investigation of hazardous materials releases and subsurface contamination at the conceptual development project site is under the jurisdiction of the Department of Toxic Substances Control (DTSC) pursuant to the California Land Reuse and Revitalization Act (CLRRA). The project sponsor for the conceptual development project has entered into a voluntary CLRRA Agreement with DTSC dated November 23, 2022, to oversee environmental investigation and remediation associated with redevelopment of the conceptual development project site.[5] In accordance with the CLRRA agreement, the project sponsor for the conceptual development project is required to submit the following to DTSC:

[4] Ninyo & Moore. 2002. Phase I Environmental Site Assessment, 1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street, Berkeley, California, April 24.

[5] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.



LSA

LEGEND

- Project Site Boundary
- Potential Berkeley Forge Development Site
- Clearflow Valves Properties
- Berkeley Forge Properties
- Pacific Steel Properties
- Land Use/Features of Environmental Concern

Notes: UST stands for Underground Storage Tank and AST stands for Aboveground Legend Storage Tank. PCB stands for polychlorinated biphenyls.

FIGURE 4.9-1

N

0 110 220
FEET

SOURCE: Baseline Consulting

Gilman Gateway Rezone Project EIR

Locations of Environmental Concerns

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- All known data and information concerning contamination at conceptual development project site.
- A Site Assessment Plan to conduct a site assessment in accordance with the requirements of Health and Safety Code Section 25395.94.
- A Report of Findings documenting the implementation of the site assessment and containing all information required under Health and Safety Code Section 25395.94(b) and (c), and Health and Safety Code Section 25395.95.
- A Response Plan if DTSC's review of the Report of Findings determines that a response action is necessary to prevent or eliminate an unreasonable risk. The Response Plan must contain the information specified in Health and Safety Code Section 25395.96(a) and (b) and must provide that implementation of the plan would place the Site in condition that allows it to be used for its reasonably anticipated future land use without unreasonable risk to human health and safety and the environment.

Public participation for the Response Plan must meet the requirements of Health and Safety Code section 25395.96, including a DTSC public meeting if requested. Upon approval of the Response Plan, DTSC would notify all appropriate persons including the City of Berkeley (City), East Bay Municipal Utility District, San Francisco Bay Regional Water Quality Control Board (RWQCB), and the Alameda County Department of Environmental Health.

In accordance with the CLRRA agreement, the project sponsor for the conceptual development project is required to take all actions required by the Response Plan. DTSC would issue a certificate of completion upon determining that all response actions have been satisfactorily completed in accordance with the approved Response Plan and that, based upon the data provided to DTSC at the time of the determination, no further remedial action is needed, except for compliance with operation and maintenance (O&M), land use restriction requirements, and monitoring and reporting requirements, if applicable. If the Response Plan includes long-term obligations that have not been completed, including O&M requirements or monitoring, DTSC would not issue a certificate of completion unless DTSC determines 1) all response actions other than the long-term O&M requirements and monitoring in the Response Plan have been completed; 2) an adequate long-term O&M plan has been submitted; and 3) initial compliance with the O&M plan has been demonstrated. If DTSC determines long-term O&M would be required, as provided in an approved Response Plan, DTSC may, as a condition of issuing a certificate of completion, enter into an O&M agreement with the project sponsor for the conceptual development project that governs long-term O&M activities and that provides for adequate financial assurance.[6]

At this time, the project sponsor for the conceptual development project has submitted data and information concerning contamination at the conceptual development project site to DTSC, prepared and implemented a Site Assessment Plan which was approved by DTSC, and submitted a Report of Findings to DTSC as described below in Section 4.9.1.2. The project sponsor for the

[6] DTSC. 2022. Docket No. HSA-FY22/23-040, California Land Reuse and Revitalization Act Agreement, Health and Safety Code Sections 25395.91-25395.92, Executed November 23.

conceptual development project is currently preparing a Response Plan as described below under Impact HAZ-2 in Section 4.9.2.3.

4.9.1.2 Hazardous Materials Use, Releases, and Subsurface Contamination

Information regarding known and potential hazardous materials use, releases, and subsurface contamination at the project site was obtained from review of Phase II ESAs performed in 1993 and 2003 for the southern portion of the project site (for the former Pacific Casting Facility Plant Numbers 2 and 3), a 2002 Phase I ESA[7] prepared for the Berkeley Forge and Tool properties, the 2018 Phase I ESA,[8] and a 2023 Phase I ESA[9] and Report of Findings[10] for the Potential Berkeley Forge Development. There have been numerous environmental investigations performed at the project site, the details of which are summarized in these reports. Figure 4.9-1 depicts the locations of select historical land uses and features that may have been sources of subsurface contamination.

1993 Phase II ESA. A 1993 Phase II ESA[11] was prepared for the southern portion of the project site that presented the following environmental concerns:

- The southeastern portion of the project site historically had numerous industrial and commercial uses including a chemical works, foundry, detinning works, machine shop, a printing shop, and painting and finishing associated with woodworking facilities.
- Between 1969 and 1980, areas in the southwestern and southeastern portions of the project site were used as an automobile wrecking yard that likely handled a variety of hazardous materials including petroleum hydrocarbons, metals, and volatile organic compounds (VOCs).
- Imported fill of unknown quality was likely utilized to reclaim a portion of the project site from former marshland.
- Historical features of environmental concern were identified in the southeast portion of the project site based on Sanborn maps and discussions with on-site personnel, including possible underground storage tanks (USTs), a refuse burner, furnaces, a concrete vault, a wastewater clarifier, and a former brick lined well/sump.

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7 DTSC. 2022. Docket No. HSA-FY22/23-040, California Land Reuse and Revitalization Act Agreement, Health and Safety Code Sections 25395.91-25395.92, Executed November 23.

8 AEI Consultants. 2018. Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710.

9 Langan. 2023d. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, July 28.

10 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

11 Lowney Associates. 1993. Soil and Groundwater Quality Reconnaissance, Pacific Steel Casting Company, Berkeley, California, May.

- A 4,000-gallon gasoline UST was undergoing separate evaluation for groundwater quality impacts due to a piping leak.

The 1993 Phase II ESA included soil and groundwater sampling to evaluate features of concern discussed above, and presented the following findings:

- Only relatively minor impacts from petroleum hydrocarbons were noted in soil.
- Groundwater samples from the southeastern portion of the project site contained contaminants including total petroleum hydrocarbons (TPH) as diesel, trichloroethylene (TCE), carbon tetrachloride, bromodichloromethane, and chloroform.
- Elevated levels of zinc and lead were detected in one shallow soil sample and one groundwater sample from the southeastern portion of the project site.

2003 Phase II ESA. A 2003 Phase II ESA[12] was prepared for the southern portion of the project site to further evaluate environmental concerns and areas of contamination identified by previous investigations. The 2003 Phase II ESA identified groundwater contamination from naphthalene in the southeast portion of the project site, and groundwater contamination from naphthalene, TPH as gasoline, and VOCs including methyl-tert-butyl-ether (MTBE), benzene, toluene, ethylbenzene, and xylenes, which are typically associated with gasoline, on the southwest portion of the project site (near a former UST).

2002 Phase I ESA. A 2002 Phase I ESA[13] was prepared for the Berkeley Forge and Tool properties on the central portion of the project site that identified the presence of several above-ground storage tanks (ASTs) and other containers of hazardous materials and indicated that two USTs were removed from the eastern portion of the Berkeley Forge and Tool properties in 1997. It is presumed that the USTs were in the area identified as the "Former Tank and Pump Island" on Figure 4.9-1 based on a figure presented in the 2002 Phase I ESA. The 2002 Phase I ESA also indicated that a machine shop was present in the building adjacent to the east of the Clearflow Valves facility. The 2002 Phase I ESA identified the following environmental concerns and recommended that sampling be performed to evaluate them.

- Benzene and MTBE were detected in soil and groundwater samples collected during removal of the USTs.
- Evidence of chemical releases were observed in several areas including in the dye room (northeast corner of the Berkeley Forge and Tool properties), hammer shop (northwest corner of the Berkeley Forge and Tool properties), and drum storage area (presumed to be the

[12] Anchor Environmental Consultants. 2003. Phase II Environmental Site Assessment, Pacific Steel Casting, 1420-1421 Second Street, Berkeley, California, January 22.

[13] Ninyo & Moore. 2002. Phase I Environmental Site Assessment, 1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street, Berkeley, California, April 24.

hazardous materials storage area in the south-central portion of the Berkeley Forge and Tool properties). Hydrocarbon odors were emanating from a storm drain on Second Street.

- Cracked concrete was noted in areas that used hazardous materials, and the cracks could have allowed hazardous materials to migrate to the subsurface.
- The dye room (northwest corner of the Berkeley Forge and Tool properties) was previously used as a truck maintenance facility.
- Potential groundwater contamination due to the proximity of the Pacific Steel Casting site, which was a hazardous waste generator and leaking UST (LUST) site.

2018 Phase I ESA. The 2018 Phase I ESA[14] identified the following environmental concerns at the project site and recommended that a subsurface investigation be performed.

- Due to the age of buildings that were evaluated, there is a potential that asbestos--containing materials (ACMs) and lead--based paint (LBP) may be present.
- Various below-grade areas (e.g., chambers and vaults) were identified within former manufacturing rooms of the Pacific Steel Casting site on the northwest portion of the project site; however, these below-grade areas were not accessed due to the unknown safety of the areas, and these features should be identified, and it should be determined if any drains, sumps or former hazardous materials are in these areas.
- There are various pits within the former Pacific Steel Casting site portion of the project site that were used in the transfer of molten metal into ladles. The pits are approximately 10 feet deep and are each equipped with a dewatering sump due to shallow groundwater. The sumps discharge groundwater directly to the municipal system. Additionally, there are above-ground oil/water separators within the former Pacific Steel Casting site portion of the project site for cooling water which is discharged directly into the municipal system. Testing of the wastewater effluent from these features was reportedly not required. The Pacific Steel Casting site was categorized as a minor threat to groundwater.
- In the 1990s, four fuel USTs which were associated the former Pacific Steel Casting site were removed from the project site, and following remediation activities (removal of soil and groundwater) and investigation of soil and groundwater in the USTs areas, closure of the LUST cases was approved by the City of Berkeley Toxics Management Division (TMD) and confirmed by the RWQCB.
- Regulatory agencies documented various hazardous materials, petroleum products, and hazardous wastes as being used on the former Pacific Steel Casting site beginning in 1965. The review of TMD records indicates that the former Pacific Steel Casting site had violations

[14] AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710. January 17.

pertaining to minor hazardous material releases in addition to numerous illegal releases or discharges to on-site storm drains. Various storm drains are present on the project site and some drains appeared to be pumped to a water collection container on the northwest portion of the project site that appeared to be overflowing at the time the Phase I ESA was prepared.

- Surficial oily staining was observed in many interior and exterior areas of the former Pacific Steel Casting site. Based on the quantity of staining observed in combination with the presence of the floor and storm drains, there is the potential that hazardous material releases to the subsurface of the project site occurred.

- Railroad tracks are on and adjacent to the project site. Railroad tracks and spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

- No regulatory agency information regarding UST removal/remediation was identified for the former gas station in the northwest corner of the project site. Elevated concentrations of contaminants, including petroleum hydrocarbons and heavy metals, were detected in soil and groundwater in this area during 2013 subsurface investigations.

- No regulatory agency information regarding a former auto wrecking yard in the southern portion of the project site was identified. Elevated concentrations of contaminants including petroleum hydrocarbons, heavy metals, and VOCs were detected in soil and groundwater in this area during 2013 subsurface investigations.

- No regulatory agency information regarding a former chemical works facility in the central-eastern portion of the project site was identified. Elevated concentrations of contaminants including petroleum hydrocarbons, heavy metals, and VOCs were detected in soil and groundwater in this area during 2013 subsurface investigations.

- Two 1,000-gallon gasoline USTs were installed in 1975 in the south-central portion of the project site. No regulatory agency information regarding UST removal/remediation was identified for these USTs. Elevated concentrations of contaminants including petroleum hydrocarbons, VOCs, and semi-volatile organic compounds were detected in this area during previous investigations.

- A detinning works facility equipped with solution tanks, a laboratory, and storage structure was historically located in the southeast portion of the project site. Elevated concentrations of contaminants including TCE and cobalt were detected in soils in this area during previous subsurface investigations.

- A bulk oil storage and distribution facility that included a laboratory, oil warehouse, furnace, garage, solvent mixing and filling building, and several ASTs of oil and gasoline was historically located in the northeast portion of the project site. Elevated concentrations of contaminants including petroleum hydrocarbons and heavy metals were detected in soil and groundwater in this area during 2013 subsurface investigations.

- A chemical packaging company with three 3,000-gallon solvent ASTs was historically located in the central-eastern portion of the project site.
- Multiple machine shops and manufacturing facilities were historically located on the project site.
- An 8,000-gallon gasoline UST was removed from the northwest portion of the project site (600 Gilman Street) in February 2014. Petroleum hydrocarbons in the samples collected during UST removal appeared to be consistent with conditions previously reported in the case-closure documentation for the former USTs at this property. Based on this information, the TMD granted the case closure.

2023 Phase I ESA. A 2023 Phase I ESA[15] was prepared for the Potential Berkeley Forge Development site, which identified the following environmental concerns.

- Environmental sampling has identified contamination of soil, groundwater, and soil vapor. Primary contaminants include TPH as diesel and motor oil, select VOCs, and metals in soil and/or groundwater. Impacts to soil vapor at the subject property include benzene, TCE, vinyl chloride, and methane, which indicates a potential Vapor Encroachment Condition. Based on the site history, there is also a potential for undocumented USTs to be encountered.
- The 300-gallon oil AST on the western portion of Berkeley Forge and Tool properties has significant staining and cracking of the pavement in the surrounding area.
- A former tannery to the east of the project site (adjacent to and east of the railroad tracks) may have handled VOCs that could have affected the project site based on its upgradient location relative to the project site.
- Removal of six USTs within the project site has been documented and any residual impacts to soil or groundwater was remediated with closure approval from the TMD or the RWQCB. Therefore, the historical soil and groundwater contamination associated with former UST removal activities are a historical recognized environmental condition.[16]
- Groundwater contamination from hexavalent chromium has migrated beneath the project site from an eastern off-site property.

[15] Langan. 2023b. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, July 28.

[16] A previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations).

- Numerous areas of debris and stained pavement were identified but were considered a de minimis condition.[17]

- Although the 2023 Phase I ESA indicates that the six USTs removed from the project site have received closure approval from the TMD or the RWQCB, documentation of regulatory agency notification or closure for the two USTs removed from the Berkeley Forge and Tool properties in 1997 has not been identified.

2023 Report of Findings. In 2023, a Report of Findings was prepared by the project sponsor pursuant to Health and Safety Code Chapter 6.82 and 6.83 (CLRRA) (see State Regulations under Section 4.9.1.7, below) for DTSC approval. The purpose of the Report of Findings is to provide the information needed for DTSC to determine whether a response action is necessary to address any unreasonable risk from hazardous materials at the conceptual development project site. The Report [18] summarizes the findings of subsurface investigations performed between 2013 and 2023 at the conceptual development project site. The Report of Findings indicates that previous investigations identified contamination of soil with hazardous materials including TPH compounds, VOCs (primarily chlorinated solvents and those associated with petroleum products), and heavy metals at concentrations that exceed current commercial/industrial Environmental Screening Levels (ESLs) in various areas of the project site. Groundwater contamination from TPH compounds and VOCs at concentrations exceeding ESLs, and areas of TPH free product[19] have also been identified at the project site. The Report of Findings also describes two previous spills of PCBs that occurred in the southwest portion of the project site (shown on Figure 4.9-1), remediation (removal of affected concrete and soil) from the larger and more recent spill area identified as PCB Spill 1, and soil and groundwater sampling activities performed in the areas of the PCB spills. Following remediation of PCB Spill 1, concentrations of PCBs exceeding commercial/industrial ESLs were detected in shallow soil samples collected during evaluation of an older PCB spill identified as PCB Spill 2. Additional sampling indicated that the extent of contamination from PCBs in the spill areas was limited and had not affected groundwater.

The Report of Findings documents additional site assessment activities performed in September 2023 to further delineate known contamination and evaluate the quality of fill material/soil, groundwater, and soil vapor in the area of the conceptual development project site. The site assessment activities were performed in general accordance with a Site Assessment Plan[20] that was

[17] A condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

[18] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

[19] Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

[20] Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

conditionally approved by DTSC.[21] Deviations from the Site Assessment Plan occurred during the field work, including that some soil samples were not collected when heavy staining and petroleum odors were observed in the borings, some borings could not be advanced due to subsurface obstructions or equipment/access limitations, and some borings were advanced in the wrong locations due to a lack of lighting within buildings and difficulty discerning previously sampled locations.

The Report of Findings indicates that soil vapor samples were not collected in areas where significant petroleum contamination was previously identified due to the potential for interference from the petroleum compounds; it proposes that soil vapor within these areas be re-evaluated in conjunction with any proposed remedial activities to address the petroleum contamination. Sampling was not performed at the Clearflow Valves facility, because the Site Assessment Plan[22] indicated that, based on the review of the 2018 Phase I ESA and 2002 Phase I ESA,[23] there was no indication of a release or potential sources within the Clearflow Valves facility that would dictate the need for sampling.

The Report of Findings divided the conceptual development project site into three operable units (OUs)[24]: the Pacific Steel OU, Berkeley Forge OU, and Fill OU. The Pacific Steel OU includes the areas previously occupied by the former Pacific Steel Casting Facility (see Figure 4.9-1, "Pacific Steel Properties"). The Berkeley Forge OU includes areas occupied by the Berkeley Forge and Clearflow Valves facilities (see Figure 4.9-1, "Berkeley Forge Properties" and Clearflow Valves Properties"). The Fill OU includes the undocumented fill across the conceptual development project site.

The Report of Findings indicates that based on the limited extent of groundwater impacts, it is anticipated that the impacts to soil are limited to the fill zone, are not widespread, and have not migrated off-site. The Report of Findings also indicates that, although areas across the project site exhibit impacts, migration of these contaminants in groundwater appears to be attenuated by the high clay content in subsurface soil. Additionally, contaminated groundwater in the fill zone may not be considered potable due to concentrations of total dissolved solids or low water production. The following summarizes the findings and conclusions from the Report of Findings regarding contamination identified to date at the three OUs of the conceptual development project site.

Fill-OU. Contamination from heavy metals in soil is generally associated with the Fill-OU and therefore is not described as part of the soil contamination described for the other OUs below.

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21 DTSC. 2023. Letter Regarding: Site Assessment Plan, Berkeley Forge Development Project, Eastshore Highway/Gilman Street/3rd Street/Page Street/631 – 643 Camelia Street, Berkeley, California (Site Code 202428), August 10.

22 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

23 The 2023 Phase I ESA that evaluated the Clearflow Valves facility had not been prepared at the time the Site Assessment Plan was prepared; however, the 2023 Phase I ESA also did not identify that the Clearflow Valves facility had historically been used as a machine shop.

24 Operable unit is a term used to describe specific areas within a site that may be determined based similarities in characteristics such as the location, historic use, affected media, or hazardous substances present.

Elevated concentrations[25] of heavy metals (primarily lead and arsenic) have been identified in soil in various areas across the project site. Several locations across the project site have been identified as having lead concentrations exceeding 1,000 milligrams per kilogram, which exceeds California's hazardous waste threshold for total lead. The extent of impacts from lead are not fully delineated; however, the Report of Findings indicates that the extent of lead is likely to be limited, as hot spots for lead are typically observed where undocumented fill is placed, rather than extensive impacted areas.

Pacific Steel OU. Soil contamination identified in the Pacific Steel OU is primarily from TPH as diesel, and is primarily associated with the former bulk oil facility in the northeast portion of the project site. Groundwater contamination identified in the Pacific Steel OU is primarily from TPH (as diesel and to a lesser degree as gasoline) and VOCs (primarily benzene, perchloroethylene [PCE], and TCE). Groundwater contamination from TPH as diesel is present in various areas across the project site, with the most significant contamination associated with the former bulk oil facility in the northeast portion of the project site. Groundwater contamination from TPH as gasoline and benzene is also present in the northeast portion of the project site, and groundwater contamination from TPH as gasoline is also present near former USTs in the Plant 1 area in the northwest portion of the project site. Groundwater contamination from PCE and TCE is present primarily beneath the warehouse in the southeast portion of the project site.

Soil vapor contamination identified in the Pacific Steel OU includes elevated concentrations of VOCs including benzene, PCE, TCE, vinyl chloride, and carbon tetrachloride that have been detected in various areas across the project site. The largest area of PCE and TCE contamination identified in soil vapor (which also has the highest concentrations) is present beneath the southeast portion of the project site. An elevated concentration of methane (exceeding 25 percent of the lower explosive limit) was also detected in soil vapor in the northwest portion of the project site.

Berkeley Forge OU. Soil and groundwater contamination identified in the Berkeley Forge OU is primarily from TPH as diesel in the western portion of the project site (in the northwest corner of the Berkeley Forge OU where free product was previously observed). No significant VOC concentrations were detected in soil or groundwater in the Berkeley Forge OU. Elevated concentrations of benzene have been detected in soil vapor in the western portion of the Berkeley Forge OU, and elevated concentrations of PCE have been detected in soil vapor in the eastern portion of the Berkeley Forge OU, immediately east of the Clearflow Valves facility.

4.9.1.3 Hazardous Materials Transport, Emergency Response, and Evacuation

Hazardous materials are transported through Berkeley by truck, rail, and pipelines. Specific routes known to carry hazardous materials near the project site include Interstate 80, Gilman Avenue, Union Pacific Railroad (UPRR) tracks adjacent to the east of the project site, and petroleum fuel pipelines that run along the UPRR tracks, which are operated by Kinder Morgan. Each fuel pipeline

[25] The term "elevated concentrations" is used throughout this section when describing concentrations that exceed applicable screening levels established by regulatory agencies that were used for comparison in the Report of Findings.

has automatic, remote control, and other manual valves along its length and the flow can be shut down within minutes.[26] Petroleum pipelines have been subject to pipeline safety and maintenance regulations since 1979, including the federal Hazardous Liquid Pipeline Safety Act (Title 49, Code of Federal Regulations, Part 195.412) and State regulations (California Government Code Section 51010-51019.1). These regulations require that petroleum pipelines be designed with equipment, such as low-pressure alarms and safety shut-down devices, to minimize spill volume in the event of a leak.

Pipeline mapping from the National Pipeline Mapping System indicates that the Kinder Morgan fuel pipelines are on the east and west sides of the UPRR tracks, and the western pipeline is adjacent to the eastern portion of the project site.[27] Based on the review of utility markings that are visible on Google Maps street view imagery, it appears that the western petroleum pipeline may be within 5 feet of an existing structure along the east side of the project site and to the south of Camelia Street.[28]

The Berkeley Fire Department is the first responder for hazardous materials incidents within the City and has access to chemical inventories, locations, and emergency planning for hazardous materials facilities. The Berkeley Public Works Department manages the City's hazardous materials emergency response to spills within the public right-of-way, along with the City's hazardous materials emergency response contractor. Designated emergency response and evacuation routes near the project site are Gilman Street, Cedar Street, and [29] The Berkeley Fire Department supports the Berkeley Police Department in evacuations due to fires or hazardous material incidents[30]

4.9.1.4 Schools

The nearest school to the project site is Duck's Nest Preschool, 410 feet to the east at 1411 Fourth Street. No other schools were identified within 0.25 mile of the project site.[31]

4.9.1.5 Aviation Hazards

The project site is 11 miles north of Oakland International Airport, which is the nearest public airport. The project site is not within a public airport land use plan area or within 2 miles of a public use airport.

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26 City of Berkeley. 2019. Local Hazard Mitigation Plan, Final, December 10.

27 National Pipeline Mapping System (NPMS). 2024. NPMS Public Viewer, Website: https://pvnpms.phmsa.dot.gov/PublicViewer/ (accessed February 22, 2024).

28 Google Maps, 2024. Street View Imagery, Website: https://www.google.com/maps/@37.8769526,-122.3041836,3a,75y,196.88h,76.95t/data=!3m6!1e1!3m4!1s4WoLX4UT4HFXPdekeVyz1A!2e0!7i16384!8i8192?entry=ttu (accessed February 22, 2024).

29 City of Berkeley. 2019. Local Hazard Mitigation Plan, Final, December 10.

30 City of Berkeley. 2016. Emergency Operations Plan, Base Plan.

31 California Department of Education. 2024. California Schools Directory. Website: https://www.cde.ca.gov/schooldirectory (accessed February 21, 2024).

4.9.1.6 Wildland Fire Hazards

The project site and adjacent areas are not in a Very High Fire Hazard Severity Zone as mapped by the CAL FIRE and are not within any State responsibility areas (SRA) for fire service.[32]

4.9.1.7 Regulatory Framework

The use, storage, and disposal of hazardous materials—including management of contaminated soils and groundwater—is regulated by numerous local, State, and federal laws and regulations. Federal, State, regional, and local agencies' jurisdictions in the management of hazards and hazardous materials, as applicable to the proposed project, are described below.

Federal Regulations. At the federal level, the United States Environmental Protection Agency (USEPA) administers hazardous materials and hazardous waste regulations, the Occupational Safety and Health Administration (OSHA) regulates worker safety related to hazardous material handling, and the United States Department of Transportation (DOT) regulates hazardous waste transportation. The authority of these agencies and applicable regulations are described below.

United States Environmental Protection Agency. The USEPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily found in Title 40 of the Code of Federal Regulations (CFR). The legislation includes the Resource Conservation and Recovery Act (RCRA) of 1976, the Superfund Amendments and Reauthorization Acts of 1986, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and the Toxic Substances Control Act of 1976 (TSCA). The USEPA oversees site investigation and remediation projects, and has developed protocols for sampling, testing, and evaluation of solid wastes.

In 1989, the USEPA issued a final rule banning most asbestos-containing products. In 1991, this regulation was overturned and, as a result of the court's decision, the 1989 asbestos regulation only bans new uses of asbestos in products that would be initiated *for the first time* after 1989 and bans the following specific asbestos-containing products: flooring felt, rollboard, and corrugated, commercial, or specialty paper.[33]

Resource Conservation and Recovery Act. The RCRA is a combination of the first federal solid waste statutes and all subsequent amendments mandated by Congress. RCRA establishes the framework for a national system of solid waste control. Subtitle D of RCRA is dedicated to non-hazardous solid waste requirements, and Subtitle C focuses on hazardous solid waste. Solid waste includes solids, liquids, and gases and must be discarded to be considered waste. Under Subtitle C of RCRA, the USEPA has developed a comprehensive program to ensure that hazardous waste is managed safely from the moment it is generated to its final disposal

[32] CAL FIRE. 2024. *Fire Hazard Severity Zone Viewer*. April 1. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/ (accessed June 27, 2024.

[33] United States Environmental Protection Agency (USEPA). 2024. Asbestos Ban and Phase-Out Federal Register Notices. Website: https://www.epa.gov/asbestos/asbestos-ban-and-phase-out-federal-register-notices (accessed February 13, 2024).

(referred to as cradle-to-grave) and may authorize states to implement key provisions of hazardous waste requirements in lieu of the federal government. Subtitle C regulations set criteria for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. This includes permitting requirements, enforcement, and corrective action or cleanup. In California, the DTSC administers the RCRA program. One of the requirements for an RCRA permitted facility is to implement a "corrective action program" and investigate and remediate any releases of hazardous wastes at the facility under the supervision of DTSC. As a result, the project sponsor for the conceptual development project has entered into a voluntary CLRRA Agreement with DTSC dated November 23, 2022, to oversee environmental investigation and remediation associated with redevelopment of the conceptual development project site DTSC has supervised the investigation and cleanup of contaminated soil and groundwater at the conceptual development project site, as discussed in Section 4.9.1.2, above.

Hazardous Materials Transportation Act. The federal Hazardous Materials Transportation Act (HMTA) of 1975 is the statutory basis for the extensive body of regulations aimed at ensuring the safe transport of hazardous materials on water, rail, and highways and through air or pipelines. It includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation.

United States Department of Transportation. In 1990 and 1994, the HMTA was amended to improve the protection of life, property, and the environment from the inherent risks of transporting hazardous material in all major modes of commerce. The DOT developed hazardous materials regulations that govern the classification, packaging, communication, transportation, and handling of hazardous materials, as well as employee training and incident reporting. The transportation of hazardous materials is subject to both RCRA and DOT regulations. The California Highway Patrol, California Department of Transportation (Caltrans), and DTSC are responsible for enforcing federal and State regulations pertaining to the transportation of hazardous materials.

Occupational Safety and Health Administration. OSHA regulates worker health and safety at the federal level. The federal Occupational Safety and Health Act of 1970 authorizes the states to establish their own safety and health programs with OSHA approval. Worker health and safety protections in California are regulated by the California Occupational Safety and Health Administration (Cal/OSHA), as described below. California standards for workers dealing with hazardous materials are found in 8 California Code of Regulations (CCR), which includes practices for all industries (General Industrial Safety Orders) as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

State Regulations. At the State level, the California Environmental Protection Agency (CalEPA) implements and enforces environmental laws that regulate air, water, and soil quality; pesticide use;

and waste recycling and reduction. CalEPA consists of DTSC; the State Water Resources Control Board (SWRCB) and the nine RWQCBs; the California Air Resources Board (CARB); the Department of Pesticide Regulation; the California Department of Resources, Recycling, and Recovery (CalRecycle); and the Office of Environmental Health Hazard Assessment. DTSC and the SWRCB administer hazardous materials and hazardous waste regulations, CARB regulates air pollution control programs, and Cal/OSHA regulates worker safety related to hazardous materials handling. The authority of these agencies and applicable regulations are described below.

Department of Toxic Substances Control. In California, the USEPA authorizes DTSC to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most State hazardous materials regulations are found in CCR Title 22 (see discussion of CCR Title 22 below). DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health and establishes cleanup levels for subsurface contamination that are equal to or more restrictive than federal levels. DTSC has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California. CLRRA hazardous materials releases and subsurface contamination at the conceptual development project site is currently being investigated under the oversight of DTSC pursuant to CLRRA. The project sponsor for the conceptual development project entered into a voluntary CLRRA Agreement with DTSC on November 23, 2022, to oversee environmental investigation and remediation associated with redevelopment of the conceptual development project site pursuant to Health and Safety Code Section 25395.92(c).[34]

California Health and Safety Code. Health and Safety Code Division 20, Chapter 6.5 – Hazardous Waste Control, is the primary hazardous waste statute in the State of California and implements RCRA as a "cradle-to-grave" waste management system in California. It specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. It also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. It exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates additional types of wastes and waste management activities that are not covered by federal law under RCRA.

Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos.

Chapter 6.95 of the Health and Safety Code also establishes minimum statewide standards for Hazardous Materials Business Plans (HMBPs), including basic information on the location, type, quantity, and health risks of hazardous materials and/or waste. Each business must prepare an

[34] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

HMBP if that business uses, handles, or stores a hazardous material and/or waste or an extremely hazardous material in quantities greater than or equal to:

- 55 gallons for a liquid
- 500 pounds of a solid
- 200 cubic feet for any compressed gas
- Threshold planning quantities of an extremely hazardous substance

State Water Resources Control Board. The SWRCB enforces regulations on implementation of UST programs. It also allocates funding to eligible parties that request reimbursement of costs to clean up soil and groundwater pollution from UST leaks. The SWRCB also enforces the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) through its nine Regional Water Quality Control Boards, including the San Francisco Bay RWQCB, which is described below.

California Department of Public Health. Transport and disposal of medical wastes are closely regulated by the California Department of Public Health, which regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (California Health and Safety Code Sections 117600–118360). Local agencies can implement a medical waste management program pursuant to the Medical Waste Management Act.

California Air Resources Board. CARB is responsible for coordination and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards and is responsible for monitoring air quality in conjunction with the local air districts.

California Code of Regulations Title 22. Most State and federal regulations and requirements that apply to generators of hazardous waste are found in CCR Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. Because California is a fully authorized state according to RCRA, most RCRA regulations (those found in 40 CFR 260 et seq.) have been duplicated and integrated into Title 22. However, because DTSC regulates hazardous waste more stringently than the USEPA does, the integration of California and federal hazardous waste regulations that make up Title 22 does not contain as many exemptions or exclusions as does 40 CFR 260. As with the California Health and Safety Code, Title 22 also regulates a wider range of waste types and waste management activities than the RCRA regulations in 40 CFR 260. To aid the regulated community, the State of California compiled the hazardous materials, waste, and toxics-related regulations found in CCR Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27 into one consolidated CCR Title 26, "Toxics." However, the California hazardous waste regulations are still commonly referred to as Title 22.

California Occupational Safety and Health Administration. Cal/OSHA regulates worker health and safety protections in California. California's standards for workers dealing with hazardous materials are found in CCR Title 8, which includes practices for all industries (General Industrial Safety Orders), as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during

excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

California Fire Code. The California Fire Code is Part 9 of CCR Title 24, also referred to as the California Building Standards Code. The California Fire Code incorporates the latest International Fire Code of the International Code Council with necessary California amendments. The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The California Fire Code specifically addresses design and construction requirements for laboratory environments. The requirements encompass the use and storage hazardous or flammable materials as well as the installation of exhaust systems, which are required to incorporate fire suppression systems.

California Fire Code Chapter 33 contains requirements for construction activities, including the development and implementation of a site safety plan establishing a fire prevention program. Implementation of these safeguards is designed to reduce the potential for fire-related hazards during construction and demolition activities. In addition, California Fire Code Chapter 35 contains specific requirements for welding and other hot work. The requirements are intended to maintain the required levels of fire protection, limit fire ignition and spread, establish the appropriate operation of equipment, and promote prompt response to fire emergencies. Regulated features include fire protection systems, firefighter access, water supply, means of egress, hazardous materials storage and use, and temporary heating equipment and other ignition sources.

Chapter 50 of the California Fire Code contains requirements to prevent and control dangerous conditions (e.g., unauthorized discharge, fires, or explosions) related to storage, dispensing, use, and handling of hazardous materials. It includes requirements related to permitting of hazardous materials storage, design and construction of storage buildings and containers, storage practices, spill control and secondary containment, ventilation, separation of incompatible materials, safe handling, transportation, and dispensing practices.

Government Code Section 65962.5. The provisions of Government Code Section 65962.5 require DTSC, the SWRCB, the California Department of Health Services, and CalRecycle (formerly the California Integrated Waste Management Board) to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, LUST sites, and/or hazardous materials releases to the Secretary of CalEPA.

Health and Safety Code Division 20, Chapter 6.82 and 6.83, California Land Reuse and Revitalization Act (CLRRA). The provisions of Health and Safety Code Division 20, Chapter 6.82 and 6.83, also known as the CLRRA, provides liability protections to eligible property owners and prospective purchasers to promote the cleanup and redevelopment of blighted contaminated

properties and establishes a voluntary process for eligible owners and prospective purchasers to obtain immunities, conduct a site assessment, and implement a response action as necessary, to ensure that a property can be reused or redeveloped. Immunities begin when a party enters into a CLRRA agreement. The CLRRA agreement requires an eligible property owner or prospective purchasers to 1) prepare and submit a Site Assessment Plan in accordance with the requirements of Health and Safety Code Section 25395.94; and 2) submit a Report of Findings containing all information required under Health and Safety Code Section 25395.94(b) and (c), and Health and Safety Code Section 25395.95 for DTSC approval. If DTSC finds the Site Assessment Plan and Report of Findings adequate and contains all necessary information, DTSC approves the Site Assessment Plan and Report of Findings and notifies the appropriate agencies (e.g., the City, regional water quality control board, local health department and any public water system that relies on impacted groundwater for public drinking water purposes). If DTSC determines that a response action is necessary to prevent or eliminate an unreasonable risk, the property owner or prospective purchaser must submit a Response Plan to DTSC for approval. Public participation for the Response Plan must meet the requirements of Health and Safety Code section 25395.96, including a DTSC public meeting if requested. The property owner or prospective purchaser must submit to DTSC all documentation necessary for compliance with the California Environmental Quality Act, Public Resources Code sections 21000-21177 (CEQA). Upon approval of the Response Plan, DTSC must notify all appropriate agencies and the property owner or prospective purchaser must implement the Response Plan. The Response Plan must contain the information specified in Health and Safety Code Section 25395.96(a) and (b) and must place the property in condition that allows it to be used for its reasonably anticipated future land use without unreasonable risk to human health and safety and the environment. DTSC issues a certificate of completion upon determining that all response actions have been satisfactorily completed in accordance with the approved Response Plan and that, based upon the data provided to DTSC at the time of the determination, no further remedial action, except only compliance with O&M and land use restriction requirements, if any, is necessary.

Regional Regulations. The following regional agencies have regulatory authority over the proposed project's management of hazardous materials and hazards.

San Francisco Bay Regional Water Quality Control Board. The Porter-Cologne Act established the SWRCB and divided the State into nine regional basins. The San Francisco Bay Regional Water Quality Control Board (Region 2) (RWQCB) regulates water quality in the Bay Area, including the project site. The RWQCB has the authority to require groundwater investigations when the quality of groundwater or surface waters of the State are threatened, and to require remediation actions, if necessary. The RWQCB has developed Environmental Screening Levels (ESLs) to help expedite the preparation of environmental risk assessments at sites where contaminated soil and groundwater have been identified. The RWQCB issued the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP), [35] which addresses the potential discharge of hazardous materials in municipal stormwater from

[35] RWQCB. 2022. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008, May 11.

municipalities in the Bay Area (described in detail under Section 4.10, Hydrology and Water Quality, of this EIR).

Bay Area Air Quality Management District. The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of the USEPA and the CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, and the issuance of permits for activities including asbestos demolition and renovation activities.

BAAQMD Regulation 11-2 requires that prior to commencement of any demolition or renovation, the owner or operator must thoroughly survey the affected structure or portion thereof for the presence of ACMs. The survey must be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey must include sampling and the reporting of results of laboratory analysis of the asbestos content of all suspected ACMs. This survey must be made available, upon request by the Air Pollution Control Officer, prior to the commencement of any regulated ACM removal or any demolition. If ACMs are identified, the disturbance/removal and management of ACMs must be performed in accordance with BAAQMD Regulations under Rule 11-2 to ensure that asbestos would not be released into the environment.

Local Plans and Regulations. The City's TMD, General Plan, Municipal Code, Emergency Operations Plan (EOP), Local Hazard Mitigation Plan (LHMP), and West Berkeley Plan are discussed below.

City of Berkeley, Toxics Management Division. The TMD is the Certified Unified Program Agency (CUPA) for the City. The CUPA is the primary agency responsible for local enforcement of State and federal laws pertaining to hazardous materials and hazardous waste management and is responsible for coordination of the following CUPA Programs: HMBP Program, Hazardous Waste Generator Program, UST Program, California Accidental Release Program, and the Aboveground Petroleum Storage Act Program. The role of a CUPA is to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities associated with the regulation of hazardous materials and hazardous wastes. The TMD is also responsible for reviewing development in the City of Berkeley's Environmental Management Area (EMA), which are areas of known or suspected groundwater contamination and includes all areas west of San Pabo Avenue in the project area.

City of Berkeley General Plan. The City's General Plan, adopted in 2002, contains the following policies and actions in the Disaster Preparedness and Safety Element[36] and Environmental Management Element[37] which are relevant to the project:

[36] City of Berkeley. 2002a. Disaster Preparedness and Safety Element, General Plan, Adopted April 23.
[37] City of Berkeley. 2002b. Environmental Management Element, General Plan, Adopted April 23.

Policy S-1 Response Planning. Ensure that the City's emergency response plans are current and incorporate the latest information on hazards, vulnerability, and resources.

Actions:

A. Test, maintain, and revise the City's disaster response plan(s) consistent with the California Standardized Emergency Management System (SEMS) and establish clear coordination of roles and expectations with the County Office of Emergency Services, the University of California, the Berkeley Unified School District, neighboring jurisdictions, and other agencies.

B. Designate and publicize evacuation routes, shelter locations, and emergency service locations (hospitals, fire stations, etc.) within the city and sub region. Include existing city pathways and other pedestrian rights-of-way in the published designated evacuation route map. Prioritize undergrounding of utilities for designated routes to make them more reliable.

C. Designate and publicize emergency access routes with the city and subregion. Prioritize undergrounding of utilities to enhance reliability of emergency access routes and minimize conflagration hazards from fallen power lines.

D. City departments shall conduct an appropriate level of staff training addressing emergency readiness, evacuation routes, first aid, staging areas and procedures, continuity of services, and response and recovery operations and including CERT training for all City employees.

Policy S-13 Hazards Identification. Identify, avoid and minimize natural and human-caused hazards in the development of property and the regulation of land use.

Actions:

A. Maintain and make publicly available up-to-date hazard maps identifying areas subject to heightened risk from potential seismic hazards (including fault rupture, ground failure, ground shaking, and liquefaction), and fire, flood, landslide, and other hazards, such as toxic contamination and radioactive release.

B. Improve the understanding of identified hazards and mitigation needs via area-specific studies such as microzonation studies.

Policy S-14 Land Use Regulation. Require appropriate mitigation in new development, in redevelopment/reuse, or in other applications.

Actions:

A. When appropriate utilize the environmental review process to ensure avoidance of hazards and/or adequate mitigation of hazard-induced risk.

Policy EM-12 Education. Work with other State and local agencies to educate business owners and residents regarding safe use, recycling, and disposal of toxic materials; reducing hazardous household wastes; and substitutes for these substances.

Actions:

A. Implement business operator education and hazardous materials minimization programs to avoid accidental releases of hazardous materials.

B. Conduct periodic training exercises for the identification, containment, decontamination, and disposal of hazardous materials.

Policy EM-13 Hazardous Materials Disp. Continue to require the disclosure of hazardous materials usage and encourage businesses using such materials to prepare and implement a plan to reduce the use of hazardous materials and the generation of hazardous wastes.

Policy EM-14 Hazardous Material Regulation. Control and regulate the use, storage and transportation of toxic, explosive, and other hazardous and extremely hazardous material to prevent unauthorized and accidental discharges.

Actions:

A. Regularly inspect businesses using, storing, transporting, or generating hazardous materials or wastes to ensure compliance with federal, state, and local regulations.

B. Require facility operators to write and implement contingency plans in preparation for emergency situations and accidental releases. Additionally, require facilities to train their employees on how to activate the contingency plans.

Policy EM-15 Environmental Investigation. When reviewing applications for new development in areas historically used for industrial uses, require environmental investigation as necessary to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses would not have the potential to affect the environment or the health and safety of future property owners, users, or construction workers.

Policy EM-16 Risk Reduction. Work with owners of vulnerable structures with significant quantities of hazardous material to mitigate potential risks.

Policy EM-17 Warning Systems. Establish a way to warn residents of a release of toxic material or other health hazard, such as sirens and/or radio broadcasts.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COAs) for all development projects. The following COA

addresses hazards and hazardous materials and compliance with this COA is required prior to the City's issuance of any demolition or construction permits:

COA: Toxics. The applicant shall contact the Toxics Management Division (TMD) at 1947 Center Street or (510) 981-7470 to determine which of the following documents are required and timing for their submittal:

A. Phase I and Phase II Environmental Site Assessment (ESA) (per ASTM 1527). A recent Phase I ESA (less than 2 years old) shall be submitted to the Toxics Management Division for developments for: all new commercial, industrial and mixed-use developments and all improvement projects that require work 5 or more feet below grade, and all new residential buildings with more than four dwelling units in the Environmental Management Area (or EMA). The EMA can be viewed at City of Berkeley Community GIS Portal (arcgis.com)

B. Depending on the findings in the Phase I, a Phase II or additional investigation may be necessary. Any available soils and groundwater analytical data available for projects listed in this section must also be submitted to TMD.

C. Environmental Site Clearance. The applicant shall provide environmental screening clearance from either the San Francisco Bay Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC), or the Alameda County Department of Environmental Health's Local Oversight Program (LOP). Clearance from one of these regulatory agencies will ensure that the property meets development investigation and cleanup standards for the specific use proposed on the property. Environmental screening clearance shall be submitted to the City's Toxics Management Division prior to issuance of any building permits.

D. Soil and Groundwater Management Plan. A site-specific Soil and Groundwater Management Plan (SGMP) shall be submitted to Toxics Management Division (TMD) for all non-residential projects, and residential or mixed-use projects with more than four dwelling units, that: (1) are in the Environmental Management Area (EMA), as shown on the most recent City of Berkeley EMA map, and (2) propose any excavations deeper than 5 feet below grade or if significant soils removal is anticipated. The SGMP shall be submitted to the TMD with the project's building permit application and shall be approved by TMD prior to issuance of the building permit.

   The SGMP shall comply with the hazardous materials and waste management standards required by BMC Section 15.12.100, the stormwater pollution prevention requirements of San Francisco Bay Regional Water Quality Control Board's Order No. R2-2009-0074, California hazardous waste generator regulations (Title 22 California Code of Regulations (CCR) 66260 et seq.), and the East Bay Municipal Utility District's Ordinance 311, and shall include the following:

i. Procedures for soil and groundwater management including identification of pollutants and disposal methods;

ii. Procedures to manage odors, dust and other potential nuisance conditions expected during development;

iii. Notification to TMD within 24 hours of the discovery of any previously undiscovered contamination; and

iv. The name and phone number of the individual responsible for implementing the SGMP and who will respond to community questions or complaints.

TMD may require additional information or impose additional conditions as deemed necessary to protect human health and the environment. All requirements of the approved SGMP shall be deemed conditions of approval.

E. Demolitions & Renovations – Building Materials Survey. A hazardous materials survey for building materials and plans on hazardous materials and hazardous waste removal and disposal is required and must be prepared by qualified professionals, and submitted to the TMD prior to issuance of the building permit.

i. The survey shall include the identification of all materials to be disturbed for lead-based paints, polychlorinated biphenyl (PCB) containing equipment and caulking, hydraulic fluids, refrigerants, treated wood, and mercury containing devices (including fluorescent light bulbs and mercury switches), asbestos and other hazardous materials and chemicals.

ii. If asbestos is identified, pursuant to Bay Area Air Quality Management District Regulation 11-2-401.3 a notification must be made and the J number must be made available to the City of Berkeley Permit Service Center. Contractors must follow state regulations where there is asbestos-related work involving 100 square feet or more of asbestos containing material (8 Cal. Code Regs. §1529, §341.6 et seq.)

iii. The report to the TMD shall include, in addition to the survey, plans on hazardous materials and hazardous waste removal and disposal that comply with State and Federal codes including California Code of Regulations (CCR) 66260 et seq.

iv. Documentation evidencing disposal of hazardous waste in compliance with the survey shall be submitted to TMD within 30 days of the completion of the demolition.

Please note, the PCB Screening Form required by Public Works, Engineering, is a separate requirement and does not address the PCB identification requirement of the Toxics Management Division.

F. Hazardous Materials Business Plan**.** A HMBP in compliance with BMC Section 15.12.040 and California Health & Safety Code, Chapter 6.95 Div. 20, shall be submitted to the Toxics Management Division through the California Environmental Reporting System: http://cers.calepa.ca.gov/ for chemicals used or stored on site during construction that exceed reporting thresholds. The reporting is required if your facility stores or handles hazardous materials in aggregate quantities equal to or greater than 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet of compressed gases, or generates any quantity of hazardous waste. This includes welding gases, emergency generator fuel, paints, etc.

   Additionally, the business occupant must submit an HMBP within 30 days of starting operations.

G. Petroleum Storage. An SPCC Plan is required to be prepared and implemented for facilities with any one of the following:

   i. Aggregate aboveground petroleum storage capacities of 1,320 gallons or more stored in aboveground storage containers, tanks, oil-filled equipment, or

   ii. One or more tank(s) in an underground area (TIUGA) with petroleum storage capacities of 55 gallons or greater. More information on TIUGAs can be found here: https://osfm.fire.ca.gov/divisions/pipeline-safety-and-cupa/certified-unified-program-agency-cupa/aboveground-petroleum-storage-act/tank-in-an-underground-area-tiuga/

   The SPCC plan must be prepared prior to beginning operations and you must submit facility information to TMD through the California Environmental Reporting System: http://cers.calepa.ca.gov/. The SPCC plan will be reviewed during the site inspection and shall not be submitted in CERS or to the TMD.

Municipal Code. The following describes the City of Berkeley Municipal Code (BMC) requirements related to hazards and hazardous materials that would be applicable to the project.

The Berkeley Hazardous Materials Code, found in Chapter 15 of the BMC, governs certain operations, enterprises or activities which, if not regulated, may adversely affect the public health and safety. The provisions of the Berkeley Hazardous Materials Code are intended to conform to California laws regulating the storage and handling of hazardous materials and wastes. Under the Berkeley Hazardous Materials Code, the City assumes responsibility and exclusive jurisdiction for these laws, to the extent authorized by law, including designation as a CUPA. The provisions of the Berkeley Hazardous Materials Code are also intended to conform to California laws regulating the remediation of contamination resulting from releases of hazardous materials and wastes. Under the Berkeley Hazardous Materials Code, the City assumes responsibility, to the extent authorized by law, for the abatement of nuisances and remediation of contamination resulting from releases of hazardous materials and waste.

Chapter 19.48 of the BMC adopts and amends the California Fire Code. The amendments include permitting requirements governing storage and handling of flammable and combustible liquids, abandonment or removal of USTs, and the transportation of hazardous materials on City streets.

Chapter 14 of the BMC includes traffic regulations. Chapter 14.12 of the BMC indicates that the City Traffic Engineer shall place and maintain or cause to be placed and maintained official traffic control devices when and as required to make effective the provisions of this division. Chapter 14.48.020 of the BMC indicates that it is unlawful to obstruct, restrict, or prevent the use of any portion of sidewalks or roadways except as set forth in City regulations. Chapter 14.48.040 of the BMC requires a permit from the City to place construction materials or barricades in street or sidewalk areas.

Chapter 16 of the BMC includes requirements related to streets, sidewalks, and other public property. Chapter 16.12 of the BMC requires a permit from the City to perform excavations in the public right-of-way. Chapter 16.16 of the BMC requires a permit from the City to place or store upon any street or sidewalk any materials, appliances or other equipment required or used for any work done under a building permit or any public works permit, or work for which a building permit or any public works permit is required, or to haul or carry any such materials, appliances or equipment over any sidewalk area, or operate on any public street any overweight or overwidth vehicle, or any vehicle with an overheight, overweight or overwidth load for street and sidewalk use. Chapter 16.18 of the BMC requires a permit from the City to construct or place permanent structures or improvements over, upon, under, or using any public right-of-way.

Emergency Operations Plan. The City adopted an EOP[38] in 2016 that establishes the authorities, structures, and responsibilities related to emergency response operations in the City. The EOP describes the City's coordination with County, regional, State and federal entities, as well as external Berkeley partners. The EOP Base Plan is scalable in order to address both incidents that develop into emergencies, planned events, as well as incidents, emergencies or disasters that occur without warning.

Local Hazard Mitigation Plan. The City adopted an LHMP[39] in 2019. The LHMP documents current understanding of the hazards present in the city, along with vulnerabilities to each hazard (i.e., the ways that the hazard could impact buildings, infrastructure, community, and environment). The LHMP presents the City's Mitigation Strategy, which reflects a wide variety of both funded and unfunded actions, each of which could reduce the City's hazard vulnerabilities. No critical facilities were identified by the LHMP on or adjacent to the project site. One of the High-Priority Actions in LHMP mitigation strategy is to mitigate hazardous materials release in the City through inspection and enforcement programs.

38 City of Berkeley, 2016. Emergency Operations Plan, Base Plan.
39 City of Berkeley, 2019. Local Hazard Mitigation Plan. Final. December 10.

West Berkeley Plan. The City's West Berkeley Plan, adopted in 1993,[40] contains the following goals and policies which are relevant to the project:

III.A. Community Awareness and the Regulatory Process, Goal 1*:* Improve the efficiency, coordination and effectiveness of environmental review and regulation, and provide recognition and reward firms which exceed environmental standards.

Policies:

1.4: Increase preparedness for environmental emergencies, utilizing existing neighborhood organizations and watch groups, as well as other resources.

1.6: Avoid establishment of new uses which pose unmitigable environmental hazards.

1.7: Require new uses to demonstrate an ability to meet applicable environmental laws and standards.

1.8: Enforce new and existing environmental laws in coordination with non-City regulatory agencies.

1.10: Require businesses which close or leave Berkeley to clean up contaminated sites, as mandated by State law.

III.B. Hazardous Materials, Goal 2: Reduce the generation of, importing into West Berkeley, transportation, use, storage, and disposal of all hazardous materials/hazardous waste.

Policies:

2.1: Reduce to the greatest feasible extent the amount and/or hazard intensity of hazardous materials and hazardous waste imported into West Berkeley, transported through West Berkeley, used or stored in West Berkeley and disposed of by West Berkeley businesses, institutions and households.

2.2: Promote risk management and communication.

2.3: Promote hazardous waste reduction and recycling.

III.C. Biohazardous Materials, Goal 3: Assure that biohazardous materials are appropriately regulated, by the City or other agencies.

Policies:

3.1: Implement the City's new biohazards amendments to the Hazardous Materials Disclosure Ordinance.

3.2: Coordinate City regulatory action with other agencies.

[40] City of Berkeley, 1993. West Berkeley Plan. Fall. Adopted December 14.

III.D. Soil and Groundwater Contamination, Goal 4: Decrease the level of contamination in West Berkeley soils and groundwater.

Policies:

4.1: Increase contaminated site cleanup efforts.

III.E. Air Quality, Goal 5: Enhance Air Quality in West Berkeley.

Policies:

5.4: Promote risk management and communication practices.

5.5: Reduce the importing, transportation, use, and storage of materials which will become airborne hazardous waste.

4.9.2 Impacts and Mitigation Measures

The following describes the potential impacts of the proposed project related to hazards and hazardous materials. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and the conceptual development project and identifies COAs and mitigation measures that would address the impacts, as appropriate.

4.9.2.1 Criteria of Significance

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to hazards and hazardous materials if it would:

Threshold HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

Threshold HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

Threshold HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

Threshold HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment;

Threshold HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;

Threshold HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or,

Threshold HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.9.2.2 Impacts Not Evaluated in Detail

Airport Hazards. The project site is 11 miles north of Oakland International Airport, which is the nearest public airport. The project site is not within a public airport land use plan area or within two miles of a public use airport.[41] Therefore, the project would have **no impact** related to aviation hazards.

Wildland Fires. The project site is within a highly developed urban area and is not near a wildland fire hazard area and is not located in a Very High Hazard Severity Zone as mapped by CAL FIRE and is not within an SRA for fire service.[42] Therefore, the proposed project would have **no impact** related to exposing people or structures to a significant loss, injury or death involving wildland fires.

4.9.2.3 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project and conceptual development project for each of the criteria of significance listed above and potential cumulative impacts.

To assess the project's potential to create a significant hazard for the public or environment related to subsurface hazardous materials, the impact analysis considers the potential pathways through which exposure to hazards could occur, based on the following reports:

- Soil and Groundwater Quality Reconnaissance, Pacific Steel Casting Company, prepared by Lowney Associates in May 1993 (1993 Phase II ESA).
- Phase I Environmental Site Assessment (1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street), prepared by Ninyo & Moore on April 24, 2002 (2002 Phase I ESA).
- Phase II Environmental Site Assessment, Pacific Steel Casting (1420-1421 Second Street), prepared by Anchor Environmental Consultants on January 22, 2003 (2003 Phase II ESA).
- Phase I Environmental Site Assessment (640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street), prepared by AEI Consultants on January 17, 2018 (2018 Phase I ESA).

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41 Alameda County Community Development Agency. 2010. *Oakland International Airport, Airport Land Use Compatibility Plan*. December.

42 CAL FIRE. 2024. Fire Hazard Severity Zone Viewer. April 1. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/ (accessed June 27, 2024.

- Phase I Environmental Site Assessment, Berkeley Forge Development Project (1330-1333 Second Street and 631 Camelia Street), prepared by Langan on July 28, 2023 (2023 Phase I ESA).
- Site Assessment Plan, Berkeley Forge Development Project (1330-1333 Second Street and 631 Camelia Street), prepared by Langan on February 1, 2023 and revised on June 30, 2023 (Site Assessment Plan).
- Report of Findings, Berkeley Forge Development Project (1330-1333 Second Street and 631 Camelia Street), prepared by Langan on December 8, 2023 (2023 Report of Findings).
- Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, prepared by Langan on December 8, 2023 (Technical Memorandum).

Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation. (*Less Than Significant)*

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during construction activities. For future redevelopment on the project site that would result in land disturbance of one acre or more (such as implementation of the proposed M-RD zoning district and/or the conceptual development project), management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit (described in detail in Section 4.10, Hydrology and Water Quality, of this EIR), which requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes hazardous materials storage requirements. For example, construction site operators must store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed). Developments under the project that would result in disturbance of less than 1 acre would generally handle smaller quantities of hazardous materials, which reduces the likelihood for the accidental release of significant quantities of hazardous materials. The City performs inspections of all construction sites in accordance with the requirements of the MRP to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed.

Construction of future development facilitated by the proposed project, including the conceptual development project, would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by DOT, RCRA, and State regulations.

Operation of the future development facilitated by the proposed project, including the conceptual development project, would involve the routine storage and use of small quantities of commercially available hazardous materials for routine maintenance (e.g., painting and cleaning). The storage and use of small quantities of commercially available hazardous materials would not pose a significant hazard to the public or environment. Operation would also include storage and use of hazardous

materials and generation of hazardous waste related to laboratories, R&D, or manufacturing facilities. In addition, equipment installed at the project site, such as hydraulic elevator systems, backup generators, and electrical equipment, may involve the use and storage of hydraulic fluid, fuels, and other hazardous materials. The routine transport, use, or disposal of these hazardous materials could pose a potential hazard to construction workers and future employees working at the project site if the hazardous materials are improperly handled. The routine transport, use, or disposal of these hazardous materials would not pose a significant hazard to the public or environment unless the hazardous materials were accidentally spilled or released into the environment, as discussed in Impact HAZ-2, below.

The City's Fire Department, TMD, and Building Division coordinate the review of building permits to ensure that hazardous materials requirements are met prior to construction, including proper hazardous materials storage facilities. Section 15.12.070 of the BMC requires obtaining all necessary permits and registrations from the City's hazardous materials manager[43] to handle any quantity of hazardous material or waste subject to disclosure under Section 15.12.050 of the BMC.

An HMBP and/or Spill Prevention, Control, and Countermeasure (SPCC) Plan must be submitted to the TMD if hazardous materials storage would exceed threshold quantities as required by *COA: Toxics (F and G)*. The TMD would perform routine inspections of hazardous materials storage facilities at the project site to ensure that hazardous materials storage would be performed in accordance with the HMBP and applicable safety regulations.

Compliance with *COA: Toxics* is required prior to the City's issuance of any building and safety permit (demolition or construction). Compliance with *COA: Toxics (F and G)* and the regulations described in Section 4.9.1.4 above, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, is mandatory. Compliance with these regulations would ensure that the proposed project and the conceptual development project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials by ensuring that workers are properly trained to handle the hazardous materials and ensuring that hazardous materials are properly transported, stored, handled, and disposed of in accordance with regulatory guidelines designed to minimize worker exposure to hazardous materials and prevent releases into the environment during construction and operation of the proposed project. Therefore, this impact would be less than significant.

Impact HAZ-1 Summary: Compliance with *COA: Toxics,* OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would ensure that the proposed project and the conceptual development project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials during construction or operation activities. Impacts would be **less than significant**.

[43] The City's hazardous materials manager is the manager of the CUPA or hazardous materials programs of the City (currently the TMD) or other equivalent position, or their designee.

Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project. (*Less than Significant with Mitigation*)

The public and/or the environment could be affected by the release of hazardous materials from the project site into the environment if (1) hazardous building materials (e.g., lead paint, asbestos, or PCBs) were disturbed and released into the environment during the demolition of existing structures; (2) leakage, spills, or improper disposal of hazardous materials would occur during construction or operation of the project; or (3) the project would expose construction workers, the public, future users of the project site, or the environment to potentially contaminated soil, groundwater, or soil vapor during construction or operation of future development facilitated by the proposed project, including the conceptual development project.

Hazardous Building Materials. Due to the age of the buildings on the project site, hazardous building materials such as ACM, LBP, and PCB containing equipment/materials, and mercury containing devices may be present in the buildings. Demolition and renovation activities could cause the release of hazardous building materials into the environment if hazardous building materials are present in the buildings and are not identified and abated prior to demolition and renovation activities.

Asbestos is a known human carcinogen that was commonly used in building materials until the early 1980s. Asbestos-containing products remain in use within the United States and include some roof and non-roof coatings and other asbestos-containing building materials.[44] BAAQMD Regulation 11-2 requires that, prior to commencement of any demolition or renovation, the owner or operator must thoroughly survey the affected structure or portion thereof for the presence of ACMs. The survey must be prepared by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey must include sampling and the reporting of results of laboratory analysis of the asbestos content of all suspected ACMs. This survey must be made available, upon request by the Air Pollution Control Officer, prior to the commencement of any regulated ACM removal or any demolition. If ACMs are identified, the disturbance/removal and management of ACMs must be performed in accordance with BAAQMD Regulations under Rule 11-2 to ensure that asbestos would not be released into the environment.

Prior to 1978, lead compounds were commonly used in exterior and interior paints. Due to its health effects, the application of LBP on residential structures was banned in 1978; however,

[44] United States Environmental Protection Agency. 2017. Preliminary Information on Manufacturing, Processing, Distribution, Use, and Disposal: Asbestos, February.

LBP can be found in commercial or industrial structures, regardless of construction date (because its use is still allowed in commercial and industrial applications).[45]

The stabilization and/or removal of lead paint prior to demolition or renovation of structures would be required in accordance with applicable laws and regulations, including but not limited to: California OSHA's Construction Lead Standard, Title 8 CCR Section 1532.1, and Department of Health Services regulation 17 CCR Sections 35001 through 36100, as may be amended.

Fluorescent lighting tubes and ballasts, computer displays, and several other common items containing hazardous materials (including mercury, a heavy metal) are regulated as "universal wastes" by the State of California and may be present on the project site. Universal waste regulations allow common, low-hazard wastes to be managed under less stringent requirements than other hazardous wastes. Management of other hazardous wastes is governed by DTSC hazardous waste rules.

PCBs were historically used as coolants and lubricants in transformers, capacitors, heating/cooling equipment, and other electrical equipment, and were also used as plasticizers in paints, plastics, rubber products, and caulking. PCBs have been demonstrated to cause cancer and a variety of other adverse health effects in animals, including effects on the immune system, reproductive system, nervous system, and endocrine system. Although manufacturing of PCBs has been banned in the United States since 1979, they may still be found in older electrical equipment and other building materials such as light ballasts and caulking. PCBs or PCB contaminated items require proper off-site transport and disposal at a facility that can accept such wastes, in accordance with the TSCA and other federal and State regulations. PCBs in manufactured materials such as caulking may also move directly into adjoining materials, particularly porous materials such as wood, concrete, and other types of masonry.[46]

The USEPA has indicated there was potential widespread use of PCB containing building materials in buildings built or renovated between about 1950 and 1979. Prior to removal, the USEPA recommends PCB testing of caulking and other building materials to be removed to determine what protections are needed during removal and to determine proper disposal requirements.[47]

Electrical and lighting equipment that may contain hazardous materials (e.g., mercury and PCBs) can be readily identified and, therefore, would be appropriately managed/disposed of in

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45 Department of Toxic Substances Control (DTSC). 2006. Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers. June 9 (Revised).

46 United States Environmental Protection Agency. 2015a. PCBs in Building Materials – Questions & Answers, July 28. Website: https://www.epa.gov/sites/production/files/2016-03/documents/pcbs_in_building_materials_questions_and_answers.pdf (accessed February 13, 2024).

47 United States Environmental Protection Agency. 2015b. Practical Actions for Reducing Exposure to PCBs in Schools and Other Buildings, Guidance for school administrators and other building owners and managers. July 28. Website: https://www.epa.gov/sites/production/files/2016-03/documents/practical_actions_for_reducing_exposure_to_pcbs_in_schools_and_other_buildings.pdf (accessed February 13, 2024).

accordance with applicable regulations including TSCA, DTSC hazardous waste rules, and other federal and State regulations; however, PCB containing building materials such as caulks/sealants, rubber window seals/gaskets, specialized paints, mastics, and other adhesives cannot be readily identified and require testing to evaluate whether these materials contain PCBs.

The MRP requires all Bay Area municipalities to address potential sources of PCBs; this includes preventing certain building materials that may contain PCBs from entering storm drains as a result of building demolition activities. To obtain demolition permits from the City, assessments must be performed at the project site to screen existing buildings for PCBs in priority building materials, including caulks and sealants, thermal/fiberglass insulation and other insulating materials, adhesive/mastic, and rubber window seals/gaskets.[48]

COA: Toxics(E), as described under Impact HAZ-1 above, requires that, prior to approval of any permit for demolition or renovation, a hazardous building materials survey must be conducted and plans for hazardous waste or hazardous materials removal, reuse, or disposal procedures must be prepared by a qualified professional.

Compliance with existing regulations described above and the requirements of *COA: Toxics*(E), would ensure that hazardous building materials, including ACMs, LBP, PCB containing materials and equipment, and universal wastes would be identified through a comprehensive hazardous building materials survey and removed/stabilized as necessary prior to building demolition or renovation activities; however, the existing regulations and *COA: Toxics*(E) do not require testing of concrete for PCBs unless the concrete is adjoining a PCB containing building material.

As discussed under Section 4.9.1.2, above, known releases of PCBs have occurred at the project site. Documentation of testing or removal of concrete from the PCB Spill 2 area was not identified; therefore, PCBs-contaminated concrete could remain in this area of the project site. Additionally, concrete staining has been identified in various areas of the conceptual development project site, including near equipment that may have contained hydraulic oil or heat transfer oil, pits/sumps/drains, and an oil/water separator. Old heat transfer oil, hydraulic oil, and other oils/liquids used at the conceptual development project site may have contained PCBs. The 2002 Phase I ESA[49] identified storage of PCB-containing capacitor oil at the Berkeley Forge and Tool site, and the 2018 Phase I ESA[50] identified the generation of PCB containing liquid hazardous waste at the former Pacific Steel Casting Facility. Therefore, PCB contaminated concrete could be present at the project site in various areas where stained concrete has been observed. If testing for potential PCBs-contaminated concrete is not performed at the

48 City of Berkeley. 2024a. Permit Forms Website, PCBs Screening Assessment Form. Website: https://berkeleyca.gov/sites/default/files/2022-02/PCBs_Screening_Assessment_Form.pdf (accessed February 20, 2024).

49 Ninyo & Moore. 2002. Phase I Environmental Site Assessment, 1331 Eastshore Highway, 1330 and 1337 2nd Street, and 13332 3rd Street, and 635 & 643 Camelia Street, Berkeley, California, April 24.

50 AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

conceptual development project site, the improper handling of potential PCB-contaminated concrete could result in the release of PCBs into the environment. This would be a **potentially significant** impact**.**

As discussed above, existing regulations and *COA: Toxics*(E) do not require testing of concrete for PCBs unless the concrete is adjoining a PCB containing building material, and if testing for potential PCB-contaminated concrete is not performed, improper handling of potential PCB-contaminated concrete could result in the release of PCBs into the environment. To control the risk of releasing PCBs into the environment from potential PCB-contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 shall be implemented.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** The hazardous building materials survey that is required by existing regulations and *COA: Toxics*(E) prior to renovation or demolition activities shall include sampling and analysis for polychlorinated biphenyls (PCBs) in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1), (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB-containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids), and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB-containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). Removal/management of PCBs-contaminated concrete, if identified, shall be performed in accordance with the Response Plan, which shall be approved by the appropriate regulatory agency (e.g., the TMD, RWQCB, or DTSC) prior to issuance of any building permit, as required by *COA: Toxics* (C).

Required compliance with *COA: Toxics*(E) and existing hazardous building materials regulations, and implementation of Mitigation Measure HAZ-1, would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed to the satisfaction of the appropriate regulatory agency prior to demolition or renovation activities; therefore, the risk of hazardous building materials and PCB-contaminated concrete being released into the environment during construction of future development facilitated by the proposed project, including the conceptual development project, would be reduced to **less than significant with mitigation**.

Spills, Leaks, or Improper Disposal of Hazardous Materials. An accidental release of hazardous materials (e.g., oils, fuels, solvents, paints, or contaminated soil) during construction of future development facilitated by the proposed project, including the conceptual development project, could result in exposure of construction workers, the public, and/or the environment to hazardous materials. As discussed above, any redevelopment on the project site that would result in land disturbance of one acre or more (such as the conceptual development project) would be subject to the requirements of the Construction General Permit, which requires preparation and implementation of a SWPPP to reduce the risk of spills or leaks from reaching

the environment, including procedures to address minor spills of hazardous materials. Measures to control spills, leakage, and dumping must be addressed through structural as well as non-structural best management practices (BMPs), as required by the Construction General Permit. For example, equipment and materials for cleanup of spills must be available on site, and spills and leaks must be cleaned up immediately and disposed of properly. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage. The City performs inspections of all construction sites (which would include developments at the project site that would result in disturbance of less than one acre) in accordance with the requirements of the MRP to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed through BMPs.

Section 15.12.080 of the BMC requires that any actual or threatened unauthorized release of a hazardous material or waste be immediately reported to the City's hazardous materials manager. BMC Section 15.12.100 states that in the event that any person undertakes, either voluntarily or under order of the hazardous materials manager, to clean up or abate the effects of any unauthorized hazardous material or waste release, discharge or deposit upon or into any property or facility within the city, the hazardous materials manager may take actions necessary to supervise or verify the adequacy of the cleanup or abatement. BMC Section 15.12.130, provides that the hazardous materials manager has the authority to inspect any place where hazardous materials or wastes are handled, or any place where the hazardous materials manager has reason to believe that an unauthorized release of a hazardous material or waste has occurred, is occurring, or may occur.

As discussed above, the transportation of hazardous materials is subject to both RCRA and DOT regulations. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate and immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill), and is responsible for the discharge cleanup.

Operation of future development facilitated by the proposed project, including the conceptual development project, would involve the routine storage and use of small quantities of commercially available hazardous materials for routine maintenance (e.g., paint and cleaning supplies). The accidental release of small quantities of commercially available hazardous materials would not pose a significant hazard to the public or environment. Operation would also include storage and use of hazardous materials and generation of hazardous waste related to laboratories, R&D, or manufacturing facilities. In addition, equipment installed at the project site, such as hydraulic elevator systems, backup generators, and electrical equipment may involve the use and storage of hydraulic fluid, fuels, and other hazardous materials. Mandatory compliance with existing hazardous materials regulations including the California Fire Code and Health and Safety Code, as enforced by the City's Building Department, Fire Department, and TMD, would require hazardous materials to be properly stored, labeled, and disposed of, and requires training and planning to ensure appropriate responses to spills and emergencies.

Compliance with *COA: Toxics* (F and G) and the regulations described in Section 4.9.1.4 above, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, are mandatory, and would ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of the proposed project, including the conceptual development project, would be **less than significant**.

Users of future development facilitated by the proposed project, including the conceptual development project, could be exposed to hazards related to accidents that may occur on the nearby UPRR right-of-way, which is adjacent to the east of the project site. Both cargo (which includes transportation of hazardous materials) and passenger trains use this rail line. An increase in vehicle traffic generated by the project would create more traffic activity at the at-grade railroad crossings at Gilman Street and Cedar Street. The increase in traffic at the Cedar Street at-grade railroad crossing due to the project would be negligible, as the Transportation Impact Analysis (TIA)[51] for the project indicates that the increase in peak traffic would have no substantial effect on traffic at the nearby intersections of Cedar Street/Second Street and Cedar Street/Fourth Street. The TIA indicates that the proposed project would increase the amount of vehicular traffic and traffic congestion on Gilman Street; however, the 95th percentile downstream queues on both directions of Gilman Street would not spill back onto the railroad tracks. In addition, the signals at the Gilman Street/Fourth Street intersection and the at-grade railroad crossing installed by the Gilman Street Interchange Project include queue cutter signals that are interconnected with the at-grade railroad crossing equipment to further minimize the potential for queue spillovers. The TIA indicates that no additional improvements are recommended at the Gilman Street at-grade railroad crossing. Therefore, potential impacts of the proposed project and the conceptual development project related to increasing the risk of accidental releases of hazardous materials transported by rail on the nearby UPRR tracks would be **less than significant**.

As discussed in Section 4.9.1.3, above, petroleum fuel pipelines operated by Kinder Morgan run parallel to UPRR tracks to the east of the project site, and the western pipeline appears to be within 5 feet of an existing structure along the east side of the project site. Based on the apparent proximity of the western fuel pipeline to the project site, construction activities on the project site may include demolition and excavation/grading within the easement of the western fuel pipeline, and the project may include improvements such as roadwork, utilities, and fencing within this fuel pipeline easement. If appropriate precautions are not taken, project construction activities could damage the fuel pipeline and result in a hazardous materials release.

Because Kinder Morgan has an easement for the fuel pipelines adjacent to the east of the project site, permission/approval from Kinder Morgan is required to perform construction activities within this easement. Kinder Morgan reviews activities within its easements that could impact its pipelines including, but not limited to crossing with heavy equipment, constructing roads or driveways, grading activities, and installing utilities, fences, or landscaping. Before such

[51] Fehr & Peers. 2024. Gilman Gateway Rezone Project, Transportation Impact Analysis, January.

development or encroachment activities take place within Kinder Morgan's easements, plans must be submitted to Kinder Morgan for review. After Kinder Morgan approves of a development or encroachment activity, guidelines found in their approval letter must be followed. Kinder Morgan's approval of plans is based on its ability to safely maintain and operate the pipelines. For example, the company must be able to respond quickly in an emergency and, to access its easement, it must be free and clear of obstructions and woody vegetation. Kinder Morgan also examines plans to add fill over the pipeline, and it will not allow any cover to be removed. No structures are allowed within the easement, and utilities and fencing must cross as close to 90 degrees as possible. California Government Code Section 4216 requires anyone who excavates to notify their local one-call center by contacting 811, a clearinghouse for all utilities, prior to performing any excavation. Kinder Morgan will mark the pipeline and easement edge prior to planned construction activities, and contractors are required to establish a boundary with fencing or markers separating the approved work area from their easement area.[52] Compliance with requirements for utility notification prior to excavation, obtaining Kinder Morgan approval prior to any construction/encroachment activities that could affect their pipeline/easement, and following Kinder Morgan guidelines for construction/encroachment activities would reduce the likelihood that the proposed project and conceptual development project would damage the nearby fuel pipeline and cause an accidental release of hazardous materials; however, the City has no mechanism for ensuring that construction activities facilitated by the proposed project and conceptual development project would comply with Kinder Morgan's requirements; therefore, the potential for the proposed project and conceptual development project to damage the fuel pipelines adjacent to the east of the project site and result in a release of hazardous materials is considered a **potentially significant** impact. Implementation of Mitigation Measure HAZ-2f, described below, would ensure that construction activities facilitated by the proposed project and conceptual development project would comply with Kinder Morgan's requirements and reduce this potential impact to be **less than significant with mitigation**.

Subsurface Contamination. As discussed under Section 4.9.1.2, above, previous investigations have identified known subsurface contamination and potential sources of unidentified subsurface contamination at the conceptual development project site and in other areas of the project site, and elevated methane has also been detected in soil vapor beneath the northwest portion of the project site. Based on the existence of former marshland that is present beneath much of the project site and the known and potential unidentified subsurface contamination from TPH compounds at the project site, elevated methane in soil vapor could be present beneath other areas of the project site due to the breakdown of subsurface organic material and TPH compounds. The conceptual development project is currently undergoing investigation and planning for remediation under a CLRRA agreement subject to DTSC oversight and is therefore discussed separately from other areas of the project site, as presented below.

<u>Potential Berkeley Forge Development.</u> The Report of Findings[53] was submitted to DTSC for concurrence that the conceptual development project site has been adequately

[52] Kinder Morgan. 2021. Developer Handbook, Guidance for Working Near or Adjacent to a Pipeline, August.
[53] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

characterized for the purpose of preparing of a Response Plan.[54.] The Report of Findings indicates that any additional sampling needed to guide redevelopment and construction would be implemented at a later date following DTSC approval of the Response Plan and associated Action/Implementation Plan. DTSC has not yet provided comments on the Report of Findings; therefore, it is not known whether DTSC would require additional sampling to support preparation of a Response Plan for the conceptual development project.

The following issues related to hazardous materials characterization at the conceptual development project have been identified based on the information discussed under Section 4.9.1.2 above. Existing hazardous conditions on the project site will require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the project site.

Previous Phase I ESAs including the 2002 Phase I ESA, 2018 Phase I ESA, and 2023 Phase I ESA have identified environmental concerns that do not appear to have been specifically targeted by subsurface sampling, including railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems.

The 2002 Phase I ESA and 2023 Phase I ESA were not included in documents submitted to DTSC for review prior to preparation of the Site Assessment Plan[55] or Report of Findings,[56] and information presented in these Phase I ESAs could affect DTSC's opinion on whether additional characterization of the conceptual development project site is required.

Sampling has not been performed at the Clearflow Valves facility as the Site Assessment Plan indicated that there was no indication of a release or potential sources within the Clearflow Valves facility that would dictate the need for sampling. [57] However, the review of Sanborn Maps presented in the 2018 Phase I ESA indicates that a machine shop was historically located on the Clearflow Valves facility from at least 1950 to 1970.[58] Sampling was also not performed in the building adjacent to the east of the Clearflow Valves facility, although it was identified as a machine shop in the 2002 Phase I ESA. Machine shops use

54 A Response Plan is a document that would describe remedial actions that would be implemented to reduce potential risks of hazardous materials exposure during construction and operation of the Proposed Berkeley Forge Development Project.

55 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

56 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

57 Langan. 2023c. Site Assessment Plan, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, February 1, Revised June 30.

58 AEI Consultants. 2018. Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710.

hazardous materials and generate hazardous waste including petroleum products and solvents, and elevated concentrations of PCE (a solvent) have been identified in soil vapor near the Clearflow Valves facility and an eastern adjacent building, as discussed in Section 4.9.1.2, above. Therefore, hazardous materials contamination could be present beneath the Clearflow Valves facility and the eastern adjacent building. Existing hazardous materials conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC and in accordance the CLRRA agreement prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Report of Findings does not present or discuss findings from the 1993 and 2003 Phase II ESAs, although boring locations from these investigations are presented on Figure 2 of the Report of Findings. Both the 1993 and 2003 investigations are available on the DTSC's EnviroStor database.[59] The 1993 and 2003 Phase II ESAs identify features of environmental concern and soil and groundwater analytical results both within and adjacent to the conceptual development project that are relevant to the conceptual development project site's characterization. Existing hazardous materials conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

Deviations from the Site Assessment Plan occurred during sampling performed in September 2023, including that some samples were not collected when heavy staining and petroleum odors were observed in the borings, some borings could not be advanced due to subsurface obstructions or equipment/access limitations, and some borings were advanced in the wrong locations due to a lack of lighting within buildings and difficulty discerning previously sampled locations.[60]

A Technical Memorandum[61] was prepared by Langan for the conceptual development project and submitted to the City. The purpose of the Technical Memorandum was to identify protective remedial approaches that could be implemented to address hazardous materials and facilitate development. According to the Technical Memorandum, a Response Plan is anticipated to rely on a number of different remedial and mitigation approaches to protect future users of the conceptual development project site from environmental exposure, including source reduction (e.g., excavation and off-site disposal, in-situ groundwater treatment, and use of a pugmill or other temporary treatment unit to stabilize environmental constituents in soil), engineering controls (e.g., capping of residual soil contamination and vapor intrusion mitigation systems), and institutional controls (e.g., land

59 DTSC. 2024a. EnviroStor Webpage for Pacific Steel Casting, Website: https://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002897 (accessed February 12, 2024).

60 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

61 Langan. 2023d. Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

use covenants, operational and maintenance plans, and agreements and associated financial assurance) to ensure the long-term protectiveness of the environmental remedy. Once drafted the Response Plan would require DTSC review and approval, prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that other measures designed to monitor conditions and protect the public and construction workers during remedial activities would also be developed and implemented. These measures would include a Community Air Monitoring Plan designed to meet DTSC's requirements, including air quality monitoring, actions to be taken in the event protective thresholds may be approached, limitations on emissions from remedial equipment, and posting contact telephone numbers and information to improve community awareness. Additionally, a model environmental health and safety plan meeting CalOSHA and Federal Hazardous Waste Operations & Emergency Response requirements would be prepared for DTSC review and approval and adoption by contractors and sub-contractor for the protection of their workers. Soil and groundwater management plans would also be prepared and implemented to establish protocols and measures to be taken to further ensure impacted environmental media (e.g., soil and groundwater) are appropriately handled and to document actions to be taken in the event that unexpected conditions or subsurface structures (e.g., sumps or underground storage tanks) are discovered. Once drafted the Response Plan would require DTSC review and approval, prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that TPH and lead contaminated soil in select areas may be excavated for off-site disposal or may be treated/left on-site and encapsulated below a durable cover. Clean utility corridors may also be installed by excavating soil to address potential risk to future utility workers. Decisions regarding the disposition of soils (e.g., excavation and disposal or on-site treatment and encapsulation) would be made either in a Response Plan that would describe remedial actions to be implemented in order to reduce potential risks of hazardous materials exposure during construction and operation of the conceptual development project ; or through a subsequent engineering-level Remedial Design Implementation Plan, and in either event, an environmental professional would be on-site to observe and guide the excavation activities during periods of remedial activity. The Technical Memorandum indicates that prior site investigations found no PCBs above applicable screening levels at locations of historical or suspected releases; however, as discussed in Section 4.9.1.2, above, concentrations of PCBs exceeding commercial/industrial ESLs were detected in shallow soil samples collected during evaluation of the PCB Spill 2 area. The Report of Findings did not document any removal of soil in the PCB Spill 2 area; therefore, it appears that PCB contaminated soil remains in this area of the project site. If known subsurface contamination from PCBs and the potential for unidentified PCB contamination at the project site is not addressed by the Response Plan, construction of the project could result in the release of PCBs into the environment, which would be a potentially significant impact. As noted above, existing hazardous conditions on the project site would require further investigation and planning for remediation under the oversight of

DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that for purposes of providing a conservative estimate of excavation and off-site disposal, approximately 17,000 cubic yards (CY) of material (including approximately 10,750 CY of TPH contaminated soil and 6,250 CY of lead contaminated soil) is anticipated to be excavated as part of the remedial excavations; and 4,000 CY of material is anticipated to be excavated to develop clean utility corridors and provide 2-feet of clean fill in areas of landscaping. The Technical Memorandum indicates that areas with remaining soil contamination above commercial/industrial screening levels would require a durable cover to isolate contaminated soil from future project site users. The durable cover would be a combination of concrete building slabs, asphalt parking lot areas and streets, hardscaped areas, and walking paths (e.g., underlay with a minimum of 6 inches of clean aggregate and marker fabric), in addition to landscaped areas underlain by 2 feet of imported clean fill and marker fabric, so that landscape workers and others can readily discern the transition between imported and existing soil. As noted above, existing hazardous conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

The Technical Memorandum indicates that groundwater contamination in areas of known free product may undergo treatment that would likely involve excavation to expose free product and then pumping free product from the excavation for disposal and subsequent application of oxygen release compound to facilitate source reduction. The risk of vapor intrusion into future buildings would be mitigated by a passive vapor mitigation system (VMS) that is capable of functioning as an active system, if necessary. The passive VMS would allow sub-surface vapors from beneath the building slab to be vented outside the building, and would be comprised of a vapor barrier membrane, crushed rock venting layer, a network of vapor collection piping, and fresh air inlet vents at the perimeter of each building to facilitate air flow, and ventilation risers that would terminate and exhaust at the roof level. If required, the passive VMS could be converted to an active system with the addition of inline, electric blowers. As noted above, existing hazardous conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

Groundwater has been identified to be as shallow as approximately 1.5 feet below the ground surface at the project site, [62] and there is anecdotal evidence of Second Street flooding during periods of intense rainfall.[63] Sea level rise could contribute to a rise in the already shallow groundwater levels at the project site and could also increase the flooding risks at the project site. The design of a VMS typically includes sub-slab venting systems

62 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

63 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

(such as the VMS described in the Technical Memorandum[64]); however shallow groundwater and flooding could interfere with the functionality of a VMS, because a sub-slab venting system would not function properly if it is beneath groundwater or flooded by surface water. If the shallow groundwater conditions and potential for flooding at the project site are not accounted for in the design of a VMS, then future occupants of the project site could be exposed to vapor intrusion, which would be a potentially significant impact. As noted above, existing hazardous conditions on the conceptual development project site would require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the conceptual development project site.

Other Areas of the Project Site. There are areas of the project site outside the conceptual development project site that have not been evaluated by Phase I ESAs, including the current vehicle rental facility (a former gas station) at 600 Gilman Street in the northern portion of the project site, and the building at 1306 Third Street in the northeast portion of the project site. Residual subsurface contamination from former USTs has been identified at the 600 Gilman Street property,[65] and, based on the historical warehouse use and surrounding industrial uses at 1306 Third Street, subsurface contamination may also be present at this property. The property at 1433 Eastshore Highway on the southwest portion of the project site was evaluated as part of the 2018 Phase I ESA; however, only limited soil and groundwater sampling has been performed at this property and groundwater contamination was identified near a former gasoline UST at this property. Based on the historical use of this property as an automobile wrecking yard and the known contamination, previously unidentified subsurface contamination may be present at this property. As noted above, existing hazardous conditions on the project site will require further investigation and planning for remediation under the oversight of DTSC prior to issuance of any permit approvals by the City for demolition and construction on the project site.

There is also the potential for subsurface contamination to be present in the public right-of-way (i.e., street and sidewalk areas) adjacent to private parcels within the project site, based on the presence of undocumented fill materials and historical railroad tracks, the long industrial use of adjacent parcels that may have resulted in hazardous materials spills affecting the right-of-way, and potential for contamination due to leakage from storm drains and sewers that historically may have been used for disposal of hazardous materials or that may have conveyed accidental spills of hazardous materials. Developments on the project site may require work within the right-of-way for street and sidewalk improvements and utility work.

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64 Langan. 2023d. Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

65 AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

Due to the level of existing subsurface contamination on the project site and potential for previously unknown contamination on the project site, the disturbance of subsurface contamination and placement of utilities/building in areas of subsurface contamination could result in the following potentially significant impacts:

- Dust or vapors containing hazardous materials could be released into the environment, movement of contaminated soil could spread contamination to new areas, and construction of landscaping over areas of contaminated soil or groundwater could increase the likelihood of human exposure to contamination (including the public, construction workers, and future project site occupants), leaching of contaminants from soil into groundwater, and migration of contaminated groundwater.

- Construction in areas with elevated methane in soil vapor could create hazards related to fire and explosion due to potential methane accumulation within excavations or enclosed spaces.

- Placement of buildings and utilities in areas with subsurface contamination and elevated methane in soil vapor could create preferential pathways for the migration of contamination, hazards related to fire and explosion due to potential methane accumulation within enclosed spaces, and health hazards for future occupants of the project site due to vapor intrusion to indoor air.

The project site is within the City's EMA;[66] therefore, proposed developments on the project site must perform Phase I and II ESAs, obtain regulatory agency clearance, and prepare site-specific SGMPs in accordance with *COA: Toxics (A through D),* as described under Impact HAZ-1 above. Compliance with *COA: Toxics (A through D)* and implementation of a Response Plan under DTSC oversight for the conceptual development project (which would include the remedial approaches/measures described in the Technical Memorandum[67]) would generally address potential impacts related to the release of subsurface hazardous materials into the environment during construction and operation of developments at the project site; however, issues regarding characterization of the conceptual development project have been identified, as discussed above, and it is not yet known whether DTSC would require additional sampling to support preparation of a Response Plan for the conceptual development project. Investigation of methane in soil vapor and investigation within the public right-of-way (i.e., street and sidewalk areas) is often not performed as part of Phase II ESAs; therefore, methane in soil vapor and subsurface contamination in the public right-of-way may not be addressed through compliance with *COA: Toxics (A through D).* For the

66 City of Berkeley. 2024b. City of Berkeley Community GIS Portal. https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment, (accessed February 21, 2024).

67 Langan. 2023d. Technical Memorandum, Current Conditions and Protective Remedial Approaches Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

reasons provided above, the potential release of subsurface contamination at the project site is considered a **potentially significant** impact.

As discussed above, data gaps in the characterization of the conceptual development project have been identified and it is not yet known whether DTSC would require additional sampling to support preparation of a Response Plan for the conceptual development project. Ultimately a Response Plan must be prepared for the conceptual development project under DTSC oversight, as described in the Technical Memorandum and discussed above. DTSC would ensure that the Response Plan would include all necessary measures to protect human health and the environment from exposure to subsurface contamination at the conceptual development project; however, investigation of data gaps at the conceptual development project site must be performed to ensure that the Response Plan appropriately addresses potential unidentified subsurface contamination. In addition, there are potential subsurface contamination issues at the project site including methane in soil vapor and potential contamination within the public right-of-way which are often not evaluated as part of Phase II ESAs, and shallow groundwater at the project site that could interfere with the function of VMS. To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, the project shall implement Mitigation Measures HAZ-2a through HAZ-2f.

Mitigation Measure HAZ-2a **Additional Site Characterization for Methane and Public Right-of-Ways.** All Phase II ESAs performed for parcels at the project site as required by *COA: Toxics* (A and B) shall include investigation of methane in soil vapor and investigation of potential subsurface contamination in the adjacent public right-of-way if the development project would require grading/excavation activities in the public right-of-way. The environmental clearance issued by the City's TMD and SGMPs required for development on the project site by *COA: Toxics* (C and D) shall address elevated methane in soil vapor (if present) and proposed grading/excavation activities in the public right-of-way.

Mitigation Measure HAZ-2b **Additional Site Characterization for the Potential Berkeley Forge Development.** The sponsor of the conceptual development project shall provide the Department of Toxic Substances Control (DTSC) with all available Phase I Environmental Site Assessments (ESAs) prepared for properties within the conceptual development project site that have not previously been provided to DTSC for review. The findings of all available Phase I and Phase II ESAs shall be accounted for in the investigation and characterization of the conceptual development project. The project sponsor shall perform additional investigation to evaluate potential subsurface contamination associated with environmental

concerns identified by Phase I and II ESAs that have not been evaluated by subsurface investigations performed to date (e.g., railroad tracks on and adjacent to the conceptual development project site, the former truck service facility in the northeast corner of the Berkeley Forge and Tool properties, some former machine shops, an oil AST surrounded by staining in the western portion of the Berkeley Forge and Tool properties, former USTs in the eastern portion of the Berkeley Forge and Tool properties, and various pits/sumps and runoff/wastewater collection/conveyance systems – all as identified in previous Phase I and II ESAs), as well as the past use of the Clearflow Valves facility and eastern adjacent building as machine shops. If determined to be necessary by DTSC, additional investigation and characterization of the conceptual development project site shall be performed prior to preparation of a Response Plan. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of additional investigation and characterization activities prior to the City issuing any demolition or construction related permits for any ground disturbing activities.

Mitigation Measure HAZ-2c

Subsurface PCBs Contamination at the Potential Berkeley Forge Development Site. The Response Plan for conceptual development project shall address the previous detections of PCBs in shallow soil at concentrations exceeding commercial/industrial screening levels in the area identified as PCB Spill 2, in addition to other known contamination and potential unidentified contamination at the Potential Berkeley Forge Development site. As part of the environmental clearance required for the conceptual development project by *COA: Toxics (C)*, the project sponsor shall provide the City with evidence of DTSC approval of the Response Plan prior to the City issuing demolition or construction related permits for any ground disturbing activities, and implementation of the Response Plan and establishment of any necessary institutional controls prior to the City issuing a certificate of occupancy.

Mitigation Measure HAZ-2d

Vapor Mitigation System (VMS) Design. Any development on the project site that includes a vapor mitigation system (VMS) as a component of a Response Plan for remediation of the site shall account for potential shallow groundwater

and flooding conditions in the VMS design. The remediation plans shall include a detailed hydraulic analysis to estimate future groundwater levels and flooding conditions that could be expected at the development site based on future sea level rise projections which shall be discussed with and agreed upon by the City. If groundwater or flooding could interfere with sub-slab venting systems of a VMS, the VMS designs shall be modified to account for such conditions (e.g., thicker vapor barrier membranes, epoxy coating the top of floor slabs, fresh air inlets that close automatically during flooding, drainage/cleanout features for sub-slab venting systems, or increased ventilation or positive pressurization inside buildings). Regulatory agency review and approval of any VMS design shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).

Mitigation Measure HAZ-2e **Utility Designs.** Any Response Plan for remediation of the site prior to development of the project site shall include procedures for installation of utilities through areas of subsurface contamination or elevated methane to create clean utility corridors (e.g., through remediation of subsurface contamination and placement of clean fill) to address potential risks to future utility workers, and to ensure that new utilities would not create a preferential pathway for migration of subsurface contamination or methane (e.g., through installation of utility trench dams). Regulatory agency approval of such utility installation procedures shall be required as part of the environmental clearance required for development by *COA: Toxics* (C).

Mitigation Measure HAZ-2f **Avoidance of Petroleum Fuel Pipelines.** Prior to issuance of any City permit approving ground-disturbing activities, the sponsor of the conceptual development project shall submit documentation for City approval demonstrating that Kinder Morgan has approved demolition and/or construction activities that could affect their easement.

Compliance with *COA: Toxics* (A through D) and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriated performed, such that potential impacts related to hazardous materials being accidentally released into the environment during construction and operation of future development facilitated by the

proposed project, including the conceptual development project, would be **less than significant with mitigation**.

Impact HAZ-2 Summary: Required compliance with *COA: Toxics*(E) and existing hazardous building materials regulations, and implementation of Mitigation Measure HAZ-1, would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that the risk of hazardous building materials and PCB-contaminated concrete being released into the environment during construction of future development facilitated by the proposed project, including the conceptual development project, would be reduced to **less than significant with mitigation.**

Compliance with *COA: Toxics* (F and G) and existing regulations would ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of the proposed project, including the conceptual development project, would be **less than significant**. Potential impacts of the proposed project and the conceptual development project related to increasing the risk of accidental releases of hazardous materials transported by rail on the nearby UPRR tracks would be **less than significant.**

Compliance with *COA: Toxics* (A through D) and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriated performed, such that potential impacts related to hazardous materials being accidentally released into the environment during construction and operation of future development facilitated by the proposed project, including the conceptual development project, would be **less than significant with mitigation**.

Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (*Less than Significant*)

Duck's Nest Preschool is 410 feet east of the project site at 1411 Fourth Street. No other schools were identified within 0.25 mile of the project site.[68] Compliance with the existing hazardous materials regulation described under Section 4.9.1.4 above (e.g., Berkeley's CUPA Programs, OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, BAAQMD, and other federal, State, regional, and local regulations) and implementation of *COA: Toxics* and Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f would ensure that potential impacts related to hazardous emissions within 0.25 mile of schools as a result of the proposed project and conceptual development project would be **less than significant**.

Impact HAZ-3 Summary: Compliance with *COA: Toxics*, Berkeley's CUPA Programs, OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, BAAQMD, and other federal, State, regional, and local regulations and implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f would ensure future development

[68] California Department of Education. 2024. California Schools Directory. Website: https://www.cde.ca.gov/schooldirectory (accessed February 21, 2024).

facilitated under the proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts would be **less than significant.**

Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant. (*Less than Significant with Mitigation*)

There are multiple LUST sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5.[69] The properties at 600 Gilman Street (a former gas station on the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site on the central portion of the project site) are identified on GeoTracker[70] as LUST sites.[71] Compliance with *COA: Toxics (A through D)* would require additional site investigation and remedial actions to reduce potential impacts associated with LUST site on the project site. However, on-site soil and groundwater contamination associated with the LUST sites could create a significant hazard to the public or the environment during future construction and operation of the proposed project. This would be a **potentially significant** impact.

Implementation of Mitigation Measures HAZ-2a through HAZ-2f, included above, would ensure that appropriate investigation, remediation (as necessary), and soil and groundwater management would be performed as part of the development on the LUST sites at the project site, which would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would be **less than significant with mitigation**.

Impact HAZ-4 Summary: Compliance with *COA: Toxics (A through D)* and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that future development facilitated by the proposed project, including the conceptual development project, would not result in significant impacts associated with being located on sites listed pursuant to Government Code Section 65962.5. Impacts would be **less than significant with mitigation**.

Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (*Less than Significant with Mitigation)*

69 CalEPA. 2024. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed February 21, 2024).

70 Geotracker is the SWRCB's environmental database of hazardous materials release sites and permitted hazardous materials facilities.

71 SWRCB. 2024. Geotracker. Website: http://geotracker.waterboards.ca.gov/ (accessed February 22, 2024).

As described under Section 4.9.1.4 above, there are multiple emergency response and evacuation related plans that apply to the city, including the City's EOP[72], LHMP,[73] and the General Plan's Disaster Preparedness and Safety Element.[74] The project would not obstruct designated emergency evacuation routes in the area of the project site, which include Gilman Street, Cedar Street, and Sixth Street,[75] and would not alter or interfere with any critical facilities identified in the LHMP. The proposed project would not alter the existing roadway network or roadway operations with the exception that the conceptual development project would convert the segment of Second Street between Camelia and Page streets from one-way southbound to two-way operations, which is consistent with current conditions and a modification to the Gilman Street Interchange Project.

Construction of future development facilitated by the proposed project, including the conceptual development project, could require temporary closure of traffic lanes on roadways adjacent to the project site during construction activities (e.g., for utility connections). This could impede the implementation of emergency response and evacuation plans; however, any construction activities that would result in temporary roadway closures would be required to obtain permits from the City and perform traffic control as required by Chapters 14 and 16 of the BMC, which would maintain emergency response and evacuation access through appropriate traffic control measures and detours. In addition, implementation of *COA: Transportation Construction Plan* as discussed in Section 4.4., Transportation, would minimize any potential impacts due to traffic hazards during construction to a less than significant level.

As discussed above, the designated evacuation routes near the project site include Gilman Street, and the TIA indicates that the project would result in a substantial effect to traffic movement at the - Gilman Street (currently under construction) interchange roundabouts during AM and PM peak-hour periods. The TIA indicates that that this substantial effect would be triggered when about 65 percent of the project (corresponding to approximately Phases 1 and 2 of the Potential Berkeley Forge Development) is occupied. At buildout, the project is estimated to add about 296 AM -peakhour and 313 PM -peakhour trips to the Gilman Street/Interstate 80 ramps/West Frontage Road intersection (the west roundabout) and about 660 AM -peakhour and 676 PM -peakhour trips to the Gilman Street/Interstate 80.[76] If evacuation from the project site would be required, vehicle trips could be concentrated within a shorter time frame than the AM or PM peak-hour periods, and could therefore result in longer delays in traffic movement. As indicated in the EOP, the Berkeley Police Department would lead evacuations operations with support from the Public Works Department to help designate evacuation routes, and the Berkeley Fire Department would also provide support for evacuations due to fires or hazardous materials incidents[77] This can allow for faster movement of traffic compared to normal circumstances as traffic signals and stop signs could be bypassed and movement of traffic could be prioritized in certain directions as needed. However,

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72 City of Berkeley, 2016. Emergency Operations Plan, Base Plan.

73 City of Berkeley, 2019. Local Hazard Mitigation Plan, Final. December 10.

74 City of Berkeley. 2001. Disaster Preparedness and Safety Element, April 23. https://www.cityofberkeley.info/Planning_and_Development/Home/General_Plan_-_Disaster_Preparedness_and_Safety_Element.aspx (accessed November 3, 2021).

75 Ibid.

76 Ibid.

77 City of Berkeley, 2016. Emergency Operations Plan, Base Plan.

the final circulation plan under the proposed project is not yet known; therefore, implementation of the proposed project, including the conceptual development project, could include physical changes to the roadway network that would interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be **potentially significant**. Therefore, Mitigation Measure TRA-1, Circulation Plan as identified in Section 4.4, Transportation shall be required.

Mitigation Measure TRA-1: Circulation Plan. (*Refer to Section 4.4, Transportation)*

Implementation Mitigation Measure TRA-1 would require future projects facilitated by the proposed project, including the conceptual development project, to prepare and implement a Circulation Plan that meets City standards. Implementation of project-specific Circulation Plan relating to emergency access would ensure that implementation of the proposed project, including the conceptual development project, would not result in inadequate emergency access. Refer to Section 4.4, Transportation, for further discussion of potential impacts associated with emergency access.

Based on the minimal delay to emergency vehicle response time that the proposed project and conceptual development project would cause and the City's ability and responsibility to assist in evacuation operations, and with implementation of Mitigation Measure TRA-1, the potential impacts of the proposed project and conceptual development project related to impairing or interfering with an emergency evacuation or response plan would be **less than significant with mitigation**.

Impact HAZ-5 Summary: Compliance with *COA: Transportation Construction Plan* and implementation of Mitigation Measure TRA-1 would ensure that the construction and operation of future development facilitated by the proposed project, including the conceptual development project, would not impair or interfere with an emergency evacuation or response plan. Impacts would be **less than significant with mitigation**.

4.9.2.4 Cumulative Impacts

This section evaluates cumulative impacts related to hazards and hazardous materials. This cumulative analysis examines the effects of the project in combination with cumulative projects in the relevant geographic area. Cumulative impacts are addressed only for those thresholds that would result in a project-related impact, whether it be less than significant or less than significant with mitigation. If the project would result in no impact with respect to a particular threshold (e.g., hazardous emissions near school, aviation hazards, and wildfire), it would not contribute to a cumulative impact; therefore, no further discussion of cumulative effects related to these topics is required.

Occurrence of a cumulative effect related to hazardous materials would require that multiple projects release hazardous materials near each other; therefore, the geographic area of concern for cumulative hazardous materials-related impacts is the project site and surrounding areas within a quarter mile. The cumulative projects located within a quarter mile of the project site are the Berkeley Transfer Station Project (located at 1201 Second Street/669 Gilman Street, immediately north of the project site), and 805 Jones Street (located approximately 850 feet east-southeast of the project site).

The proposed project and the cumulative projects listed above would involve the routine use of hazardous materials during construction. Future development facilitated by the proposed project, including the conceptual development project, would also involve the routine use of hazardous materials during operation, as may the Berkeley Transfer Station Project. Required compliance with existing hazardous materials regulations including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, and the City's *COA: Toxics(F and G)* would ensure that the proposed project, conceptual development project, and cumulative projects would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials or accidental spills, leaks, or improper disposal of hazardous material by ensuring that these materials are properly handled during construction and operation. The proposed project, conceptual development project, and cumulative projects would involve demolition and renovation activities that could release hazardous building materials into the environment. Compliance with existing hazardous building materials regulations and the City's *COA: Toxics*(E) and implementation of Mitigation Measure HAZ-1 would ensure that hazardous building materials on the project site and cumulative projects are identified and appropriately managed prior to demolition or renovation activities.

As discussed above, the project site has known subsurface contamination and potential unidentified subsurface contamination from hazardous materials, and multiple properties on the project site that have LUST sites are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5. The Berkeley Transfer Station Project is also identified on GeoTracker as a LUST site[78] (and therefore is on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5) and is also identified as a hazardous materials release site on DTSC's EnviroStor database.[79] Although the cumulative project at 805 Jones Street is not identified as a hazardous materials release site, it is within the City's EMA along with the other cumulative projects listed above,[80] and therefore would be subject to compliance with *COA: Toxics(A through D)* to address the potential for subsurface contamination to be present. Compliance with *COA: Toxics(A through D),* and implementation of Mitigation Measures HAZ-2a through HAZ-2f would ensure that subsurface contamination on the project and cumulative projects would be investigated, remediated (as necessary), and appropriately managed to reduce the risk of subsurface hazardous materials being released into the environment during construction and operation of future development facilitated by the proposed project, including the conceptual development project, and cumulative projects.

Therefore, the proposed project and conceptual development project would not result in cumulatively considerable impacts related to the routine transport, use, or disposal of hazardous

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78 CalEPA. 2024. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed February 21, 2024).

79 DTSC. 2024b. EnviroStor Webpage for Alcan Ingot & Powders, 1069 Second Street, Berkeley, CA, 94710, Website: https://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=80001353, (accessed February 23, 2024).

80 City of Berkeley. 2024b. City of Berkeley Community GIS Portal. Website: https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment, (accessed February 21, 2024).

materials or accidental release of hazardous materials into the environment, including at properties on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5, and the project's contribution to any cumulative impact would be **less than significant**.

Cumulative impacts related to emergency response/evacuation can occur due to a cumulative increase in vehicle traffic or if roadways are altered or blocked by multiple projects in a manner that could impede emergency response/evacuation operations; therefore, the geographic area of concern for cumulative emergency response/evacuation impacts is the roadway network surrounding the project site. The TIA[81] for the proposed project evaluated potential changes to existing traffic patterns on streets surrounding the project site that could result from development of the project in combination with cumulative projects.[82] The TIA indicates that a general increase in traffic congestion due to the proposed project and cumulative projects may delay emergency vehicle response during peak commute times; and the Gilman Street Interchange Project recently closed the at-grade Camelia Street railroad crossing to all traffic, including emergency vehicles; however, typical response times are expected to remain less than 5 minutes.

The TIA also indicates that the project would increase peak-hour traffic on Gilman Street, which is a designated evacuation route. As discussed under Impact HAZ-6, above, the City's Law Enforcement Branch would lead evacuations operations that can allow for faster movement of traffic compared to normal circumstances, as traffic signals and stop signs could be bypassed and movement of traffic could be prioritized in certain directions as needed. Based on the minimal delay to emergency vehicle response time that would be caused by the project and cumulative projects and the City's ability and responsibility to assist in evacuation operations, the project's contribution to cumulative impacts related to impairing or interfering with an emergency evacuation or response plan due to increased traffic would be less than significant. Furthermore, implementation of the City's Policy *S-1 Response Planning* and associated actions presented in the Disaster Preparedness and Safety Element[83] would ensure that the City maintains an effective emergency response program that accounts for development of the project and cumulative projects.

The proposed project, conceptual development project, and cumulative projects could require temporary closure of traffic lanes during construction activities (e.g., for utility work). This could temporarily impede the implementation of emergency response and evacuation operations. Any construction activities for the project and other cumulative projects that would result in temporary roadway closures would be required to obtain permits from the City and perform traffic control as required by Chapters 14 and 16 of the BMC, which would maintain emergency response and evacuation access through appropriate traffic control measures and detours.

Based on the above considerations, adequate emergency response and evacuation capabilities would be maintained at the project site and cumulative projects and potential impacts of the proposed project and conceptual development project related to impairing or interfering with the

81 Fehr & Peers. 2024. Gilman Gateway Rezone Project, Transportation Impact Analysis, January.
82 Note that the cumulative projects list provided in the TIA differs from the cumulative projects list provided in Table 4.A of this EIR.
83 City of Berkeley. 2002a. Disaster Preparedness and Safety Element, General Plan, Adopted April 23.

emergency response or evacuation plans would not be cumulatively considerable and this cumulative impact would be **less than significant**.

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4.10 HYDROLOGY AND WATER QUALITY

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as the conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section provides an overview of the hydrology and water quality conditions at and near the project site and assesses potential impacts to hydrology and water quality that could result from implementation of the proposed project and the conceptual development project. Where appropriate, it identifies mitigation measures to reduce significant impacts.

4.10.1 Setting

This section describes the existing conditions related to hydrology and water quality at and near the project area, as well as applicable regulatory agency framework and local policies.

4.10.1.1 Drainage and Surface Waters

The project site is situated along the boundary of the Schoolhouse and Gilman watersheds. Stormwater runoff from the Schoolhouse Watershed, which encompasses 703 acres in the northwestern portion of Berkeley, is generally conveyed into a storm drain culvert beneath Virginia Street, which discharges into central San Francisco Bay (Bay) approximately 1,800 feet south of the project site. Directly north of the project site is the Gilman Watershed, which has an area of 249 acres. Stormwater runoff from the Gilman Watershed is conveyed to a 60-inch storm drain culvert along Gilman Street that discharges to the Bay approximately 1,000 feet west of the project site.

According to the City of Berkeley Watershed Management Plan,[1] segments of the Gilman Street storm drain system do not have capacity to convey 10-year design storm flows, which results in stormwater overflows. The capacity limitation is related to tidal influence as well as floodwaters from Codornices Creek that overtop the banks and flow south on Second Street before entering the Gilman Watershed system.

The currently under construction Gilman Street Interchange Project, which is considered to be part of the baseline existing condition considered in this Environmental Impact Report, includes modifications to stormwater drainage systems in the vicinity of the project area.[2] Improvements include the relocation of storm drain inlets as needed to accommodate the implementation of Americans with Disabilities Act curb ramp, bulb out, and other project improvements; and the installation and removal of inlets to accommodate changes to local grading; however, no changes to

1 City of Berkeley. 2011. Watershed Management Plan, Public Works Engineering, Version 1.0 October.
2 California Department of Transportation (Caltrans). 2019. Interstate 80/Gilman Street Interchange Improvement Project, Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact. June.

general drainage patterns were introduced by the implementation of the Gilman Street Interchange Project near the project site.

Stormwater runoff from the project site is generally captured in catch basins and conveyed through underground storm drains located throughout the project site or in adjacent streets. A 2018 Phase I Environmental Site Assessment (ESA)[3] prepared for the former Pacific Casting Facility noted that there are interior and exterior drains in the northwestern portion of the project site that appear to be pumped through underground and above-ground pipes to a water collection container on the northwestern portion of the project site that was observed to be overflowing in November 2017, likely due to recent rains at the time. The 2018 Phase I ESA did not identify where this water collection container normally discharges.

4.10.1.2 Groundwater

The project site is within the Santa Clara Valley Groundwater Basin, East Bay Plain (EBP) Subbasin. The EBP Subbasin is listed in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) as providing the beneficial uses of municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply.[4]

The geologic history of the EBP Subbasin involves the rise and fall of sea level over the past 800,000 years, which resulted in deposits of different types of sediments/soils from streams (e.g., clay, sand, and gravel), wind (e.g., sand dunes), and the Bay (e.g., Bay Mud and silt). These sediments/soils were laid down in different places at different times, thereby resulting in alternating sequences of clay, silt, sand, and gravel within each aquifer zone.

Aquitard[5] layers consisting primarily of fine-grain materials (clay and silt) separate aquifer zones. This depositional history resulted in more coarse-grained material (sand and gravel) in the Deep Aquifer Zone in the southern EBP Subbasin compared to shallower zones or the northern EBP Subbasin, which includes Berkeley and the project site. Based on recharge mechanisms, soil types, and surface geologic data, it has been found that groundwater recharge has the potential to occur throughout the EBP Subbasin. The EBP Subbasin is not experiencing a chronic lowering of groundwater levels and is currently in a sustainable and stable condition because estimated groundwater pumping from the 1990s to present is well below the estimated sustainable yield of the Subbasin. Additionally, the EBP Subbasin has not experienced significant seawater intrusion even during historical periods of much greater groundwater pumping than is taking place today, and the Subbasin has no observed inelastic land subsidence even during historical periods of much

[3] AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

[4] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, amendments adopted up through March 7, 2023. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html#basinplan, (accessed February 28, 2024).

[5] An aquitard is a low-permeability geologic formation that impedes the vertical movement of groundwater between different aquifers.

greater groundwater pumping and much lower confined aquifer groundwater elevations than are taking place today.[6]

Groundwater has been measured at depths of 1.5 to 15 feet below the ground surface at the project site. The variation in groundwater elevation is likely a result of the variety of fill materials placed in the area over time as the former "mud flats" were filled in preparation for development. Groundwater elevations are influenced by discontinuous fill depths and seasonal variations in rainfall. Given the relative impermeability of Bay Mud and variability of groundwater depths at the project site, the shallow groundwater is likely to be perched groundwater on the Bay Mud and not part of a regional aquifer.[7]

4.10.1.3 Surface Water and Groundwater Quality

The quality of surface water and groundwater in the project site's vicinity is affected by past and current land uses within the project site and surrounding areas, and by the composition of geologic materials in the vicinity. The State Water Resources Control Board (SWRCB) and nine regional water quality control boards regulate the quality of surface water and groundwater bodies throughout California.

The City of Berkeley (City) and the project site are under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB), which is responsible for implementing the Basin Plan.[8] The Basin Plan establishes beneficial water uses for waterways, waterbodies, and groundwater within the region and is a master policy document for managing water quality in the region. The Bay is listed in the Basin Plan as providing the beneficial uses of industrial service supply, industrial process supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact and noncontact recreation, and navigation.

Under Section 303(d) of the federal Clean Water Act (described in Section 4.10.1.8 below), the states must present the United States Environmental Protection Agency (USEPA) with a list of "impaired water bodies," defined as those waterbodies that do not meet water quality standards, which in some cases result in the development of a total maximum daily load (TMDL). Essentially, a TMDL is a "pollution budget" designed to restore the health of a polluted body of water. The TMDL process provides a quantitative assessment of the sources of pollution contributing to a violation of the water quality standards and identifies the pollutant load reductions or control actions needed to restore and protect the beneficial uses of the impaired waterbody. The Bay is listed as impaired for several pollutants, including pesticides (e.g., chlordane, DDT, dieldrin), dioxins, furans, invasive species, mercury, selenium, polychlorinated biphenyls (PCBs), and trash. TMDLs have been

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6 East Bay Municipal Utility District (EBMUD) GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan. January.

7 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

8 San Francisco Bay Regional Water Quality Control Board (RWQCB), 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin. Amendments adopted up through March 7, 2023. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html#basinplan, (accessed February 28, 2024).

established for mercury, selenium, and PCBs and will ultimately be prepared for other pollutants affecting the Bay.[9]

The 2018 Phase I ESA for the former Pacific Steel Casting site provided a review of records related to stormwater quality at the project site including previous Storm Water Pollution Prevention Plans (SWPPPs) and Stormwater Facility Inspection Reports. These records indicated that storm drain filters and absorbent pads were used to remove leaves, debris, sediment, and oil from runoff that entered the storm drains at the former Pacific Casting Facility. The records also indicated that the former Pacific Casting Facility had minor hazardous material releases in addition to multiple illegal releases or discharges to on-site storm drains, and the City's Toxics Management Division issued a Notice of Stormwater Violation for some of the unpermitted discharges to the storm drain system. The 2018 Phase I ESA also indicated that there are groundwater dewatering sumps and oil/water separators within the former Pacific Steel Casting site that discharged directly into the storm drain system, and testing of the wastewater effluent from these features was reportedly not required.[10] The former Pacific Casting Facility ceased operation in 2018, and it is not known whether any stormwater protection measures have been maintained at the former Pacific Casting Facility since that time.

Stormwater runoff from the Berkeley Forge and Tool site, an active industrial facility in the central portion of the project site, is regulated under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities (Order 2014-0057-DWQ as amended by Order 2015-0122-DWQ) (Industrial General Permit).[11] Monitoring and sampling of stormwater runoff occurs at the Berkeley Forge and Tool facility in accordance with the Industrial General Permit, as documented in annual reports submitted to the SWRCB.[12] A 2023 Phase I ESA[13] prepared for the conceptual development project indicates that the Berkeley Forge and Tool site has a stormwater management system that is designed to capture and pre-treat stormwater runoff on the eastern portion of the project site prior to discharge to municipal drains.

Groundwater use in the East Bay Municipal Utility District (EBMUD) service area of the EBP Subbasin (which includes the area of the project site) is limited by several factors, including groundwater quality effects from saltwater intrusion, contamination in shallow aquifers, and the availability of higher quality imported surface water. EBMUD does not currently use groundwater for municipal supplies. Groundwater quality in the EBP Subbasin is characterized as calcium and sodium

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9 State Water Resources Control Board (SWRCB). 2018. Final 2018 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report). Website: https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=e2def63ccef54eedbee4ad726ab1552c (accessed February 29, 2024).

10 AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710. January 17.

11 SWRCB. 2015. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES No. CAS000001. Effective July 1.

12 SWRCB. 2023a. 2022-2023 Annual Report for Storm Water Discharges Associated with Industrial Activities, Berkeley Forge and Tool, Inc. August 8.

13 Langan. 2023b. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California. July 28.

bicarbonate -type water with moderate to high total dissolved solids (TDS). Higher TDS concentrations occur near the Bay, where localized sea water intrusion has occurred.[14]

As discussed in Section 4.9, Hazards and Hazardous Materials, groundwater contamination from petroleum hydrocarbons, metals, and volatile organic compounds (VOCs) has been identified in various areas throughout much of the project site due to hazardous materials releases from past industrial and commercial land uses, and both TDS and conductivity levels in groundwater are likely to qualify groundwater as a non-potable source.[15]

4.10.1.4 Water Supply

Water supply to the project site is provided by the EBMUD water system, which is supplied from the Mokelumne River.[16] EBMUD relies on melting snows flowing into the Mokelumne River watershed in the foothills of the Sierra Nevada to refill EBMUD reservoirs. In dry years, EBMUD may supplement its main water source with Sacramento River water via the Freeport Regional Water Facility, which was constructed as a cooperative effort between the Sacramento County Water Agency and EBMUD and provides drinking water for customers of both agencies. During dry years, EBMUD may supplement its water conservation program by using up to 100 million gallons of Sacramento River water per day.[17]

4.10.1.5 Flooding

According to Federal Emergency Management Agency (FEMA) mapping, the project site is within "Zone X", an area subject to "0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile". The project site is not within or adjacent to a Special Flood Hazard Zone.[18]

The nearest Special Flood Hazard Zone to the project site is approximately 700 feet west of the project site in the northwest portion of the Tom Bates Regional Sports Complex, and is designated as Zone AE (1 percent annual chance flood). The Base Flood Elevation of this Special Flood Hazard Zone is 10 feet referenced to the North American Vertical Datum of 1988 (NAVD 88). The shoreline of the Bay to the west of the project site (which includes the Gilman Street storm drain outfall) is within a Special Flood Hazard Zone designated as Zone VE (coastal areas with a 1 percent or greater chance of flooding and an additional hazard associated with storm waves) with a Base Flood Elevation of 13 feet NAVD 88. The shoreline of the Bay to the southwest of the project site (which

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14 Department of Water Resources. 2024. SGMA Basin Prioritization Dashboard. Website: https://gis.water.ca.gov/app/bp-dashboard/final/, (accessed February 29).

15 Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California. December 8.

16 EBMUD. 2024a. Water Supply. Website: www.ebmud.com/water/about-your-water/water-supply, (accessed February 28).

17 EBMUD. 2024b. Sacramento River Water Supply. Website: https://www.ebmud.com/water/about-your-water/water-supply/sacramento-river-water-supply, (accessed February 28, 2024).

18 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webapviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

includes storm drain outfall for the Schoolhouse Watershed) is within a Special Flood Hazard Zone AE (1 percent annual chance flood) with a Base Flood Elevation of 10 feet NAVD 88.[19]

The Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact[20] prepared for the Gilman Street Interchange Project indicates that the storm drain pipeline beneath Gilman Street is low in elevation in relation to the FEMA Zone VE water surface elevation; therefore, there is the potential for storm drain system performance to be affected during high water. There is also anecdotal evidence of Second Street flooding during periods of intense rainfall.[21]

4.10.1.6 Sea Level Rise

The global sea level (including in the Bay) is rising and is expected to continue to rise even with existing efforts to mitigate global warming through reduction of greenhouse gas (GHG) emissions.[22] Rates of sea level rise may vary by location because local subsidence or uplift affects the relative change in sea level between land masses and the ocean. In the San Francisco Bay Area, the background rate of sea level rise has been estimated to be 0.076 inch per year from 1900 to 2008.[23] In 2018, the California Ocean Protection Council released an update to the State of California Sea-Level Rise Guidance.[24] The Sea-Level Rise Guidance presents the following likely ranges (66 percent probability) of sea-level rise for the area of San Francisco:

- 0.3 to 0.5 feet by 2030
- 0.6 to 1.1 feet by 2050
- 1.0 to 2.4 feet by 2100 (with low future GHG emissions)
- 1.6 to 3.4 feet by 2100 (with high future GHG emissions)

The Sea-Level Rise Guidance also presents lower probability sea-level rise projections that could be considered for situations with medium- to high -risk aversion or extreme risk aversion. For San Francisco, the medium- to high -risk aversion projection (0.5 percent probability) is from 5.7 feet (low future emissions) to 6.9 feet (high future emissions) by 2100, and the extreme risk aversion projection is 10.2 feet by 2100.

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19 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webapviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

20 Caltrans. 2019. Interstate 80/Gilman Street Interchange Improvement Project, Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact. June.

21 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

22 San Francisco Bay Conservation and Development Commission. 2011. Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline. October 6.

23 National Research Council of the National Academies. 2012. Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. Chapter 4.

24 California Ocean Protection Council. 2018. State of California Sea-Level Rise Guidance. 2018 Update.

The San Francisco Bay Conservation and Development Commission has completed sea level rise inundation mapping for the San Francisco Bay Area.[25] The mapping illustrates the extent of inundation anticipated based on estimated sea level rise, topographic features, king tide events,[26] and storm surge events.[27] The mapping illustrates sea level rise above the mean higher high water [28] tide elevation, which is 6.2 feet NAVD 88 in the vicinity of the project site.[29] The mapping indicates that up to 7 feet of still water (i.e., no storm surge) sea level rise would not result in inundation on the project site; however, 8 feet of still water sea level rise would result in inundation of the entire project site. The mapping also indicates that lower amounts of sea level rise combined with various storm surge or king tide events could also result in inundation of the project site, including 5.5 feet of sea level rise combined with a 25-year storm surge or 25-year king tide, and 77 inches of sea level rise combined with a 2-year storm surge.[30]

The Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact[31] prepared for the Gilman Street Interchange Project indicates that road surface and storm drain inlet elevations around the Second Street and Gilman Street intersection are susceptible to backflow through the storm drain system or overland tidal inundation when accounting for sea level rise. Performance of the storm drain pipeline beneath Gilman Street in terms of conveying stormwater would be affected by sea level rise combined with high tides and storm surge. Sea level rise combined with high tides and storm surge could also potentially affect the performance of the storm drain outfall of the Schoolhouse Watershed.

4.10.1.7 Seiche and Tsunami

Seiches are waves that created in an enclosed body of water (e.g., a bay, lake, or harbor), that go up and down or oscillate, and do not progress forward like standard ocean waves. Seiches are also referred to as standing waves and are triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunamis, or tidal influence. The height and frequency of seiches are determined by the strength of the triggering factor(s) and the size of the basin. Triggering forces that set off a

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25 San Francisco Bay Conservation and Development Commission. 2024. Adapting to Rising Tides Bay Area Sea Level Rise and Shoreline Analysis Maps. Website: http://www.adaptingtorisingtides.org/project/regional-sea-level-rise-mapping-and-shoreline-analysis/ (accessed February 29).

26 King tides are exceptionally high tides that occur occasionally throughout the year and currently impact roads and properties throughout the San Francisco Bay Area. As sea level rises, the extent of impact of the king tides will increase.

27 Storm surge events are storm-driven wind events producing wave surges that would travel across San Francisco Bay toward the shore and are driven by wind and atmospheric pressure conditions. This is different from the 100-year storm event flooding mapped by FEMA, which estimates flooding due to peak runoff from the surrounding watershed traveling downstream toward the Bay. The San Francisco Bay Conservation and Development Commission sea level rise inundation estimates account for storm surge events but do not account for runoff that could be generated by precipitation events.

28 Mean higher high water is the average of the higher of the two daily high-water elevations.

29 AECOM. 2016. San Francisco Bay Tidal Datums and Extreme Tides Study, Final Report. February.

30 San Francisco Bay Conservation and Development Commission. 2024. Adapting to Rising Tides Bay Area Sea Level Rise and Shoreline Analysis Maps. Website: http://www.adaptingtorisingtides.org/project/regional-sea-level-rise-mapping-and-shoreline-analysis/ (accessed February 29).

31 Caltrans. 2019. Interstate 80/Gilman Street Interchange Improvement Project, Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact. June.

seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. Based on the geometry and natural oscillations of San Francisco Bay, seiches are not considered a hazard in the Bay,[32] and there are no other waterbodies near the project site that could generate a seiche that could impact the project site.

Tsunamis are long-period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Areas that are highly susceptible to tsunami inundation tend to be low-lying coastal areas, such as tidal flats, marshlands, and former San Francisco Bay margins that have been artificially filled. According to mapping prepared by the California Geologic Survey and the California Governor's Office of Emergency Services, the project site is within a tsunami hazard area.[33]

4.10.1.8 Regulatory Framework

This section provides a brief description of the regulations affecting hydrology and water quality at the federal, State, regional, and local level.

Federal Regulations. Federal regulations governing hydrology and water quality include the Clean Water Act, NPDES Permit Program, and Insurance Program.

Federal Clean Water Act of 1972. The federal Clean Water Act of 1972 is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It is administered by the USEPA. The Clean Water Act operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit. The USEPA has delegated its authority to implement and enforce most of the applicable water quality provisions of this law to the individual states. In California, the provisions are enforced by nine regional water boards under the auspices of the SWRCB.

National Pollutant Discharge Elimination System Permit Program. Under Section 402 of the Clean Water Act, the discharge of pollutants through a point source into waters of the United States is prohibited unless the discharge is in compliance with an NPDES permit. The NPDES program regulates the discharge of pollutants from municipal and industrial wastewater treatment plants and sewer collection systems, as well as stormwater discharges from industrial facilities, municipalities, and construction sites. In California, implementation and enforcement of the NPDES program is conducted through the SWRCB and the nine regional water quality control boards. The regional water boards set standard conditions for each permittee in their region, which includes effluent limitations and monitoring programs.

Federal Flood Insurance Program. In 1968, Congress created the National Flood Insurance Program in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The National Flood Insurance Program makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. FEMA manages the

[32] Borrero, J., L. Dengler, B. Uslu, and C. Synolakis. 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*, June 8. Report prepared for the Marine Facilities Division of the California State Lands Commission.

[33] California Geological Survey (CGS). 2021. Tsunami Hazard Area Map, County of Alameda. March 23.

National Flood Insurance Program and creates Flood Insurance Rate Maps that designate Special Flood Hazard Areas (e.g., 100-year flood hazard zones) and other flood hazard areas.

State Regulations. State regulations applicable to the proposed project and conceptual development project include the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and State Implementation of Clean Water Act Requirements, the NPDES Construction General Permit and Industrial General Permit, and the Sustainable Groundwater Management Act (SGMA).

Porter-Cologne Act and State Implementation of Clean Water Act Requirements. The Porter-Cologne Act (California Water Code, Division 7, Water Quality) was promulgated in 1969. It established the SWRCB and divided the State into nine hydrologic regions, each overseen by an RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine regional water boards. The Porter-Cologne Act also provides for the development and tri-annual review of Water Quality Control Plans that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Berkeley lies within the jurisdiction of the San Francisco Bay RWQCB, which enforces compliance with water quality objectives for beneficial uses of surface waters.

NPDES Construction General Permit. Construction projects disturbing more than 1 acre of land are required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, NPDES No. CAS000002(Construction General Permit).[34] To obtain coverage under the Construction General Permit, the project applicant must provide via electronic submittal to the SWRCB a Notice of Intent, an SWPPP, and other documents required by Attachment B of the Construction General Permit. Activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation. The permit also covers linear underground and overhead projects, such as pipeline installations. Construction General Permit activities are regulated at a local level by the RWQCB.

The Construction General Permit uses a risk-based permitting approach and mandates certain requirements based on the project risk level (i.e., Level 1, Level 2, or Level 3). The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on the project location and timing (i.e., wet season versus dry season activities). The receiving water risk depends on whether the project would discharge to a sediment-sensitive receiving water. The determination of the project risk level would be made by the project applicant when the Notice of Intent is filed (and more details of the timing of the construction activity are known).

The performance standard in the Construction General Permit is that dischargers shall minimize or prevent pollutants in stormwater discharges and authorized non-stormwater discharges

[34] SWRCB. 2022. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order WQ 2022-0057-DWQ, NPDES No. CAS000002. Adopted September 8.

through the use of controls, structures, and best management practices (BMPs) that achieve Best Available Technology for treatment of toxic and non-conventional pollutants and Best Conventional Technology for treatment of conventional pollutants. A SWPPP must be prepared by a Qualified SWPPP Developer that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is to (1) identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges and (2) describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. Operation of BMPs must be overseen by a Qualified SWPPP Practitioner who meets the requirements outlined in the Construction General Permit.

The SWPPP must also include a construction site monitoring program. Depending on the project risk level, the monitoring program may include visual observations of project site discharges, water quality monitoring of project site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

The Construction General Permit allows non-stormwater discharge of groundwater dewatering effluent if the water is properly filtered and treated to remove sediment and pollutants using appropriate technologies (e.g., filtration, settling, coagulant application with no residual coagulant discharge, minor odor or color removal with activated carbon, small-scale peroxide addition, or other minor treatment). Testing of receiving waters would also be required prior to and during the discharge. The discharge of dewatering effluent is authorized under the Construction General Permit if the following conditions are met:

- The discharge does not cause or contribute to a violation of any water quality standard.
- The discharge does not violate any other provision of the Construction General Permit.
- The discharge is not prohibited by the applicable Basin Plan.
- The discharger has included and implemented specific BMPs required by the Construction General Permit to prevent or reduce the contact of the non-stormwater discharge with construction materials or equipment.
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants.
- The discharge is monitored and meets the applicable numeric action levels.
- The discharger reports the sampling information in the annual report.

If any of the above conditions are not satisfied, the discharge of dewatering effluent is not authorized by the Construction General Permit. If the dewatering activity is determined by the RWQCB not to be covered by the Construction General Permit or other NPDES permit, and discharge of groundwater to the storm drain system is planned, then the discharger would be

required to prepare a Report of Waste Discharge, and if approved the RWQCB would issue project site-specific Waste Discharge Requirements (WDRs) under NPDES regulations.

NPDES Industrial General Permit. Many manufacturing facilities are required to comply with the Industrial General Permit (Order 2014-0057-DWQ as amended by Order 2015-0122-DWQ). The Industrial General Permit regulates stormwater discharges and authorized non-stormwater discharges under Clean Water Act Section 402. The Industrial General Permit requires the use of BMPs, best available technology economically achievable, and best conventional pollutant control technology to reduce and prevent discharges of pollutants to meet applicable water quality standards. The Industrial General Permit includes requirements for: training of personnel responsible for implementation of permit requirements; preparation of an operational SWPPP (which is different from the construction-period SWPPP described above); and sampling, visual observations, reporting and record keeping.[35]

Sustainable Groundwater Management Act. The SGMA requires local agencies to form groundwater sustainability agencies (GSAs) for high- and medium-priority basins and develop and implement groundwater sustainability plans (GSPs) to avoid undesirable results, mitigate overdraft, and reach sustainability within 20 years of implementing their sustainability plans. The California Department of Water Resources (DWR) is charged with classifying groundwater basins in California as either high, medium, low, or very low priority. The DWR classifies the EBP Subbasin as a medium-priority basin.[36] In accordance with the SGMA, a GSP has been prepared by the EBMUD and City of Hayward GSAs for the EBP Subbasin.[37]

Regional and Local Agencies, Plans, and Regulations. Regional and local agencies, plans, and regulations include RWQCB's Municipal Regional Stormwater NPDES Permit (MRP), the Alameda County Clean Water Program (ACCWP), RWQCB Order No. R2-2017-0048, the EBMUD and City of Hayward GSAs and their GSP for the EBP Subbasin, the Las Gallinas Valley Sanitation District Code, and the City of Berkeley General Plan and Municipal Code.

San Francisco Bay Municipal Regional Stormwater Permit. Pursuant to Section 402 of the Clean Water Act and the Porter-Cologne Act, municipal stormwater discharges in the city are regulated under the RWQCB's Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008 (MRP).[38] The MRP is overseen by the San Francsico Bay RWQCB; local municipalities (the permittees) are responsible for ensuring compliance with the MRP.

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35 SWRCB. 2015. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES No. CAS000001. Effective July 1.

36 DWR. 2024. SGMA Basin Prioritization Dashboard. Website: https://gis.water.ca.gov/app/bp-dashboard/final/ (accessed February 29, 2024).

37 EBMUD GSA and City of Hayward GSA. 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.

38 San Francisco Bay Regional Water Quality Control Board. 2022. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008. May 11.

The MRP requires all Bay Area municipalities to address potential sources of PCBs; this includes preventing certain building materials that may contain PCBs from entering storm drains as a result of building demolition activities. To obtain demolition permits from the City, assessments must be performed at the project site to screen existing buildings for PCBs in priority building materials, including caulks and sealants, thermal/fiberglass insulation and other insulating materials, adhesive/mastic, and rubber window seals/gaskets.[39]

Provision C.3 of the MRP addresses post-construction stormwater management requirements for regulated projects, which are new development and redevelopment projects that create or replace 5,000 square feet or more of impervious surface, and special land use categories that create or replace 5,000 square feet or more of impervious surface. Where a redevelopment project results in an alteration of more than 50 percent of the impervious surface of a previously existing development that was not subject to Provision C.3, the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire redevelopment project). Provision C.3 requires regulated projects to implement practices that encompass low-impact development (LID), source control, site design, and stormwater treatment. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create a functional and appealing site drainage system that treats stormwater as a resource rather than a waste product. Methods used to adhere to the LID principles rely on rain barrels and cisterns, permeable pavement, preservation of undeveloped open space, and biotreatment through rain gardens, bioretention areas, bioswales, and planter/tree boxes.

Provision C.3.i of the MRP requires small projects that create and/or replace more than 2,500 square feet and less than 5,000 square feet of impervious surface to install project site design measures that reduce runoff and pollutants in runoff. Project site design measures may include installing permeable pavements surfaces and directing runoff into cisterns, rain barrels, and vegetated areas.

Provision C.6 of the MRP pertains to construction site control and requires permittees to implement a construction site inspection and control program at all construction sites. Inspections must be performed to confirm implementation of appropriate and effective erosion and other construction pollutant controls by construction site operators/developers.

Provision C.7 of the MRP pertains to public information and outreach regarding the impacts of stormwater pollution on receiving waters and potential solutions to mitigate the pollution by encouraging implementation of appropriate solutions.

Provision C.8 of the MRP pertains to water quality monitoring through regional collaboration, countywide or area-wide programs, or third-party monitoring.

[39] City of Berkeley. 2024a. Permit Forms Website, PCBs Screening Assessment Form. Website: https://berkeleyca.gov/sites/default/files/2022-02/PCBs_Screening_Assessment_Form.pdf (accessed February 20, 2024).

Provision C.9 of the MRP pertains to pesticide toxicity control and requires permittees to implement a pesticide toxicity control program that addresses their own and others' use of pesticides within their jurisdictions that pose a threat to water quality and that have the potential to enter the municipal conveyance system. This provision implements requirements of the TMDL for diazinon and pesticide-related toxicity for urban creeks in the region.

Provision C.10 of the MRP pertains to trash load reduction and requires permittees to reduce trash loads from municipal separate storm sewer systems by 100 percent (i.e., complete trash capture) or no adverse impact to receiving waters from trash by June 30, 2025.

Provision C.11, C.12, and C.13 of the MRP pertain to the control of mercury, PCBs, and copper, respectively. The MRP requires permittees to implement source and treatment control measures and pollution prevention strategies for mercury and PCBs, and requires permittees to prohibit the discharge of wastewater to storm drains generated from the installation, cleaning, treating, and washing of the surface of copper architectural features, including copper roofs.

Provision C.15 of the MRP pertains to exempted unpolluted non-stormwater discharges and conditionally exempted non-stormwater discharges that are potential sources of pollutants that are permitted if appropriate control measures are implemented to eliminate adverse impacts to water quality.

Alameda County Clean Water Program. The ACCWP has developed a C.3 Stormwater Technical Guidance document to assist municipalities and developers in the design, implementation, and maintenance of stormwater infrastructure required by the MRP. In Section F.3 of the guidance document, ACCWP acknowledges that stormwater treatment designs should generally maximize infiltration to the underlying soils; however, at sites with high groundwater and/or groundwater contamination, where stormwater infiltration could promote migration of contamination and/or interfere with remediation, flow-through planters and other stormwater controls that are isolated from underlying soils are appropriate.[40]

RWQCB Order No. R2-2017-0048. If a dewatering activity is determined by the RWQCB not to be covered by the Construction General Permit due to contamination from fuels or VOCs, the discharge may be allowed under NPDES Permit No. CAG912002, issued by the RWQCB under Order No. R2-2017-0048,[41] which covers the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, and other related wastes.

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40 Alameda County Clean Water Program (ACCWP). 2023. C.3 Stormwater Technical Guidance, Version 8. March 22.

41 San Francisco Bay Regional Water Quality Control Board. 2019. Order No. R2-2017-0048, NPDES Permit No. CAG912002, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit). Effective January 1, 2019.

EBMUD and City of Hayward GSAs and the GSP for the EBP Subbasin. EBMUD and the City of Hayward are the water providers that lie atop the EBP Subbasin and became the exclusive GSAs for the portions of the EBP Subbasin beneath their service areas, and they have jointly prepared the GSP for the EBP Subbasin.[42] According to the GSP, the sustainability goal for the EBP Subbasin is to manage and protect the Subbasin in a manner that avoids the six undesirable results listed below while continuing to collect and analyze data to support science-based decision making to evaluate new opportunities for sustainable groundwater beneficial uses:

1. Chronic lowering of groundwater levels, indicating a significant and unreasonable depletion of supply.
2. Significant and unreasonable reduction of groundwater storage.
3. Significant and unreasonable seawater intrusion.
4. Significant and unreasonable degraded water quality.
5. Significant and unreasonable land subsidence.
6. Depletions of interconnected surface water and groundwater that have significant and unreasonable reductions in beneficial uses of surface water, including beneficial use by ecosystems that depend on groundwater.

City of Berkeley General Plan. The City's General Plan, adopted in 2002, contains the following policies and actions in the Disaster Preparedness and Safety Element[43] and Environmental Management Element,[44] which are relevant to the project.

EM-23 Water Quality in Creeks and San Francisco Bay. Take action to improve water quality in creeks and San Francisco Bay.

Actions:

A. Work with the East Bay Municipal District (EBMUD) to ensure that wastewater discharges comply with the requirements of EBMUD's Wastewater Control Ordinance No. 311 to manage wastewater treatment discharges to protect San Francisco Bay.

B. To minimize storm sewer pollution of San Francisco Bay, maintain an effective street sweeping and cleaning program.

[42] EBMUD GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.
[43] City of Berkeley. 2002a. Disaster Preparedness and Safety Element, General Plan, Adopted April 23.
[44] City of Berkeley. 2002b. Environmental Management Element, General Plan, Adopted April 23.

C. Identify and eliminate cross connections between the sanitary sewer and storm sewer systems.

D. Restore a healthy freshwater supply to creeks and the Bay by eliminating conditions that pollute rainwater, and by reducing impervious surfaces and encouraging use of swales, cisterns, and other devices that increase infiltration of water and replenishment of underground water supplies that nourish creeks.

Policy EM-24 Sewers and Storm Sewers. Protect and improve water quality by improving the citywide sewer system.

Actions:

A. Adequately fund sewer system improvements necessary to maintain water quality in natural areas and reduce public health hazards.

B. Identify and eliminate illegal roof-leader and other illegal connections to the sewer system.

C. Establish a program for the identification and remediation of faulty laterals on private property. Consider requiring inspection and repair as a condition of property transfer.

D. Identify alternative funding sources for essential infrastructure improvements such as grants, public-private partnerships, and special benefit districts.

E. Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.

F. Coordinate storm sewer improvements with creek restoration projects.

Policy EM-25 Groundwater. Protect local groundwater by promoting enforcement of state water quality laws that ensure non-degradation and beneficial use of groundwater.

Policy S-13 Hazards Identification. Identify, avoid and minimize natural and human-caused hazards in the development of property and the regulation of land use.

Actions:

A. Maintain and make publicly available up-to-date hazard maps identifying areas subject to heightened risk from potential seismic hazards (including fault rupture, ground failure, ground shaking, and liquefaction), and fire, flood, landslide, and other hazards, such as toxic contamination and radioactive release.

B. Improve the understanding of identified hazards and mitigation needs via area-specific studies such as microzonation studies.

Policy S-14 Land Use Regulation. Require appropriate mitigation in new development, in redevelopment/reuse, or in other applications.

Actions:

A. Encourage owners to evaluate their buildings' vulnerability to earthquake hazards, fire, landslides, and floods and to take appropriate action to minimize the risk.

B. Develop criteria for disaster-resistant land use regulations to ensure that new construction reduces rather than increases risk of all kinds.

Policy S-15 Construction Standards. Maintain construction standards that minimize risks to human lives and property from environmental and human-caused hazards for both new and existing buildings.

Actions:

A. Periodically update and adopt the California Building Standards Code with local amendments to incorporate the latest knowledge and design standards to protect people and property against known fire, flood, landslide, and seismic risks in both structural and non-structural building and site components.

B. Ensure proper design and construction of hazard-resistant structures through careful plan review/approval and thorough and consistent construction inspection.

Policy S-26 Flood Hazards Mitigation. Reduce existing flood hazards in Berkeley.

Actions:

A. Continue to rehabilitate the City's storm drain system to reduce local flooding caused by inadequate storm drainage.

B. Continue and significantly strengthen programs promoting storm drain maintenance by public and private sectors.

Policy S-27 New Development. Use development review to ensure that new development does not contribute to an increase in flood potential.

Actions:

A. Require new development to provide for appropriate levels of on-site detention and/or retention of storm water.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address hydrology and water quality.

COA: Stormwater Requirements. The applicant shall demonstrate compliance with the requirements of the City's National Pollution Discharge Elimination System (NPDES) permit as described in the Berkeley Municipal Code (BMC) Section 17.20. The following conditions apply:

A. The project plans shall identify and show site-specific Best Management Practices (BMPs) appropriate to activities conducted on-site to limit to the maximum extent practicable the discharge of pollutants to the City's storm drainage system, regardless of season or weather conditions.

B. Trash enclosures and/or recycling area(s) shall be covered; no other area shall drain onto this area. Drains in any wash or process area shall not discharge to the storm drain system; these drains should connect to the sanitary sewer. Applicant shall contact the City of Berkeley and EBMUD for specific connection and discharge requirements. Discharges to the sanitary sewer are subject to the review, approval and conditions of the City of Berkeley and EBMUD.

C. Landscaping shall be designed with efficient irrigation to reduce runoff, promote surface infiltration and minimize the use of fertilizers and pesticides that contribute to stormwater pollution. Where feasible, landscaping should be designed and operated to treat runoff. When and where possible, xeriscape and drought tolerant plants shall be incorporated into new development plans.

D. Design, location and maintenance requirements and schedules for any stormwater quality treatment structural controls shall be submitted to the Department of Public Works for review with respect to reasonable adequacy of the controls. The review does not relieve the property owner of the responsibility for complying with BMC Chapter 17.20 and future revisions to the City's overall stormwater quality ordinances. This review shall be conducted prior to the issuance of a Building Permit.

E. All paved outdoor storage areas must be designed to reduce/limit the potential for runoff to contact pollutants.

F. All on-site storm drain inlets/catch basins must be cleaned at least once a year immediately prior to the rainy season. The property owner shall be responsible for all costs associated with proper operation and maintenance of all storm drainage facilities (pipelines, inlets, catch basins, outlets, etc.) associated with the project, unless the City accepts such facilities by Council action. Additional cleaning may be required by City of Berkeley Public Works Engineering Dept.

G. All private or public projects that create and/or replace 5,000 square feet or more of impervious surface must comply with Provision C.3 of the Alameda County NPDES permit and must incorporate stormwater controls to enhance water quality. Permit submittals shall include a Stormwater Requirement Checklist and detailed information showing how the proposed project will meet Provision C.3 stormwater requirements, including a) Site design measures to reduce impervious surfaces, promote infiltration, and reduce water quality impacts; b) Source Control Measures to keep pollutants out of stormwater runoff; c) Stormwater treatment measures that are hydraulically sized to remove pollutants from stormwater; d) an O & M (Operations and Maintenance) agreement for all stormwater treatment devices and installations; and e) Engineering calculations for all stormwater devices (both mechanical and biological).

H. All on-site storm drain inlets must be labeled “No Dumping – Drains to Bay” or equivalent using methods approved by the City.

I. Washing and/or steam cleaning must be done at an appropriately equipped facility that drains to the sanitary sewer. Any outdoor washing or pressure washing must be managed in such a way that there is no discharge or soaps or other pollutants to the storm drain. Sanitary connections are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge.

J. All loading areas must be designated to minimize “run-on” or runoff from the area. Accumulated waste water that may contribute to the pollution of stormwater must be drained to the sanitary sewer or intercepted and pretreated prior to discharge to the storm drain system. The property owner shall ensure that BMPs are implemented to prevent potential stormwater pollution. These BMPs shall include, but are not limited to, a regular program of sweeping, litter control and spill cleanup

K. Restaurants, where deemed appropriate, must be designed with a contained area for cleaning mats, equipment and containers. This contained wash area shall be covered or designed to prevent run-on or run-off from the area. The area shall not discharge to the storm drains; wash waters should drain to the sanitary sewer, or collected for ultimate disposal to the sanitary sewer. Employees shall be instructed and signs posted indicating that all washing activities shall be conducted in this area. Sanitary connections are subject to the review, approval and conditions of the waste water treatment plant receiving the discharge.

L. Sidewalks and parking lots shall be swept regularly to prevent the accumulation of litter and debris. If pressure washed, debris must be trapped and collected to prevent entry to the storm drain system. If any cleaning agent or degreaser is used, wash water shall not discharge to the storm drains; wash waters should

be collected and discharged to the sanitary sewer. Discharges to the sanitary sewer are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge.

M. The applicant is responsible for ensuring that all contractors and sub-contractors are aware of and implement all stormwater quality control measures. Failure to comply with the approved construction BMPs shall result in the issuance of correction notices, citations, or a project stop work order.

N. All piles of debris, soil, sand, or other loose materials shall be covered at night and during rainy weather with plastic at least one-eighth millimeter thick and secured to the ground.

O. The applicant shall ensure that all excavation takes into account surface and subsurface waters and underground streams so as not to adversely affect adjacent properties and rights-of-way.

P. The project sponsor shall maintain sandbags or other devices around the site perimeter during the rainy season to prevent on-site soils from being washed off site and into the storm drain system. The project sponsor shall comply with all City ordinances regarding construction and grading.

Q. Prior to any excavation, grading, clearing, or other activities involving soil disturbance during the rainy season the applicant shall obtain approval of an erosion prevention plan by the Building and Safety Division and the Public Works Department. The applicant shall be responsible for following these and any other measures required by the Building and Safety Division and the Public Works Department.

<u>COA: Public Works - Construction.</u> Construction must comply with the State-wide general permit requiring owner to (1) notify the State; (2) prepare and implement a Stormwater Pollution Prevention Plan (SWPPP); and (3) monitor the effectiveness of the plan. Additional information may be found online at http://www.swrcb.ca.gov. As part of the permit submittal, the Public Works Department will need a) a copy of the “Notice of Intent” filed with the State Water Resources Control Board (SWRCB)/Division of Water Quality; b) the Waste Discharger Identification (WDID) number issued by the SWRCB for the project; c) a copy of the SWPPP prepared for each phase of the project; and d) the name of the individual who will be responsible for monitoring the site for compliance to the approved SWPPP.

<u>COA: Drainage Patterns.</u> The applicant shall establish and maintain drainage patterns that do not adversely affect adjacent properties and rights-of-way. Drainage plans shall be submitted for approval of the Building & Safety Division and Public Works Department, if required.

Municipal Code. Section 17.16.050 of the Berkeley Municipal Code (BMC) includes requirements for storm drain construction including permitting requirements for new storm drains and connections.

Chapter 17.20 of the BMC includes requirements to protect and enhance the water quality of our watercourses, waterbodies, and wetlands in a manner pursuant to and consistent with the federal Clean Water Act.

Section 17.20.030 of the BMC provides that it is unlawful to discharge any matter except stormwater into the storm drain system except as otherwise expressly exempted in the BMC.

Section 17.20.050 of the BMC provides that any person engaged in activities that will or may result in pollutants entering the storm drain system shall undertake all practicable measures to reduce or prevent the contamination of stormwater by pollutants. Section 17.20.050.A of the BMC prohibits littering and Section 17.20.050.B includes requirements for construction and development including use of filtering materials at catch basins; use of BMPs during construction; and providing the City with evidence of filing a Notice of Intent to obtain coverage under the Construction General Permit with the SWRCB, when required.

Section 17.20.050.B.4 of the BMC provides that the City Manager may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants into the storm drain system.

Section 17.20.080.B of the BMC allows discharges from the following sources when the discharger manages the source such that the least amount of non-stormwater as practicable enters the storm drain system: crawl space and basement sump pumps; air conditioning condensation; groundwater drainage piping systems, including foundation drains, footing drains and pumps; and uncontaminated pumped groundwater.

Section 17.20.090 of the BMC provides that any person in charge of a business which handles, processes, or stores a hazardous material or any person responsible for emergency response for such a business, who has knowledge of any confirmed or unconfirmed release of materials, pollutants or waste which may result in pollutants or non-stormwater discharges entering the City storm drain system, shall take all necessary steps to ensure the discovery, containment and cleanup of such release as soon as possible. Such person shall also notify the City of the occurrence by telephoning 911 immediately and confirming the notification in writing to the emergency and toxics program of the City Manager's office within one week of said discovery.

Section 17.20.100 of the BMC describes the City’s authority to conduct inspections and perform sampling for enforcement purposes.

4.10.2 Impacts and Mitigation Measures

The following describes the proposed project, and the conceptual development project, potential impacts related to hydrology and water quality. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and conceptual development project and identifies standard COAs and mitigation measures, as appropriate.

4.10.2.1 Criteria of Significance

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to hydrology and water quality if it would:

Threshold HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;

Threshold HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

Threshold HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would;

- Result in substantial erosion or siltation on- or off-site;
- Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- Impede or redirect flood flows;

Threshold HYD-4: In flood hazard, tsunami, or seiches zones, risk release of pollutants due to project inundation; or,

Threshold HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.10.2.2 Project Impacts

The following section provides analysis of the potential impacts of the proposed project and conceptual development project for each of the criteria of significance listed above.

Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into

stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination. (*Less than Significant with Mitigation*)

The potential for the proposed project and the conceptual development project to result in a violation of water quality standards or waste discharge requirements exists during the construction period, as discussed below.

Construction. Future development of the project site, including the conceptual development project, would involve construction activities such as demolition/renovation, excavation, and grading, which can increase the potential for erosion and sedimentation from stormwater runoff and for the leaching/transport of potential contaminants from disturbed soil and building material/demolition debris. Construction activities would also involve the use of construction materials, equipment, and hazardous materials that can be sources of stormwater and groundwater pollution. If stormwater contacts disturbed soil, building material/demolition debris, and/or improperly stored hazardous materials, sediments and contaminants could be entrained in stormwater runoff that could reach waterways and degrade water quality, potentially resulting in a violation of water quality standards.

As described under Section 4.10.1.3, above, the water quality of the Bay is impaired by PCBs and mercury, among other pollutants, and TMDLs have been established for PCBs and mercury. Therefore, the discharge of PCBs or mercury in stormwater runoff could contribute to the impairment and be considered a violation of water quality standards. As discussed in Section 4.9, Hazards and Hazardous Materials, compliance with existing regulations and *COA: Toxics(E)* (*COA: Toxics* is described in Section 4.9, Hazards and Hazardous Materials) would ensure that hazardous buildings materials, including PCB containing materials and equipment and mercury containing equipment/universal waste, would be identified through a comprehensive hazardous building materials survey and removed/stabilized as necessary prior to building demolition or renovation activities. However, the existing regulations and *COA: Toxics(E)* do not require testing of concrete for PCBs unless the concrete is adjoining a PCB-containing building material, and PCB-contaminated concrete could be present in various areas of the conceptual development project site. The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities could result in the release of PCBs into the environment including into stormwater runoff, which would be a **potentially significant** impact. To control the risk of releasing PCBs into the environment from potential PCB-contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 as identified in Section 49, Hazards and Hazardous Materials, shall be implemented.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Implementation of Mitigation Measure HAZ-1 would ensure that potential PCB-contaminated concrete is identified and appropriately managed prior to demolition or renovation activities at

the conceptual development project site, which would reduce this impact to be **less than significant with mitigation**.

Any redevelopment on the project site that would result in land disturbance of 1 acre or more (such as the conceptual development project), would be required to comply with the Construction General Permit. In accordance with the Construction General Permit requirements, a SWPPP would be developed and implemented to identify all potential pollutants and their sources, including a list of project site-specific BMPs to reduce discharges of construction-related stormwater pollutants. The SWPPP would include a detailed description of controls to reduce pollutants and outline maintenance and inspection procedures. The SWPPP would be required to be kept on site and be made available to City and RWQCB inspectors. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits, and perimeter controls. The SWPPP would also define proper building material staging areas, paint and concrete washout areas, proper equipment/vehicle fueling and maintenance practices, controls for equipment/vehicle washing, and allowable non-stormwater discharges, and would include a spill prevention and response plan. The City performs inspections of all construction sites in accordance with the requirements of Provision C.6 of the MRP to ensure that potential sources of stormwater pollutants are appropriately managed. All construction activities on the project site would also be subject to the stormwater protection requirements of Chapter 17.20 of the BMC, as described under Section 4.10.1.8, above, and the City's *COA: Stormwater Requirements* and *COA: Public Works - Construction*.

Compliance with the Construction General Permit, Provision C.6 of the MRP, Chapter 17.20 of the BMC, and the City's *COA: Stormwater Requirements* and *COA: Public Works - Construction* would generally ensure that stormwater runoff from the project site during construction activities would not result in erosion/siltation or degradation of groundwater or receiving water quality; however, there are existing drainage features on the project site such as groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that may contain sediment/sludge or liquid/water containing hazardous materials. If these existing drainage features would remain in place, be improperly abandoned, or used without first performing inspection and cleanup, decommissioning, or improvement (as necessary) during construction activities, then mobilization of contaminants or infiltration of contaminated groundwater during construction of future development facilitated by the proposed project, including the conceptual development project, could contribute pollutants to the storm drain system and degrade receiving water quality, which would be a **potentially significant impact**.

To control the risk of conveying pollutants to receiving waters through existing drainage systems on the project site, Mitigation Measure HAZ-1 as identified in Section 4.9, Hazards and Hazardous Materials and Mitigation Measure HYD-1, below, shall be implemented.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Mitigation Measure HYD-1 **Existing Drainage Systems.** Individual project sponsors for future development projects, including the conceptual development project, shall hire a qualified environmental

professional to prepare a study evaluating existing drainage features. The study shall document the presence and condition of existing drainage features on the development site including groundwater dewatering sumps, oil/water separators, catch basins, and associated conveyance piping that connect to off-site storm drain systems. The study shall document testing of sediment/sludge and liquid/water contained in the existing drainage features to evaluate whether they contain hazardous materials. The study shall provide recommendations for appropriate cleanup of the sediment/sludge and liquid/water contained in the existing drainage features (e.g., pressure washing and removal by vacuum truck for off-site disposal), decommissioning of the existing drainage features (e.g., removal or filling with cement slurry), or improvement of existing drainage features (e.g., lining or repair) to ensure that the mobilization of contaminants in existing drainage features or infiltration of contaminated groundwater into existing drainage features during project construction and operation would not contribute pollutants into the storm drain system. The study shall be submitted to the City for review and approval prior to the project sponsor performing cleanup, decommissioning, or improvement of existing drainage features. A report documenting the cleanup, decommissioning, or improvement of existing drainage features shall be submitted to the City for review and approval prior to the City issuing demolition, grading, or building permits for developments on the project site.

Implementation of Mitigation Measure HAZ-1 and Mitigation Measure HYD-1 would ensure that potential impacts from future development facilitated by the proposed project, including the conceptual development project, related to conveying pollutants to receiving waters through existing drainage systems would be less than significant.

As discussed in Section 4.9, Hazards and Hazardous Materials, the project site is within a City-mapped Environmental Management Area, which are areas of known or suspected groundwater contamination, and groundwater contamination is present beneath much of the project site and surrounding areas. Groundwater dewatering would be required for subsurface construction activities at the project site that would extend below the shallow groundwater level, and dewatering effluent could have high turbidity (suspended sediment) and could contain other contaminants. Turbid or contaminated groundwater could cause degradation of the receiving water quality if discharged directly to storm drains without treatment. Any groundwater dewatering discharge would be subject to permits from the City and EBMUD or the RWQCB depending on whether the discharge would be to the sanitary sewer or storm drain system, respectively.

Under Section 402 of the Clean Water Act and the Porter-Cologne Act, it is illegal to allow unpermitted non-stormwater discharges to receiving waters. Chapter 17.20 of the BMC also prohibits discharges to the City's storm drain systems other than rainfall runoff, except for discharges in compliance with an NPDES permit issued for the discharge, or discharges that are not prohibited as listed in Section 17.20.080 of the BMC, which includes uncontaminated pumped groundwater.

As stated in the Construction General Permit, non-stormwater discharges directly to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-stormwater discharges during construction, including from dewatering activities associated with construction. Discharging any pollutant-laden water from a dewatering site or sediment basin into any receiving water or storm drain that would cause or contribute to an exceedance of water quality objectives is prohibited (i.e., illegal).[45]

The Construction General Permit allows the discharge of non-contaminated dewatering effluent if the water is properly filtered or treated using appropriate technology. These technologies include, but are not limited to, retention in settling tanks (where sediments settle out prior to the discharge of water) and filtration using gravel and sand filters (to mechanically remove the sediment). If the dewatering activity is determined by the RWQCB not to be covered by the Construction General Permit due to contamination from fuels or VOCs, the discharge may be allowed under NPDES Permit No. CAG912002 (issued by the RWQCB under Order No. R2-2017-0048[46]), which covers the discharge or reclamation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by VOCs, fuel leaks, fuel additives, and other related wastes. If the discharge is not covered by any existing general NPDES permits, then the discharger could potentially prepare a Report of Waste Discharge, and if approved by the RWQCB, be issued site-specific WDRs under the NPDES regulations. Site-specific WDRs contain rigorous monitoring requirements and performance standards that, when implemented, ensure that receiving water quality is not substantially degraded.

If the water is not suitable for discharge to the storm drain (receiving water), as discussed above, dewatering effluent may be discharged to the sanitary sewer system if EBMUD's discharge criteria are met. These include, but are not limited to, application of pretreatment technologies that would result in achieving compliance with the wastewater discharge limits. Discharges to the sanitary sewer must take place under permits from the City and EBMUD.

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45 SWRCB. 2022. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order WQ 2022-0057-DWQ, NPDES No. CAS000002, Adopted September 8.

46 San Francisco Bay Regional Water Quality Control Board. 2019. Order No. R2-2017-0048, NPDES Permit No. CAG912002, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit). Effective January 1, 2019.

EBMUD manages the water it accepts into its facilities so that it can ensure proper treatment of wastewater prior to discharge.

If it is infeasible to meet the requirements of the Construction General Permit or other general NPDES permit, acquire site-specific WDRs, or meet EBMUD's discharge requirements, the construction contractor would be required to transport the dewatering effluent off site for disposal at an appropriately permitted facility for treatment sufficient to meet discharge requirements.

The management of groundwater during construction at the project site must also be performed in accordance with the City's *COA: Toxics(D)* which requires preparation and implementation of an SGMP, as described in detail in Section 4.9, Hazards and Hazardous Materials.

The discharge of dewatering effluent in compliance with *COA: Toxics(D)* and Chapter 17.20 of the BMC, and EBMUD and/or NPDES permitting requirements would ensure that groundwater dewatering discharges from the project site during construction activities would not result in degradation of receiving water quality.

Groundwater dewatering activities can also affect groundwater quality by drawing contaminated groundwater towards previously uncontaminated (or less contaminated) areas. The amount of excavation dewatering required can vary significantly depending on the size of excavation and type of shoring systems that would be used. For example, steel "H" piles with timber lagging typically require more dewatering than interlocking sheet piles or soil/cement cutoff walls. The effects of dewatering on groundwater conditions at the project site and surrounding areas would depend on the characteristics of the water bearing zones encountered by excavations, the excavation shoring and dewatering system designs, and the duration of the dewatering.

Groundwater contamination from petroleum hydrocarbons, metals, and VOCs has been identified in various areas of the project site, and there is known groundwater contamination and potential unidentified groundwater contamination at properties to the east (upgradient) from the project site.[47] As discussed in Section 4.9, Hazards and Hazardous Materials, proposed development on the project site, including the conceptual development project, must perform Phase I and II ESAs; obtain regulatory agency clearance, and prepare site-specific SGMPs in accordance with *COA: Toxics(A through D)*; and a Response Plan would be prepared and implemented under the oversight of the Department of Toxic Substances Control for the conceptual development project that include remediation of groundwater contamination in areas of known free product.[48]

[47] Langan. 2023b. Phase I Environmental Site Assessment, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, July 28.

[48] Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

Development on the project site would have some beneficial effects on groundwater quality as a result of soil and groundwater remediation that would be performed at the conceptual development project site and potentially in other areas of the project site as they are developed; however, residual groundwater contamination may remain following remediation at the conceptual development project site, and groundwater contamination may remain in other areas of the project site and surrounding areas. Due to the known groundwater contamination and potential unidentified groundwater contamination on and near the project site, dewatering activities at the project site could exacerbate the condition of existing groundwater contamination by increasing or changing the direction of plume migration towards previously uncontaminated (or less contaminated) areas, which would be a **potentially significant impact**.

To address potential migration of groundwater contamination through utility trenches, the proposed project and conceptual development project shall implement Mitigation Measures HAZ-2a through HAZ-2f, as identified in Section 4.9, Hazards and Hazardous Materials. To control the risk of exacerbating the migration of groundwater contamination due to dewatering activities, the proposed project and conceptual development project shall implement Mitigation Measure HYD-2, listed below.

Mitigation Measure HAZ-2a	**Additional Site Characterization for Methane and Public Right-of-Ways.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2b	**Additional Site Characterization for the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2c	**Subsurface PCBs Contamination at the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2d	**Vapor Mitigation System (VMS) Design.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2e	**Utility Designs.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2f	**Avoidance of Petroleum Fuel Pipelines.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HYD-2	**Contaminated Groundwater Migration and Discharge Prevention.** If known or potential groundwater contamination is identified at a development site or surrounding property as part of the required Phase I and II ESAs for future developments on the project site, and construction dewatering or operational dewatering (including groundwater drainage systems for structures) is proposed as part of the development, the project

sponsor shall evaluate whether proposed dewatering could exacerbate (i.e., increase or change the direction of) the migration of groundwater contamination towards the proposed dewatering area(s). This evaluation shall include the following:

- A detailed analysis of hydrogeologic conditions that would be affected by construction or operation dewatering activities, including an analysis of potential preferential pathways for groundwater flow such as utility trenches.
- A detailed description of proposed dewatering systems, including dewatering locations, shoring/ground structure designs, flow rates, and durations that would be required based on the hydrogeologic conditions that are present.
- Hydraulic modeling based on proposed dewatering systems to evaluate the changes to groundwater conditions (e.g., levels and flow directions) and the potential movement of contaminated groundwater.
- Analysis of whether operational dewatering (including groundwater drainage systems for structures), if proposed, could cause the discharge of contaminated groundwater into the storm drain system.

If the evaluation indicates that project dewatering could exacerbate the migration of groundwater contamination towards the proposed dewatering area(s) or result in operational discharge of contaminated groundwater into the storm drain system, the project designs shall be modified as necessary to ensure that project dewatering would not exacerbate the migration of groundwater contamination or result in the operational discharge of contaminated groundwater into the storm drain system. Such modifications may include the use of interlocking sheet piles or soil-cement cut-off walls that can reduce construction dewatering requirements, and use of waterproofing and buoyancy/hydrostatic pressure resistant construction methods rather than use of operational dewatering/groundwater drainage systems for structures. The project sponsor shall submit the hydraulic evaluation and dewatering plans for review and approval to the regulatory agency providing oversight of the development, as part of the regulatory agency clearance required by *COA: Toxics(C).*

Implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f and Mitigation Measure HYD-2 would ensure that potential impacts from future development facilitated by the proposed project, including the conceptual development project, related to construction

dewatering exacerbating the migration of groundwater contamination would be less than significant. Therefore, compliance with existing regulations discussed above, the City's COAs, and implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure protection of surface and groundwater water quality during construction activities, and potential impacts to water quality would be **less than significant with mitigation.**

The potential for the proposed project and the conceptual development project to result in a violation of water quality standards or waste discharge requirements exists during the operational period, as discussed below.

Operation. The proposed project would intensify land uses on the project site compared to existing conditions, which could increase the potential for pollutants of concern from vehicle traffic (e.g., fuels and lubricants, tire wear particulates, brake dust, and fallout from exhaust emissions) to be generated on the project site and conveyed in runoff during storm events. Debris and particulates that gather on impervious surfaces such as paved areas and roofs could also add heavy metals and sediment to the pollutant load in runoff. The proposed landscaping could contain residual pesticides and nutrients used for landscape maintenance, and the intensification of land uses could also result in increased trash generation over existing conditions.

Stormwater runoff during operation of future development facilitated by the proposed project, including the conceptual development project, would be subject to the requirements of the MRP. Provision C.3 of the MRP sets forth appropriate and site-specific source control, site design, and stormwater treatment measures for new and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges. Any development on the project site that would create and/or replace more than 2,500 square feet and less than 5,000 square feet of impervious surface must install site design measures that reduce runoff and pollutants in runoff in accordance with Provision C.3.i of the MRP. Any development on the project site that would replace more than 5,000 square feet of impervious surfaces would be required to implement post-construction stormwater management and treatment measures to reduce pollutant loads in runoff in accordance with Provision C.3 of the MRP, which would include the use of LID measures that may include bio-retention treatment areas; flow-through planters; tree wells with media filters; open spaces; catch basin filters; rainwater harvesting, with on-site re-use; and green streets, to reduce runoff pollutant loads. As discussed under Section 4.10.1.8, above, at sites with high groundwater and/or groundwater contamination, such as the project site, flow-through planters and other stormwater controls that are isolated from underlying soils are appropriate to prevent migration of contamination and/or interfere with remediation.[49] The City's review of the development designs would ensure that all development on the project site would comply with the stormwater control and treatment regulations discussed above. Because stormwater runoff from much of the project site is not currently treated and development under the proposed project, including the conceptual

[49] Alameda County Clean Water Program (ACCWP). 2023. C.3 Stormwater Technical Guidance, Version 8. March 22.

development project, would include stormwater treatment systems, the proposed project would improve stormwater runoff quality from the project site compared to existing conditions.

Stormwater runoff during operation of future development facilitated by the proposed project, including the conceptual development project, would be subject to Chapter 17.20 of the BMC, which includes requirements to protect and enhance the water quality, and the requirements of *COA: Stormwater Requirements*, which address various operational sources of stormwater pollutants, as described above.

As discussed in Section 4.9, Hazards and Hazardous Materials, placement of landscaping (and in particular stormwater treatment/infiltration features) over areas of contaminated soil or groundwater could increase the leaching of contaminants from soil into groundwater or the migration of contaminated groundwater; and construction of utilities through areas of contaminated groundwater could create pathways for the migration of groundwater contamination, which would be a **potentially significant impact**. Therefore, the proposed project and conceptual development project shall implement Mitigation Measures HAZ-2a through HAZ-2f as identified in Section 4.9, Hazards and Hazardous Materials.

Mitigation Measure HAZ-2a	**Additional Site Characterization for Methane and Public Right-of-Ways.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2b	**Additional Site Characterization for the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2c	**Subsurface PCBs Contamination at the Conceptual Development Project.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2d	**Vapor Mitigation System (VMS) Design.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2e	**Utility Designs.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)
Mitigation Measure HAZ-2f	**Avoidance of Petroleum Fuel Pipelines.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Implementation of Mitigation Measure HAZ-2a through HAZ-2f, listed above, and compliance with *COA: Toxics(A through D)*would ensure that subsurface contamination on the project site would be properly investigated and remediated under regulatory agency oversight and that potential impacts related to migration of groundwater contamination due to placement of landscaping, stormwater treatment/infiltration features, and new utilities in areas of contamination would be **less than significant with mitigation**.

Groundwater has been identified to be as shallow as approximately 1.5 feet below the ground surface at the project site and contaminated groundwater is present beneath much of the project site.[50] Sea level rise could contribute to a rise in the already shallow groundwater levels at the project site. If existing drainage features at the project site are not inspected and cleaned up, decommissioned, or improved (as necessary) to prevent mobilization of contaminants or infiltration of contaminated groundwater, the existing drainage features could contribute pollutants to the storm drain system and degrade receiving water quality during operation of future development facilitated by the proposed project, including the conceptual development project, which would be a **potentially significant** impact. Therefore, the project shall implement Mitigation Measure HYD-1, listed above.

Implementation of Mitigation Measure HYD-1, as described above, would ensure that existing drainage features at the project site would be inspected, decommissioned or improved, as necessary to prevent them from serving as conduits for contaminated groundwater to enter the storm drain system. Section 17.20.080 of the BMC indicates that discharges to the storm drain system are allowed from basement sump pumps; groundwater drainage piping systems, including foundation drains, footing drains and pumps; and uncontaminated pumped groundwater.

Operation of developments on the project site could involve the use of groundwater dewatering/drainage systems for structures (e.g., foundations, basements, and ground floor spaces), which could exacerbate the migration of contaminated groundwater towards the dewatering/drainage systems, as well as result in the potential discharge of contaminated groundwater to the storm drain system, and thereby degrade water quality which would be a **potentially significant** impact. Therefore, the project shall implement Mitigation Measure HYD-2, listed above.

Implementation of Mitigation Measure HYD-2, as described above, would ensure that potential impacts related to operational groundwater dewatering/drainage systems exacerbating the migration of contaminated groundwater or resulting in the discharge of contaminated groundwater into storm drain systems would be **less than significant with mitigation**.

Required compliance with the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Toxics (A through D),* and implementation of Mitigation Measures HAZ-2a through HAZ-2f, HYD-1, and HYD-2, listed above, would ensure the protection of groundwater and surface water quality during operation of future development facilitated by the proposed project, including the conceptual development project. Therefore, potential impacts related to water quality during operation would be **less than significant with mitigation**.

Impact HYD-1 Summary: Compliance with existing regulations, the City's COAs, and implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure protection of surface and groundwater water quality during construction and operation of future development facilitated by the proposed project, including the conceptual

[50] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

development project, and potential impacts to water quality would be **less than significant with mitigation**.

Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project or conceptual development project may impede sustainable groundwater management of the basin. (*Less than Significant*)

The municipal water supply to the project site is provided by the EBMUD water system, which is supplied from surface water sources;[51] therefore, operation of future development facilitated by the proposed project, including the conceptual development project, would not involve the use of groundwater for water supply. The potential for the proposed project and the conceptual development project to result in adverse effects to groundwater supplies during construction or operational period dewatering or due to alteration of existing pervious surfaces is discussed below.

Construction and Operational Dewatering. As discussed under Impact HYD-1, above, construction activities at the project site would require dewatering of excavations that extend below the shallow groundwater level, and operation of developments on the project site, including the conceptual development project, could involve the use of operational groundwater dewatering/drainage systems for structures due to shallow groundwater levels. The removal of groundwater during construction on the project site would be temporary and localized, and removal of groundwater during operation of developments, if any, would need to be managed such that the least amount of groundwater as practicable enters the storm drain system in accordance with Section 17.20.080.B of the BMC. Dewatering would be limited to the shallow groundwater zone that appears to be perched groundwater on the Bay Mud and not part of a regional aquifer, and the shallow groundwater has hazardous materials contamination and elevated TDS levels that would most likely qualify it as a non-potable water source.[52] The presence of Bay Mud (which can act as an aquitard) beneath the shallow groundwater at the project site significantly limits the potential for shallow groundwater to recharge underlying groundwater -bearing formations that could be considered a potable water source. Therefore, dewatering activities would result in **less than significant** impacts related to groundwater recharge or groundwater supplies.

Altering Pervious Surfaces. Under existing conditions, infiltration of stormwater and groundwater recharge at the project site is limited by the existing impervious surfaces (buildings and paved surfaces) that cover the majority of the project site. The conceptual development project and other developments on the project site would include stormwater treatment in accordance with the MRP; however, due to the presence of subsurface contamination and shallow groundwater, some stormwater treatment (such as bioretention areas) may need to be lined to prevent infiltration. The conceptual development project would result in a decrease in the impervious area of the project site by increasing the amount of landscaping. Other

[51] EBMUD. 2024a. Water Supply. Website: www.ebmud.com/water/about-your-water/water-supply, (accessed February 28).

[52] Langan. 2023a. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8.

developments on the project site may also include more landscaping than the existing condition. Therefore, the proposed project and the conceptual development project would likely increase stormwater infiltration and groundwater recharge at the project site and any impacts to groundwater recharge due to altering pervious surfaces would be **less than significant**.

Impact HYD-2 Summary: The removal of groundwater during construction activities on the project site facilitated by the proposed project, including the conceptual development project, would be temporary and localized, and compliance with Section 17.20.080.B of the BMC would ensure that dewatering during operation would not result in significant impacts related to groundwater recharge or supplies. In addition, the proposed project and the conceptual development project would likely increase stormwater infiltration and groundwater recharge at the project site and would not result in any impacts to groundwater recharge due to altering pervious surfaces. Therefore, impacts associated with groundwater supplies and recharge such that the proposed project or conceptual development project would impede sustainable groundwater management of the basin would be **less than significant**.

Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding. *(Less than Significant with Mitigation)*

The proposed project and the conceptual development project would not alter the course of a stream or a river. The proposed project and the conceptual development project would include construction activities, and alteration of impervious surfaces and stormwater drainage systems that would alter drainage patterns as discussed below.

Erosion, Siltation, and Additional Sources of Polluted Runoff. As discussed under Impact HYD-1 above, there would be an increased potential for soil erosion/sedimentation and polluted runoff during construction activities compared to existing conditions, including a **potentially significant** impact related to the potential release of PCBs into stormwater runoff. Therefore, the project shall implement Mitigation Measure HAZ-1, as identified in Section 4.9, Hazards and Hazardous Materials.

Mitigation Measure HAZ-1 **Testing for Potential PCB-Contaminated Concrete.** (*Refer to Section 4.9, Hazards and Hazardous Materials*)

Implementation of Mitigation Measure HAZ-1and compliance with the Construction General Permit, Provision C.6 of the MRP, Chapter 17.20 of the BMC, and the City's *COA: Toxics(E), COA: Stormwater Requirements*, and *COA: Public Works - Construction* would ensure that potential impacts related to erosion/siltation and polluted runoff during construction of future development facilitated by the proposed project, including the conceptual development project, would be **less than significant with mitigation**.

During operation of future developments on the project site, including the conceptual development project, the area would be covered by structures, pavement, and landscaped areas, with no ongoing soil exposure or disturbance that could result in erosion. As discussed under Impact HYD-1, above, stormwater runoff during operation of developments on the

project site would be treated in accordance with the requirements of the MRP, which would minimize the amount of silt and pollutants in stormwater runoff compared to the existing condition. Operation of future development facilitated by the proposed project, including the conceptual development project, would therefore have **less than significant** impacts related to erosion, siltation, and polluted runoff.

Flooding from Increased Runoff and Storm Drain Capacity. The proposed project and conceptual development project would alter the surface water drainage patterns on the project site by altering impervious/pervious surfaces and installing new stormwater treatment and drainage facilities. As described under Impact HYD-2 above, the proposed project and conceptual development project would increase pervious surfaces compared to the existing conditions, which would decrease the overall rate of stormwater runoff from the project site compared to the existing conditions. As discussed in Section 4.10.1.1, the project site is situated along the boundary of the Schoolhouse and Gilman watersheds. Based on current drainage patterns, any future runoff from the project site which is directed to Gilman Street or to Eastshore Highway would be routed via storm collection system to the 60-inch culvert on Gilman Street. Any stormwater runoff or direct connections to the storm drain system along Second Street, Camelia Street, and Page Street would be routed to the Schoolhouse Watershed outfall on Virginia Street. Segments of the Gilman Street storm drain do not have capacity to convey flows from the 10-year design storm.[53] The alteration of drainage patterns during construction or operation under the proposed project, including conceptual development project, could potentially convey more runoff towards the Gilman Street storm drain or towards the Schoolhouse Watershed storm drain system compared to existing conditions, which could contribute towards exceeding storm drain system capacity and result in localized flooding on the project site or in off-site areas. The control of stormwater runoff from the project site would be required according to the City's *COA: Drainage Patterns* and Chapter 17.20 of the BMC, as described below.

Section 17.20.050.B.4 of the BMC provides that the City Manager or designee may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants into the storm drain system.

The conceptual development project would redevelop the majority of the project site and therefore would have substantial effects with regards to altering drainage patterns and stormwater drainage systems on the project site. Although compliance with the City's Municipal Code and *COA: Drainage Patterns* would generally address potential impacts related to alteration of drainage patterns at the project site, there is a possibility that the conceptual development project would fail to adequately account for existing drainage conditions and storm drain capacity issues, or if new stormwater drainage systems are not constructed at the appropriate times with regard to the different phases of conceptual development project construction as well as weather conditions (e.g., rain), then runoff from the project site could

[53] City of Berkeley. 2011. Watershed Management Plan, Public Works Engineering, Version 1.0. October.

contribute to exceeding the capacity of existing or proposed stormwater drainage systems, and flooding could occur on site or off site, which would be a **potentially significant impact**.

To control the risk of exceeding the capacity of stormwater drainage systems which could result in flooding, the proposed project and conceptual development project shall implement Mitigation Measure HYD-3.

Mitigation Measure HYD-3 **Hydraulic Study of Drainage during Construction and Operation for the Potential Berkeley Forge Development.** The project sponsor for the conceptual development project shall prepare a hydraulic study to evaluate whether the existing and proposed stormwater drainage systems that would receive runoff from the project site would be capable of conveying 10-year peak runoff from the project site. The hydraulic study shall evaluate stormwater runoff patterns and proposed temporary and permanent stormwater conveyance systems during all construction and operational phases of the project, including surface runoff flow directions, estimated discharge rates, and temporary rerouting of flows during construction. The hydraulic study shall evaluate the capacity of existing and proposed storm drains. If the hydraulic study finds that the project would not meet the required stormwater conveyance conditions above (i.e., conveying 10-year peak runoff within the storm drain system), the project design shall be modified to the satisfaction of the City to meet these drainage performance standards. Such design modifications could include additional stormwater retention systems, such as swales or underground cisterns/storage pipes with metered outlets, and/or changing the size and location of proposed storm drain systems on the project site. The hydraulic study shall be submitted to the City for review and approval prior to the City issuing a grading or building permits.

Implementation of Mitigation Measure HYD-3 and compliance with the BMC and *COA: Drainage Patterns* would ensure that potential impacts related to exceeding storm drain capacity or on- or off-site flooding due to altering drainage patterns at the project site would be **less than significant with mitigation**.

Impede or Redirect Flood Flows. As discussed in section 4.10.1.5, above, the project site is not within or adjacent to a Special Flood Hazard Zone mapped by FEMA;[54] therefore, potential

[54] Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

impacts of the proposed project and conceptual development project related to impeding or redirecting flood flows would be **less than significant**.

Impact HYD-3 Summary: Implementation of Mitigation Measure HAZ-1 and Mitigation Measure HYD-3 , and compliance with the Construction General Permit, the MRP, Chapter 17.20 of the BMC, and *COA: Toxics(E), COA: Stormwater Requirements*, *COA: Drainage Patterns* and *COA: Public Works - Construction* would ensure that construction and operation of future development facilitated by the proposed project, including the conceptual development project, would not result in significant on- or off-site erosion/siltation and polluted runoff, flooding from increased runoff, the exceedance of storm drain capacity, or the impediment or redirection of flood flows. Impacts would be **less than significant with mitigation.**

Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site. *(Less than Significant with Mitigation)*

Seiches are not considered a hazard in the Bay, based on its geometry and natural oscillations,[55] and there are no other waterbodies near the project site that could generate a seiche that could impact the project site.

The project site is not within or adjacent to a Special Flood Hazard Zone mapped by FEMA;[56] however, sea level rise could affect drainage and flooding conditions around the project site and potentially increase future flooding risk at the project site. A Preliminary Sea Level Rise Vulnerability Assessment[57] prepared for the project site indicates that the nearest Special Flood Hazard Area to the site is in the Bay and has a Base Flood Elevation of 10 feet NAVD 88 and is not subject to wave action; however, as discussed in section 4.10.1.5, above, FEMA mapping indicates that the shoreline of the Bay to the west of the project site (which includes the Gilman Street storm drain outfall) is within a Special Flood Hazard Zone with a Base Flood Elevation of 13 feet NAVD 88 which includes an additional hazard associated with storm waves.[58]

The Preliminary Sea Level Rise Vulnerability Assessment indicates that, based on current guidance, a projected sea level rise of 3.4 feet by 2100 should be used for the planning of development on the project site, which accounts for Low Risk Aversion projects under a high emission scenario. The Preliminary Sea Level Rise Vulnerability Assessment recommends that the minimum finished floor elevations for critical infrastructure at the project site should be 13.4 feet NAVD 88, which is equal to the Base Flood Elevation at the nearest Special Flood Hazard Area of 10 feet NAVD 88 plus

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55 Borrero, J., L. Dengler, B. Uslu, C. Synolakis. 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*. June 8. Report prepared for the Marine Facilities Division of the California State Lands Commission.

56 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

57 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.

58 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

3.4 feet.[59] At this time, it is not clear how FEMA's mapping of a Special Flood Hazard Zone with a Base Flood Elevation of 13 feet NAVD88 around the Gilman Street storm drain outfall could affect future flooding conditions at the project site when accounting for sea level rise. Hazardous materials would be stored at the project site during construction activities and would also be stored at the project site during operation, based on the proposed R&D and manufacturing land uses. If hazardous material storage at the project site does not account for potential inundation, future flooding of the project site could result in the release of hazardous materials into surface waters, which would be a **potentially significant** impact.

The project site is within a tsunami hazard area,[60] and, therefore, inundation of the project site by a tsunami could also cause hazardous materials to be released into surface waters if hazardous material storage does not account for potential inundation, which would be a **potentially significant** impact.

To control the risk of releasing pollutants into surface water due to future flooding or tsunami inundation at the project site, the proposed project and conceptual development project shall implement Mitigation Measure HYD-4.

Mitigation Measure HYD-4

Flooding and Sea Level Rise Assessment and Flood-Proof Hazardous Materials Storage. During construction on the project site, contractors shall store hazardous materials in appropriate containers that are appropriately located and secured to ensure that they would not be mobilized, damaged, or leak because of flooding inundation. A plan describing flood-proof hazardous materials storage practices shall be prepared by the project sponsor and submitted to the City for review and approval prior to the City approving of demolition, grading, or building permits for future developments on the project site.

During operation of the project, hazardous materials storage areas that would be used shall be designed to avoid inundation from flooding (e.g., have appropriate finished floor elevations or flood proofing construction measures) or shall store hazardous materials in containers that are appropriately designed, located, and secured to ensure that they would not be mobilized, damaged, or leak as a result of flooding inundation. A Flooding and Sea Level Rise Assessment shall be performed by the project sponsor to evaluate existing and future flooding conditions for developments at the project site to support the design of hazardous materials storage areas to be used during operation. The Flooding and Sea Level Rise Assessment shall evaluate potential flooding conditions relate to both storm flooding and tsunami inundation. The Flooding and Sea Level Rise Assessment and designs for hazardous materials storage

59 BKF. 2022. Spur Gilman – Preliminary Sea Level Rise Vulnerability Assessment, December 12.
60 California Geological Survey (CGS). 2021. Tsunami Hazard Area Map, County of Alameda. March 23.

areas shall be provided to the City for review and approval prior to the City approving of grading or building permits for developments on the project site.

With implementation of Mitigation Measure HYD-4, impacts related to releasing pollutants due flooding or tsunami inundation at the project site would be **less than significant with mitigation**.

Impact HYD-4 Summary: The project site is not within a Special Flood Hazard Zone mapped by FEMA or at risk of inundation by seiche. Implementation of Mitigation Measure HYD-4 would ensure that potential impacts of the proposed project and conceptual development project related to releasing pollutants due flooding or tsunami inundation at the project site would be **less than significant with mitigation**.

Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin. *(Less than Significant with Mitigation)*

As described above under Section 4.10.1, the Basin Plan[61] is the water quality control plan for the project area and the GSP for the EBP Subbasin[62] is the sustainable groundwater management plan for the project area. As discussed under Impact HYD-1, above, the proposed project and conceptual development project could result in potentially significant impacts to surface water and groundwater quality, which would result in **potentially significant** impacts related to conflicting with the Basin Plan or GSP for the EBP Subbasin. Therefore, the project is required to implement Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2, listed above.

Implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2, listed above, and required compliance with existing regulations including the EBMUD and NPDES permit requirements, the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Public Works – Construction,* and *COA: Toxics(A through D),* would ensure the protection of groundwater and surface water quality during construction and operation of future development facilitated by the proposed project, including the conceptual development project. Because stormwater runoff from much of the project site is not currently treated and development under the proposed project would include stormwater treatment systems, the proposed project would improve stormwater runoff quality from the project site compared to existing conditions. Development on the project site would also have beneficial effects on groundwater quality as a result of soil and groundwater remediation that would be performed at the conceptual development project and potentially in other areas of the project site as they are developed.

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61 San Francisco Bay Regional Water Quality Control Board (RWQCB), 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, amendments adopted up through March 7, 2023. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html#basinplan, (accessed February 28, 2024).

62 EBMUD GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.

Further, as described above under Impact HYD-2, above, operation of future development facilitated by the proposed project, including the conceptual development project, would not involve the use of groundwater for water supply, and groundwater dewatering activities and alteration of impervious surfaces under the proposed project and conceptual development project would result in less than significant impacts related to groundwater recharge or groundwater supplies. Therefore, the proposed project and conceptual development project would not conflict with or obstruct implementation of the Basin Plan or the GSP for the EBP Subbasin and this impact would be **less than significant with mitigation**.

Impact HYD-5 Summary: Compliance with existing regulations including the EBMUD and NPDES permit requirements, the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Public Works – Construction,* and *COA: Toxics(A through D),* and implementation of Mitigation Measures HAZ-1, HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure that future development facilitated by the proposed project, including the conceptual development project, would not conflict with the Basin Plan or GSP for the EBP Subbasin. Impacts would be **less than significant with mitigation**.

4.10.2.3 Cumulative Impacts

The geographic areas of concern for cumulative hydrology and surface water quality impacts are the stormwater drainage systems and surface waters that could receive runoff from the project site and cumulative projects, which includes the Gilman Street storm drain, Schoolhouse Watershed storm drain system, and the Bay. The geographic areas of concern for cumulative groundwater quality and supply impacts is the EBP Subbasin. All of the cumulative project sites are in the EBP Subbasin, and several of the cumulative project sites are within the Gilman and Schoolhouse watersheds.

Stormwater runoff and groundwater dewatering from the project site and cumulative projects could result in degradation of surface water and groundwater quality if appropriate management of stormwater runoff and groundwater dewatering are not performed. Stormwater discharges from past and existing projects within the vicinity of the project site have contained pollutants that have contributed to impairment of the water quality of the Bay, which is a cumulative impact. Hazardous material releases from the project site and from past and existing projects within the vicinity of the project site have contributed to the contamination of groundwater in the EBP subbasin, which is a cumulative impact. Stormwater regulations have become progressively more stringent since the passage of the federal Clean Water Act, and current regulations require new developments to manage and treat all significant sources of stormwater pollutants, which includes potential erosion and siltation. As discussed under Impacts HYD-1, above, required compliance with existing regulations including the EBMUD and NPDES permit requirements, the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements, COA: Public Works – Construction*, and *COA: Toxics(A through E)* and implementation of Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2f, HYD-1, and HYD-2 would ensure the protection of groundwater and surface water quality during construction and operation of future development facilitated by the proposed project, including the conceptual development project. Stormwater runoff from the project site is not currently treated; therefore, the proposed project and conceptual development project would reduce the operational pollutant loads in stormwater runoff from the project site compared to the existing conditions. Development on the project site would also have beneficial effects on groundwater quality as a result of soil and

groundwater remediation that would be performed at the conceptual development project and potentially in other areas of the project site as they are developed. Cumulative projects would also be required to comply with existing regulations, the BMC, and the City's COAs that protect the quality of stormwater, surface water, and groundwater. Therefore, the proposed project's contribution to the cumulative impacts related to degradation of water quality or conflicting with the Basin Plan or groundwater quality goals of the GSP for the EBP Subbasin would be **less than significant with mitigation**.

The EBP Subbasin is not experiencing a chronic lowering of groundwater levels and is currently in a sustainable and stable condition.[63] As described under Impact HYD-2, above, operation of future development facilitated by the proposed project, including conceptual development project, would not involve the use of groundwater for water supply, and groundwater dewatering activities and alteration of impervious surfaces under the proposed project and conceptual development project would result in less than significant impacts related to groundwater recharge or groundwater supplies. Cumulative projects would also not involve the use of groundwater for water supply, and although cumulative projects may involve dewatering and alteration of impervious surfaces, dewatering would generally be localized and limited to shallow groundwater, and cumulative projects that alter impervious surfaces would be subject to the requirements of the MRP, which promote infiltration of stormwater runoff and groundwater recharge. Therefore, the proposed project's contribution to potential cumulative impacts related to groundwater supply and recharge or conflicting with the GSP for the EBP Subbasin would be **less than significant.**

The project site and cumulative projects are not within a Special Flood Hazard Zone mapped by FEMA;[64] therefore, potential cumulative impacts of the proposed project and conceptual development project related to impeding or redirecting flood flows would be the **less than significant.** The project and cumulative projects would alter existing drainage patterns (e.g., by altering impervious surfaces), which could alter stormwater runoff patterns and impact the capacity of existing storm drain systems. As described under Impact HYD-3, above, the proposed project and conceptual development project would decrease the overall rate of stormwater runoff from the project site compared to existing conditions by increasing the amount of landscaping; however, the proposed project and conceptual development project would alter drainage patterns and could contribute towards exceeding the capacity of storm drain systems, which could result in flooding on or off the project site. Implementation of Mitigation Measure HYD-3 and compliance with the BMC and *COA: Drainage Patterns* would ensure that potential impacts related to exceeding storm drain capacity or on- or off-site flooding due to altering drainage patterns at the project site would be addressed through a hydraulic study and appropriate project planning and design. Cumulative projects would also be subject to the BMC and *COA: Drainage Patterns* to ensure that cumulative projects do not contribute to flooding or exceeding storm drain capacity. Therefore, the proposed project's contribution to potential cumulative impacts related to flooding and exceeding the

63 EBMUD GSA and City of Hayward GSA, 2022. East Bay Plan Subbasin, Groundwater Sustainability Plan, January.

64 Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer (NFHL) Viewer, Map No. 06001C0018H, effective December 20, 2018. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd (accessed February 29, 2024).

capacity of storm drain systems due to alteration of drainage patterns would be the **less than significant with mitigation.**

The project site and cumulative projects, including the Gilman Street Interchange Project and Gilman Transfer Station, are within a tsunami hazard area,[65] and sea level rise could affect drainage and flooding conditions around the project site and these cumulative projects could potentially increase future flooding risk in these areas. Hazardous materials would be stored at the project site during construction activities and during operation, based on the proposed R&D and manufacturing land uses. Nearby, hazardous materials would also likely be stored at Gilman Street Interchange Project during construction, and at the Gilman Transfer Station project during construction and operation. Inundation of multiple projects storing hazardous materials in the vicinity of the project site at the same time could result in a cumulative impact related to the release of hazardous materials into surface waters; however, implementation of Mitigation Measure HYD-4 would ensure that construction and operation of future developments under the proposed project, including the conceptual development project, would include floodproof storage of hazardous materials; therefore, the proposed project's contribution to potential cumulative impacts related to releasing pollutants due to flooding or tsunami inundation would be **less than significant with mitigation**.

[65] California Geological Survey (CGS). 2021. Tsunami Hazard Area Map, County of Alameda. March 23.

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4.11 BIOLOGICAL RESOURCES

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

This section describes existing biological resources conditions within the project site and vicinity, identifies potentially significant impacts to such resources that may result from implementation of the proposed project and the conceptual development project, and recommends mitigation measures to reduce the severity of potentially significant impacts.

4.11.1 Setting

The following setting information provides a description of existing conditions with respect to biological resources. This section also includes an overview of the applicable regulatory context related to biological resources.

4.11.1.1 Existing Conditions

The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Vegetation on the site is limited to sparse street and ornamental trees.

To establish existing conditions related to biological resources, the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB)[1] was reviewed for lists of special-status plant and animal species that have the potential to occur on or near the project site.

A total of three special-status plant species and 11 special-status animal species have CNDDB occurrences within 2 miles of the project site, as provided in Table 4.11.A. The CNDDB has occurrences for one Sensitive Natural Community (Northern Coastal Salt March) within 2 miles of the site. However, this community is not present on or adjacent to the project site.

Table 4.11.A: Special-Status Species Within 2 Miles of the Project Site

Species	Taxonomic Group	Federal Listing	State Listing
Animals			
Pallid bat (*Antrozous pallidus*)	Mammal	None	None
Hoary bay (*Lasiurus cinereus*)	Mammal	None	None
Bridges' coast range shoulderband (*Helminthoglypta nickliniana bridgesi*)	Mollusk	None	None
Green sturgeon (*Acipenser medirostris*)	Fish	Threatened	None

[1] California Department of Fish and Wildlife. 2022. California Natural Diversity Database, commercial version dated April 2022. Sacramento: Biogeographic Data Branch.

Table 4.11.A: Special-Status Species Within 2 Miles of the Project Site

Species	Taxonomic Group	Federal Listing	State Listing
Longfin smelt (*Spirinchus thaleichthys*)	Fish	Proposed	Threatened
Tidewater goby (*Eucyclogobius newberryi*)	Fish	Endangered	None
Western bumble bee (*Bombus occdentalis*)	Insect	None	Candidate Endangered
Monarch (*Danaus plexippus plexippus*)	Insect	Candidate	None
White-tailed kite (*Elanus leucurus*)[1]	Bird	None	None
Alameda song sparrow (*Melospiza melodia pusillula*)	Bird	None	None
Northern harrier (*Circus hudsonius*)	Bird	None	None
Plants			
Santa Cruz tarplant (*Holocarpha macradenia*)	Dicot	Threatened	Endangered
California seablite (*Suaeda califórnica*)	Dicot	Endangered	None
Saline clover (*Trifolium hydrophilum*)[2]	Dicot	None	None

Source: Compiled by LSA (2024).
[1] The white-tailed kite is not a listed species, but it is a Fully Protected species under California Fish and Game Code.
[2] Designated as Rare Plant 1B.2, which indicates the species is rare, threatened, or endangered in California and elsewhere.
CDFW = California Department of Fish and Wildlife
CNDDB = California Natural Diversity Database

4.11.1.2 Regulatory Framework

The following describes the federal, State and local regulations and policies related to biological resources that are relevant to the proposed project.

Federal and State Regulations. The following federal regulations related to biological resources that would be applicable to the proposed project and conceptual development project are described below.

Special-Status Species. Individual plant and animal species listed as rare, threatened, or endangered under State and federal Endangered Species acts are considered "special-status species". Federal and State endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the CDFW with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the "take" of a species listed as threatened or endangered. To "take" a listed species, as defined by the State, is "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" said species. "Take" is more broadly defined by the federal Endangered Species Act to include inflicting harm upon a listed species.

In addition to species listed under State and federal Endangered Species acts, Section 15380(b) and (c) of the *State CEQA Guidelines* provide that all potential rare or sensitive species, or habitats capable of supporting rare species, be considered for environmental review. These may include plant species of concern in the State listed by the California Native Plant Society and CDFW listed "Species of Special Concern".

Federal Status Species. Special-status species are individual plant and animal species that are protected under federal and State Endangered Species acts. These species are classified as rare, threatened, or endangered. The USFWS and the CDFW have adopted a system to conserve and protect plant and animal species that are limited in distribution as well as species that have a low or declining population. If a proposed project or activities associated with a proposed project result in the "take" of a threatened or endangered species, the necessary permits must be obtained from the USFWS and CDFW. California defines take as any action or attempt to "hunt, pursue, catch, capture, or kill" a listed species. Additionally, the federal Endangered Species Act includes the "harm" of a listed species in the definition of take. "Harm" is further defined to include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

Section 15380(b) of the *State CEQA Guidelines* also considers all potential rare or sensitive species and habitats that are capable of supporting such species in addition to those species listed under the federal and State Endangered Species acts. These additional species considered under CEQA may include California plant species of concern as listed by the California Native Plant Society and "Species of Special Concern" listed by CDFW.

Sensitive Habitats. Wetland and riparian habitats are considered to be sensitive habitats, and are protected under various federal, State, and local regulations. These habitats are generally subject to regulation, protection, or consideration by the United States Army Corps of Engineers, Regional Water Quality Control Board, CDFW, and/or the USFWS as per Sections 303, 304, and 404 of the Federal Clean Water Act and the State of California Porter-Cologne Water Quality Control Act. Wetland and riparian habitats are also subject to the National Pollutant Discharge Elimination System permit program under Section 402 of the Clean Water Act, which regulates discharge into waters of the United States.

Migratory Bird Treaty Act. Under the Migratory Bird Treaty Act (MBTA), the killing, possessing, or trading of migratory birds is prohibited unless exempt by regulations prescribed by the Secretary of the Interior. The MBTA prohibits the possession of protected bird species and their nests, regardless of whether nests are active.[2]

Birds of prey, such as owls and hawks, are protected in California under provisions of the State Fish and Game Code. The code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The CDFW considers disturbance that causes nest abandonment and/or loss of reproductive effort "taking".

[2] An active nest is defined as having eggs or young.

California Department of Fish and Game Code 3503. California Fish and Game Code 3503 stipulates that it is unlawful to take, posses, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Local Plans and Regulations. The City of Berkeley (City) plans and regulations, related to biological resources that would be applicable to the project, are described below.

City of Berkeley General Plan. The following policies of the Berkeley General Plan Environmental Management Element pertaining to biological resources would be applicable to the proposed project:

- **Policy EM-28: Natural Habitat.** Restore and protect valuable, significant, or unique natural habitat areas. *(Also see Open Space and Recreation Policy OS-9.)*

- **Policy EM-29: Street and Park Trees.** Maintain, enhance, and preserve street and park trees to improve the environment and provide habitat.

- **Policy EM-30: Native Plants.** Use native tree and plant species to enhance ecological richness.

- **Policy EM-31: Landscaping.** Encourage drought-resistant, rodent-resistant, and fire-resistant plants to reduce water use, prevent erosion of soils, improve habitat, lessen fire danger, and minimize degradation of resources.

City of Berkeley Conditions of Approval for Development Projects. The City has established standard conditions of approval (COA) for all development projects. The following COAs address biological resources:

<u>COA: Avoid Disturbance of Nesting Birds (prior to initial site disturbance activities and during construction).</u> Initial site disturbance activities, including vegetation and concrete removal, shall be prohibited during the general avian nesting season (February 1 to August 30), if feasible. If nesting season avoidance is not feasible, the applicant shall retain a qualified biologist to conduct a preconstruction nesting bird survey to determine the presence/absence, location, and activity status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site shall be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the MBTA and CFGC, nesting bird surveys shall be performed not more than 14 days prior to scheduled vegetation and concrete removal. In the event that active nests are discovered, a suitable buffer (typically a minimum buffer of 50 feet for passerines and a minimum buffer of 250 feet for raptors) shall be established around such active nests and no construction shall be allowed inside the buffer areas until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). No ground-disturbing activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting is completed and the young

have fledged the nest. Nesting bird surveys are not required for construction activities occurring between August 31 and January 31.

City of Berkeley Municipal Code Section 23.304.150– Bird Safe Building. The purpose of this code section is to reduce bird mortality from windows and other transparent or reflective buildings or building features known to increase the risk of bird collisions. As stated in BMC Section 23.304.150, transparent or reflective material, such as windows, associated with future development of the project site would be required to have an American Bird Conservancy Threat Factor Rating of 30 or less or undergo pattern glazing treatment. In addition, all panes with exterior screens, shutters or shading devices would be required to be installed permanently over windows, structures, and building features such that there is no gap larger than 9 inches in any single dimension.

4.11.2 Impacts and Mitigation Measures

The following describes the proposed project's potential impacts on biological resources. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and conceptual development project and identifies COAs and mitigation measures, as appropriate.

4.11.2.1 Significance Criteria

Based on Appendix G of the *State CEQA Guidelines*, implementation of the proposed project would have a significant impact related to biological resources if it would:

Threshold BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

Threshold BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

Threshold BIO-3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;

Threshold BIO-4: Create substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

Threshold BIO-5: Conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance; or

Threshold BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.11.2.2 Impacts Not Evaluated in Detail

Riparian Habitat. There are no riparian habitats or other sensitive natural communities on the project site. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** on any riparian habitat or other sensitive natural community.

Wetlands. According to the USFWS National Wetland Inventory, the project site does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** on any federally protected wetland.

Wildlife Corridors. The project site is in an urban area of the city and is entirely developed with industrial buildings with manufacturing and warehouse uses. In addition, the project site is not considered an established native resident or migratory wildlife corridor. Implementation of the proposed project, including the conceptual development project, would redevelop the project site with light manufacturing, R&D, laboratory, and/or office uses, and would not interfere with local wildlife movement or corridors beyond existing conditions. Common wildlife species that have adapted to urban environments would continue to use the project site after redevelopment. In addition, the project site does not contain any native wildlife nursery sites. Therefore, implementation of the proposed project, including the conceptual development project, would not create substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or native wildlife nursery sites. **No impact** would occur.

Tree Preservation. Vegetation on the project site is limited to sparse street trees and ornamental trees. If future development of the project site facilitated by the proposed project, including the conceptual development project, would require the removal of existing street trees on the project site, the project sponsors for individual development projects would be required to obtain the appropriate tree removal permits from the City prior to removal. Consistent with City requirements, all impacted street trees would be replaced at a minimum 1:1 ratio. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** related to a conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance.

Habitat Conservation Plan. The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, implementation of the proposed project, including the conceptual development project, would have **no impact** related to conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.11.2.3 Project Impacts

The following section discusses potential impacts related to biological resources associated with development of the proposed project, including the conceptual development project.

Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats. (*Less than Significant with Mitigation*)

The project site is entirely developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials including total petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls.

A list of special-status plants and wildlife species with some potential for occurrence in the project site vicinity was compiled using the CNDDB. However, each of these species have been determined to be absent from the project site because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat. Therefore, no special-status plant or animal species are known or expected to occur on or in the vicinity of the project site due to its completely urbanized condition and lack of suitable habitats. As such, implementation of the proposed project, including the conceptual development project, would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species.

The proposed project would allow development on the project site with new buildings up to 105 feet in height, which could increase the potential for bird strikes. However, future development at the project site, including the conceptual development project, would be required to comply with BMC Section 23.304.150, which provides bird safe building requirements. As stated in BMC Section 23.304.150, transparent or reflective material, such as windows, associated with future development of the project site would be required to have an American Bird Conservancy Threat Factor Rating of 30 or less or undergo pattern glazing treatment. In addition, all panes with exterior screens, shutters or shading devices would be required to be installed permanently over windows, structures, and building features such that there is no gap larger than 9 inches in any single dimension.

In addition, future development facilitated by the proposed project, including the conceptual development project, would be required to comply with the City's *COA: Avoid Disturbance of Nesting Birds* that addresses potential impact to nesting birds that may be present on the project site prior to initial site disturbance activities. With implementation of *COA: Avoid Disturbance of Nesting Birds,* potential impacts to nesting birds that may be present on the project site would be less than significant.

Existing buildings on the project site may also provide habitat for bats, some species of which find suitable roost sites and foraging sites in the urban environment. Implementation of the proposed project, including the conceptual development project, would facilitate development of the entire project site and assumes demolition of existing structures. Demolition of structures while bats are present could result in loss of the roost and impacts to bats, which would be a potentially significant impact. To address potential impacts on bats that may be present on the project site, the proposed project, including the conceptual development project, would be required to implement Mitigation Measure BIO-1a through BIO-1f, as detailed below. With implementation of Mitigation Measures BIO-1a through BIO-1f, potential impacts to bats that may be present on the project site would be less than significant.

Mitigation Measure BIO-1a **Roosting Bat Habitat Assessment and Surveys.** Prior to the initiation of demolition or tree removal activities occurring during the spring, summer, or fall months (March 1 through November 30), the project sponsor shall retain a qualified biologist to conduct a presence/absence survey to evaluate the site for the occurrence of bats and bat roosts. The surveys shall be scheduled to allow sufficient time to implement mitigation if bats are found during the survey. The project sponsor shall submit a memorandum with the demolition permit application identifying the qualified biologist retained to conduct the survey and the date of the survey. A second memorandum detailing the findings shall be prepared by the qualified biologist and submitted to the City after completion of the survey.

Mitigation Measure BIO-1b **Common Bat Species Evacuation and Mitigation Plan.** If a bat roost is found in any onsite buildings, the species of bat using the roost shall be identified. If the roost is occupied by common species and is not used as a maternity roost, as determined by a qualified biologist, then methods to encourage the bats to leave the roost or to prevent them from returning to the roost shall be implemented prior to roost removal. A mitigation plan shall be developed by the qualified biologist to specify the methods to be used and the timing of the activities. These methods could include removal of roosting sites during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. This mitigation plan shall be submitted to the City for review and approval prior to the initiation of demolition or tree removal activities.

Mitigation Measure BIO-1c: **Preconstruction Survey for Common Species of Roosting Bats.** If only common species are observed during the survey of the site and the site is not found to be used as a maternity roost, the project sponsor shall retain a qualified biologist to conduct preconstruction surveys for bat roosts in existing buildings prior to construction

activities. The survey shall take place no more than 30 days prior to construction/demolition/ removal activities. Preconstruction surveys shall be repeated if demolition or construction activities are delayed more than 30 days.

Mitigation Measure BIO-1d **Artificial Roosting Plan for Special-Status Bats.** If special-status bats are found onsite, and the roost would be disturbed or destroyed during development, an artificial roost shall be provided. The roost shall be constructed and placed onsite or at a City- and CDFW-approved off-site mitigation area prior to removal of the original roost. Materials from the roost site shall be salvaged, when feasible, to be used in the construction of artificial roosts. A mitigation plan specifying the construction details and siting of the structure shall be prepared by the qualified biologist and approved by the City and CDFW prior to removal of the existing roost. The project sponsor shall provide a secure source of funding for the monitoring of the artificial roost for a period of 5 years and for implementing actions to remediate the artificial roost if it does not attract bats. A report documenting the implementation of the plan shall be provided to the City and CDFW within 1 month of completion of the artificial roost. Annual monitoring reports shall be provided to the City and CDFW by the project sponsor by November 30 of each year, for the 5-year period. The mitigation plan shall be completed and implemented prior to the issuance of the demolition permit.

Mitigation Measure BIO-1e **Tree Removal and Roost Protection.** If bat roosts are identified for protection as a result of surveys conducted as part of Mitigation Measure BIO-1, pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to removal.

Mitigation Measure BIO-1f **Protection of Maternity Roosts.** Removal of maternity roosts for any species of bats either common or special-status shall be coordinated with CDFW prior to removal. Maternity roosts for any species of bat, either common or special-status, shall not be demolished until a qualified biologist has determined that the young are able to fly independently of their mothers.

With implementation of Mitigation Measures BIO-1a through BIO-1f and compliance with all applicable City requirements, including BMC Section 23.304.150, and *COA: Avoid Disturbance of Nesting Birds*, potential impacts associated with special-status species would be **less than significant with mitigation**.

Impact BIO-1 Summary: With implementation of Mitigation Measure BIO-1a through BIO-1f, the demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, would reduce impacts on bat

roosts and bats to a **less than significant** level. Compliance with all applicable City requirements, including BMC Section 23.304.150 and *COA: Avoid Disturbance of Nesting Birds* would ensure that potential impacts on nesting birds and bird species would be less than significant. Therefore, potential impacts on special status species would be **less than significant with mitigation**.

4.11.2.4 Cumulative Impacts

According to Section 15130 of the *State CEQA Guidelines*, cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects. For biological resources, the scope for assessing cumulative impacts encompasses other past, current, or probable future projects under review by the City within the vicinity of the project site. Table 4.A in Section 4.0, Setting, Impacts, and Mitigation Measures, provides a list of cumulative development in the project vicinity (within 0.25-mile radius of the project site), including the I-80 Gilman Interchange Improvement Project, 805 Jones Street, and the 1201 Second/669 Gilman Transfer Station. The proposed project and the conceptual development project would have a significant effect on the environment if they would contribute to a significant cumulative impact on biological resources. Due to the project site's historic and ongoing disturbance, proximity to development, lack of sensitive biological resources, and through compliance with applicable City requirements and implementation of Mitigation Measures BIO-1a through BIO-1f, proposed project impacts would not result in a significant effect on biological resources.

When the City considers future development proposals, these proposals would undergo environmental review pursuant to CEQA and, when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project mitigation measures, conditions of approval and relevant policies of the General Plan would ensure that significant impacts on biological resources would be avoided or otherwise mitigated to less than significant levels. Based on the information in this Biological Resources section, and for the reasons summarized above, implementation of the proposed project and the conceptual development project would not make a cumulatively considerable contribution to significant adverse cumulative impacts related to biological resources when considered together with other cumulative development. This impact would be **less than significant**.

5.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.) and the *State CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq.) require that an Environmental Impact Report (EIR) "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (*State CEQA Guidelines* Section 15126.6(a)). If mitigation measures or a feasible project alternative that would meet most of the basic project objectives would substantially lessen the significant environmental effects of a proposed project, then the lead agency should not approve the proposed project unless it determines that specific technological, economic, social, or other considerations make the mitigation measures and the project alternative infeasible (PRC Section 21002, *State CEQA Guidelines* Section 15091(a)(3)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (*State CEQA Guidelines* Section 15126.6(c)).

This section describes alternatives to the proposed project and compares the impacts of the alternatives to the environmental impacts of the proposed project as proposed, consistent with the guidance in *State CEQA Guidelines* Section 15126.6(d). At the conclusion of the analysis, the environmentally superior alternative is identified (*State CEQA Guidelines* Section 15126.6(e)(2)). One of the alternatives that must be analyzed is the "No Project" Alternative. The purpose of the No Project analysis is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

5.1 PROJECT OVERVIEW

As described in more detail in Chapter 3.0, Project Description, the Gilman Gateway Rezone (proposed project) would:

1. Establish a new zoning district – Manufacturing, Research and Development (M-RD) in Chapter 23.206 of the Berkeley Municipal Code (BMC).

2. Rezone the 11.54-acre site (project site) from the Manufacturing (M) district to the M-RD zoning district.

3. Amend the Berkeley General Plan and West Berkeley Plan to add the M-RD district to the Manufacturing land use designation.

While the proposed project would not result in any direct physical changes, implementation of the proposed amendments to the BMC and the Berkeley General Plan would facilitate future buildout of up to 1,005,266 square feet of a mix of light manufacturing, research and development (R&D), laboratory, and/or office uses. This EIR evaluates implementation of the M-RD zoning district and

associated development standards at a programmatic-level. In addition to the newly created M-RD zoning district, the analysis in this EIR includes discussion of potential environmental impacts associated with implementation of the Potential Berkeley Forge Development (conceptual development project) that could result in the development of a 10.26-acre portion of the project site (development project site) with approximately 900,000 square feet of light manufacturing, R&D, laboratory, and/or office uses.

The City has not received an application for the conceptual development project; however, the City anticipates the submittal of a formal application for the conceptual development project, and it is therefore a reasonably foreseeable project and evaluated in this EIR at a project-level to the extent feasible.

5.2 METHODOLOGY FOR SELECTION OF ALTERNATIVES

5.2.1 Potential Feasibility

An EIR must "consider a range of potentially feasible alternatives" (*State CEQA Guidelines* Section 15126.6(a)). *State CEQA Guidelines* Section 15126.6(f) (1) explains "feasibility" (e.g., "… feasibly attain most of the basic objectives of the project …"), in part, as follows:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is definitively feasible or infeasible is made by the lead agency's decision-making body, here the City Council (see PRC Sections 21081.5, 21081[a][3].) As a result, the EIR only concludes whether an alternative is potentially feasible.

5.2.2 Attainment of Project Objectives

As described above, one factor that must be considered in selection of alternatives is the ability of a specific alternative to attain most of the basic objectives of the proposed project (*State CEQA Guidelines* Section 15126.6(a)). The project objectives are identified in Chapter 3, "Project Description," and included below:

- Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that adds significantly to the City's economic base and facilitates job creation.

- Establish a M-RD zoning district with land use and development standards that are consistent with the General Plan Manufacturing land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, R&D, laboratory, and office.

- Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.

- Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management strategies that reduce vehicle miles traveled, while providing sufficient parking to meet the needs of employment-generating uses.

- Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

5.2.3 Potential to Avoid or Substantially Reduce a Significant Impact

Alternatives considered in an EIR must avoid or substantially lessen any of the significant effects of the proposed project (*State CEQA Guidelines* Section 15126.6(a)). The Draft EIR identifies significant and unavoidable impacts after implementation of mitigation measures associated with historic architectural resources, air quality, and greenhouse gas emissions (see Chapter 4.0, Setting, Impacts, and Mitigation Measures), as summarized below:

- **Historic Architectural Resources:** The proposed project would cause a substantial adverse change in the significance of a historic resource as defined in *State CEQA Guidelines* Section 15064.5, because implementation of the proposed project would facilitate the demolition of the existing building at 1306 Third Street, which is eligible for listing as a City of Berkeley Landmark. (Impact CUL-1)

- **Project Construction Health Risk Assessment:** Construction associated with full buildout of the project site under the proposed project would not exceed Bay Area Air Quality Management District (BAAQMD) thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations with implementation of identified mitigation measures. However, should construction activities associated with any future projects facilitated by implementation of the proposed project be initiated prior to demolition of the structure located at 1306 Third Street (a sensitive receptor), such as the conceptual development project, such project would exceed the BAAQMD cancer risk significance thresholds for inhalation and would expose certain sensitive receptors to substantial pollutant concentrations. (Impact AIR-3a)

- **Project Operation Health Risk Assessment.** Operation of future projects at the project site, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations associated with increased truck traffic and could result in potential health risks that would cumulatively contribute to elevated health risks in the city. (Impact AIR-3b)

- **Project Operation Greenhouse Gas Emissions.** If future development facilitated by implementation of the proposed project includes natural gas, the proposed project would be inconsistent with a greenhouses gas (GHG) reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Inconsistency with a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b) would result in a **significant impact** related to GHG emissions. (Impact GHG-1)

- **Inconsistency with Plans, Policies or Regulations Adopted for the Purpose of Reducing Greenhouse Gas Emissions.** If future development facilitated by implementation of the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets in Assembly Bill (AB) 32, Senate Bill (SB) 32, Executive Order (EO) B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. (Impact 4.6.2)

5.3 ALTERNATIVES CONSIDERED BUT REJECTED

The *State CEQA Guidelines* state that an EIR should identify any alternatives that were considered by the lead agency but were rejected during the scoping process and briefly explain the reasons underlying the lead agency's determination (Section 15126.6[c]). This section addresses these alternatives.

- **Off-Site Locations:** *State CEQA Guidelines* Section 15126.6(f)(2) states that alternative locations should be considered if they would avoid or substantially lessen any of the significant effects or a proposed project. While an alternative location might lessen or avoid the impacts associated with demolition of a historic resource or air quality, it was rejected from further consideration because the project objectives are specific to the underutilized Gilman Gateway site. Implementation of the proposed project at a different site would not achieve the project objectives associated with reinventing the former Pacific Steel Casting site and adjacent parcels from an underutilized, concerting a heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses, and improving mobility at an entry corridor to West Berkeley. In addition, an alternative location would not result in the remediation efforts at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

- **Reduced Parking:** The proposed M-RD zoning district would require a minimum of one parking space per 1,000 square feet of use, resulting in a minimum of 1,300 off-street automobile parking spaces. The conceptual development project would include a total of approximately 1,900 parking spaces. A reduced parking alternative was not considered for analysis because it would not avoid air quality or GHG impacts.

- **Relocation of the Existing Structure at 1306 Third Street.** Relocation of the building located at 1306 Third Street would avoid or substantially lessen impacts associated with demolition of a historic resource; however, this alternative would not be feasible because the City does not own

the building nor does the City control a suitable site within the city limit that could accommodate the existing structure.

- **Historic Preservation Alternative.** Required preservation of the building located at 1306 Third Street, considered a historic resource as defined in *State CEQA Guidelines* Section 15064.5, would not be feasible because BMC Chapter 3.24 provides a permit pathway to allow for the alteration or demolition of a designated City Landmark or Structure of Merit.[1] Accordingly, the City cannot require a property owner to preserve the building located at 1306 Third Street. The City's Landmark Preservation Commission could approve an application for a Structural Alteration Permit to demolish the building, should that application meet the requirements under BMC Chapter 3.24. The City could encourage, not require, a property owner to adaptively reuse the building under the new M-RD zoning district; however, it is unlikely that the existing structure would meet the criteria needed to support the future uses.

5.4 COMPARISON AND ANALYSIS OF ALTERNATIVES

The following discussion summarizes the alternatives evaluated, how they meet CEQA requirements for consideration of alternatives, and then provides an evaluation of the alternative. Alternatives evaluated in this Draft EIR are:

- The **No Action Alternative** is a version of the "no project" alternative (CEQA Guidelines Section 15126.6(e)) that assumes no construction on the site would occur. The existing buildings would not be demolished and would instead remain in place, unchanged from existing conditions. The existing Manufacturing land use and zoning designations would remain, and in the City of Berkeley General Plan and West Berkeley Area Plan would not be amended.

- The **General Plan Compliant Alternative** is a version of the "no project" alternative (*State CEQA Guidelines* Section 15126.6(e)) that assumes the project site would be redeveloped pursuant to the current land use and zoning designations. Implementation of the General Plan Compliant Alternative would allow for the development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site. Under this alternative, the maximum height would be limited to 45 feet.

- The **Reduced Development Alternative** assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary would include nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A in Chapter 3.0, Project Description for details). This alternative would also require a minimum 100-foot buffer between any existing residential use and proposed new non-residential use, including surface parking lots or structures. Accordingly, future development on the project site would need to be set back from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would reduce the overall buildout potential of the project site by approximately 50 percent, resulting in up to

[1] Criteria for defining a structure of merit are outlined under BMC Section 3.24.110.

566,300 square feet of non-residential space and a minimum of 566 off-street automobile parking spaces.

5.5 NO ACTION ALTERNATIVE

The following provides a description of the No Action Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the No Action Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the No Action Alternative would reduce, eliminate, or create new significant environmental impacts, and whether it would or would not meet the objectives of the proposed project.

5.5.1 Description of Alternative

The No Action Alternative assumes that the project site would remain unchanged from existing conditions. The project site would retain its land use designation as Manufacturing in the Berkeley General Plan and M zoning pursuant to the Berkeley Zoning Ordinance and West Berkeley Area Plan. The project site would continue to be occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are currently vacant. There are multiple leaking underground storage tank (LUST) sites on the project site that are included on the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). The contaminated soil, groundwater, and soil gas would remain present on the site because the remediation efforts associated with implementation of the proposed project would not occur. No modifications to existing site access or infrastructure would take place.

5.5.2 Ability to Meet Project Objectives

Implementation of the No Action Alternative would not meet any of the identified project objectives as the No Action Alternative would not reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses, establish a Manufacturing, Research and Development zoning district, facilitate future development by adopting zoning standards, or improve mobility at an entry corridor to West Berkeley. In addition, the No Action Alternative would not result in the remediation effort at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

5.5.3 Comparison of Environmental Impacts

The potential impacts associated with the No Action Alternative are described below. As discussed, the No Action Alternative would avoid the significant and unavoidable impacts of the proposed project associated with cultural resources, air quality, and GHG emissions.

5.5.3.1 Land Use and Planning

Implementation of the No Action Alternative would not result in any changes to the existing General Plan designation or zoning of the project site and the project site would continue to be occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are vacant.

Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** related to land use and planning. However, it should be noted that the site would continue to be underutilized and would likely remain predominantly vacant under the No Action Alternative, as the existing buildings were found to be contaminated with hazardous materials (asbestos-containing materials and lead-based paint),[2] and thus would not be safe for adaptive reuse without additional investments.

5.5.3.2 Cultural Resources

Implementation of the No Action Alternative would result in no changes to the existing conditions of the project site and would not result in the demolition of existing structures on the site. Therefore, the existing structure at 1306 Third Street, which is considered a historic resource as defined in *State CEQA Guidelines* Section 15064.5, would not be demolished, and Mitigation Measures CUL-1 would not be required. Therefore, compared to the **significant and unavoidable impacts** of the proposed project, the No Action Alternative would have **no impact** on built-environment historic resources as defined in *State CEQA Guidelines* Section 15064.5.

In addition, implementation of the No Action Alternative would not include construction or other ground disturbance activities that could result in the accidental discovery of archeological and/or cultural resources, including human remains; therefore, and Mitigation Measures CUL-2a through CUL-2d and CUL-3 would not be required, and for the same reason, City *COA: Archaeological Resources* and *COA: Human Remains* would not be applicable. Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** on cultural resources, including human remains. Overall, implementation of the No Action Alternative would avoid the **significant and unavoidable impacts** of the proposed project associated with cultural resources.

5.5.3.3 Tribal Cultural Resources

Implementation of the No Action Alternative would result in no changes to the existing conditions of the project site and would not facilitate nor include construction or ground disturbance activities that could result in the accidental discovery of tribal cultural resources, and Mitigation Measures CUL-2a through CUL-2d and CUL-3 would not be required. In addition, City *COA: Archaeological Resources* and *COA: Human Remains* would not be applicable to the No Action Alternative. Therefore, compared to the **less than significant impacts** with mitigation of the proposed project, the No Project alternative would have **no impact** on tribal cultural resources.

5.5.3.4 Transportation

Implementation of the No Action Alternative would not result in any changes to the General Plan and zoning designation of the project site and would not result in any increases in automobile, transit, bicycle, or pedestrian travel to or from the project site, because the site is anticipated to remain in its current predominantly vacant condition. In addition, modifications to the project plans

[2] AEI Consultants. 2018. Draft Phase I Environmental Site Assessment, 640 Gilman Street, 638 Page Street, 1310 3rd Street, 1401 Eastshore Highway, 1333, 1420, 1421, 1305, 1314, and 1320 2nd Street Berkeley, Alameda County, California, 94710, January 17.

to avoid design hazards and provide adjacent emergency access, as identified in Mitigation Measure TRA-1, would not be required as no changes to the circulation system would occur, and for the same reasons City *COA: Transportation Demand Management*, *COA: Nonresidential Electric Vehicle, COA: Transportation Construction Plan, COA: Construction/No Parking Permits, COA: Loading*, and *COA: Required Bike Parking* would not be required. Therefore, compared to the **less than significant impacts** with mitigation of the proposed project, there would be **no impact** related to conflicts with applicable transportation-related plans, policies and ordinances; vehicle miles traveled (VMT); design hazards; or emergency access.

5.5.3.5 Air Quality

Implementation of the No Action Alternative would not include demolition or construction activity within the project site. As a result, pollutant and odor concentrations would not be increased and dust, exhaust, and organic emissions related to construction would not be generated. Similarly, this alternative would not result in new exposure of residents to toxic air contaminants (TACs). Implementation of the No Action Alternative would not result in an increase in operational vehicle trips in the city. Because no construction would occur at the project site under the No Action Alternative, Mitigation Measures AIR-1 and AIR-2 would not be required. Implementation of the No Action Alternative would also avoid the **significant and unavoidable** health risk impacts during construction and operation of the proposed project, and Mitigation Measures AIR-3 through AIR-5 would not be applicable. Lastly, because the No Action Alternative would not facilitate any development at the project site, no other emissions (such as those leading to odor) would be generated and Mitigation Measure AIR-6 would not be required.

For the same reasons, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would not be applicable. Accordingly, the No Action Alternative would not result in impacts related to Clean Air Plan implementation. Therefore, compared to the **significant and unavoidable** air quality impacts associated with the proposed project, there would be **no impact** on air quality.

5.5.3.6 Greenhouse Gas Emissions

The No Action Alternative would not result in the generation of construction-period GHG emissions. Similarly, the No Action Alternative would not result in an increase in VMT, daily vehicle trips, or utility use (i.e., electricity, natural gas, water, and wastewater) on the project site; therefore, the No Action Alternative would not result in any impacts related to project operations. Because the No Action Alternative would not facilitate any development at the project site, Mitigation Measure GHG-1 would not be implemented. For the same reasons, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction*, *COA: Air Quality – Diesel Particulate Matter Controls During Construction*, and *COA: Nonresidential Electric Vehicle Charging* would not be applicable. The No Action Alternative would also not include any new natural gas usage and would therefore avoid the proposed project's **significant and unavoidable impact** related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions, and it would have **no impact**.

5.5.3.7 Energy

The No Action Alternative would not result in construction-related energy demand. Similarly, the No Action Alternative would not result in an increase in VMT, daily vehicle trips, or utility use (i.e., electricity and natural gas) on the project site; therefore, the No Action Alternative would not result in impacts related to operational-period energy usage. Mitigation Measure GHG-1 and City *COA: Construction and Demolition Diversion* would not be applicable to the No Action Alternative. Therefore, compared to the proposed project's **less than significant** energy impact, there would be **no impact** on energy.

5.5.3.8 Noise

The No Action Alternative would not expose surrounding land uses to short-term noise or vibration during construction. Noise at the project site would not increase above that already occurring on the site and no increase in traffic noise would occur. City COAs related to noise, including *COA: Construction Noise Reduction Program*, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website,* would not be applicable to the No Action Alternative. Therefore, compared to the proposed project's **less than significant impact**, there would be **no impact** related to noise.

5.5.3.9 Hazards and Hazardous Materials

Implementation of the No Action Alternative would not include any demolition or construction activity within the project site. The soil, groundwater, and soil gas that have been impacted with hazardous materials, including total petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls (PCBs), would remain present on the site as the remediation efforts associated with implementation of the proposed project would not occur.

Therefore, the No Action Alternative would not create significant hazards to the public, including schools within one-quarter mile, or to the environment through the routine transport, use, or disposal of hazardous materials or as a result of an accident involving the release of hazardous materials into the environment. No modifications to existing site access or infrastructure would occur, and therefore no impacts related to emergency evacuation plans would occur. The No Action Alternative would also not result in any impacts related to hazardous materials sites pursuant to airport-related safety hazards, or wildland fires. With implementation of the No Action Alternative, there would be **no impact** related to hazards and hazardous materials and Mitigation Measures HAZ-1 and HAZ-2a through HAZ-2e would not be applicable to the No Action Alternative.

5.5.3.10 Hydrology and Water Quality

Implementation of the No Action Alternative would not include any demolition or construction activity within the project site, and the project site would continue to be occupied with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. As no construction activities would occur and the site would remain the same as existing conditions, implementation of the No Action Alternative would not increase the potential for pollutants of concern from vehicle traffic (e.g., fuels and lubricants, tire wear particulates, brake dust, and fallout from exhaust emissions) to be generated on the project site and conveyed in runoff during storm

events. Therefore, the No Action Alternative would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality and Mitigation Measures HYD-1 and HYD-2, respectively, would not be required. In addition, because the No Action Alternative would not result in increased use of the project site, require additional water supply, or result in increased impervious surface area at the site, implementation of the No Action Alternative would not substantially decrease groundwater supplies, interfere substantially with groundwater recharge, or substantially alter the existing drainage pattern of the site, and Mitigation Measure HYD-3 would not be required. Implementation of the No Action Alternative would also not increase the risk of release of pollutants due to inundation beyond existing conditions and would not require flood proof hazardous materials storage during construction, as described in Mitigation Measure HYD-4, as no construction or changes to the project site or on-site uses would occur. Implementation of the No Action Alternative would also not conflict with applicable water quality control or sustainable groundwater management plans. Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** on hydrology and water quality.

5.5.3.11 Biological Resources

As implementation of the No Action Alternative would not result in any changes at the project site there would be no impacts to nesting birds or the loss of bat roosts, and no impact on special-status species would occur. Therefore, City *COA: Avoid Disturbance of Nesting Birds* would not be applicable to the proposed project; further, Mitigation Measure BIO-1a through BIO-1f would not be required. Similar to the proposed project, the No Action Alternative would not have a substantial adverse effect on any riparian habitat, other sensitive natural community, or federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, the No Action Alternative would not interfere with the movement of any native resident or migratory fish or wildlife species, impede the use of native wildlife nursery sites, conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources (such as a tree preservation policy or ordinance), or conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, compared to the **less than significant impacts** of the proposed project, the No Action Alternative would have **no impact** on biological resources.

5.6 GENERAL PLAN COMPLIANT ALTERNATIVE

The following provides a description of the General Plan Compliant Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the General Plan Compliant Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the General Plan Compliant Alternative would reduce, eliminate, or create new significant environmental impacts and whether it would or would not meet the objectives of the proposed project.

5.6.1 Description of Alternative

The General Plan Compliant Alternative assumes the project site would be developed consistent with the current General Plan and zoning designations. The project site is currently designated as Manufacturing in the Berkeley General Plan and West Berkeley Plan and is zoned Manufacturing (M)

per the Berkeley Zoning Ordinance. The purpose of the M district, pursuant to BMC Section 23.206.060, is to, at a high level:

- Encourage development dedicated to manufacturing and industrial uses, including "heavy manufacturing;"
- Encourage the creation and continuation of well-paid (often unionized) industrial jobs for people without advanced degrees;
- Retain the stock of manufacturing and industrial buildings wherever possible;
- Support the development of industrial businesses that contribute to the maintenance and improvement of the environment;
- Maintain and improve the quality of West Berkeley environment while allowing operation of the full range of manufacturers; and
- Support the development of retail automobile sales uses, and provide opportunities for vehicle sales.

Implementation of the General Plan Compliant Alternative would allow development of approximately 1,005,365 square feet of manufacturing and industrial uses on the 11.54-acre project site, which is a slight reduction in square footage in the site's development potential as compared to the proposed project. Building height would not exceed 45 feet, unless a modification of development standards is requested. The General Plan Compliant Alternative would not result in direct changes to the project site but rather assumes future development would occur. Unlike the proposed project, the General Plan Compliant Alternative would not allow for light manufacturing, R&D, laboratory, and/or office uses because those uses are currently not permitted in the M district.

Implementation of the General Plan Compliant Alternative would facilitate the demolition of all existing onsite structures and construction activity within the project site as it is assumed the site would be redeveloped pursuant to the existing General Plan land use designation.

5.6.2 Ability to Meet Project Objectives

Implementation of the General Plan Compliant Alternative would meet some, but not all of the identified project objectives as the General Plan Compliant Alternative would not reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses or establish a Manufacturing, Research and Development zoning district. However, the General Plan Compliant Alternative would result in future development and would likely improve mobility at an entry corridor to West Berkeley. In addition, the General Plan Compliant Alternative would result in remediation efforts at the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.

5.6.3 Comparison of Environmental Impacts

The potential impacts associated with the General Plan Compliant Alternative are described below. As discussed, the General Plan Compliant Alternative would avoid some, but not all, of the significant and unavoidable air quality impacts of the proposed project. Specifically, the General Plan Compliant Alternative would avoid the significant and unavoidable air quality impacts associated with construction health risks. However, the General Plan Compliant Alternative would not avoid or reduce the significant and unavoidable impact of the proposed project on built historic resources.

5.6.3.1 Land Use and Planning

Similar to the proposed project, future development applications for industrial and manufacturing uses would be required to include site and circulation plans that would be refined in coordination with the City of Berkeley and designed to conform to City standards and policies to ensure that implementation of the General Plan Compliant Alternative would not limit or impede access to the site and adjacent uses. Further, development occurring under the General Plan Compliant Alternative would be required to adhere to all relevant policies found in the City's General Plan and West Berkeley Plan, and all applicable ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, the General Plan Compliant Alternative would have a **less than significant** impact related to land use and planning, similar to the proposed project.

5.6.3.2 Cultural Resources

The General Plan Compliant Alternative could include demolition of the existing structure at 1306 Third Street, which is considered a historic resource under CEQA, as it would facilitate future development of the project site, similar to the proposed project. Therefore, impacts to built historic resources would be **significant and unavoidable**. Implementation of Mitigation Measure CUL-1, would reduce, but not avoid, adverse impacts to the historic resource, similar to the proposed project. Therefore, implementation of the General Plan Compliant Alternative would not avoid or reduce the proposed project's **significant and unavoidable impact** of historic resources. Impacts would be **significant and unavoidable**.

The General Plan Compliant Alternative would include demolition and construction activities similar to the proposed project on the 11.54 acres site. Accordingly, implementation of the General Plan Compliant Alternative would result in similar, potentially significant impacts on archeological resources. The General Plan Compliant Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d for future development, similar to the proposed project. Therefore, implementation of the General Plan Compliant Alternative would result in **less than significant impacts** on archaeological resources, similar to the proposed project.

Overall, implementation of the General Plan Compliant Alternative would not avoid or reduce the proposed project's **significant and unavoidable impact** on built historic resources, as it would result in demolition of a historic structure. Therefore, impacts on cultural resources would be **significant and unavoidable**, similar to the proposed project.

5.6.3.3 Tribal Cultural Resources

Implementation of the General Plan Compliant Alternative would result in similar, potentially significant impacts on tribal cultural resources. The General Plan Compliant Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d. Therefore, implementation of the General Plan Compliant Alternative would result in **less than significant impacts** on tribal cultural resources, similar to the proposed project.

5.6.3.4 Transportation

Implementation of the General Plan Compliant Alternative would facilitate development of manufacturing and industrial uses on the project site, consistent with the development standards of the M zoning district. Therefore, the General Plan Compliant Alternative would result in increases in automobile, transit, bicycle, or pedestrian travel to or from the project site, as the site is currently predominantly vacant. The General Plan Compliant Alternative would be required to comply with City *COA: Transportation Demand Management* which requires preparation of a Transportation Demand Management Plan (TDM Plan). In addition, future development at the project site under the General Plan Compliant Alternative would be required to comply with *COA: Transportation Construction Plan* (if necessary); *COA: Construction/No Parking Permits* during construction; *COA: Loading* During Operation; and *COA: Required Bike Parking* would ensure that adequate bicycle parking is available at the site. With adherence to City COAs, no inconsistencies with adopted plans, guidelines, or policy standards would occur, and potential impacts related the surrounding circulation system would be **less than significant**, similar to the proposed project.

Implementation of a TDM Plan (as required by *COA: Transportation Demand Management)* would likely reduce the average daily VMT per employee for the General Plan Compliant Alternative to below applicable thresholds of significance, as the implementation of the required TDM Plan could achieve a 10 percent VMT reduction. Therefore, with implementation of the proposed TDM Plan, the General Plan Compliant Alternative would result in a **less than significant impact** associate with VMT rates, similar to the proposed project.

Implementation of the General Plan Compliant Alternative would facilitate changes to the existing circulation system. Similar to the proposed project, as the scope of the changes are unknown at the time, Mitigation Measures TRA-1 and TRA-2 would be required.

With adherence to applicable City COAs and implementation of Mitigation Measures TRA-1 and TRA-2, implementation of the General Plan Compliant Alternative would result in **less than significant** transportation impacts, similar to the proposed project.

5.6.3.5 Air Quality

Pollutant and odor concentrations would be increased and dust, exhaust, and organic emissions related to construction would be generated, similar to the proposed project, with implementation of the General Plan Compliant Alternative. Similarly, this alternative may result in new exposure of nearby sensitive receptors to TACs. Therefore, implementation of City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would be required. In addition, Mitigation Measure

AIR-1 would also be implemented as part of the General Plan Compliant Alternative, as construction activities would be similar to those under the proposed project. With compliance with City COAs and Mitigation Measure AIR-1, emissions associated with construction of the General Plan Compliant Alternative would be below the BAAQMD's thresholds of significance.

In addition, the General Plan Compliant Alternative would result in the development of new uses at the site which would result in an increase in long-term air pollutant emission impacts associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas combustion), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generators). While the General Plan Compliant Alternative would not result in direct physical changes, it would facilitate development as permitted under the existing zoning code. Some of the currently allowed uses, like dry cleaning yard, construction materials manufacturing, and recycled materials processing, would potentially emit higher air pollutant concentrations and would be more energy intensive uses. Accordingly, potential development under the General Plan Compliant Alternative could result in a significant impact due to operational emissions, and Mitigation Measure AIR-2 would be required. Therefore, operation of buildout envisioned under the General Plan Compliant Alternative could result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standard, due to the heavy manufacturing uses allowed under the current zoning, unlike the proposed project where impacts would be **less than significant with mitigation**.

The General Plan Compliant Alternative would result in the demolition of all existing structures on the project site, including the sensitive receptor at 1306 Third Street, similar to the proposed project, and thus impacts to sensitive health receptors during construction would be below BAAQMD thresholds. Unlike the proposed project, the conceptual development project would not be allowed under the General Plan Compliant Alternative and therefore Mitigation Measures AIR-3 and AIR-4 would not be required and there would be no **significant and unavoidable** impacts related to construction health risk.

Similar to the proposed project, industrial processes associated with the M zone (e.g., industrial, heavy manufacturing, and warehouse/storage) allowed under the General Plan Compliant Alternative would be expected to release TACs. Emissions of TACs would be controlled through BAAQMD Regulation 2, Rule 5 permits and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Similar to the proposed project, since it is not possible to determine the amount of TAC concentrations at the time of this analysis, Mitigation Measure AIR-5 would be required, and impacts associated with the General Plan Compliant Alternative would be **significant and unavoidable**, similar to the proposed project.

Lastly, operation of future development under the General Plan Compliant Alternative could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and future project sponsors would be required to implement Mitigation Measure AIR-6, similar to the proposed project; therefore, impacts would be **less than significant with mitigation**.

Therefore, even with adherence to application City COAs and implementation of Mitigation Measures AIR-1, AIR-2, AIR-5, and AIR-6, implementation of the General Plan Compliant Alternative would result in **significant and unavoidable** air quality impacts. However, as the General Plan Compliant Alternative would result in the demolition of all existing structures on the project site, including the sensitive receptor at 1306 Third Street, implementation of the alternative would avoid the conceptual development project's **significant and unavoidable** construction health risk impacts at 1306 Third Street.

5.6.3.6 Greenhouse Gas Emissions

The General Plan Compliant Alternative would result in the generation of construction-period GHG emissions. Similarly, the General Plan Compliant Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity, natural gas, water, and wastewater) on the project site; therefore, the General Plan Compliant Alternative would result in the generation of operational-period GHG emissions and would potentially conflict with applicable plans, policies, or regulations adopted for the purposes of reducing the emission of GHGs. Therefore, Mitigation Measure GHG-1 would be required. In addition, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction; COA: Air Quality – Diesel Particulate Matter Controls During Construction;* and *COA: Nonresidential Electric Vehicle Charging* would be applicable to the General Plan Compliant Alternative.

Similar to the proposed project, the General Plan Compliant Alternative assumes future development of the project site could include new natural gas usage at the project site and would therefore not avoid the proposed project's **significant and unavoidable impact** related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, compared to the proposed project's **significant and unavoidable impact** associated with GHG emissions, implementation of the General Plan Compliant Alternative would also result in a **significant and unavoidable impact** associated with GHG emissions.

5.6.3.7 Energy

The General Plan Compliant Alternative would result in an increase in energy demand during construction. Similarly, the General Plan Compliant Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity and natural gas) on the project site, increasing energy demand during operation. Energy demand associated with construction and operation of the General Plan Compliant Alternative would likely be similar to the proposed project and would not cause or result in the need for additional energy facilities or an additional or expanded delivery systems. Therefore, fuel consumption during construction and operation of development under the General Plan Compliant Alternative would not be inefficient, wasteful, or unnecessary, and this impact would be **less than significant**. Therefore, implementation of the General Plan Compliant Alternative would result in **less than significant** energy impacts, similar to the proposed project.

5.6.3.8 Noise

Implementation of the General Plan Compliant Alternative would expose surrounding land uses to short-term noise and vibration during construction and implementation of Mitigation Measure NOI-1 would be required. In addition, City COAs, including *COA: Construction Noise Reduction*

Program, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website* would be implemented reduce construction noise impacts on any off-site sensitive receptors in the vicinity. During operation of the General Plan Compliant Alternative, noise at the project site would increase compared to existing conditions and an increase in traffic noise would occur.

In addition, rooftop mechanical equipment associated with the General Plan Compliant Alternative would be required to comply with BMC Section 13.40 noise standards and City *COA: HVAC Noise Reduction*. Accordingly, it is not expected that the General Plan Compliant Alternative would substantially increase noise levels over existing conditions and impacts would be **less than significant**, similar to the proposed project.

Overall, with adherence to application City COAs and implementation of Mitigation Measure NOI-1, implementation of the General Plan Compliant Alternative would result in **less than significant** noise impacts, similar to the proposed project.

5.6.3.9 Hazards and Hazardous Materials

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during implementation of the General Plan Compliant Alternative. However, management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit. In addition, the City performs inspections of all construction sites in accordance with the requirements of the San Francisco Bay RWQCB's Municipal Regional Stormwater NPDES Permit (MRP) to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed.

Construction of the General Plan Compliant Alternative would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by the Department of Transportation (DOT), Resource Conservation and Recovery Act (RCRA), and State regulations.

Operation of the General Plan Compliant Alternative would likely involve the routine storage and use of hazardous materials associated with manufacturing and industrial uses, including "heavy manufacturing." Section 15.12.070 of the BMC requires obtaining all necessary permits and registrations from the City's hazardous materials manager[3] to handle any quantity of hazardous material or waste subject to disclosure under Section 15.12.050 of the BMC and compliance with *COA: Toxics (F and G).*

Compliance with *COA: Toxics (F and G)* and applicable regulations, including Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration

[3] The City's hazardous materials manager is the manager of the Certified Unified Program Agency (CUPA) or hazardous materials programs of the City (currently the TMD) or other equivalent position, or their designee.

(Cal/OSHA) regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would be mandatory to ensure that the General Plan Compliant Alternative would not create a significant hazard due to handling or transportation of hazardous materials. Therefore, similar to the proposed project, these impacts would be **less than significant**.

Due to the age of the buildings on the project site, hazardous building materials such as ACM, lead-based paint (LBP), and PCB-containing equipment/materials, and mercury containing devices may be present in the buildings. Therefore, to control the risk of releasing PCBs into the environment from potential PCB-contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 would be applicable to the General Plan Compliant Alternative, similar to the proposed project.

Subsurface hazardous materials, including methane in soil vapor and potential contamination within the public right-of-way, may also be released into the environment during construction and operation associated with future development of the project site under the General Plan Compliant Alternative. To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, future projects under the General Plan Compliant Alternative would be required to implement Mitigation Measures HAZ-2a through HAZ-2e.

Similar to the proposed project, to ensure that implementation of the General Plan Compliant Alternative would not result in impacts related to emergency evacuation plans, Mitigation Measure TRA-1 would be required.

Overall, with adherence to application City COAs and implementation of identified mitigation measures, implementation of the General Plan Compliant Alternative would result in **less than significant impacts** related to hazards and hazardous materials, similar to the proposed project.

5.6.3.10 Hydrology and Water Quality

Future development that would be facilitated by the implementation of the General Plan Compliant Alternative would be required to comply with the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements*, *COA: Toxics (A through D),* and would be required to implement Mitigation Measures HAZ-1, HAZ-2, HYD-1, and HYD-2, similar to the proposed project, due to potential construction and operation activities.

The General Plan Compliant Alternative would not alter the course of a stream or a river; however, the General Plan Compliant Alternative would redevelop the project site and therefore would have substantial effects with regards to altering drainage patterns and stormwater drainage systems on the project site. To control the risk of exceeding the capacity of stormwater drainage systems which could result in flooding, the General Plan Compliant Alternative would implement Mitigation Measure HYD-3 and *COA: Drainage Patterns*. In addition, to control the risk of releasing pollutants into surface water due to future flooding or tsunami inundation at the project site, projects under the General Plan Compliant Alternative would also implement Mitigation Measure HYD-4. Lastly, the General Plan Compliant Alternative would not conflict with or obstruct implementation of the Basin

Plan or the Groundwater Sustainability Plan for the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin.

Overall, redevelopment of the project site under the General Plan Compliant Alternative would result in similar hydrology and water quality impacts as the proposed project, and would be required to comply with the same existing regulations, City COAs, and mitigation measures. Impacts would be **less than significant**, similar to the proposed project.

5.6.3.11 Biological Resources

Implementation of the General Plan Compliant Alternative would facilitate the demolition of all existing onsite structures and construction activity within the project site as the site would be redeveloped pursuant to existing General Plan land use designation. Accordingly, implementation of the General Plan Compliant Alternative would result in potential impacts to nesting birds and the loss of bat roosts, and City *COA: Avoid Disturbance of Nesting Birds* and Mitigation Measure BIO-1a through BIO-1f would be required. With adherence to *COA: Avoid Disturbance of Nesting Birds* and implementation of Mitigation Measure BIO-1a through BIO-1f, development pursuant to the General Plan Compliant Alternative would result in **less than significant impacts** on special-status species. Similar to the proposed project, the General Plan Compliant Alternative would not have a substantial adverse effect on any riparian habitat, other sensitive natural community, or federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, the General Plan Compliant Alternative would not interfere with the movement of any native resident or migratory fish or wildlife species, impede the use of native wildlife nursery sites, conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources (such as a tree preservation policy or ordinance), or conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the General Plan Compliant Alternative would result in **less than significant impacts** on biological resources, similar to the proposed project.

5.7 REDUCED DEVELOPMENT ALTERNATIVE

The following provides a description of the Reduced Development Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the Reduced Development Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the Reduced Development Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.7.1 Description of Alternative

The Reduced Development Alternative assumes the project site would be limited to the Pacific Steel Casting site, consistent with the City Council referral. The Pacific Steel Casting zoning boundary includes nine parcels totaling 354,317 square feet. These parcels are currently developed with 250,606 square feet of industrial buildings, the majority of which are vacant (see Table 3.A in Chapter 3.0, Project Description for details). As shown on Figure 5-1, the zoning boundary under this alternative would not include the five parcels associated with Berkeley Forge and Tool (84,397 square feet) or the four parcels under other ownership (63,919 square feet). This alternative would

also require a minimum 100-foot buffer between any existing residential use and proposed new non-residential use, including surface parking lots or structures. Accordingly, future development on the project site would need to be set back 100 feet from the existing building at 1306 Third Street. Focusing development on the Pacific Steel Casting site with a required buffer would result in a total buildout out potential of 566,300 square feet of building area on 50 percent of the project site. The Reduced Development Alternative would reduce the overall buildout potential of the project site by approximately 50 percent, resulting in up to 566,300 square feet of non-residential space and a minimum of 566 off-street automobile parking spaces.

5.7.2 Ability to Meet Project Objectives

Implementation of the Reduced Development Alternative would partially meet the identified project objectives. The Reduced Development Alternative would reinvent the former Pacific Steel Casting site from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses; however, the adjacent sites would not be redeveloped. The Reduced Development Alternative would also establish a Manufacturing, Research and Development zoning district, facilitate future development by adopting zoning standards, and improve mobility at an entry corridor to West Berkeley. In addition, the Reduced Development Alternative would result in remediation of the project site to clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood prior to development.

5.7.3 Comparison of Environmental Impacts

The potential impacts associated with the Reduced Development Alternative are described below. As discussed, the Reduced Development Alternative would avoid the **significant and unavoidable impact** of the proposed project on built historic resources and would achieve most project objectives. However, the Reduced Development Alternative would not avoid the **significant and unavoidable** air quality and greenhouse gas emissions impacts associated with the proposed project, as development program details are not known at this time. However, these potential impacts would be reduced by the Reduced Development Alternative.

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LSA

Reduced Development Alternative Site

FIGURE 5-1

0 100 200
FEET

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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Gilman Gateway Rezone Project EIR
Reduced Development Alternative

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5.7.3.1 Land Use and Planning

Similar to the proposed project, future development applications would be required to include site and circulation plans that would not limit or impede access to the site and adjacent uses. Further, future development under the Reduced Development Alternative would be required to adhere to all relevant policies found in the City's General Plan and West Berkeley Plan, and all applicable ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, the Reduced Development Alternative would have **a less than significant impact** related to land use and planning, similar to the proposed project.

5.7.3.2 Cultural Resources

The Reduced Development Alternative would not include demolition of the existing structure at 1306 Third Street, which is considered a historic resource under CEQA. Therefore, implementation of the Reduced Development Alternative would avoid the **significant and unavoidable impacts** of the proposed project on built historic resources, and impacts would be **less than significant**. Implementation of Mitigation Measure CUL-1, which requires documentation of the historic resource in accordance with the Historic American Building Survey (HABS) standards, would not be required.

The Reduced Development Alternative would include demolition and construction activities similar to the proposed project, but on nine parcels totaling 354,317 square feet rather than the entire 11.54-acre project site. Implementation of the Reduced Development Alternative would result in similar, **potentially significant impacts** on archaeological resources. The Reduced Development Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d. Therefore, implementation of the Reduced Development Alternative would result in **less than significant impacts** on archaeological resources, similar to the proposed project.

Implementation of the Reduced Development Alternative would avoid the proposed project's **significant and unavoidable impact** on built historic resources, because it would not result in the demolition of a historic structure, or physical alteration to a degree that would impair its eligibility for listing. Therefore, impacts on cultural resources would be **less than significant**.

5.7.3.3 Tribal Cultural Resources

Implementation of the Reduced Development Alternative would result in similar, **potentially significant impacts** on tribal cultural resources as the proposed project. The Reduced Development Alternative would be required to implement Mitigation Measures CUL-2a through CUL-2d. Therefore, implementation of the Reduced Development Alternative would result in **less than significant impacts** on tribal cultural resources, similar to the proposed project.

5.7.3.4 Transportation

Because the Reduced Development Alternative would result in a smaller footprint program than the proposed project, it would result in a smaller increase in automobile, transit, bicycle, and pedestrian travel to and from the project site. Any future development facilitated by the Reduced Development Alternative would be required to comply with City *COA: Transportation Demand Management; COA: Transportation Construction Plan* (if necessary); *COA: Construction/No Parking Permits*; *COA:*

Loading During Operation; and *COA: Required Bike Parking* would ensure that potential impacts associated with the proposed alternative would be avoided. With adherence to City COAs, no inconsistencies with adopted plans, guidelines, or policy standards would occur, and potential impacts related to the surrounding circulation system would be **less than significant**, similar to the proposed project.

As discussed in Section 4.4, Transportation, future development facilitated by the proposed project would result in higher VMT rates than the applicable thresholds. Since the potential development program under the Reduced Development Alternative would result in similar uses as the proposed project, it is expected that the alternative also would result in VMT generation rates above the applicable thresholds of significance, and implementation of the required TDM Plan would be required. Similar to the proposed project, TDM Plan implementation would achieve a 10 percent VMT reduction. Therefore, with implementation of the proposed TDM Plan, the Reduced Development Alternative would result in a **less than significant impact** associated with VMT rates, similar to the proposed project.

Implementation of the Reduced Development Alternative would facilitate changes to the existing circulation system. Similar to the proposed project, because the scope of the changes are unknown at this time, Mitigation Measures TRA-1 and TRA-2 would be required.

With implementation of City COAs and implementation of Mitigation Measures TRA-1 and TRA-2, implementation of the Reduced Development Alternative would result in **less than significant** transportation impacts, similar to the proposed project.

5.7.3.5 Air Quality

Pollutant and odor concentrations, as well as dust, exhaust, and organic emissions related to construction would be generated; however, with implementation of the Reduced Development Alternative the levels would be lower than the proposed project. This alternative would result in new exposure of residents to toxic air contaminants. Therefore, implementation of City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction* and *COA: Air Quality – Diesel Particulate Matter Controls During Construction* would be required. Mitigation Measure AIR-1 would also be implemented as part of the Reduced Development Alternative, because construction activities would be similar to those under the proposed project. With compliance with City COAs and Mitigation Measure AIR-1, emissions associated with construction of the Reduced Development Alternative would be below the BAAQMD's thresholds of significance, and impacts would be **less than significant with mitigation**, but lower than the proposed project.

The Reduced Development Alternative would result in the development of new uses at the site which would result in an increase in long-term air pollutant emission impacts associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generators).

The Reduced Development Alternative would not demolish the existing structure at 1306 Third Street because the Reduced Development Alternative site would only include the Pacific Steel

Casting site. As explained in Section 4.5, Air Quality, Table 4.5.L the mitigated cancer risk at the residential receptor MEI, 1306 Third Street, would be 17.33 in 1 million, which would exceed the BAAQMD cancer risk of 10 in 1 million from implementation of the conceptual development program. School and worker receptors would not experience pollution more than the BAAQMD thresholds for cancer risk from either the project or conceptual development. The development potential under this alternative would be reduced by 50 percent, therefore reducing potential cancer risk impacts. While a 50 percent reduction in the number of square feet developed would reduce the potential cancer risk, without knowing the construction schedule or time intervals associated with potential phases of construction it cannot be determined at this time that no significant impact would occur. Therefore, without further information it is assumed that the Reduced Development Alternative, would be required to implement Mitigation Measure AIR-3 and AIR-4. With the 50 percent reduction in development on the project site and implementation of MM AIR-3 and AIR-4, the Reduced Development Alternative would result in lower impacts than the conceptual development project, however due to the uncertainty regarding project phasing this impact would remain **significant and unavoidable**.

Similar to the proposed project, commercial and industrial processes associated with the M-RD zone (e.g., industrial, manufacturing, and warehouse/storage) allowed under the Reduced Development Alternative would be expected to release TACs. Emissions of TACs would be controlled through BAAQMD Regulation 2, Rule 5 permits, and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Similar to the proposed project, since it is not possible to determine the amount of TAC concentrations at the time of this analysis, Mitigation Measure AIR-5 would be required, and impacts associated with the Reduced Development Alternative would remain **significant and unavoidable**, although reduced compared to the proposed project.

Lastly, operation of future development under the Reduced Development Alternative could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and would be required to implement Mitigation Measure AIR-6, similar to the proposed project; therefore, impacts would be **less than significant with mitigation**.

Implementation of the Reduced Development Alternative would reduce the **significant and unavoidable** construction health risk impacts at 1306 Third Street and impacts as the development potential would be reduced by 50 percent; however, without knowing the construction schedule or time intervals associated with potential phases of construction this impact would remain **significant and unavoidable**.

5.7.3.6 Greenhouse Gas Emissions

The Reduced Development Alternative would result in the generation of construction-period GHG emissions, which would be lower than the proposed project. Similarly, the Reduced Development Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity, natural gas, water, and wastewater) on the project site; therefore, the Reduced Development Alternative would result in the generation of operational-period GHG emissions and potential conflicts with applicable plans, policies, and regulations adopted for the purposes of reducing the

emission of GHGs. Therefore, Mitigation Measure GHG-1 would be required. In addition, City *COA: Public Works – Implement BAAQMD-Recommended Measures During Construction; COA: Air Quality – Diesel Particulate Matter Controls During Construction;* and *COA: Nonresidential Electric Vehicle Charging* would be applicable to the Reduced Development Alternative. The Reduced Development Alternative would result in **less than significant impacts** related to GHG emissions, and the emissions would be lower than the proposed project.

Similar to the proposed project, the Reduced Development Alternative assumes future development of the project site could include new natural gas usage at the project site and, therefore, would not avoid the proposed project's **significant and unavoidable impact** related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, like the proposed project implementation of the Reduced Development Alternative would result in **significant and unavoidable impacts** associated with GHG emissions.

5.7.3.7 Energy

The Reduced Development Alternative would result in an increase in energy demand during construction. Similar to the proposed project, the Reduced Development Alternative would result in an increase in VMT, daily vehicle trips, and utility use (i.e., electricity and natural gas) on the project site, increasing energy demand during operation, although lower than the proposed project. Energy demand associated with construction of the Reduced Development Alternative also would be lower than the proposed project. Similar to the proposed project, the Reduced Development Alternative would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. Therefore, fuel consumption during construction and operation of development under the Reduced Development Alternative would not be inefficient, wasteful, or unnecessary, and this impact would be **less than significant**. In addition, *COA: Construction and Demolition Diversion* and Mitigation Measure GHG-1 requiring future development projects to provide electric vehicle charging capabilities would be implemented to ensure consistency with the applicable General Plan policies. Therefore, implementation of the Reduced Development Alternative would result in **less than significant** energy impacts, however lower than the proposed project.

5.7.3.8 Noise

Implementation of the Reduced Development Alternative would expose surrounding land uses to short-term noise and vibration during construction. Implementation of Mitigation Measure NOI-1 would be required. In addition, City COAs, including *COA: Construction Noise Reduction Program*, *COA: Construction Noise Management – Public Notice Required*, *COA: Construction Phases*, *COA: Construction Hours*, *COA: Construction Hours – Exceptions*, and *COA: Project Construction Website* would be implemented to reduce construction noise impacts on any off-site sensitive receptors in the vicinity. During operation of the Reduced Development Alternative, noise at the project site would increase compared to existing conditions and an increase in traffic noise would occur, however at a lower level than the proposed project.

In addition, rooftop mechanical equipment associated with the Reduced Development Alternative would be required to comply with BMC Section 13.40 noise standards and City *COA: HVAC Noise Reduction*. Therefore, it is not expected that the Reduced Development Alternative would

substantially increase noise levels over existing conditions and impacts would be **less than significant**.

Overall, with adherence to application City COAs and implementation of Mitigation Measure NOI-1, implementation of the Reduced Development Alternative would result in **less than significant** noise impacts, similar to the proposed project.

5.7.3.9 Hazards and Hazardous Materials

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during implementation of the Reduced Development Alternative. However, management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit. In addition, the City performs inspections of all construction sites in accordance with the requirements of the MRP to ensure that potential sources of stormwater pollutants, including hazardous materials, are appropriately managed.

Construction of the Reduced Development Alternative would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by DOT, RCRA, and State regulations.

Operation of the Reduced Development Alternative would involve the routine storage and use of hazardous materials similar to the proposed project. Section 15.12.070 of the BMC requires obtaining all necessary permits and registrations from the City's hazardous materials manager[4] to handle any quantity of hazardous material or waste subject to disclosure under Section 15.12.050 of the BMC and compliance with *COA: Toxics (F and G).*

Compliance with *COA: Toxics (F and G)* and applicable regulations, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would be mandatory and would ensure that the Reduced Development Alternative would not create a significant hazard due to handling or transportation of hazardous material. Therefore, similar to the proposed project, these impacts would be **less than significant**.

Due to the age of the buildings on the project site, hazardous building materials such as ACM, LBP, and PCB containing equipment/materials, and mercury containing devices may be present in the buildings. Therefore, to control the risk of releasing PCBs into the environment from potential PCB contaminated concrete during demolition or renovation activities, Mitigation Measure HAZ-1 would be applicable to the Reduced Development Alternative, similar to the proposed project.

Subsurface hazardous materials, including methane in soil vapor and potential contamination within the public right-of-way, may also be released into the environment during construction and

[4] The City's hazardous materials manager is the manager of the CUPA or hazardous materials programs of the City (currently the TMD) or other equivalent position, or their designee.

operation associated with future development of the project site under the Reduced Development Alternative. To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, the Reduced Development Alternative would be required to implement Mitigation Measures HAZ-2a through HAZ-2e.

Similar to the proposed project, to ensure that implementation of the Reduced Development Alternative would not result in impacts related to emergency evacuation plans, Mitigation Measures TRA-1 and TRA-2 would be required.

Overall, with adherence to application City COAs and implementation of identified mitigation measures, implementation of the Reduced Development Alternative would result in **less than significant impacts** related to hazards and hazardous materials, similar to the proposed project.

5.7.3.10 Hydrology and Water Quality

Future development facilitated by implementation of the Reduced Development Alternative would be required to comply with the MRP, Chapter 17.20 of the BMC, *COA: Stormwater Requirements*, *COA: Toxics (A through D),* and would be required to implement Mitigation Measures HAZ-1, HAZ-2, HYD-1, and HYD-2, similar to the proposed project, due to potential construction and operation activities.

The Reduced Development Alternative would not alter the course of a stream or a river; however, the Reduced Development Alternative would redevelop the project site and therefore would have substantial effects with regards to altering drainage patterns and stormwater drainage systems on the project site. To control the risk of exceeding the capacity of stormwater drainage systems which could result in flooding, the Reduced Development Alternative would implement Mitigation Measure HYD-3 and *COA: Drainage Patterns*, requiring a hydraulic study of drainage during construction and operation. In addition, to control the risk of releasing pollutants into surface water due to future flooding or tsunami inundation at the project site, the Reduced Development Alternative would also implement Mitigation Measure HYD-4. The Reduced Development Alternative also would not conflict with or obstruct implementation of the Basin Plan or the Groundwater Sustainability Plan for the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin.

Overall, redevelopment of the project site under the Reduced Development Alternative would result in similar hydrology and a water quality impact as the proposed project, and would be required to comply with the same existing regulations, City COAs, and mitigation measures. Impacts would be **less than significant**, similar to the proposed project.

5.7.3.11 Biological Resources

Implementation of the Reduced Development Alternative would facilitate the demolition of existing on-site structures and construction activity within the project site. Accordingly, implementation of the Reduced Development Alternative would result in potential impacts to nesting birds and the loss of bat roosts, and City *COA: Avoid Disturbance of Nesting Birds* and Mitigation Measure BIO-1a through BIO-1f would be required. With adherence to *COA: Avoid Disturbance of Nesting Birds* and implementation of Mitigation Measure BIO-1a through BIO-1f, the Reduced Development

Alternative would result in **less than significant impacts** on special-status species. Similar to the proposed project, the Reduced Development Alternative would not have a substantial adverse effect on any riparian habitat, other sensitive natural community, or federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, the Reduced Development Alternative would not interfere with the movement of any native resident or migratory fish or wildlife species, impede the use of native wildlife nursery sites, conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources (such as a tree preservation policy or ordinance), or conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Reduced Development Alternative would result in **less than significant impacts** on biological resources, similar to the proposed project.

5.8 COMPARISON OF ALTERNATIVES AND ENVIRONMENTALLY SUPERIOR ALTERNATIVE

5.8.1 Alternatives Summary Comparison of Impacts and Ability to Meet Project Objectives

Table 5.A identifies the level of impact for the proposed project and each alternative (e.g., no impact, less than significant impact, less than significant impact with mitigation, significant and unavoidable impact, or significant and unavoidable impact with mitigation) and whether the impact of the alternative would be the same as, less than, or greater than the proposed project impacts. In some cases, the proposed project and alternative would result in the same significance determination, but the degree of that impact with the alternative might be less than or greater than the proposed project.

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
4.1: LAND USE AND PLANNING				
Impact LU-1: The proposed project, including the conceptual development project, would not physically divide an established community.	LTS	NI <	LTS =	LTS =
Impact LU-2: The proposed project, including the conceptual development project, would not conflict with the provisions of applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigation an environmental effect, including those identified in the Berkeley General Plan, West Berkeley Plan, Zoning Ordinance, and Plan Bay Area 2050.	LTS	NI <	LTS =	LTS =
4.2: CULTURAL RESOURCES				
Impact CUL-1a: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5 because implementation would facilitate the demolition of the existing building at 1306 Third Street, which is a historical resource pursuant to *State CEQA Guidelines* Section 15064.5.	SU	NI <	SU =	LTSM <
Impact CUL-1b: The conceptual development project would not cause a substantial adverse change in the significance of a historical resources as defined in *State CEQA Guidelines* Section 15064.5.	LTS	NI <	LTS =	LTS =
Impact CUL-2: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change in	LTSM	NI <	LTSM =	LTSM =

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
the significance of a unique archaeological resources, as defined in *State CEQA Guidelines* Section 15064.5.				
Impact CUL-3: Ground disturbance associated with future development of the project site facilitated by the proposed project, including the conceptual development project, has the potential to disturb human remains of Native American origin.	LTSM	NI <	LTSM =	LTSM =
4.3: TRIBAL CULTURAL RESOURCES				
Impact TCR-1: Ground disturbance associated with future development of the project site has the potential to unearth tribal cultural resources, including significant archaeological deposits or resources and human remains, resulting in a potential substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	LTSM	NI <	LTSM =	LTSM =
4.4: TRANSPORTATION				
Impact TRA-1: Implementation of the proposed project, including the conceptual development project, would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LTS	NI <	LTS =	LTS =
Impact TRA-2: The proposed project, including the conceptual development project, would not result in VMT impacts, or conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).	LTS	NI <	LTS =	LTS =
Impact TRA-3: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to substantially increase hazards due to a design feature.	LTSM	NI <	LTSM =	LTSM =
Impact TRA-4: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to result in inadequate emergency access.	LTSM	NI <	LTSM =	LTSM =
4.5: AIR QUALITY				
Impact AIR-1: Implementation of the proposed project, including the conceptual development project would not conflict with or obstruct the implementation of the San Francisco Bay Area Clean Air Plan.	LTS	NI <	LTS <	LTS <
Impact AIR-2a: Fugitive dust emissions associated with construction of future development facilitated by the proposed project, including the conceptual development project, could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (i.e., PM_{10}).	LTSM	NI <	LTSM =	LTSM =
Impact AIR-2b.1: Operation of future development facilitated by the proposed project would generate ROG emissions in excess of thresholds established by the BAAQMD, resulting in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.	LTSM	NI <	LTSM =	LTSM =
Impact AIR-2b.2: Operation of the conceptual development project would not generate ROG emissions in excess of thresholds established by the BAAQMD.	LTS	NI <	LTSM =	LTSM =
Impact AIR-2c: Implementation of the proposed project and the conceptual development project would not result in localized CO concentrations that exceed State or federal standards.	LTS	NI <	LTS =	LTS =
Impact AIR-3a.1: Construction associated with full buildout of the project site facilitated by the proposed project would not exceed BAAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations.	LTSM	NI <	LTSM =	LTSM =
Impact AIR-3a.2: Construction associated with the conceptual development project, and any other future project facilitated by the proposed project that	SU	NI <	LTSM <	SU =

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
would not include the demolition of the structure located at 1306 Third Street, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations.				
Impact AIR-3b: Operation of future projects facilitated by the proposed project, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations and could result in potential TAC health risks that would cumulatively contribute to elevated health risks in the city.	SU	NI <	SU =	SU =
Impact AIR-4. Operation of future development facilitated by the proposed project, including the conceptual development project, could result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people.	LTSM	NI <	LTSM =	LTSM =
4.6: GREENHOUSE GAS EMISSIONS				
Impact GHG-1a: If future development under the proposed project includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	SU	NI <	SU =	SU =
Impact GHG-1b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore not generate GHG emissions, either directly or indirectly, that would have a significant effect on the environment.	LTSM	NI <	LTSM =	LTSM >
Impact GHG-2a: If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would therefore be considered inconsistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	SU	NI <	SU =	SU =
Impact GHG-2b: The conceptual development project would meet the project design thresholds recommended by the BAAQMD and would therefore be considered consistent with the long-term State GHG reduction goals and emission targets required in AB 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. Accordingly, the conceptual development project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.	LTSM	NI <	LTSM =	LTSM =
4.7: ENERGY				
Impact EN-1: Implementation of the proposed project, including the conceptual development project, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	LTS	NI <	LTS =	LTS =
Impact EN-2: Implementation of the proposed project, including the conceptual development project, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTSM	NI <	LTSM =	LTSM =
4.8: NOISE				
Impact NOI-1: Construction and operation activities associated with future development of the project site, including the conceptual development project, have the potential to increase noise exposure above established thresholds.	LTSM	NI <	LTSM =	LTSM =
Impact NOI-2: Construction and operation of the proposed project, including the conceptual development project, would not expose persons to or generation of excessive ground-borne vibration or ground borne noise levels.	LTS	NI <	LTS =	LTS =
4.9: HAZARDS AND HAZARDOUS MATERIALS				

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
Impact HAZ-1: The proposed project, including the conceptual development project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation.	LTS	NI <	LTS =	LTS =
Impact HAZ-2: Future demolition or renovation activities associated with the proposed project, including the conceptual development project, may result in the release of PCBs into the environment from potential PCB-contaminated concrete. Subsurface hazardous materials may also be released into the environment during construction and operation associated with future development of the project site, including the conceptual development project.	LTSM	NI <	LTSM =	LTSM =
Impact HAZ-3: The proposed project, including the conceptual development project, would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	NI <	LTS =	LTS =
Impact HAZ-4: Remediation (as necessary) and soil and groundwater management performed on the LUST sites at the project site under the proposed project, including the conceptual development project, would ensure that potential impacts related to being located on sites listed pursuant to Government Code Section 65962.5 would not be significant.	LTSM	NI <	LTSM =	LTSM =
Impact HAZ-5: Circulation modifications associated with future development of the project site, including the conceptual development project, have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTSM	NI <	LTSM =	LTSM =
4.10: HYDROLOGY AND WATER QUALITY				
Impact HYD-1: The exposure and disturbance of potential PCB contaminated concrete during demolition/renovation activities associated with the proposed project, including the conceptual development project, could result in the release of PCBs into the environment including into stormwater runoff. In addition, existing drainage features on the project site could also convey additional pollutants associated with the construction and operation of future development projects, including the conceptual development project, to receiving waters if not inspected and cleaned up, decommissioned, or improved as necessary. In addition, construction and operational period dewatering for future development projects could result in the migration of existing groundwater contamination.	LTSM	NI <	LTSM =	LTSM =
Impact HYD-2: The proposed project, including the conceptual development project, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project or conceptual development project may impede sustainable groundwater management of the basin.	LTS	NI <	LTS =	LTS =
Impact HYD-3: Alteration of drainage patterns that could occur with the conceptual development project could exceed the capacity of stormwater drainage systems and result in flooding.	LTSM	NI <	LTSM =	LTSM =
Impact HYD-4: Pollutants from future development facilitated under the proposed project, including the conceptual development project, could be released into surface water due to future flooding or tsunami inundation at the project site.	LTSM	NI <	LTSM =	LTSM =
Impact HYD-5: The proposed project, including the conceptual development project, could result in potentially significant impacts to surface water and groundwater quality, which could conflict with the Basin Plan or GSP for the EBP Subbasin.	LTSM	NI <	LTSM =	LTSM =
4.11: BIOLOGICAL RESOURCES				

Table 5.A: Comparison of Environmental Impacts of the Proposed Project to Impacts of the Alternatives

Impacts	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
Impact BIO-1: Demolition of the existing structures on the project site facilitated by implementation of the proposed project, including the conceptual development project, has the potential to result in loss of bat roosts and impacts to bats.	LTSM	NI <	LTSM =	LTSM =

AB = Assembly Bill
BAAQMD = Bay Area Air Quality Management District
CDFW = California Department of Fish and Wildlife
CO = carbon monoxide
EBP Subbasin = East Bay Plain
EO = Executive Order
GHG = greenhouse gas
GSP = groundwater sustainability plans
NI = No Impact
LTS = Less Than Significant Impact
LTSM = Less Than Significant with Mitigation
LUST = leaking underground storage tank
PCBs = polychlorinated biphenyls
PRC = Public Resources Code
ROG = reactive organic gas
SB = Senate Bill
SU = Significant and Unavoidable Impact (all SU impacts are shown in bold)
TAC = toxic air contaminants
USFWS = United States Fish and Wildlife Service
< (less than)
= (equal to)

A comparison of each alternative and its ability to meet the project objectives compared to the proposed project is summarized below in Table 5.B, and evaluated in more detail in the subsequent discussion.

Table 5.B: Summary of Ability of Alternatives to Address Project Objectives

Project Objective	Proposed Project	No Action Alternative	General Plan Compliant Alternative	Reduced Development Alternative
Reinvent the former Pacific Steel Casting site and adjacent parcels from an underutilized, heavy manufacturing campus into a vibrant urban campus-like environment with in-demand industrial and heavy commercial uses consistent with the intent of the Manufacturing land use designation that adds significantly to the City's economic base and facilitates job creation.	Yes	No	No	Yes
Establish a Manufacturing, Research and Development zoning district with land use and development standards that are consistent with the General Plan Manufacturing land use designation and policies of the West Berkeley Plan to retain a diversity of dense, high-quality employment opportunities in West Berkeley for people at all educational levels by allowing for a mix of industrial and heavy commercial uses, such as light manufacturing, research and development (R&D), laboratory, and office.	Yes	No	No	Yes
Facilitate future development by adopting zoning standards that permit construction of buildings that accommodate allowable uses.	Yes	No	Partial	Yes
Improve mobility at an entry corridor to West Berkeley by encouraging and supporting current and future transit use and transportation demand management strategies that reduce vehicle miles traveled, while providing sufficient parking to meet the needs of employment-generating uses.	Yes	No	Partial	Yes
Clean up environmentally contaminated soils that have contributed impacts to air quality and water quality in the neighborhood.	Yes	No	Yes	Yes

Source: LSA, 2024

5.8.1.1 No Action Alternative

Based on the above analysis, the No Action Alternative would have the fewest impacts and would be the environmentally superior alternative. Under CEQA, if the No Action Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (*State CEQA Guidelines* Section 15126.6(e)(2)). While the No Action Alternative would be environmentally superior in the technical sense in that contribution to the aforementioned impacts would not occur, it would also fail to achieve any of the project's objectives and would not result in the remediation of the hazardous conditions at the project site.

5.8.1.2 General Plan Compliant Alternative

The General Plan Compliant Alternative would avoid some, but not all, of the **significant and unavoidable** air quality impacts of the proposed project. Specifically, the General Plan Compliant Alternative would avoid the **significant and unavoidable** project air quality impacts associated with construction health risks. However, the General Plan Compliant Alternative would not avoid or reduce the **significant and unavoidable impact** of the proposed project on built historic resources. As indicated in Table 5.B the General Plan Compliant Alternative would not meet the first and second project objectives, as they relate to facilitation of new uses; and would partially meet third, and fourth project objectives. This alternative would fully meet the fifth project objectives, as clean up activities would be required to facilitate development.

5.8.1.3 Reduced Development Alternative

The Reduced Development Alternative would avoid the **significant and unavoidable impact** of the proposed project related to built historic resources. As described above, development facilitated under the Reduced Development Alternative would not include demolition of the existing structure at 1306 Third Street, because the parcel would not be rezoned. Under the Reduced Development Alternative impacts would be lower compared to the proposed project, because this alternative would include 50 percent less development than the proposed project. This alternative would also reduce the proposed project's significant and unavoidable construction health risk impacts at 1306 Third Street, as development potential would be reduced by 50 percent. As shown in Table 5.B, the Reduced Development Alternative would meet all of the project objectives and it would facilitate the development of similar uses at the project site and would apply all mitigation measures and City COAs as identified for the proposed project.

5.8.2 Environmentally Superior Alternative

Because the Reduced Development Alternative would avoid the proposed project's **significant and unavoidable impacts** on built historic resources and would have lower impacts than the proposed project as they relate to the air quality **significant and unavoidable impact,** the Reduced Development Alternative is considered as the Environmentally Superior Alternative. As discussed above, none of the other alternatives would avoid the **significant and unavoidable impacts** to air quality or GHG emissions, due to the lack of construction details and the usage of natural gas. However, as the Reduced Development Alternative would include approximately 50 percent less development at the site, it would lower said impacts. In addition, the Reduced Development Alternative would meet all of the proposed project objectives. Accordingly, the Reduced Development Alternative is considered the environmentally superior alternative.

6.0 CEQA-REQUIRED CONCLUSIONS

As discussed in Chapter 3.0, Project Description, the Gilman Gateway Rezone Project, herein referenced as the proposed project, would establish a new zoning district to facilitate Manufacturing, Research and Development (M-RD) on the 11.56-acre project site. The Potential Berkeley Forge Development, herein referenced as conceptual development project, is a potential project that could result in the development of a 10.26-acre portion of the project site with approximately 900,000 square feet of light manufacturing, research and development (R&D), laboratory, and/or office uses.

As required by the California Environmental Quality Act (CEQA), this chapter discusses the following types of impacts that could result from implementation of the proposed project and the conceptual development project: (1) growth-inducing impacts; (2) significant irreversible changes; (3) effects found not to be significant with implementation of standard conditions, regulatory compliance measures or mitigation measures; and (4) significant unavoidable effects. Section 6.3, below, specifically addresses the following environmental issue topics that were found not to be significant: aesthetics, agricultural resources, geology and soils, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire.

6.1 GROWTH INDUCEMENT

As required by *State CEQA Guidelines* Section 15126.2(e), this section summarizes the project's potential growth-inducing impacts on the surrounding community. Pursuant to *State CEQA Guidelines* Section 15126.2(d), a project is typically considered growth-inducing if it would foster economic or population growth or the construction of additional housing; if it would remove obstacles to population growth or tax community services to the extent that the construction of new facilities would be necessary; or if it would encourage or facilitate other activities that cause significant environmental effects. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped.

Implementation of the proposed zoning and General Plan/West Berkeley Plan amendments would facilitate future development of up to 1,005,266 square feet of non-residential space on an underutilized infill site in an urban area of West Berkeley (i.e., proposed project). Development of the proposed project would not result in direct population growth within the city, because it would not include residential units. However, the proposed project would generate job growth, as it would facilitate future buildout of a mix of light manufacturing, R&D, and laboratory or office uses on the project site. Full buildout of the proposed project would result in 2,681 employees at the project

site.[1,2,3] As discussed in Chapter 3.0, Project Description, approximately 56 persons are currently employed on the project site. Therefore, buildout of the project site under the proposed project could introduce up to 2,215 new employees to the project site, and could induce indirect population growth resulting from employees moving to the city as a result of their employment. As discussed in Section 6.3.6, Population and Housing, below, a fraction of the 2,215 new future employees may move to the city solely for reasons of employment, although employees would likely commute from various communities throughout the Bay Area, due to the proximity of the Interstate 80/Interstate 580 (I-80/I-580) corridor and nearby transit opportunities provided by Alameda-Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit (BART). AC Transit operates two routes (12 and 72) that provide service to the project site with the closest bus stop at Gilman Street and Sixth Street, approximately 900 feet east of the project site. The nearest BART station is the North Berkeley Station at 1750 Sacramento Street, 1.06 miles east of the project site. Local roadways providing access to the project site include Gilman Street, I-80/I-580, and Camelia Street. In addition, the City of Berkeley (City) adopted the 2023–2031 Housing Element (February 17, 2023, Resolution 70,669-N.S.), which includes the City's strategy for meeting its share of the Regional Housing Needs Allocation (RHNA). The total RHNA for the Bay Area region in the 2023–2031 period is 441,176 units; the share of the RHNA allocated to the city is 8,934 residential units. Therefore, the proposed increase in employees would be accommodated by planned growth in the city and region, and the proposed project would not directly or indirectly induce substantial population growth on the site or in the surrounding area through the increase in employment on the site.

The proposed project would facilitate redevelopment of an existing urbanized site and would not require the extension of utilities or roads into undeveloped areas or directly or indirectly lead to the development of greenfield sites. Circulation improvements would be designed to City standards and would facilitate movement to and through the project site, including access improvements to adjacent roadways and sidewalks. Due to the location of the project site and the presence of existing uses on and in the vicinity of the site, construction facilitated under the proposed project would not induce unplanned growth in the area. Therefore, the growth that would occur as a result of the proposed project would not be substantial or adverse.

6.2 SIGNIFICANT IRREVERSIBLE CHANGES

As required by *State CEQA Guidelines* Section 15126.2(d), an EIR must identify any significant irreversible environmental changes that could result from implementation of a proposed project.

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1 The number of employees associated with buildout of the proposed project was determined based on data available from a combination of reports including *Envision 2040, 4-Year Review, Market Overview and Employment Lands Analysis* prepared for the City of San Jose and dated January 28, 2016, and *The Innovation Ecosystem in West Berkeley, An Economic Snapshot* prepared by the City of Berkeley Office of Economic Development Report dated January 2023. Based on the available data, an employment density factor for office and R&D land uses is between 300 and 375 square feet per employee. To provide a conservative analysis, the employment density factor of 375 square feet per employee was used to estimate employment generate from buildout of the proposed M-RD zoning district.

2 Strategic Economics. 2016. *Envision 2040, 4-Year Review, Market Overview and Employment Lands Analysis.* January 28.

3 City of Berkeley, Office of Economic Development. 2023. *The Innovation Ecosystem in West Berkeley, An Economic Snapshot.* February 1.

These may include current or future uses of non-renewable resources, and secondary growth-inducing impacts that commit future generations to similar uses. CEQA suggests that irreversible commitments of resources should be evaluated to assure that such current consumption is justified. Each of these three categories is further detailed below.

6.2.1 Changes in Land Use Which Commit Future Generations

The 11.54-acre project site is composed of 18 parcels and is currently developed with industrial buildings that support manufacturing and warehouse uses, the majority of which are vacant. The proposed project would create a new zoning district –M-RD – to facilitate future development of up to 1,005,266 square feet of non-residential space. This EIR also evaluates buildout of the conceptual development project for up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses on an approximately 10.26-acre portion of the project site. The City has not received a formal application. The project site is currently considered underutilized within an urbanized area of West Berkeley, and contains a building occupied by an incompatible land use based on the City's growth patterns.

The project site and immediate area are surrounded by a mix of industrial, commercial, and residential development, and the project site is designated as Manufacturing, which is intended for areas containing manufacturing establishments and industrial uses. The proposed project would take place on an infill site in which a variety of land uses related to manufacturing and industrial uses, such as light manufacturing, research and development (R&D), laboratory, and/or office uses, may be considered under the General Plan and Berkeley Municipal Code (BMC) Section 23.206.020. In addition, at the end of the useful life of the proposed project, the project site could be rezoned and repurposed (similar to this current process), and the use could change again. Therefore, implementation of the proposed project would not commit future generations to a significant change in land use.

6.2.2 Irreversible Damage from Environmental Accidents

As discussed in greater detail in Section 4.9, Hazards and Hazardous Materials, the project site has been occupied by various industrial tenants and a gasoline station since at least 1903. As a result of these and surrounding land uses, the soil, groundwater, and soil gas have been impacted with hazardous materials including petroleum hydrocarbon products, volatile organic compounds, and polychlorinated biphenyls.

In addition, there are multiple leaking underground storage tanks (LUST) on the project site that are included on the lists of hazardous material release sites compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). GeoTracker identifies the properties at 600 Gilman Street (a former gas station in the northwest portion of the project site) and 1333 Second Street (part of the former Pacific Steel Casting site in the central portion of the project site) as LUST sites. As discussed in the Report of Findings[4], although the LUST site for the former Pacific

[4] Langan. 2023. Report of Findings, Berkeley Forge Development Project, 1330-1333 Second Street and 631 Camelia Street, Berkeley, California, December 8. The Report of Findings summarizes the findings of subsurface investigations performed between 2013 and 2023 at the Proposed Berkeley Forge Development Project site.

Steel Casting site is listed on GeoTracker under the address of 1333 Second Street, which is the address associated with the former Pacific Steel Casting site office, the LUSTs were actually located on other properties within the project site, including a property in the northeast portion of the project site with the address of 640 Gilman Street (Assessor's Parcel Number 59-2345-1), a property in the southwest corner of the project site with the address of 1433 Eastshore Highway (Assessor's Parcel Number 59-2341-3-2); and, a property in the central portion of the projects site with the address of 1320 Second Street (Assessor's Parcel Number 59-2344-4-1).

Further, the Report of Findings indicates that previous investigations identified contamination of soil with hazardous materials including total petroleum hydrocarbon (TPH) compounds, volatile organic compounds (VOCs) (primarily chlorinated solvents and those associated with petroleum products), and heavy metals at concentrations that exceed current commercial/industrial Environmental Screening Levels (ESLs) in various areas of the project site. Groundwater contamination from TPH compounds and VOCs at concentrations exceeding ESLs, and areas of TPH free product [5] have also been identified at the project site. The Report of Findings also describes two previous spills of polychlorinated biphenyls (PCBs) that occurred in the southwest portion of the project site (shown on Figure 4.9-1 in Section 4.9, Hazards and Hazardous Materials), remediation (removal of affected concrete and soil) from the larger and more recent spill area identified as PCB Spill 1, and soil and groundwater sampling activities performed in the un-remediated areas of the PCB spills. Additional sampling indicated that the extent of contamination from PCBs in the spill areas was limited and had not affected groundwater. The Report of Findings also indicates that, based on the limited extent of groundwater impacts, it is anticipated that the impacts to soil are limited to the fill zone, are not widespread, and have not migrated off-site. The Report of Findings also indicates that, although areas across the project site exhibit impacts, migration of these contaminants in groundwater appears to be attenuated by the high clay content in subsurface soil. Additionally, contaminated groundwater in the fill zone may not be considered potable due to concentrations of total dissolved solids or low water production.

As discussed in Section 4.9, Hazards and Hazardous Materials, the proposed project would be required to comply with identified City standard conditions of approval (COAs) prior to the City's issuance of any building and safety permits (demolition or construction). Compliance with City COAs and the regulations described under Impact HAZ-1 of Section 4.9, Hazards and Hazardous Materials, including Occupational Safety and Health Administration and California Occupational Safety and Health Administration regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, California Code of Regulations, United States Department of Transportation, Resource Conservation and Recovery Act, and other federal, State, regional, and local regulations are mandatory and would ensure that the proposed project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials by ensuring that these materials are properly handled during construction and operation of the proposed project. Compliance with City conditions of approval and the regulations described in Impact HAZ-2 of Section 4.9, Hazards, would also ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction and operation of future development facilitated by the

[5] Free product is a term used to describe a separate phase liquid (typically petroleum products) that floats on top of the groundwater surface.

proposed project, including the conceptual development project, would be determined to be **less than significant**.

In addition, implementation of Mitigation Measure HAZ-1 and Mitigation Measure HAZ-2a through HAZ-2f, would be required to ensure potential impacts related to hazardous materials or contamination would be less than significant. To control the risk of releasing PCBs into the environment from potential PCB contaminated concrete during demolition or renovation activities, implementation of Mitigation Measure HAZ-1 requires the hazardous building materials survey that is required by existing regulations and City COAs to be conducted prior to renovation or demolition activities to include sampling and analysis for PCBs in concrete in the following areas: (1) the PCB Spill 2 area (see Figure 4.9-1 in Section 4.9, Hazards); (2) in areas where stained concrete is present near existing/former equipment or storage areas that may have used PCB containing oil/liquids (e.g., hydraulic oil, heat transfer oil, or other oils/liquids); and (3) in areas where stained concrete is present near/within features that may have collected leaks/spills of potential PCB containing oils/liquids (e.g., pits, sumps, drains, and oil/water separators). To reduce the potential impact and control the risk of releasing hazardous materials into the environment during construction and operation, Mitigation Measures HAZ-2a through HAZ-2f, which requires additional site characterization, remediation of PCBs, a vapor mitigation system, specific utility designs, and the avoidance of petroleum fuel pipelines, has been prescribed. Compliance with City COAs and Mitigation Measure HAZ-1 would ensure that hazardous building materials and potential PCB-contaminated concrete would be identified and appropriately managed such that the risk of hazardous building materials and PCB-contaminated concrete being released into the environment during construction of future development facilitated by the proposed project, including the conceptual development project, would be reduced to **less than significant with mitigation.** Compliance with City COAs and Mitigation Measures HAZ-2a through HAZ-2f would ensure that that subsurface contamination and methane in soil vapor on the project site would be properly investigated and remediated, and that construction activities near fuel pipelines would be appropriated performed, such that potential impacts related to the accidental release of hazardous materials into the environment during construction and operation of future development facilitated by the proposed project, including the conceptual development project, would be **less than significant with mitigation**.

Overall, Section 4.9, Hazards, concluded that impacts associated with hazards or hazardous materials would be less than significant with implementation of prescribed mitigation measures and compliance with identified COAs. Further, as prescribed by Mitigation Measure HAZ-2, development of the project site would require remediation of on-site hazardous materials through implementation of a Response Plan approved by the Department of Toxic Substances Control. Therefore, implementation of the proposal project and the conceptual development project would not result in irreversible damage from environmental accidents.

As described in Chapter 3.0, Project Description, because implementation of the proposed project would require site clean-up actions, it would improve existing conditions. The proposed project would facilitate development on the project site, like the conceptual development project, which would increase project site accessibility due to soil cleanup and include development up to current standards.

6.2.3 Consumption of Non-Renewable Resources

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in Section 6.3.2, Agricultural Resources, below, the State Department of Conservation designates the site as "Urban and Built-Up Land," and the site is in an urbanized area of West Berkeley. Therefore, no existing agricultural lands would be converted to non-agricultural uses. In addition, as discussed in Section 6.3.4, Mineral Resources, below, the project site does not contain known mineral resources and does not serve as a mining reserve; thus, development of the proposed project and the conceptual development project would not result in the loss of access to mining reserves.

Construction of future development facilitated by the proposed project, including the conceptual development project, would require the use of energy, including energy produced from non-renewable resources. As discussed in Section 4.7, Energy, Table 4.7.A, development envisioned under the proposed project would consume 1,684,799.0 gallons of diesel fuel and 1,082,963.2 gallons of gasoline during construction. As discussed above, construction associated with future development facilitated by the proposed project is expected to take approximately 8 years; therefore, when averaged over 8 years, the proposed project would consume 210,599.9 gallons of diesel fuel per year and 135,370.4 gallons of gasoline per year during construction. Based on fuel consumption obtained from EMFAC2021, trips in Alameda County will consume 540.5 million gallons of gasoline and 156.2 million gallons of diesel in 2024. Therefore, construction of future development as envisioned under the proposed project would increase the annual construction generated fuel use in Alameda County by 0.1 percent for diesel fuel usage and by less than 0.1 percent for gasoline fuel usage.

Accordingly, construction of future development facilitated by the proposed project would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Alameda County's overall use of the State's available energy resources, as discussed further in Section 4.7. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy because gasoline and diesel fuel would be supplied by construction contractors, who would conserve the use of their supplies to minimize their costs on the project. The proposed project would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction would not be inefficient, wasteful, or unnecessary and this impact would be **less than significant**.

Energy consumption would also take place during the operational period of future development facilitated by the proposed project. As discussed in Section 4.7, in Table 4.7.C, the estimated potential increase in electricity demand associated with future development envisioned under the buildout of the proposed project is 24,679,742 kWh per year. Total electricity consumption in Alameda County in 2022 was 10,395 GWh (10,395,384,395 kWh). Therefore, operation of future development facilitated by the proposed project would increase the annual electricity consumption in Alameda County by 0.2 percent.

Electricity demand associated with future operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. All future development would be required to comply with all federal, State, and local requirements for energy efficiency, including the current California Energy Code, latest Title 24 California Green Building Standards Code (CALGreen) standards, local amendments as adopted in the Berkeley Green Code, and the Berkeley Energy Code. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting, which would reduce energy usage. In addition, with implementation of Mitigation Measure GHG-1, which requires the project sponsor for individual future development projects to provide electric vehicle charging capabilities that meet the requirements of the latest version of the CALGreen Tier 2 Voluntary Standards, the proposed project and the conceptual development project would be consistent with the City's General Plan. Therefore, impacts associated with energy would be **less than significant with mitigation**.

Additionally, as discussed in Section 4.4, Transportation, a Transportation Demand Management Plan (TDM Plan) would be implemented for the proposed project in order to reduce project-generated vehicle trips and vehicle miles traveled and encourage travel by other modes. In addition, public transit facilities serve the project area and bicycle and pedestrian facilities would be required to conform to City standards, which would also help to reduce the demand for travel by single -occupancy vehicles. Therefore, fuel consumption associated with vehicle trips generated by operation of future development facilitated by the proposed project, including the conceptual development project, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region and this impact would be **less than significant**.

Further, the proposed project and the conceptual development project would not require the construction of major new infrastructure to deliver energy or natural gas, as these services are already provided in the area. Therefore, the proposed project and the conceptual development project would not result in a significant impact associated with the consumption of nonrenewable resources.

6.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

The environmental topics analyzed in Chapter 4.0, Setting, Impacts, and Mitigation Measures, are topics that have the potential for adverse impacts associated with development of the proposed project and the conceptual development project. The following topics are not further analyzed in this EIR because impacts related to these topics either would not occur or would be less than significant with implementation of applicable standard conditions and regulatory compliance measures.

6.3.1 Aesthetics

Public Resources Code (PRC) Section 21099(d)(1)provides in part, "aesthetics…impacts of a residential, mixed-use residential, or employment center project[6] on an infill site[7] located within a transit priority area[8] shall not be considered significant impacts on the environment." The 11.54-acre project site is composed of 18 parcels and is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. with frequent and nearby local and regional transit services, including AC Transit and Amtrak. As implementation of the proposed project would result in zoning and General Plan/West Berkeley amendments that facilitate future development of up to 1,005,266 square feet of non-residential space and includes buildout of the conceptual development project with up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses, which would provide employment opportunities, the proposed project meets the definition of a "employment center project"[9] on an infill site within a transit priority area. Accordingly, an evaluation of aesthetic impacts is not required. Proposed project elements that relate to changes to aesthetic conditions at the project site and vicinity, such as proposed building heights, architecture, and effects of new light and glare, among others, will, however, be considered as part of the planning approval process, including through design review. Therefore, there would be **no impact** related to aesthetics.

6.3.2 Agricultural Resources

The project site and surrounding area are within an urban area in West Berkeley. The site is currently designated as Manufacturing in the General Plan and West Berkeley General Plan and is zoned Manufacturing (M) per the Zoning Ordinance and West Berkeley Area Plan. The purpose of the M district is to encourage development dedicated to manufacturing and industrial uses, including "heavy manufacturing". Although the M district allows Urban Agriculture, which includes the production of horticultural crops for harvest, sale, and/or donation, including community gardens, the M zoning district does not allow for development of the project site for traditional agricultural uses such that the site is considered important farm or agricultural land (BMC Table 23.206-1). Further, there is no history of agricultural use of the project site.

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6 Public Resources Code Section 21099(a) defines an "employment center project" as a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area. This definition is intended to identify uses that provide employment opportunities.

7 Public Resources Code Section 21099(a) defines an "infill site" as a lot located within an urban area that has been previously developed, or a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses.

8 Public Resources Code Section 21099(a) defines a "transit priority area" as an area within 0.5 mile of an existing or planned major transit stop. A "major transit stop" is defined in Section 21064.3 of the California Public Resources Code as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency or service interval of 15 minutes or less during the morning and afternoon peak commute periods.

9 Pursuant to PRC 21099(a)(1), and "employment center project" means a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area.

The proposed project would result in zoning and General Plan/West Berkeley amendments to create a new zoning district—M-RD—to facilitate future development of up to 1,005,266 square feet of non-residential space. The M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and R&D. The proposed M-RD zoning district would not allow for development of the project site for agricultural uses.

In addition, the project site is designed as "Urban and Built-Up Land" by the State Department of Conservation.[10] Therefore, development of the project site as facilitated by the proposed project, including the conceptual development project, would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. No portion of the proposed project is under a Williamson Act contract. Therefore, the proposed project and conceptual development project would not conflict with existing zoning for agricultural use or a Williamson Act contract and there would be **no impact**.

The project site is not used for timberland production, nor is it zoned for forest land or timberland. No forest lands or timberland resources are on the project site. Therefore, the proposed project and conceptual development project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland, nor would the proposed project result in the loss of any forest land or convert forestland to non-forest use. Therefore, there would be **no impact** to agricultural and forestry resources.

6.3.3 Geology and Soils

The project site is not in an Alquist-Priolo Fault Zone. Therefore, the proposed project would have a less than significant impact on people and structures related to fault rupture at the site. However, the project site is in a seismically active area. A significant earthquake on one of the regional faults near the project site, such as the Hayward, Calaveras, San Andreas, San Gregorio, Greenville and Monte Vista-Shannon faults, would likely produce strong to violent ground shaking during the life of the project. According to the Preliminary Geotechnical Investigation[11], the project site can be classified as Site Class D, in accordance with the 2022 California Building Code (CBC), codified in Title 24 of the California Code of Regulations. Site classes are determined based on the upper 100 feet of soil and rock. Site Class D is associated with "stiff soil"[12] and is often used "where the soil properties are not known in sufficient detail to determine the site class."[13] Accordingly, the Preliminary Geotechnical Investigation recommends site-specific response spectra be developed as part of the design-level geotechnical investigation and seismic design parameters be used in accordance with the 2022 CBC to account for earthquake ground motions. The design and construction of the proposed project is required to conform with, or exceed, current best standards for earthquake resistant construction in accordance with the 2022 CBC and with the generally accepted standards

[10] California Department of Conservation. n.d. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/dlrp/cliff/app/ (accessed January 24, 2023).

[11] Langan. 2023. *Preliminary Geotechnical Investigation, Berkeley Forge Development Project, 1330 and 1333 Second Street, Berkeley, California, Langan Project No. 750675902.* January 13.

[12] Dominic, K. 2006. *Seismic Site Classification for Structural Engineers.* December.

[13] Ibid.

of geotechnical practice for seismic design in Northern California. Therefore, compliance with the CBC would ensure that the potential impacts associated with ground shaking would be less than significant.

According to the Preliminary Geotechnical Investigation, the project site is within a liquefaction zone as designated by the California Geological Survey. Final grading, foundation, and building plans must be designed in accordance with the 2022 CBC. These designs would include measures that would address the potential for differential settlement related to liquefaction. Therefore, compliance with the CBC would ensure that the potential impacts associated with liquefaction would be less than significant. The Preliminary Geotechnical Investigation indicated that the potential for lateral spreading is considered to be low due to the lack of a nearby free slope face. Therefore, the proposed project and the conceptual development project would have a less than significant impact related to lateral spreading. According to the Preliminary Geotechnical Investigation, the project site is not within a Seismic Hazard Zone for earthquake-induced landslides. Therefore, the proposed project would have a less than significant impact related to seismically-induced landslides.

Construction activities, such as vegetation grubbing, grading, and other excavation, would disturb surface soils, rendering them susceptible to erosion from wind and water. However, as discussed in Section 4.10, Hydrology and Water Quality, the proposed project and conceptual development project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, NPDES No. CAS000002(Construction General Permit)[14], including preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is required to include best management practices to be implemented during the construction phase that would reduce erosion in accordance with MRP regulations. In addition, the project site would be covered with asphalt, concrete, and landscaping materials during operation, which would minimize soil erosion and the loss of topsoil post-construction. Further, stormwater runoff during operation of developments on the project site would be treated in accordance with the requirements of the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008 (MRP)[15], which would minimize the amount of silt and pollutants in stormwater runoff compared to the existing condition. Therefore, the proposed project and conceptual development project would have a **less than significant** impact related to soil erosion or the loss of topsoil during construction and operation.

The Preliminary Geotechnical Investigation indicated that laboratory testing of the near-surface soils determined that the soils would have a moderate to very high expansion potential at the project site. However, the foundations, slabs, and concrete flatwork would be designed and constructed to reduce the effects of the expansive soils. Final designs prepared in compliance with the CBC would include measures to mitigate these effects such as moisture-conditioning the expansive soil and

[14] SWRCB. 2022. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order WQ 2022-0057-DWQ, NPDES No. CAS000002. Adopted September 8.

[15] San Francisco Bay Regional Water Quality Control Board. 2022. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008. May 11.

providing select, non-expansive fill below interior and exterior slabs-on-grade and supporting foundations below the zone of severe moisture change. Incorporation of the recommendations of the Preliminary Geotechnical Investigation into the final geotechnical report would ensure that the potential impacts associated with expansive soils would be **less than significant**.

In addition, no septic tank system or alternative wastewater disposal system is proposed for the project site as part of the proposed project or conceptual development project; therefore, no impact would occur relating to the ability of on-site soils to support a septic tank.

Overall, adherence to the CBC, compliance with application NPDES permits, and the incorporation of the recommendations in the Preliminary Geotechnical Investigation into the final geotechnical report and final project design would ensure that the potential impacts associated with geology and soils would be **less than significant**.

6.3.4 Mineral Resources

The City of Berkeley General Plan indicates that, due to the City's long-established urbanized character, there are no active mineral extraction industries within city limits.[16] Additionally, the California Geologic Survey does not identify known mineral resources or mineral recovery sites within or adjacent to the project site.[17] Therefore, the proposed project and conceptual development project would not result in the loss of availability of a known mineral resource of value to the region or residents of the State or the loss of availability of a locally important mineral resource recovery site. **No Impact** would occur.

6.3.5 Population and Housing

The proposed project would create a new zoning district—M-RD—to facilitate future development of up to 1,005,266 square feet of non-residential space on the project site. The new M-RD zoning district would not allow for residential uses and, as a result, the proposed project and conceptual development project would not include new on-site housing. Therefore, the proposed project and conceptual development project would not directly induce population growth on the project site through the introduction of new residents on the site. In addition, the project site is within an urban area and is currently developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Introducing new light manufacturing, R&D, laboratory, or office uses to an underutilized site would not result in the extension of infrastructure beyond which is needed to serve the proposed project and conceptual development project or expand roadway capacity within the site's vicinity. A fraction of the 2,215 new future employees may move to the city solely for reasons of employment, although most employees would likely commute from various communities throughout the Bay Area due to the proximity of the I-80/I-580 corridor and nearby transit opportunities. Therefore, the proposed project and conceptual development project would

16 City of Berkeley. 2002. *General Plan, Environmental Management Element*. April 23.

17 California Department of Conservation. n.d. California Geologic Survey, SMARA Mineral Land Classification. Website: https://www.conservation.ca.gov/cgs/minerals/mineral-land-classification-smara (accessed January 25, 2023).

not directly or indirectly induce substantial population growth on the site or in the surrounding area due to the increase in employment on the site.

As previously discussed, the project site is currently primarily occupied by industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. However, the 1306 Third Street (Assessor's Parcel Number 58-2345-2-1) building currently contains seven non-conforming commercial tenant spaces and four non-conforming residential units, three of which are occupied by 11 individuals; the fourth is currently vacant. These dwelling units were construction within proper use permits or building permits. Implementation of the proposed project would facilitate development of the entire project site and assumes demolition of all existing structures on the project site. Therefore, implementation of the proposed project may result in the displacement of people and housing. However, any future development that eliminates the non-conforming residential units would facilitate the relocation of the current residents and would have to comply with City regulations addressing replacement of occupied residential structures found in BMC Chapter 23.326 (Demolition and Dwelling Unit Controls). As required by BMC Section 23.326.030(B), demolition of one or more residential units is allowed subject to approval of a Use Permit. To approve the Use Permit, the Zoning Adjustments Board must find that (1) the building containing the residential units is hazardous or unusable and is infeasible to repair; (2) the building containing the residential units will be moved to a different location in the city with no net loss of units and no change in the rent levels of the units; or (3) the demolition is necessary to permit construction approved pursuant to Chapter 23.326 of at least the same number of residential units. However, BMC Section 23.326.030(B)(3) provides that, in the event of a demolition of a residential unit created without proper zoning approvals or building permits, as with the dwelling units at 1306 Third Street, the Building Official, Zoning Officer, or Fire Marshal may determine that the replacement of such a unit is infeasible and not required. The determination must include a finding that the replacement of the unit could not occur in compliance with the Zoning Code, Building Code, Fire Code, or other regulations related to public health and safety.

As required by BMC Section 23.326.030(E), the project sponsor shall provide all sitting tenants and the Rent Stabilization Board notice of the application to demolish the building, including notice of their rights under BMC Section 13.76 (Rent Stabilization and Eviction for Good Cause Program), Chapter 13.77 (Requirements, Procedures, Restrictions and Mitigations Concerning the Withdrawal of Residential Rental Accommodations from Rent or Lease), 13.79 (Tenant Protections: Automatically Renewing Leases and Buyout Agreements), and 13.84 (Relocation Services and Payments for Residential Tenant Households), and shall provide moving and relocation assistance equivalent to the requirements set forth in BMC Chapter 13.84 or Government Code section 66300.6(b)(4)(A), whichever requires greater relocation assistance to displaced tenants. The project sponsor shall subsidize the rent differential for a comparable replacement unit until the new units are ready for occupancy. Therefore, the proposed project would not result in the displacement of substantial numbers of people or housing requiring the construction of new housing elsewhere in the city, as the 11 existing residents at 1306 Third Street could be accommodated in the existing housing stock within the city. With compliance with City requirements found in the BMC, impacts related to the displacement of people and housing through demolition of the existing structure at 1306 Third Street would be less than significant.

1306 Third Street is located outside the boundaries of the conceptual development project (refer to Figure 3-2 in Chapter 3.0, Project Description; the 1306 Third Street parcel is shown outside of this boundary just southwest of the Gilman Street and UPRR intersection); therefore, implementation of the conceptual development project would not include any removal or alteration of the existing building associated with 1306 Third Street. Consequently, demolition and construction associated with the conceptual development project would not displace any people or housing.

The City requires applicants for large-scale non-residential projects (e.g., office, retail, industrial, and/or other commercial development projects) to off-set the project's impacts on the demand for affordable housing and for affordable child care. The proposed project would be subject to the requirements set forth for construction of new non-residential projects, which requires an in-lieu fee for affordable housing not to exceed $6.28 per square foot of the project's net new floor area devoted to office, R&D, restaurant, hotel/lodging and/or retail end use, and $3.14 per square foot of the project's net new floor area devoted to industrial/manufacturing end use as of July 1, 2024.[18] The in-lieu fee for affordable child care would not exceed $1.75 per square foot of the project's net new floor area devoted to office, restaurant, or retail end use, $1,05 per square foot of industrial/manufacturing end use, $2,09 per square foot of hotel/lodging end use, $0.87 per square foot of warehouse/storage end use, and $1.12 per square foot of R&D space. These fees are revised annually on July 1, based on the change in the Consumer Price Index. The project sponsor would be required to pay the appropriate fees prior to issuance of a building permit for construction. With payment of in-lieu fees and because the city contains enough available housing to accommodate the 11 existing residents at 1306 Third Street who could be displaced, the proposed project would have a **less than significant** impact on population and housing.

6.3.6 Public Services

The following section addresses the project's potential effects on fire service, police service, schools, parks, and other public facilities. Impacts to public services would occur if the proposed project increased demand for services such that new or expanded facilities would be required, and these new facilities would themselves cause environmental impacts.

6.3.6.1 Fire Protection

The Berkeley Fire Department provides fire protection and emergency medical services to the project site. The Berkeley Fire Department operates seven fire stations including seven engine companies, two truck companies, and three ambulances.

Primary services to the project site are provided by Station 1 at 2442 Eighth Street (at Dwight Way) and Station 6, at 999 Cedar Street (at Ninth Street). These stations are 1.2 miles southeast and 0.4 mile southeast of the project site, respectively. Station 1 houses one engine company (Engine 2) and one ambulance (Medic 1), and is continually staffed by three firefighters and two paramedics. Station 6 houses an engine company (Engine 6) and is continually staffed by three firefighters. Station 2, at 2029 Berkeley Way, provides hazardous materials response and is 1.9 miles east of the site. The station houses one engine company (Engine 2), one aerial ladder truck (Truck 2), one ambulance (Medic 2), a paramedic supervisor (EMS-2) and a battalion chief (B-2). The station is

[18] Resolution No. 66,617-N.S and No. 66,618-N.S, adopted June 3, 2014.

staffed by 9 firefighters and 2 paramedics, of which 4 are specially trained hazardous materials response technicians.

Currently, the Fire Department is staffed with 138 sworn firefighters, 16 sworn paramedics, and 23 civilian staff.[19] The City's goal for staffing is reviewed each budget cycle and considers historical and current year information related to fire and emergency services. Due to increased call volume, the Fire Department has identified a need for additional ambulance response capability and fire response capability.[20]

The City of Berkeley General Plan includes a standard response time goal "…from initial call to arrival…of four minutes from the nearest station to all parts of the city…"[21] The Fire Department has an average response time of 9 minutes and 32 seconds from when the station receives the call to the first unit arriving on the scene.

Development facilitated under the proposed project, including the conceptual development project, would increase the daytime population on the project site and in West Berkeley in general, incrementally increasing the demand for emergency fire services as well as hazardous materials emergencies. The proposed project would increase the maximum allowable building height on the project site to 105 feet. The Fire Department's aerial ladder truck reaches 100 feet, and the Department has the appropriate equipment to access this building. Future development facilitated by the proposed project, including the conceptual development project, would be required to comply with all applicable codes for fire safety and emergency access and, during the entitlement review process, the Fire Department would ensure that the appropriate measures are implemented to reduce hazardous conditions at the site. Additionally, Measure FF funds would allow the Fire Department to address increased call volumes and emergency medical needs that result from city-wide increases in population, including the anticipated additional employees contemplated by implementation of the proposed project and the conceptual development project.[22] As a result, the proposed project and the conceptual development project would not adversely affect existing response times to the site or within the City. The Berkeley Fire Department would continue to provide services to the project site and would not require additional firefighters to serve the proposed project or the conceptual development project. The construction of new or expanded fire stations would not be required to meet response time goals. Therefore, the proposed project would not result in a substantial adverse physical impact associated with the provision of additional fire facilities or services.

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19 City of Berkeley. 2021. Proposed Annual Budget, Fiscal Year 2022. June 29.

20 City of Berkeley. 2024. Standards of Cover Study and Community Risk Assessment Study (SOC). Website: https://berkeleyca.gov/sites/default/files/documents/2024-01-24%20%20%20Final%20report%20recommendations%20from%20the%20Standards%20of%20Coverage%20and%20Community%20Risk%20Assessment%20Study.pdf. January 24.

21 City of Berkeley. 2002. *Berkeley General Plan: A Guide for Public Decision Making*. Disaster Preparedness and Safety Element, Policy S-22 Fire Fighting Infrastructure, C. 2002.

22 City of Berkeley. n.d.-b. Measure FF: Emergency Response and Preparedness Parcel Tax. Website: https://berkeleyca.gov/your-government/our-work/bond-revenue-measures/measure-ff.

In addition, the Berkeley Fire Department administers the Uniform Fire Code and applicable sections of the California Health and Safety Code, California Administrative Codes, Title 19, Public Safety and Title 24, Building Standards in reviewing and improving plans for development. Future development facilitated by the proposed project, including the conceptual development project, would be required to comply with all applicable codes for fire safety and emergency access and additional review by the Fire Department to ensure that appropriate measures are implemented to reduce hazardous conditions at the site and provide for adequate emergency access. Compliance with the Uniform Fire Code would further ensure that potential impacts to fire services would be **less than significant**.

6.3.6.2 Police Protection

The Berkeley Police Department provides police protection to the project site. Police headquarters is at 2100 Martin Luther King Jr. Way, 1.7 miles southeast of the project site. The Police Department consists of 285 employees, including 195 sworn officers.[23] This allows for a ratio of 1.5 sworn officers per 1,000 residents. The City reviews its goal for staffing each budget cycle and considers historical and current year information related to police services. City population increases are not weighed in the Police Department's staffing needs.

On March 29, 2023, the City Manager announced that the Berkeley Police Department would transition from a 16-Beat system to a 14-Beat configuration on April 1, 2023.[24] The transition was due to decreased police staffing leading to consistently understaffed shifts. Primary law enforcement concerns in the project area include vehicle break-in/theft, burglary, disturbing the peace, and larceny.[25] The standard city-wide response time for Priority 1 calls (life-threatening situations) is 5 minutes from the time of dispatch.

Development facilitated by the proposed project, including the conceptual development project, would increase the daytime population on the site and within West Berkeley in general, incrementally increasing the demand for police services. However, the increased daytime population and "open sight-line" onsite landscaping would discourage illegal activity in the area by providing more active uses and more "eyes on the street" compared to existing conditions.[26] Increased demand for police services on the site would not require the alteration of existing police facilities or construction of new facilities to maintain existing service standards or staffing ratios. Therefore, the proposed project and conceptual development project would result in a **less than significant** environmental impact related to demand for police services.

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23 City of Berkeley. n.d.-b. Measure FF: Emergency Response and Preparedness Parcel Tax. Website: https://berkeleyca.gov/your-government/our-work/bond-revenue-measures/measure-ff.

24 Williams-Ridley, D., City Manager. 2023. *Memorandum to Honorable Mayor and Members of the City Council, Berkeley Police Department transitioning to a 14-beat configuration.* March 29.

25 CrimeMapping. 2020. Home. Website: www.crimemapping.com/home (accessed January 31, 2023).

26 Connect Our Future. *Crime Prevention through Environmental Design*. Website: https://connectourfuture.org/tools/crime-prevention-through-environmental-design-cpted/ (accessed September 23, 2024).

6.3.6.3 Schools

The Berkeley Unified School District (BUSD) operates 20 schools, including 11 public elementary schools (grades K–5), 3 middle schools (grades 6–8), 1 high school (grades 9–12), and an alternative high school (grades 9–12). In addition, the district has three preschool facilities and one Adult School serving several thousand students each year.[27] The BUSD has not developed student generation rates to estimate the number of students that might be anticipated with new development. However, the proposed project and conceptual development project do not include any residential uses and would not directly affect student population. As previously discussed in Section 6.3.6, a fraction of the 2,215 new employees may move to the city solely for employment, but this growth would only result in a minimal increase in student population and may be spread amongst the whole school district, depending upon place of residence.

Senate Bill (SB) 50, which revised the existing limitation on developer fees for school facilities, was enacted as urgency legislation that took effect on November 4, 1998, as a result of the California voters approving a bond measure (Proposition 1A). Senate Bill (SB) 50 established a 1998 base amount of allowable developer fees (Level One fee) for residential construction (subject to adjustment) and prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess or in addition to those provided in the statute.

The BUSD requires payment of a school impact fee of $0.84 per square foot of new commercial and industrial development. Future development facilitated by the proposed project, including the conceptual development project, would be required to pay this fee prior to issuance of a certificate of occupancy. The BUSD is responsible for implementing the specific methods for mitigating school impacts under the Government Code. These fees would be directed towards maintaining adequate service levels, which would ensure that any impact to schools that could result from the proposed project would be offset by development fees, and in effect, reduce potential impacts to a **less-than-significant** level.

6.3.6.4 Parks

The city has more than 53 parks, with various amenities including picnic areas, open space, landscaping and trees, play structures, trails, sports fields and courts, and recreation facilities that are available for reservation. There are seven parks within 1 mile of the project site, including Tom Bates Regional Sports Complex, 0.08 mile west from the project site across I-80/I-580; McLaughlin Eastshore State Park (the Shoreline Strip and North Basin Strip) (980 feet west); Bay Trail (400 feet west), César E. Chávez Park, 0.6 mile west; Harrison Park (Gabe's sports fields and the Berkeley Skatepark) 0.17-mile northeast; Fielding sports fields at UC Albany Village (1,400 feet northeast); UC Village Little League ballfields (2,400 feet northeast); James Kenney Park (2,100 feet southwest); Ocean View Park, 0.55 mile northeast[28]; Cedar Rose Park, 0.85 mile east; and Aquatic Park, 0.7 mile south of the project site.

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[27] Berkeley Unified School District. 2020. Website: www.berkeleyschools.net/about-the-district/about (accessed February 3, 2023).

[28] Operated by the City of Albany, California.

Development facilitated by the proposed project, including the conceptual development project, could increase the use of these parks as well as other parks within the city and within the region. However, this increase is expected to be minimal due to the absence of residential uses in the proposed project and is not expected to adversely affect the physical conditions of local and regional open space areas or recreational facilities or require the provision of new parks of facilities to meet established service goals. Therefore, although the proposed project and conceptual development project would be expected to increase use at surrounding parks, this increase is not expected to require the need for new or physically altered recreational facilities, and this impact would be **less than significant.**

6.3.6.5 Other Public facilities

Development facilitated by the proposed project, including the conceptual development project, is unlikely to increase the demand for other public services, including libraries, community centers, and public health care facilities, because no direct population growth would occur. Therefore, the proposed project and conceptual development project are not expected to substantially increase the use of these facilities such that new facilities would be needed to maintain service standards, and this impact would be **less than significant**.

6.3.7 Recreation

As discussed in Section 6.3.7.4, Parks, above, tenants, employees, and visitors to the project site would be expected to use local parks and community facilities in the city as well as regional recreational facilities. Although future development facilitated by the proposed project, including the conceptual development project, would incrementally increase use of these facilities, this minor increase in use is not expected to result in substantial physical deterioration of local parks, trails, and community centers, and this impact would be less than significant. In addition, Measure T-1 funds would allow the Parks, Recreation and Waterfront Department to pay for future improvements to City parks. For example, Measure T-1 funding is supporting improvements to the Tom Bates Regional Sports Complex.

The proposed project would consist of the rezoning of the site to M-RD, which allows for the development of the site for office, industrial and heavy commercial, laboratory, R&D and light manufacturing uses. The proposed project and the conceptual development project do not include or require the construction or expansion of existing public recreational facilities. Therefore, development facilitated by the proposed project, including the conceptual development project, and associated recreational opportunities for use by future occupants would not result in additional environmental effects beyond those described in this document. Impacts to recreational resources would be **less than significant**.

6.3.8 Utilities and Service Systems

The following section addresses the project's potential effects on utilities and services systems such as water, wastewater, stormwater, solid waste, electricity, natural gas, and telecommunication services. Impacts to utilities and service would occur if the project increased demand for services such that new or expanded facilities would be required—and these new facilities would themselves cause environmental impacts; for example, if there would be insufficient water supply to serve the

project site; if there would be insufficient capacity to serve the project site's expected wastewater demand; or if the project generated solid waste in excess of State or local standards.

6.3.8.1 Water

The East Bay Municipal Utility District (EBMUD) Orinda Water Treatment Plant serves the project site and surrounding area.[29] Future development on the site would connect to existing water delivery systems within the vicinity of the site. Connections to existing infrastructure would take place within the adjacent public rights-of-way. Future development would connect to these existing facilities, and it is anticipated that these pipelines would have sufficient capacity to support project water and wastewater flows. However, as a condition of project approval, the project sponsor would be required to coordinate with EBMUD, the City's Fire Department, and the City's Public Works Department to assess water and wastewater flow and ensure the proposed project would comply with the applicable requirements.

Water service at the project site and in the project area is provided by EBMUD. According to the 2020 Urban Water Management Plan (2020 UWMP), EBMUD obtains approximately 90 percent of its water from the Mokelumne River watershed and transports it through pipe aqueducts to temporary storage reservoirs in the East Bay hills. EBMUD has water rights and facilities to divert up to a daily maximum of 325 million gallons per day (mgd) from the Mokelumne River.[30] Average daily water demand within the entire EBMUD service area is projected to be 254 mgd in 2030, 277 mgd in 2040, and 297 mgd in 2050.[31]

According to the Water Supply Assessment (WSA) EBMUD prepared on May 23, 2023 (Appendix K),[32] the existing land uses, which consist of surface parking, and industrial, commercial, and residential uses, have a historical water use of 13,100 gallons per day (gpd). At project build out, EBMUD estimated the proposed project would require 164,900 gpd. EBMUD's projected water demand accounts for projected growth within the region as identified by the Association of Bay Area Governments. Although implementation of the proposed project would increase water demand at the project site, the WSA indicated that the water demand of the proposed project is accounted for in EBMUD's water demand projections contained in the 2020 UWMP and provided above. Further, the WSA determined that the proposed project's future development and operations would not change EBMUD's 2050 demand projection. Therefore, EBMUD would not require new or expanded water entitlements to serve the proposed project. Therefore, EBMUD would have adequate water supply to provide water service to development facilitated by the proposed project, including the conceptual development project.

Although the WSA found that there would be sufficient water supply to serve the project, future users of the site (and all EBMUD customers) must comply with Policy EM-26 in the City of Berkeley General Plan that promotes water conservation through City programs and requirements, including

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29 East Bay Municipal Utility District. 2021. *2020 Urban Water Management Plan*. June.

30 Ibid.

31 East Bay Municipal Utility District. 2021. *2020 Urban Water Management Plan, Table 3-1: Average Annual Water Demand Forecast 2050 Demand Projections (MGD)*. June.

32 East Bay Municipal Utility District. 2023. *Water Supply Assessment – Gilman Gateway Rezone Project.* May 23.

cooperation with EBMUD to make recycled water available for irrigation and other uses. Policy EM-26 of the City's General Plan, as described below, provides direction for incorporating water conservation measures into proposed projects within the city.

> **Policy EM-26:** Water Conservation. Promote water conservation through City programs and requirements.
>
> - **Action EM-26 A**: Encourage drought-tolerant landscaping and low-flow irrigation systems.
> - **Action EM-26 B**: Consider participation in the East Ba Municipal Utility District's East Bay-shore Recycled Water Project to make recycled water available for irrigation and other non-potable uses.

Compliance with Policy EM-26 by incorporating water conservation measures into the design of future development facilitated by the proposed project, including the conceptual development project, would ensure efficient use of water at the project site and minimize the potential water demand such that the project's impact would be **less than significant**.

EBMUD also imposes a system capacity charge on new developments to fund system maintenance and the development of new water sources. The project sponsor for future development projects, including the conceptual development project, would be required to pay this fee and undertake water conservation measures to conserve water such as the installation of low-flow toilets. In addition, the individual project sponsors would also be required to comply with the following condition of approval related to water efficient landscaping:

> ***COA: Water Efficient Landscaping*** *(prior to the issuance of any building [construction] permit)*. Landscaping, totaling 500 square feet of more of new landscaping or 2,500 square feet or more of renovated irrigated area, shall comply with the State's Model Water Efficient Landscape Ordinance (MWELO). MWELO-compliant landscape documentation including a planting, grading, and irrigation plan shall be included in site plans. Water budget calculations are also required for landscapes of 2,500 square feet or more and shall be included in site plans. The reference evapotranspiration rate for Berkeley is 41.8.

The City requires individual project sponsors to submit a Bay-Friendly Basics Landscape Checklist that includes detailed notes of any measures that would not be fully met by the project (if any).[33] Landscape improvements are required to be consistent with the current versions of the State's Water Efficient Landscape Ordinance and Section 31 of EBMUD's Water Service Regulations (Water Efficiency Requirements), which require that applicable water-efficiency measures be installed on water-using equipment at the project sponsor's expense. Future project sponsors would also be required to coordinate with EBMUD and the City of Berkeley Fire Department to assess fire flow requirements and comply with them as part of the project.

[33] City of Berkeley. 2016. *Stormwater Requirements Overview*. June 6.

6.3.8.2 Wastewater

In the city, sanitary sewage flows through the City of Berkeley's collection system to the EBMUD's North Interceptor, which then directly flows to EBMUD's Main Wastewater Treatment Plant (MWWTP) in Oakland for treatment and disposal. Berkeley's collection system consists of lower laterals and sewer mains. Buildings connect to the City's collection system through the upper laterals which are privately owned and maintained. Within the city, there are approximately 260 miles of sanitary sewer mains, with an estimated 28,000 lateral connections. The sewer mains vary from 1 to 100 years old, and vary in size from 6 to 48 inches in diameter.[34] The City, EBMUD, and the MWWTP serve the project site and the surrounding area.

The City operates sanitary sewer infrastructure in the surrounding streets and sidewalks. Facilities typically range in size from 8 inches to 18 inches in diameter. The EBMUD North Interceptor is approximately 48 inches in diameter and runs through the project site along Second Street. Future development on the site facilitated by the proposed project, including the conceptual development project, would increase wastewater generation at the project site, which would increase demand on wastewater treatment infrastructure. Future development connect to existing sanitary sewer systems within the vicinity of the site and would be required to conduct sewer capacity analysis to determine if the existing sewer infrastructure would be able to accommodate wastewater flows from the project and identify impacts to flow capacity, pipeline alignments, need for easements, and chemical and physical character of wastewater. If the sewer capacity analysis determines that there is insufficient capacity, the project sponsor would be required to improve the infrastructure to accommodate increased wastewater flows. In addition, due to the proximity of existing sewer infrastructure to the project site, such as along the Third Street frontage, future development on the project site facilitated by the proposed project, including the conceptual development project, would be required to determine if existing facilities would be impacted by additional structural loadings from development. Future projects, including the conceptual development project, would be required to identify appropriate mitigation, as necessary.

In addition, individual project sponsors would be required to coordinate with EBMUD, the City's Fire Department, and the City's Public Works Department to assess water and wastewater flow and ensure the future development would comply with the applicable requirements.

The City's sewer system is connected to trunk lines that convey flows to the MWWTP. The MWWTP has a primary treatment capacity of 320 mgd and a secondary treatment capacity of 168 mgd.[35] Storage basins provide plant capacity for a short-term hydraulic peak of 415 mgd. The average annual daily flow into the MWWTP is approximately 63 mgd, representing approximately 37.5 percent of the plant's secondary treatment capacity. Treated effluent is disinfected, dechlorinated, and discharged through a deep-water outfall 1 mile off the East Bay shoreline into San Francisco Bay.

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[34] East Bay Municipal Utility District. 2021. *2020 Urban Water Management Plan*. June.

[35] East Bay Municipal Utility District. 2016. Wastewater Treatment. Website: www.ebmud.com/wastewater/collection-treatment/wastewater-treatment (accessed February 6, 2023).

In compliance with the July 28, 2014, Consent Decree, the City has implemented a long-term mandated Sanitary Sewer Capital Improvement Program to eliminate Sanitary Sewer Overflows and reduce storm water infiltration and inflow into the sanitary sewer system. Under this program, the City uses a comprehensive asset management approach based on complex and evolving hydrologic and hydraulic modeling and condition assessments to repair, replace, or upgrade the City's portion of the sanitary sewer system, ultimately to aid EBMUD in eliminating discharges from their Wet Weather Facilities (which provide additional treatment capacity during storm events) by the end of 2035.

According to a capacity assessment conducted for the City's sewer system,[36] future development within the West Berkeley area includes a total projected development of 1,420 dwelling units and 2 million square feet of non-residential uses. Individual project sponsors are required to submit projected flow rate information during the building permit process to ensure whether upgrades to the sanitary sewer would be needed to meet future demand.

Future development on the project site, including the conceptual development project, would generate wastewater that will be treated and disposed by EBMUD in accordance with NPDES requirements. In addition, future development must not use any of EBMUD's wet weather treatment capacity and the property owners will be responsible for maintaining their private sewer laterals and site plumbing to ensure no water infiltration and inflow enters the sewer system pursuant to BMC Sections 17.24.030(A)(2), 17.24.030(A)(3), and 17.06.020. In the absence of an official wastewater generation estimate, wastewater generated by full buildout associated with the zoning and General Plan amendments is assumed to be 90 percent of water demand, or 148,410 gpd, which comprises less than 1 percent of the average annual daily flow of the MWWTP.[37] Therefore, the proposed project would not generate wastewater exceeding the wastewater treatment and disposal requirements of the RWQCB.

Wastewater discharges that may occur at the project site would be required to comply with the terms of the applicable MRP and may be subject to monitoring by EBMUD to ensure that the development's sewage discharge does not impair the ability of the MWWTP to meet wastewater treatment objectives and requirements. Therefore, the impact to wastewater collection, treatment, and disposal requirements would be **less than significant**.

6.3.8.3 Stormwater

Most of the existing 11.54-acre project site is covered by impervious surfaces, including existing buildings, roadways, and other paved surfaces. Future development would include new connections and upgrades to existing stormwater infrastructure. Development facilitated by the proposed project, including the conceptual development project, would result in a reduction in impervious surfaces on the site. Runoff would be treated in accordance with the applicable MRP, including C.3 requirements, before flowing to the City's storm drain. Please see Section 4.10, Hydrology and

[36] RMC Water and Environment. 2012. *Final Report, Sewer System Hydraulic Modeling and Capacity Assessment*. October.

[37] 148,410 gpd / 63,000,000 gpd = 0.0024

Water Quality, for a complete discussion of stormwater drainage facilities and associated impacts, which would be **less than significant**.

6.3.8.4 Solid Waste

The City operates its own refuse collection system. The City provides curbside recycling, compost and refuse collection services to the project site. There are two permitted landfills in Alameda County with the capacity to accommodate solid waste generated in the city: Altamont Landfill and the Vasco Road Sanitary Landfill. The combined remaining capacity of waste for these two landfills is 76 million cubic yards. According to CalEEMod, the proposed project is estimated to generate approximately 76.4 tons (58.41 cubic yards) of solid waste per year and the conceptual development project is estimated to generate approximately 68.4 tons (52.29 cubic yards) of solid waste per year. Therefore, the proposed project and conceptual development project would not exceed the combined remaining capacity of waste for these two landfills. Solid waste from the site would be transported to the Berkeley Transfer Station, located at 1021 Second Street, and then on to the Altamont Landfill and Resource Recovery Facility, near the Altamont Pass, northeast of Livermore. Future development would be served by a landfill with sufficient capacity to accommodate the waste disposal needs associated with full buildout and this impact would be **less than significant**.

The existing project site consists of industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. The conceptual development project would require demolition of approximately 319,000 square feet of building area and asphalt lots on the site. The State requires 65 percent diversion (recycling and reuse) of construction waste, and the City requires 100 percent of concrete, asphalt, and land clearing debris to be diverted from landfills. Accordingly, construction debris, such as old foundations, pavements, and structures, would be collected and hauled off site for recycling. All demolition and construction waste would be recycled consistent with State and City requirements. Individual project sponsors would be required to prepare and submit to the City a Construction Demolition Recycling Plan prior to issuance of a Demolition Permit for the proposed project. The purpose of the plan is to divert as much debris as possible from the waste stream, consistent with State and City requirements.

Prior to approval of large development projects, the City of Berkeley Zero Waste Division staff reviews proposed plans for the adequate design of trash, compost and recycling facilities. In 2022, SB 1383 was passed to reduce the amount of food scraps and other compostable materials sent to landfills. In Alameda County, SB 1383 regulations are implemented and enforced under the Organics Reduction and Recycling Ordinance, which requires composting of yard waste, food scraps and food soiled paper for all businesses, multifamily dwelling units and single-family homes. Additionally, development projects that require a use permit are required to comply with the City's COA: Recycling and Organics Collection that addresses these potential impacts

> ***COA: Recycling and Organics Collection.*** Applicant shall provide recycling and organics collection areas for occupants, clearly marked on plans, which comply with the Alameda County Organics Reduction and Recycling Ordinance (2021-02). Contact the Zero Waste Division's Recycling Program Manager, Julia A. Heath, at jheath@berkeleyca.gov.

Future development at the project site facilitated by the proposed project, including the conceptual development project, would be required to provide trash enclosure space (inside or outside for large dumpsters) and trash, compost, fiber recycling and container recycling collection bins be co-located in tenant facing trash rooms.

Therefore, the proposed project and conceptual development project would not generate solid waste in excess of local standards. Further, the proposed project would comply with all federal, State, and local solid waste statutes and/or regulations related to solid waste. Impacts relating to solid waste would be **less than significant**.

6.3.8.5 Electric Power, Natural Gas, and Telecommunications

The project site is currently served by electrical, natural gas, and telecommunications facilities. Full buildout of the project site under the new zoning district would include the use of natural gas. As described above, natural gas infrastructure currently exists on the project site. The conceptual development project would be all electric and would not require connections to natural gas infrastructure. The proposed project and conceptual development project would consist of infill development on a previously developed site that is currently served by utilities, and expansion of electrical, nature gas, or telecommunications facilities would not be required. Therefore, this impact would be **less than significant**.

6.3.9 Wildfire

The project site and adjacent areas are not located in a Very High Fire Hazard Severity Zone as mapped by CAL FIRE and is not within any State responsibility areas for fire service.[38] The project site is generally level and is in an urban area bounded by existing development. Therefore, the proposed project and the conceptual development project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and this impact would be **less than significant**.

6.4 SIGNIFICANT UNAVOIDABLE AND CUMULATIVE IMPACTS

The Draft EIR identifies significant and unavoidable impacts after implementation of mitigation measures associated with historic architectural resources, air quality (health risk assessment), and greenhouse gas (GHG) emissions (see Chapter 4.0, Setting, Impacts, and Mitigation Measures), as summarized below:

6.4.1.1 Cultural Resources

Historic Architectural Resources. The proposed project would cause a substantial adverse change in the significance of a historic resource as defined in CEQA Guidelines Section 15064.5 because implementation of the proposed project would facilitate the demolition of the existing building at 1306 Third Street, which is eligible for listing as a City of Berkely landmark and in the California Register of Historical Resources. Therefore, impacts to built historical resources would be **significant**

[38] California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer* Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/ (accessed June 27, 2024).

and unavoidable. Cumulative impacts to built historical resources would also be **significant and unavoidable** (see Section 4.2.2.3 and Impact CUL-1a).

6.4.1.2 Air Quality

Project Construction Health Risk Assessment. Construction associated with the proposed project would not exceed Bay Area Air Quality Management District (BAAQMD) thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations with implementation of identified mitigation measures. However, construction associated with any future projects facilitated by the proposed project that would take place prior to demolition of the structure at 1306 Third Street (a sensitive receptor), such as the conceptual development project, would exceed the BAAQMD cancer risk significance thresholds and would expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations during construction of any future projects facilitated by the proposed project that would take place prior to demolition of the structure at 1306 Third Street would be **significant and unavoidable**. Cumulative impacts to related to exposing sensitive receptors to substantial pollutant concentrations during construction would also be **significant and unavoidable** (see Section 4.5.2.3 and Impact AIR-3a.2).

Project Operation Health Risk Assessment. Operation of future projects at the project site, including the conceptual development project, may expose nearby sensitive receptors to substantial pollutant concentrations associated with increased truck traffic and could result in potential health risks that would cumulatively contribute to elevated health risks in the city. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations during operation would be **significant and unavoidable**. Cumulative impacts to related to exposing sensitive receptors to substantial pollutant concentrations during operation would also be **significant and unavoidable** (see Section 4.5.3.2 and Impact AIR-3b).

6.4.1.3 Greenhouse Gas Emissions

Project Operation Greenhouse Gas Emissions. If future development at the project site includes natural gas, the proposed project would be inconsistent with a GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Inconsistency with a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b) would result in a significant impact related to GHG emissions. Therefore, impacts related to operational greenhouse gas emissions would be **significant and unavoidable**. Cumulative impacts related to operational greenhouse gas emissions would also be **significant and unavoidable** (see Section 4.6.2.3 and Impact GHG-1a).

Inconsistency with Plans, Policies or Regulations Adopted for the Purpose of Reducing Greenhouse Gas Emissions. If future development at the project site includes natural gas, the proposed project would not meet the project design thresholds recommended by the BAAQMD and would be considered inconsistent with the long-term State GHG reduction goals and emission targets in Assembly Bill (AB) 32, SB 32, EO B-30-15, EO B-48-18, and AB 1279. As such, the proposed project would conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **significant and unavoidable**. Cumulative impacts related to

inconsistency with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions would also be **significant and unavoidable** (see Section 4.6.2.3 and Impact GHG-2a).

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7.0 REPORT PREPARATION

7.1 REPORT PREPARERS

7.1.1 City of Berkeley

Planning and Development Department, Land Use Division
1947 Center Street, 2nd Floor
Berkeley, CA 94704

Claudia Garcia, AICP, Principal Planner, Principal in Charge
Ashley James, AICP, Senior Planner, Project Manager
Jordan Klein, Director
Alene Pearson, AICP, Deputy Director
Anne Hersch, AICP, Land Use Division Manager
Eleanor Hollander, AICP, Economic Development Manager, Office of Economic Development
Fatema Crane, Principal Planner
Sarah Moore, AICP, Office of Energy and Sustainability Division Manager
Vincent Chen, Acting Supervising Civil Engineer, Public Works Department
Jamie Cooney, Hazardous Materials Specialist II, Toxics Management Division
Lino Ancheta, Environmental Health Specialist, Health, Housing and Community Services Department
Roger Miller, Senior Management Analyst, Parks, Recreation and Waterfront Department
Dori Tieu, Fire Prevention Inspector, Fire Department
Eric Anderson, Principal Planner, Public Works Department
Hamid Mostowfi, Supervising Traffic Engineer, Public Works Department
Ricardo Salcedo, Associate Civil Engineer, Public Works Department
Daniel Akagi, Supervising Civil Engineer, Public Works Department
Julia Heath, Recycling Program Manager, Public Works Department
Sarah Lana, Emergency Services Coordinator, Fire and Emergency Services Department

7.1.2 LSA Associates, Inc.

157 Park Place
Point Richmond, CA 94801

Theresa Wallace, AICP, Principal in Charge
Florentina Craciun, AICP, Associate/Senior Environmental Planner, Project Manager
Lauren Peachey, Environmental Planner/Assistant Project Manager
Amy Fischer, Principal, Air Quality, GHG, and Energy
Cara Cunningham, Associate, Air Quality, GHG, and Energy
John T. Stephens, Principal, Noise Specialist
Moe Abushanab, Mechanical Noise Engineer
Matthew Phillips, Graphics Technician

Beverly Inloes, Document Management
Jennette Bosseler, Document Management
Stephanie Powers, Document Management

7.1.3 Baseline Environmental Consulting

388 17th Street, Suite 230
Oakland, CA 94612

Patrick Sutton, Principal Environmental Engineer
Cem Atabek, Environmental Engineer

7.2 REFERENCES

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APPENDIX A

NOTICE OF PREPARATION AND COMMENT LETTERS

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Land Use Planning

Notice of Preparation of an Environmental Impact Report

Date:	December 21, 2022
To:	State Clearinghouse, Responsible Agencies, Trustee Agencies, Organizations, and Interested Persons
Lead Agency:	City of Berkeley
Project Title:	Gilman Gateway Rezone Project
Project Location:	The project site is comprised of 18 parcels totaling approximately 10.64 acres located in West Berkeley. The Project site is bisected by Second Street and bordered by Gilman Street to the north, Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and Eastshore Highway (Interstate 80 [I-80]) to the west.
Project Applicant:	City of Berkeley and SPUR Capital

Purpose of Notice

The City of Berkeley (City), as the lead agency, is preparing an Environmental Impact Report (EIR) for the proposed Gilman Gateway Rezone project, located at the properties listed in Table 1 below. The project will rezone the site to a new zoning district and General Plan to allow a range of light industrial, research and development, and similar/related uses, and amend the development standards related to building height and other matters. In accordance with the provisions of the State of California Environmental Quality Act (CEQA) Guidelines, California Code of Regulations (CCR) Section 15082(a). this Notice of Preparation (NOP) provides response and trustee agencies, nearby property owners, and other interested parties with a description of the proposed project and information on its potential environmental effects. The City also invites input and/or comments from public agencies and the general public as to the scope and content of the environmental information that will be studied in connection with the project.

Project Description and Location

As shown on Figure 1 below, the project site is located in West Berkeley. As shown in Table 1 and on Figure 2 below, the project site is comprised of 18 parcels totaling approximately 10.64 acres, bisected by Second Street and bordered by Gilman Street to the north, Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and Eastshore Highway (Interstate 80 [I-80]) to the west. Of these 18 parcels, 13 are associated with the former Pacific Steel Casting site and total approximately 8.16 acres. This site is developed with a number of buildings that have exceeded their economic life and are expected to be demolished and the site redeveloped by private parties. The remaining parcels include two which are associated with the former Berkeley Forge and Tool, which total approximately 1.18 acres, and three unassociated parcels totaling approximately 1.3 acres, currently occupied by a vehicle rental business, live/work building, and recycled materials processing business.

Table 1: Project Site				
Existing Uses	**Address**	**APN**	**Lot Size (sf)**	**Building Size (sf)**
Pacific Steel Casting	1305 Eastshore Highway	59-2344-1-2	8,666	n/a
	1401 Eastshore Highway	59-2341-4	41,286	26,217
	1421 Second Street	59-2340-8-2	102,366	73,640
	1420 Second Street	59-2341-5	25,452	19,942
	1320 Second Street	59-2344-4-1	55,003	44,343
	1314 Second Street	59-2344-3-1	14,000	12,504
	1333 Second Street	59-2345-9	36,575	14,840
	1337 Second Street 1332 Third Street	59-2345-8-1	14,630	2,432
	1310 Third Street	59-2345-2-2	17,985	26,550
	631 Camelia Street 625 Camelia Street	59-2345-7	8,100	5,200
	635 Camelia Street	59-2345-6-1	13,000	9,024
	643 Camelia Street	59-2345-4	5,500	n/a
	1311 Second Street 630 Gilman Street 640 Gilman Street	59-2345-1	13,000	13,000
Berkeley Forge and Tool	1331 Eastshore Highway	59-2344-7	39,192	31,092
	1330 Second Street	59-2344-5-1	12,115	10,000
Live/Work	1306 Third Street	58-2345-2-1	6,204	6,204
Vehicle Rental	600 Gilman Street	59-2344-2-1	11,625	1,008
Recycled Materials Processing	1433 Eastshore Highway	59-2341-3-2	38,850	1,944
Total Area (sf)			**463,549**	**297,940**

Existing Land Uses

The project site is currently designated Manufacturing by the City of Berkeley General Plan adopted in 2002 and zoned Manufacturing (M) per the Zoning Ordinance and West Berkeley Plan. The project site is currently developed with approximately 16 buildings totaling 297,940 square feet that have been in

use for industrial, commercial and live/work uses. There are paved roadways that extend throughout the site and the Union Pacific Railroad right-of-way is adjacent to and runs north-south along the eastern boundary of site.

The following parcels within the project area are included on the lists of sites enumerated under Government Code Section 65962.5:

- 600 Gilman Street (Budget Rent a Car)
- 1333 Second Street (Pacific Steel Plant #2)

Surrounding Land Uses

The project site is surrounded by a mix of manufacturing, warehouse, office, and commercial uses. Residential uses are located to the northeast and southeast.

Proposed Project

The project would create a new zoning district - Manufacturing, Research and Development (M-RD) – in order to facilitate future development. The M-RD zoning district would permit a variety of uses, including office, industrial and heavy commercial, laboratory, light manufacturing, and research and development (R&D), which would primarily be subject to the permit thresholds of the Mixed-Use Light Industrial (MU-LI) district. The EIR will evaluate the impact of the rezone and associated general plan amendments, as well as demolition of the existing buildings totaling approximately 298,000 square feet, except for the existing 10,000 square-foot building at 1330 Second Street, which would be adaptively reused, construction of up to 1,000,000 square feet of nonresidential space and 2,000 off-street automobile parking spaces, at a maximum building height of 105 feet.

While the proposed project does not involve any specific development project, it will evaluate the buildout of a potential future development on an approximately 8.16-acre portion of the project area to the extent that such development is foreseeable at the time of preparation of this EIR. The buildout of the potential future project is assumed to be consistent with the development standards of the proposed M-RD zoning district, and would consist of up to 900,000 square feet of R&D, office, laboratory, and light manufacturing uses and 1,900 automobile parking spaces.

Environmental Impact Report

The EIR will include a discussion of all topic areas required by the CEQA Guidelines, with a particular focus on the following specific environmental categories most relevant to the proposed project:

- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use Planning
- Transportation
- Tribal Cultural Resources

The EIR will also identify and compare a reasonable range of alternatives to the project. Alternatives will be chosen based on their ability to avoid or reduce identified significant environmental impacts of the project while achieving most of the project objectives (CEQA Guidelines Section 15126.6), and all other sections required by CEQA.

Public Review and Comment Period

The City requests written comments that focus on the scope and content of the environmental information

of the EIR for the Gilman Gateway Rezone project. All comments on environmental issues received during the public comment period will be considered when preparing the EIR.

This NOP will be circulated for a 60-day review period, which will extend from December 21, 2022 to February 27, 2023. Responses to this NOP must be received by 5:00 p.m. on February 27, 2023. Please send your written or electronic responses, with appropriate contact information, to the following:

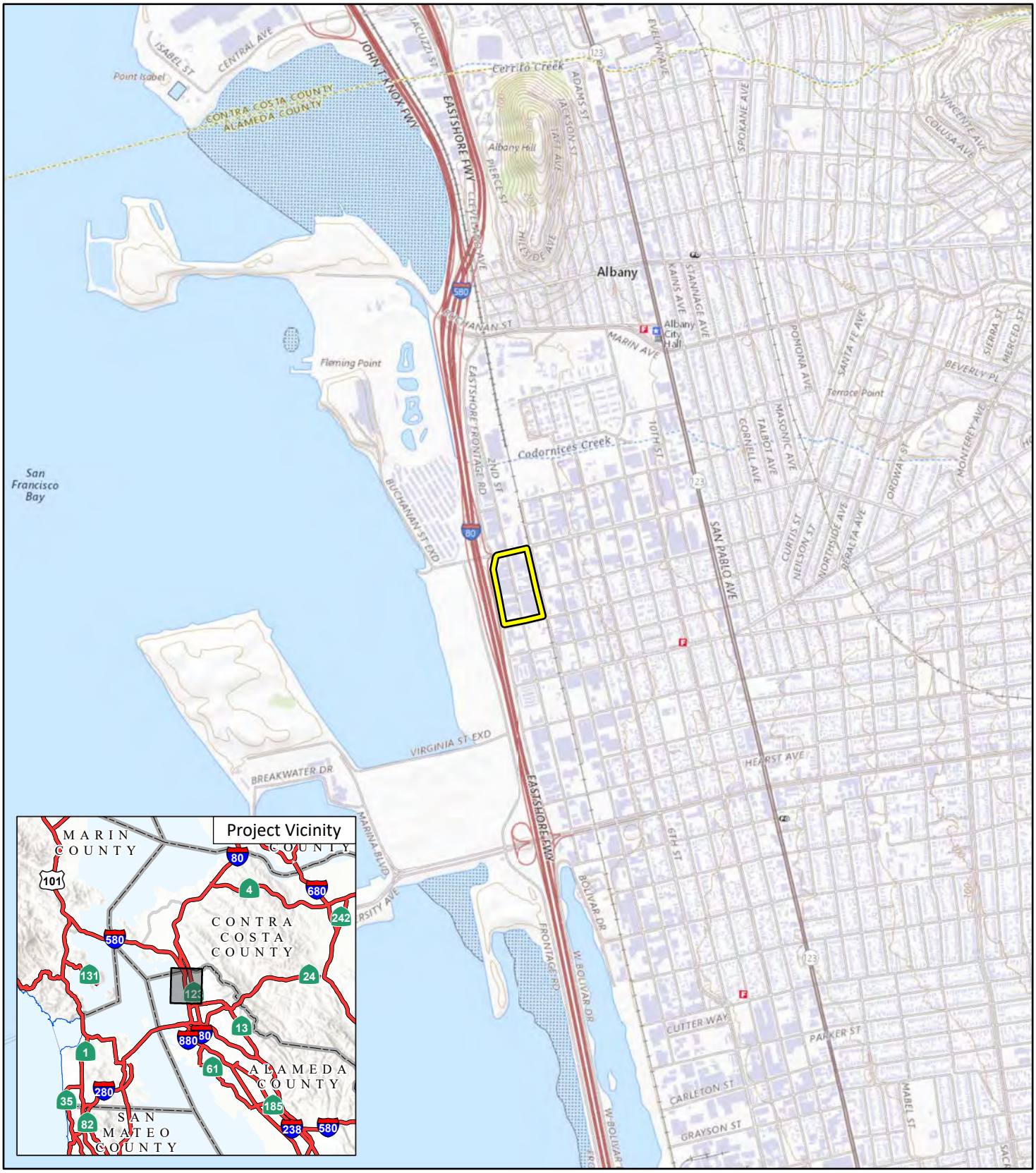
Ashley James
City of Berkeley
Land Use and Planning Division
1947 Center Street, 2nd Floor
Berkeley, CA 94704
Email: ajames@cityofberkeley.info

For electronic responses, please include the project name in the subject line.

Public Scoping Meeting

The City will hold two public meetings to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide comments on the scope and content of the EIR. The meetings will be held via video and teleconference on the following dates:

- Planning Commission: Wednesday, February 1st at 7:00pm. The meeting agenda with corresponding meeting link will be posted by 5:00 p.m. on January 27 on the Commission website: Planning Commission | City of Berkeley (berkeleyca.gov)
- Landmarks Preservation Commission: Thursday, February 2nd at 7:00pm. The meeting agenda with corresponding meeting link will be posted by 5:00 p.m. on January 27 on the Commission website: Landmarks Preservation Commission | City of Berkeley (berkeleyca.gov)



LSA

FIGURE 1

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SOURCE: USGS The National Map (2017)

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Gilman Gateway Rezone Project NOP

Regional Location and Project Vicinity

LSA

Project Site Boundary
Berkeley Forge and Tool
Pacific Steel Casting
Other Parcels

0 100 200
FEET

FIGURE 2

Gilman Gateway Rezone Project NOP
Aerial Photograph of the Project Site

SOURCES: Google Earth, 8/6/2020; LSA, 2022

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1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 29, 2022

Ashley James, Senior Planner
City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, CA 94704

Re: 2022120549, Gilman Gateway Rezone Project, Alameda County

Dear Ms. James:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project**.**
- **b.** Recommended mitigation measures**.**
- **c.** Significant effects**.** (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

cc: State Clearinghouse

EAST BAY
MUNICIPAL UTILITY DISTRICT

February 9, 2023

Ashley James, Senior Planner
City of Berkeley
Land Use and Planning Division
1947 Center Street, 2nd Floor
Berkeley, CA 94704

Re: Notice of Preparation of an Environmental Impact Report for Gilman Gateway Rezone Project, Berkeley

Dear Ms. James:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report (EIR) for the Gilman Gateway Rezone Project located in the City of Berkeley (City). EBMUD has the following comments.

WATER SERVICE

Pursuant to Section 15155 of the California Environmental Quality Act Guidelines and Sections 10910-10915 of the California Water Code, a Water Supply Assessment (WSA) is required for the project as it exceeds the threshold requirement for an assessment of water supply availability based on the amount of water this project would require (greater than a 250,000-square-foot commercial office building). Please submit a WSA request to me at your earliest convenience. EBMUD requires the project sponsor to provide future water demand data and estimates for the project site for the analysis of the WSA. Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received.

Effective January 1, 2018, water service for new multiunit structures shall be individually metered or sub-metered in compliance with Section 537 of California's Water Code & Section 1954.201-219 of California's Civil Code, which encourages conservation of water in multi-family residential, mixed-use multi-family, and commercial buildings by requiring metering infrastructure for each dwelling unit, including appropriate water billing safeguards for both tenants and landlords. EBMUD water services shall be conditioned for all development projects that are subject to these metering requirements and will be released only after the project sponsor has satisfied all requirements and provided evidence of conformance with Section 537 of California's Water Code & Section 1954.201-2019 of California's Civil Code.

EBMUD's Central Pressure Zone, with a service elevation between 0 and 100 feet, will serve the proposed project. Main extensions that may be required to serve individual development projects to provide adequate domestic water supply, fire flows, and system redundancy will be at the project sponsor's expense. EBMUD owns and operates distribution pipelines in all of the streets within the proposed corridor of the project area. These pipelines are necessary to provide continuous service to EBMUD customers in the area. Pipeline and fire hydrant relocations and replacements, due to modifications of existing streets, and off-site pipeline improvements, also at the project sponsor's expense, may be required depending on EBMUD metering requirements and fire flow requirements set by the local fire department. Please see the attached EBMUD documents for California (Waterworks Standards) Code of Regulations, Title 22, Section 64572 (Water Main Separation) and EBMUD requirements for placement of water mains. When the development plans are finalized, the project sponsor should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions of providing water service to the development. Engineering and installation of new and relocated pipelines and services require substantial lead time, which should be provided for in the project sponsor's development schedule.

EBMUD's Standard Site Assessment Report and the project's Notice of Preparation indicate the potential for contaminated soils or groundwater to be present within the project site boundaries. The project sponsor should be aware that EBMUD will not install piping or services in contaminated soil or groundwater (if groundwater is present at any time during the year at the depth piping is to be installed) that must be handled as a hazardous waste or that may be hazardous to the health and safety of construction and maintenance personnel wearing Level D personal protective equipment. Nor will EBMUD install piping or services in areas where groundwater contaminant concentrations exceed specified limits for discharge to the sanitary sewer system and sewage treatment plants. The project sponsor must submit copies to EBMUD of all known information regarding soil and groundwater quality within or adjacent to the project boundary and a legally sufficient, complete and specific written remediation plan establishing the methodology, planning and design of all necessary systems for the removal, treatment, and disposal of contaminated soil and groundwater.

EBMUD will not design piping or services until soil and groundwater quality data and remediation plans have been received and reviewed and will not start underground work until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists, or the information supplied by the project sponsor is insufficient, EBMUD may require the project sponsor to perform sampling and analysis to characterize the soil and groundwater that may be encountered during excavation, or EBMUD may perform such sampling and analysis at the project sponsor's expense. If evidence of contamination is discovered during EBMUD work on the project site, work may be suspended until such contamination is adequately characterized and remediated to EBMUD standards.

WASTEWATER SERVICE

EBMUD's Main Wastewater Treatment Plant (MWWTP) and interceptor system are anticipated to have adequate dry weather capacity to accommodate the proposed wastewater flows from this project and to treat such flows provided that the wastewater generated by the project meets the requirements of the EBMUD Wastewater Control Ordinance. However, wet weather flows are a concern. The East Bay regional wastewater collection system experiences exceptionally high peak flows during storms due to excessive infiltration and inflow (I/I) that enters the system through cracks and misconnections in both public and private sewer lines. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide primary treatment and disinfection for peak wet weather flows that exceed the treatment capacity of the MWWTP. Due to reinterpretation of applicable law, EBMUD's National Pollutant Discharge Elimination System (NPDES) permit now prohibits discharges from EBMUD's WWFs. Additionally, the seven wastewater collection system agencies that discharge to the EBMUD wastewater interceptor system ("Satellite Agencies") hold NPDES permits that prohibit them from causing or contributing to WWF discharges. These NPDES permits have removed the regulatory coverage the East Bay wastewater agencies once relied upon to manage peak wet weather flows.

A federal consent decree, negotiated among EBMUD, the Satellite Agencies, the Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB), requires EBMUD and the Satellite Agencies to eliminate WWF discharges by 2036. To meet this requirement, actions will need to be taken over time to reduce I/I in the system. The consent decree requires EBMUD to continue implementation of its Regional Private Sewer Lateral Ordinance (www.eastbaypsl.com), construct various improvements to its interceptor system, and identify key areas of inflow and rapid infiltration over a 22-year period. Over the same time period, the consent decree requires the Satellite Agencies to perform I/I reduction work including sewer main rehabilitation and elimination of inflow sources. EBMUD and the Satellite Agencies must jointly demonstrate at specified intervals that this work has resulted in a sufficient, pre-determined level of reduction in WWF discharges. If sufficient I/I reductions are not achieved, additional investment into the region's wastewater infrastructure would be required, which may result in significant financial implications for East Bay residents.

To ensure that the proposed project contributes to these legally required I/I reductions, the lead agency should require the project applicant to comply with EBMUD's Regional Private Sewer Lateral Ordinance. Additionally, it would be prudent for the lead agency to require the following mitigation measures for the proposed project: (1) replace or rehabilitate any existing sanitary sewer collection systems, including sewer lateral lines to ensure that such systems and lines are free from defects or, alternatively, disconnected from the sanitary sewer system, and (2) ensure any new wastewater collection systems, including sewer lateral lines, for the project are constructed to prevent I/I to the maximum extent feasible while meeting all

requirements contained in the Regional Private Sewer Lateral Ordinance and applicable municipal codes or Satellite Agency ordinances.

EBMUD owns and operates a 48-inch diameter wastewater pipeline in Second Street, which provide continuous service to EBMUD's customers in the area. Any proposed construction activity in Second Street would need to be coordinated with EBMUD so that the integrity of this pipeline is maintained at all times. If the project will require quit claiming a portion of the public road, then a permanent right of way and continued access will need to be provided for the EBMUD facilities in Second Street.

WATER RECYCLING

EBMUD's Policy 9.05 requires that customers use non-potable water, including recycled water, for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant, fish and wildlife to offset demand on EBMUD's limited potable water supply. Appropriate recycled water uses include landscape irrigation, commercial and industrial process uses, toilet and urinal flushing in non-residential buildings, and other applications.

EBMUD's current recycled water infrastructure and service does not extend to the project limits, however, the site is located within EBMUD's East Bayshore Recycled Water Project designated service boundaries and as part of the EBMUD's long term water supply planning, future expansion plans will extend recycled water along Interstate-80 adjacent to the project area.

As EBMUD advances plans and implements its recycled water supply expansion, EBMUD requires the City and project sponsors to coordinate closely with EBMUD and provide an estimate of expected water demand for potential recycled water uses for each specific project during the planning of the project to further explore the options and requirements relating to recycled water use. Accordingly, EBMUD will continue to assess and consider the feasibility of providing recycled water to the project area for appropriate uses.

WATER CONSERVATION

The project presents an opportunity to incorporate water conservation measures. EBMUD requests that the City include in its conditions of approval a requirement that the project sponsor comply with Assembly Bill 325, "Model Water Efficient Landscape Ordinance," (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense.

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

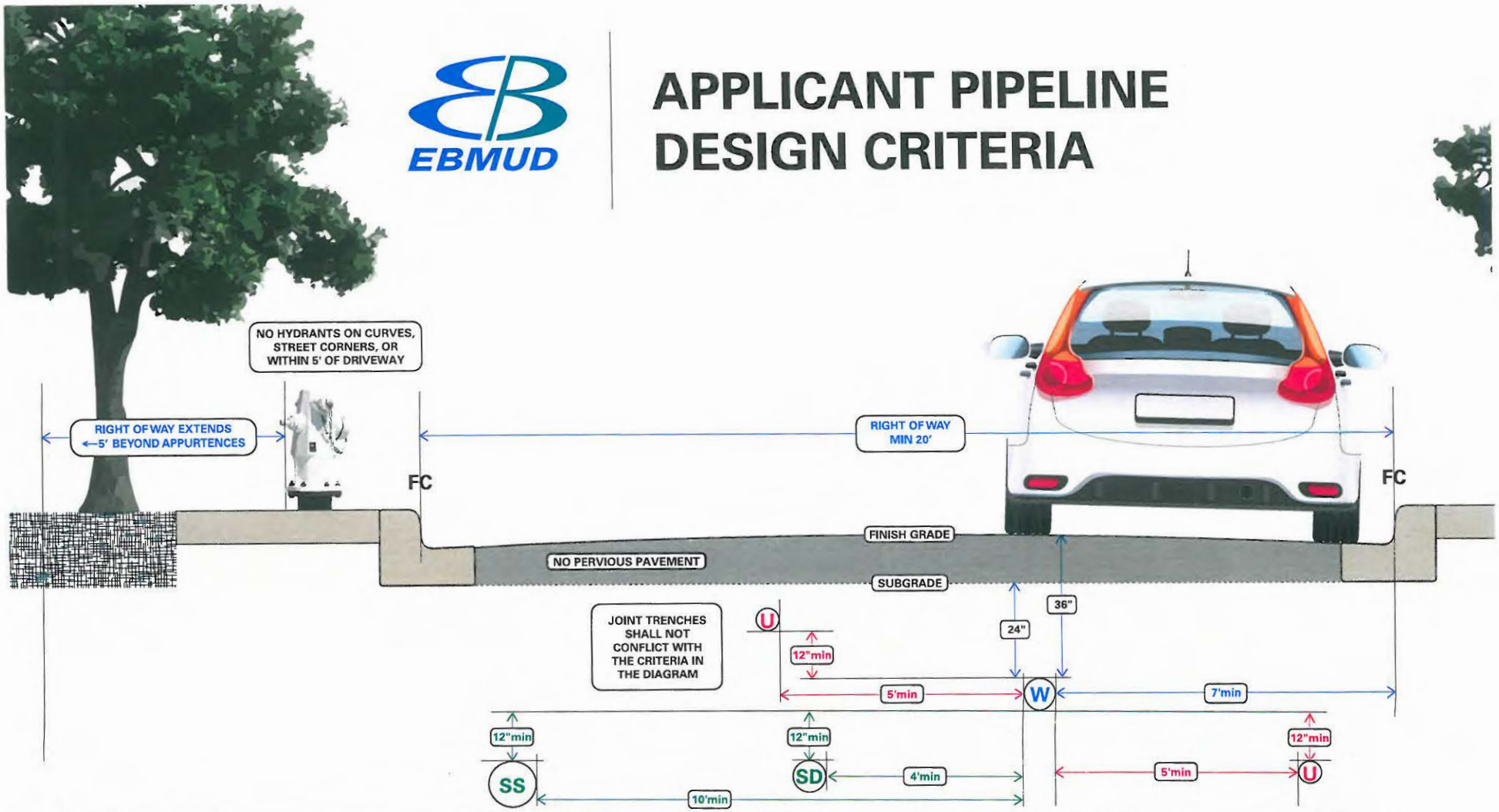
Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:EZ:kvv
wdpd23_005 Gilman Gateway Rezone Project

Enclosure: Applicant Pipeline Design Criteria

APPLICANT PIPELINE DESIGN CRITERIA



W = WATER
24" cover to subgrade
36" cover to final grade
7' inset from face of curb

U = UTILITY
min 12" vertical clearance
min 5' horizontal clearance

SS = SANITARY SEWER
min 12" below water
min 10' horizontal clearance

SD = STORM DRAIN
min 12" below water
min 4' horizontal clearance

FC= FACE OF CURB

4203 • 5/21

EAST BAY
MUNICIPAL UTILITY DISTRICT

Applicant Pipeline Design Criteria

EBMUD values applicant pipeline projects and is committed to providing a thorough and efficient design. To ensure an efficient design process and to avoid significant delays the design criteria below should be adhered to when submitting improvement plans.

Design Criteria

- Water mains shall be seven (7) feet from face of curb.
- Water mains shall maintain a minimum one (1) foot vertical and five (5) foot horizontal clearance from other utilities.
- Gas mains shall meet the one (1) foot vertical separation requirement by installing the gas main below the water main only.
- Water mains shall maintain a minimum ten (10) foot horizontal clearance (O.D. to O.D.) and be located a minimum one (1) foot above any sewer main. Title 22 CCR
- Water mains shall maintain a minimum four (4) feet horizontal clearance (O.D. to O.D.) and be located a minimum one (1) foot above any storm drain. Title 22 CCR
- Water mains shall have a 36-inch cover to final grade and 24-inch cover to pavement subgrade.
- Joint trenches that are in conflict with the criteria above may delay the project. Submit to EBMUD final joint trench plans (no intent plans) which include the size of the joint trench and the utilities located inside.
- Water mains shall not be installed under pervious pavement.
- Water mains installed under decorative pavement, pavers, or stamped concrete will require an additional paving agreement.
- Hydrants shall not be located on curved sections of street, street corners, or within five feet of a driveway.
- Right of ways for 6-inch and 8-inch water mains shall be a minimum of 20 feet wide and extend five (5) feet past the water main centerline.
- Right of ways for 12-inch to 24-inch water mains shall be a minimum of 20 feet wide and extend eight (8) feet past the water main centerline.

Please contact the New Business Office representative assigned to your project if there are any questions regarding the requirements listed above. Meeting this criteria will enable the most efficient design possible.

March 2021

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

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Yokayo Pomo, Yuki, Nomlaki

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Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[Vacant]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 14, 2023

Ashley James
City of Berkeley

Via Email to: AJames@cityofberkeley.info

Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Gilman Gateway Rezone Project, Alameda County

Dear Ms. James:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was positive. Please contact the tribes on the attached list for more information.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address:

Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Alameda County
2/14/2023

Amah MutsunTribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road — Costanoan
Lakeport, CA, 95453
Phone: (650) 851 - 7489
Fax: (650) 332-1526
amahmutsuntribal@gmail.com

Costanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street — Costanoan
Pomona, CA, 91766
Phone: (909) 629 - 6081
Fax: (909) 524-8041
rumsen@aol.com

Guidiville Indian Rancheria
Donald Duncan, Chairperson
P.O. Box 339 — Pomo
Talmage, CA, 95481
Phone: (707) 462 - 3682
Fax: (707) 462-9183
admin@guidiville.net

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD Contact
1615 Pearson Court — Costanoan
San Jose, CA, 95122
Phone: (408) 673 - 0626
kanyon@kanyonkonsulting.com

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28 — Costanoan
Hollister, CA, 95024
Phone: (831) 637 - 4238
ams@indiancanyons.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Charlene Nijmeh, Chairperson
20885 Redwood Road, Suite 232 — Costanoan
Castro Valley, CA, 94546
Phone: (408) 464 - 2892
cnijmeh@muwekma.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano, Vice Chairwoman
20885 Redwood Road, Suite 232 — Costanoan
Castro Valley, CA, 94546
Phone: (408) 205 - 9714
monicavarellano@gmail.com

North Valley Yokuts Tribe
Katherine Perez, Chairperson
P.O. Box 717 — Costanoan
Linden, CA, 95236 — Northern Valley
Phone: (209) 887 - 3415 — Yokut
canutes@verizon.net

North Valley Yokuts Tribe
Timothy Perez,
P.O. Box 717 — Costanoan
Linden, CA, 95236 — Northern Valley
Phone: (209) 662 - 2788 — Yokut
huskanam@gmail.com

The Ohlone Indian Tribe
Andrew Galvan, Chairperson
P.O. Box 3388 — Bay Miwok
Fremont, CA, 94539 — Ohlone
Phone: (510) 882 - 0527 — Patwin
Fax: (510) 687-9393 — Plains Miwok
chochenyo@AOL.com

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. — Foothill Yokut
Salinas, CA, 93906 — Mono
Phone: (831) 443 - 9702
kwood8934@aol.com

The Confederated Villages of Lisjan
Corrina Gould, Chairperson
10926 Edes Avenue — Bay Miwok
Oakland, CA, 94603 — Ohlone
Phone: (510) 575 - 8408 — Delta Yokut
cvltribe@gmail.com

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65352.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed Gilman Gateway Rezone Project, Alameda County.

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

GILMAN GATEWAY REZONE PROJECT SCOPING SESSION NOTES

On February 1, 2023, the City of Berkeley Planning Commission held a Scoping Session for the Environmental Impact Report (EIR) to be prepared for the proposed Gilman Gateway Rezone Project (proposed project). On February 2, 2023, the City of Berkely Landmarks Preservation Commission held a second Scoping Session for the EIR to be prepared for the proposed project. At both scoping sessions, LSA provided an overview of the California Environmental Quality Act (CEQA) process, which was followed by questions and comments from the public and the respective Commissions. While comments related to the merits of the proposed project were made at these meetings, these notes only summarize questions and comments generally related to the environmental review documentation.

Planning Commission

Commission Member Questions and Comments

Elisa Mikiten, Chair

- Is one of the alternatives discussed in the EIR keeping the project site zoned Manufacturing (M)?
    - City Response: Yes. A "No Project Alternative" will be discussed and analyzed pursuant to CEQA, which will analysis environmental impacts if the project site were to be left in its existing condition.
- The proposed M-RD zoning district does not need to be more targeted than the MULI zoning district.
- Include bio swales, landscaping, and street tree design in project design instead of restricting lot coverage for the purpose of increasing open space. A 50% lot coverage restriction is not necessary, but the commission should defer to City staff for the best lot coverage standard.
- Design standards for the proposed M-RD zoning district are not necessary.
- Suggested pursuing an EIR for the rezoning of the project site to M-RD and an IS/MND for the proposed SPUR development project at the same time.

Blaine Merker

- Concern with how the lot coverage restriction and open space standard would affect potential development, specifically as it relates to building height.
- Who is the open space for? Is it a destination for visitors or for employees?
- The EIR should analyze a maximum lot coverage scenario.

Barnali Ghosh

- Concerned with the proposed project's impact on transportation in the area. There should be mitigation for improving bike and pedestrian circulation in order to support local businesses in the area.
- Keeping the existing M parking standards is okay.
- The project should include car share and transit programs.
- Design standards are not necessary, and the lot coverage standard should be increased, but building height is fine. Supportive of up to a 75% lot coverage standard.
- In favor of keeping the character of the existing buildings.
- When will City staff decide on the best zoning path (zoning overlay or new zoning district) for the project site?
    - City Response: The City is moving as fast as they can. Draft zoning district language could be discussed at the April Planning Commission meeting. However, no zoning amendment can be approved until certification of the EIR.
- How do you complete the EIR without the project description? When do we get the project description to ensure that the CEQA process is in-line with the proposed project?
    - City Response: LSA has drafted the project description, which has gone through multiple rounds of review by the City. Comments received during this meeting will provide final revisions to the project description.
    - LSA: Regardless of the zoning path, the rezoning of the project site would result in up to a million square feet of R&D uses. This is what the project description describes and what the environmental analysis will be based on.
- Suggested that alternatives include a 75% lot coverage standard and a 100% lot coverage standard.
    - City Response: Typically, the alternatives analysis discusses alternatives that reduce the project scale in order to reduce environmental impacts.

Jeff Vincent

- Time is of the essence. The Council identified this rezoning issue as its highest priority. Concern with timeline and straying too far from the Council's referral.

- Objective design standards are not necessary. Concern that design standards would block or discourage development.

- The 50% lot coverage restriction is too low. The zoning district should allow more lot coverage. The analysis in the EIR should be based on the most conservative assumption regarding lot coverage.

- Is the EIR schedule presented at the meeting accurate regardless of whether a zoning overlay or new zoning district is created? How soon could Staff return with revised language?

    - City Response: The City is currently finalizing the project description and will return with revised language as soon as possible. The phases outlined in the schedule will stay the same regardless of what zoning path is pursued, but the timing may change depending on when the technical studies are received. The CEQA process would stay the same regardless of if a new district or a new overlay is pursued. At this point, pursuing a Mitigated Negative Declaration (MND) would take longer than continuing with an EIR as the current CEQA process would have to be paused, and a new CEQA process initiated.

Alfred Twu

- The lot coverage restriction is not necessary and should not be lowered.

- Design standards are not necessary.

Public Questions and Comments

Betsy Morris, Grey Panthers of Berkeley

- Concern with the displacement of people who use the project area for informal housing. The project site and surrounding area is a distinctive place within West Berkeley and has always had informal housing. This informal housing has been driven out by new development. There are 400-500 vehicle dwellings in the area, and they will be displaced with implementation of the proposed project. The EIR should address the jobs/housing balance in Berkeley. The proposed project is taking away the only place in Berkeley to have a safe parking/living area. There are other R&D projects being proposed in the area.

Kelly

- The project area is in an earthquake zone, and this should be considered in the EIR.

- Is DTSC going to allow capping or the actual removal of contaminants? If capping, the EIR should take sea level rise and potential pollution of groundwater into consideration.

- Concern with the proposed project's impact on ecosystems near the bay, specifically the project's impact on birds. Bird safe glass should be used throughout the project and there should be efforts to restore ecosystems.

Ms. Omowale Fowles

- The project site is on traditional Ohlone land and the EIR needs to address this.
- The City's Precautionary Principal needs to be discussed in regards to the project.
- Concern with the height of the buildings and the impact of shadows, temperature fluctuations, and restricting clean air flow from the bay on housing and businesses in the area.
- Concern regarding Eminent Domain issues. The impact on homeowners needs to be addressed in the EIR.

Landmarks Preservation Commission

Commission Member Questions and Comments

Charles Enchill, Chair

- Excited for the release of the EIR.
- Once the Historical Resources Evaluation (HRE) has been drafted and is available for review, the Commission would like to provide comments on the HRE.

Steve Finacom

- Concern with the content and quality of the HRE. HREs can be extremely incomplete and problematic and because the proposed project appears to replace everything on the site, the HRE will require very throughout analysis. Actual research, not just desktop review, should be conducted for the site. The HRE should include many photos (historical and of existing conditions), tract maps, and thorough documentation of the existing buildings with individual analysis. What consulting firm will be preparing the HRE? When will we know who is preparing the HRE? Who at LSA will be performing the peer review of the HRE? Requests the Commission be notified when the HRE is submitted and available to the public.
    - City Response: The project applicant for the proposed development project will facilitate the preparation of the HRE by contracting out to a consultant. At this time, because the City has not received the HRE, the consultant is unknown. The City will ensure that the Commission is notified when the HRE is submitted to the City and made available to the public.
    - LSA Response: LSA will perform a thorough peer review of the HRE on behalf of the City to ensure accuracy and completeness. The peer review will be conducted by one of the expert LSA architectural historians.

- The materials shared with the Commission by the proposed development project applicant indicated that the project site is located at an elevation above the estimate for maximum sea level rise. What is this estimate and how was this assumption made? Will LSA operate under this assumption or investigate the issue with current information available?

    - LSA Response: This information was provided by the proposed development project applicant. LSA will perform separate analysis in the EIR to determine the impacts of sea level rise on the project site.

- Concern with the scale of the proposed development project. Given that the full buildout of the project site includes large buildings, up to 105 feet in height, and large blocks of buildings, aesthetics should be heavily evaluated in the EIR. Design review has been done on other similar projects. These types of projects significantly change the visual character of the area. Buildings in these types of projects are typically bland looking and close off the street.

- Concern on the multiple, large, proposed parking garages described in the proposed development project's concept plan. Similar projects with large numbers of parking spaces have caused transportation and traffic issues in the area. Traffic and transportation impacts should be discussed in the EIR.

- Concern with the proposed environmental review process schedule, specifically with the NOP public comment period close date and the anticipated date of release of the Final EIR for public review in Winter 2023. The NOP public comment period closes on February 27, 2023, two days before the next Commission meeting, leaving the Commission no time to prepare a comment letter. Request that the NOP public comment period be extended by a week. The City and the University have a history of releasing controversial EIRs when people who may comment on them are gone or on vacation. Suggest modifying the proposed schedule to remedy this issue.

Public Questions and Comments

No public questions or comments were received.

APPENDIX B

CULTURAL RESOURCES EVALUATION

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Preliminary Cultural Resources Evaluation of the 2nd and Gilman Street Project, City of Berkeley, Alameda County, California

Prepared by:
Archeo-Tec
5283 Broadway
Oakland, CA 94618

Prepared for:
Spur Capital

At the Request of:
Rhodes Planning Group
2140 Shattuck Avenue
Berkeley, CA 94704

Original and Confidential Version – June 2022
Edited and Redacted Version - November 2022

**Specific site location descriptions have been removed. Archaeological site numbers have been replaced with general and/or common names.

Executive Summary

The proposed 2nd and Gilman Street Project entails redevelopment of approximately 10.5 acres of land located just inland from the San Francisco Bay shoreline in the West Berkeley neighborhood of Berkeley, California. The Project lies in an area that is generally deemed culturally sensitive due to proximity to significant Native American shellmound sites. Many of those deposits have been found to contain human remains.

This preliminary cultural resources evaluation includes an interpretation of the historical, environmental, ethnographic, and archival data relevant to an understanding of the cultural sensitivity of the proposed Project Site. A program of archaeological monitoring of limited geotechnical investigations was also completed.

The archival literature review found no known archaeological resources within the Project Site itself, which had never been subject to a formal archaeological study. However, one prehistoric-period shell midden site, whose name and precise location have been redacted, has been identified in very close proximity to the proposed Project site.

Archaeological monitoring of direct push geotechnical borings was conducted with the goal of identifying potential archaeological resources in advance of Project design and planning. Though no clear evidence of prehistoric-period shell midden was identified in the cores, soil strata generally consistent with a nearby site were observed. Given the Project's extremely close proximity to a prehistoric midden site it is possible, even likely, that important prehistoric resources exist within the Project boundaries.

The Project is currently in its very preliminary stages. As such, formal mitigation measures have not yet been issued. A program of pre-construction subsurface archaeological testing is advised for the entire Project site, with a focus on the area closest to the known site. The program, which would also include archaeological monitoring of existing building foundation demolition prior to testing, would aim to identify cultural resources and characterize their nature and extent such that avoidance of the resource—or, if the resource cannot be avoided, data recovery (full documentation)—can be incorporated into Project plans as mitigation.

In addition to pre-construction testing and demolition monitoring, a qualified archaeologist should monitor all soils-disturbing activities (e.g., topsoil removal, mass excavation, subsurface utility installation, and grading). This is especially important in the most sensitive area of the site, nearest to a known, adjacent precontact-period site. Based on comprehensive fieldwork findings, construction monitoring may be reduced to spot checks in some portions of the Project site at the discretion of the archeological consultant.

If potentially significant cultural resources are identified, and cannot be avoided, a customized and targeted data recovery program that would evaluate and fully document all recovered cultural resources, should be implemented. It must be emphasized that due to the close proximity of known cultural resources, archaeological monitoring (and, if necessary, concomitant data recovery) is warranted during construction excavation regardless of the results of testing.

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Introduction

This report describes the results of a Preliminary Cultural Resources Evaluation for the 2nd and Gilman Street Project (2nd and Gilman Project or Project), located in the West Berkeley neighborhood of the City of Berkeley, Alameda County, California. The parcels comprising the proposed site are bounded to the north by Gilman Street, to the south by Page Street, to the west by the Eastshore Highway, and to the east by the Union Pacific Railroad tracks (Figure 1).

This document has been prepared for Rhodes Planning Group as a preliminary study for the purposes of evaluating the archaeological sensitivity of the proposed Project parcel. The evaluation is a result of a systematic review of relevant archival and historical documents, including maps, newspaper articles, historic photographs, and records on file at the Northwest Information Center at Sonoma State University in Rohnert Park, as well as archaeological monitoring of 13 geotechnical borings.

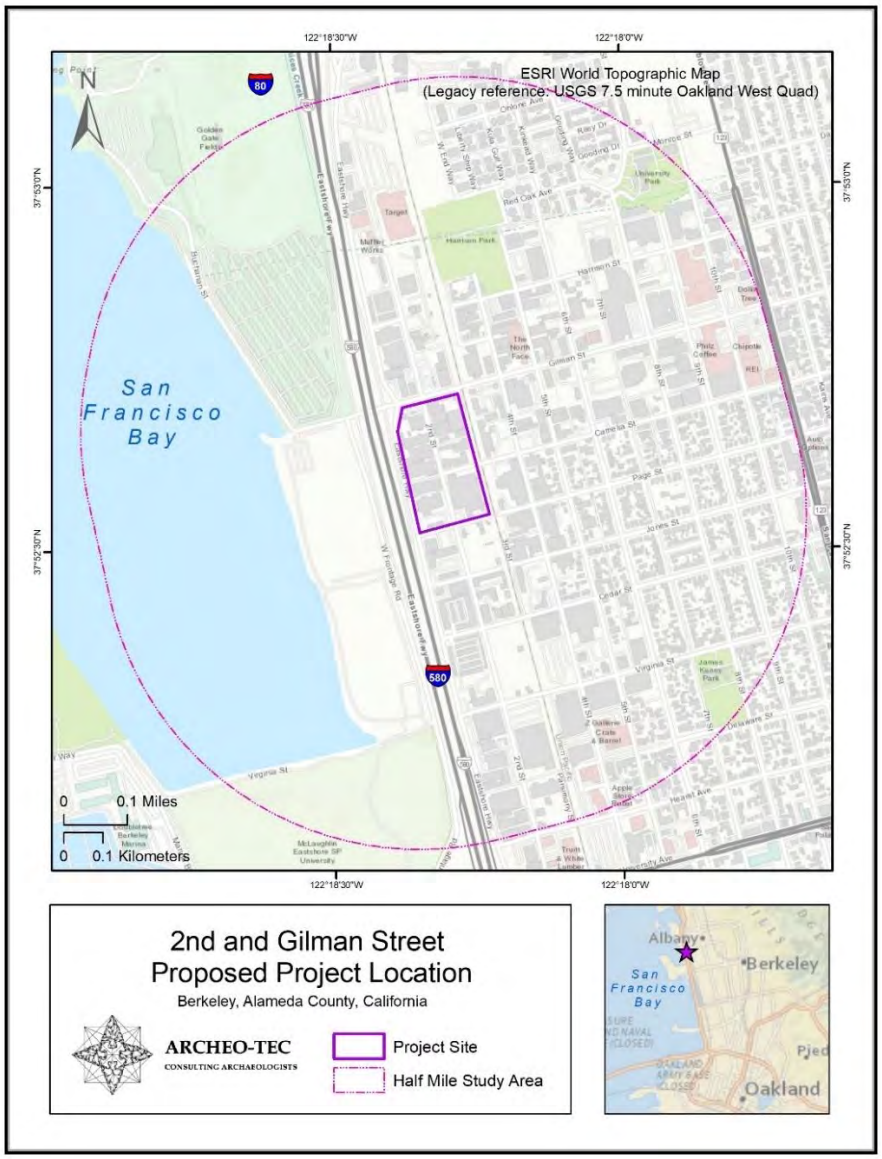

Figure 1: Project Location Map

Project Site

The subject property consists of 10.5 acres of land composed of 18 individual parcels (Table 1) and currently houses structures comprising the former Pacific Steel Casting Company, Berkeley Steel Construction Company, and the Berkeley Forge & Tool facilities.

The proposed Project would result in the demolition of all the currently existing buildings and the construction of several four-story buildings (totaling approximately 900,000 gross square feet) as well as a number of parking garages. At present, detailed design and prospective construction specifications have not been completed, so the cultural resources assessment herein consists of a general overview of the history of the subject property with an emphasis on an analysis of the prospects of encountering historically significant prehistoric or historic period cultural resources at one or more locations therein.

Table 1: Parcels Comprising the Proposed Project Site

Address	Parcel Number (APN)
1331 Eastshore Highway	59-2344-1-2
1433 Eastshore Highway	59-2341-3-2
1401 Eastshore Highway	59-2344-7
1421 2nd Street	59-2341-4
1420 2nd Street	59-2340-8-2
1330 2nd Street	59-2341-5
1320 2nd Street	59-2344-5-1
1314 2nd Street	59-2344-4-1
1333 2nd Street	59-2345-9
1337 2nd Street	59-2345-8-1
1310 3rd Street	59-2345-2-2
1314 2nd Street	59-2344-3-1
1306 3rd Street	59-2345-2-1
631 Camelia Street	59-2345-7
635 Camelia Street	59-2345-6-1
643 Camelia Street	59-2345-4
600 Gilman Street	59-2344-2-1
640 Gilman Street	59-2345-1

Regulatory Context

CEQA requires that the CEQA Lead Agency consider the effects of a project on significant archaeological resources (termed "historical resources" under CEQA) and Tribal Cultural Resources (resources of cultural value to local Native American groups) as part of the environmental review process. The City of Berkeley serves as Lead Agency for this Project. The purpose of the investigations described herein was to determine, through subsurface investigations and construction monitoring, whether historic properties are present within the Project footprint and if so, if they would be affected by Project development. Principal Investigator Allen Pastron, Ph.D., who supervised all work, meets the Secretary of the Interior's Professional Qualification Standards.

An archaeological resource is considered a historical resource under CEQA if it meets the following eligibility requirements of the California Register of Historical Resources (CRHR):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons significant in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important to prehistory or history [Public Resource Code SS5424.1, Title 14 CCR, Section 4852].

Archaeological sites are most commonly eligible under Criterion 4 of the CRHR. Because of the rarity of this resource type in Berkeley, prehistoric archaeological deposits in Berkeley are assumed by the City of Berkeley to qualify as historical resources, even if integrity appears impacted (for example, if the cultural materials have been disturbed or re-deposited), unless determined through archaeological assessment and analysis not to meet California Register criteria. Comprehensive archaeological evaluation is generally needed to assess data potential and thus determine significance of such deposits.

The existence and significance of Tribal Cultural Resources is determined through consultation with the Native American Heritage Commission (NAHC) and local Native American groups. In Berkeley, based on the results of Native American consultation conducted under AB 52, all archaeological resources of Native American origin are presumed to be potential Tribal Cultural Resources. For these resources, preservation in place is the preferred option. If this is not feasible, then public interpretation of the resource and associated archaeological findings, with Native American participation, is required.

Native American Consultation

Native American consultation is an important component of any project with the potential for ancient sites. Even if prehistoric cultural resources are not found during testing or monitoring, this consultation will nonetheless be important and should be initiated as soon as possible.

Discovery of Human Remains

Per California Health and Safety Code §7050.5 and California Public Resources Code §5097.98, the following procedures will be followed in the event that human remains and associated cemetery/grave items are encountered. Associated cemetery/grave items are any items (e.g. clothing, funerary gifts, etc.) that are buried with the individual, as well as any cemetery furniture, architecture, fencing, or other features associated with the cemetery itself. This definition applies to both prehistoric and historic period cemeteries. The term "grave" also extends to cremation pits containing (non-intact) human remains.

Upon discovery, the Coroner Division of the Alameda County Sheriff's Office will be contacted for identification of human remains. The Coroner shall have two working days to examine the remains after being notified.

If the remains are Native American, the Coroner must notify the Native American Heritage Commission (NAHC) of the discovery within 24 hours. The NAHC will then identify and contact a Most Likely Descendant (MLD). The MLD may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods. Once proper consultation

has occurred, a procedure that may include the preservation, excavation, analysis, and curation of artifacts and/or reburial of those remains and associated artifacts will be formulated and implemented.

If the remains are not Native American, the Coroner will consult with the archaeological research team and the lead agency to develop a procedure for the proper study, documentation, and ultimate disposition of the remains. If a determination can be made as to the likely identity—either as an individual or as a member of a group—of the remains, an attempt should be made to identify and contact any living descendants or representatives of the descendant community. As interested parties, these descendants may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods.

Geological and Environmental Context

In order to adequately assess the archaeological potential of a landscape, it is important to understand the processes of landscape evolution—especially deposition, erosion, and slope stability. These processes ultimately control the spatial patterning of human landscape use, and are the main factors that preserve, erase, or modify the archaeological record (Beeton 2007).

The 2nd and Gilman Project site sits upon a low-lying plain that is underlain by Quaternary (primarily Holocene) alluvial fan and levee deposits. Dore et al. (2004) have argued (based on extensive coring work done in 2001) that the West Berkeley area is a zone of bajada development that began during the Pleistocene. This adds to the work of Graymer (2000), who mapped large alluvial fan deposits from that time period west of the Hayward fault, but only Holocene age deposits (11,700 years ago to present) west of approximately San Pablo Avenue. Thus, it seems that at depth, west of San Pablo Avenue and extending to the Bay shoreline, creeks and sloughs have deposited levee and overbank sediments since at least the Pleistocene. This is confirmed by the work of Meyer (2011), who analyzed cores taken west of the Eastshore Highway along University Avenue.

The source material for this bajada and levee development was the stratigraphic sequence of the Berkeley Hills, from which the headwaters of Schoolhouse and Strawberry creeks originate. The stratigraphic sequence of the Berkeley Hills is largely confined to middle and upper Miocene age units (ca. 16-8.2 Ma) that are clearly distinct. From oldest to youngest, these include the Sobrante Formation, the Claremont Chert, the Orinda Formation, the Moraga Formation, the Siesta Valley Formation, and the Bald Peak Basalt. In addition to this Miocene package, creeks cuts through fragments of Jurassic to Late Cretaceous age rocks of the Franciscan and Great Valley Complexes.

Also important to the formation of the area underlying 2nd and Gilman Project Site are the dynamic ecological and environmental factors since the end of the last glacial maximum. Approximately 15,000 years ago, the Pacific was nearly 25 kilometers to the west of its current location (Moratto 1984). During this time, the San Francisco Bay, or rather the Franciscan Valley, was a low-lying plain cut by the now-vanished California River. The valley supported riparian forests and oak savannahs and was home to tule elk, deer, pronghorn antelope, and other megafauna that are now wholly or locally extinct (Rosenthal and Meyer 2004). When glaciers began to recede, near the end of the Pleistocene, sea levels rose worldwide such that by 8,000 years ago, waters began to inundate the Franciscan Valley, creating San Francisco Bay. These events submerged old shorelines, created marshlands, and led to extensive bay mud accumulations.

The rate of sea level rise in San Francisco Bay increased dramatically between 8,000 and 6,000 years ago (Atwater 1979; Atwater et al. 1977; Stanley and Warne 1994; Wells 1995; Wells and Gorman 1994) and by 5,000 years ago was within approximately 8 meters of its current level (Naidu 1982). A relatively warm and dry Altithermal Period began about 6,000 years ago and lasted for several millennia. This caused increased glacial melting and sea level rise (Zachos et al. 2001). Cool and moist conditions then predominated until about 1,500 years ago, when warm and dry conditions returned (Moratto et al. 1978). The drainage known as Schoolhouse Creek lay just south of the Project site; that small waterway would have played an important role in sedimentation and soil formation in the area as it drained the Berkeley Hills into the marsh and slough west of the Project site.

Fluctuating sea levels, bay tides, and winds, in combination with ever-meandering stream drainages and marshes thus made for a constantly changing bayshore environment. As sea level rose, much of what had once been land was inundated or eroded. Amidst all this change, only stable alluvial landforms would have been acceptable for habitation. In the Bay Area, such intact deposits of buried alluvium especially those near the shoreline, are generally interpreted as sensitive for prehistoric cultural resources. Geologically, this stratigraphic layer corresponds to the time of the occupation of the West Berkeley Shellmound Complex (as early as about 2000 BC).

A geomorphological study, based on cores recovered from near the Project Site, determined that the Project vicinity exbibits “extensive horizontal variability of soils” with “tidal beach sands and estuarine marsh deposits with pockets of discrete stable landforms” (Ryan and Newland 2016:3). Small portions of an intact, prehistoric site identified in that study were located superior to just one such stable landform “island”. The dynamism of the geomorphological processes and soils means that predicting where remnants of stable alluvial deposits, and therefore possible remnants of prehistoric cultural resources, may lie beneath the current ground surface of the Project Site is extremely difficult.

Finally, it is important to consider historic-era and modern ground modifications to the Project site. Although now situated approximately three hundred meters inland, almost half of the of the Project site was once an estuarine marsh of San Francisco Bay. In the early 20th century, the marsh and its slough appear to have been choked and partially filled to the effect that the Project site lay almost directly along the San Francisco Bay shoreline.

In the late 1930s, construction of the Eastshore Highway entailed extensive infilling of the bay shallows west of the Project site. The result is that the shoreline was artificially shifted to the west. Therefore, all ground surfaces between the current shoreline and the western portions of the Project site are composed of imported, artificial fill overlying geologically recent shoreline sands and marshy clays.

Ethnographic Context

Humans have been continuously occupying California and the San Francisco Bay region for at least 12,000 years (Bartelink 2009; Erlandson et al. 2007). The earliest sites are in Lake, Sonoma, and Santa Cruz counties. In the San Francisco Bay Area, a human burial dating to 5490 cal BC was recovered from the Los Vaqueros Reservoir (Milliken et al. 2007:114), but sites dating to the Early Holocene/Lower Archaic (cal 8000-3500 BC) are extremely rare. During that time, people were high mobile foragers, who used large leaf-shaped projectile points and handheld milling stones.

The Early Period/Middle Archaic (3500-500 BC) saw a general trend towards increased stone technologies, trade, and sedentism. This period is characterized by further niche specialization, a refinement of various technologies, specialized exploitation of plant and animal species, and increased sedentism. Many of the sites dating to this period in the San Francisco Bay region are shellmounds, which are midden sites containing large quantities of mollusk shells. This site type in the San Francisco Bay Area includes the West Berkeley Shellmound, which was occupied as early as 4000 BP (2000 BC) The West Berkeley shellmound yielded artifacts such as stone net sinkers; an abundance of mortars, pestles, and bone implements; rectangular shell beads; weapon tips and knives, and bipointed bone objects (Wallace 1978:34). Shellmounds were used for both habitation and the interment of human burials. In the early 20th century, archaeologist N.C. Nelson recorded over four hundred shellmounds around the edge of the San Francisco Bay (Nelson 1909).

The Middle Period/Upper Archaic (500 BC-1050 AD) is marked by major changes in artifacts styles (especially beads) around 500 BC. In 430 AD, a “dramatic cultural disruption” resulted in changes to both artifact styles and burial practices (Milliken et al. 2007:115–116). What caused these changes is unclear but two general hypotheses have been posited: population pressure and migration.

The 2nd and Gilman Project is situated in what was, prior to the arrival of the first Europeans in the closing decades of the 18th century, the approximate geographical center of the extensive territory occupied by the Ohlone people. Originally called “Costanoans” after the Spanish derivative for "coastal people" (Levy 1978), the terms Ohlone/Costanoan imply a close linguistic affiliation encompassing six (Golla 2011) or seven (Kroeber 1925) distinct dialect clusters.

The Costanoan languages derive from Penutian Stock (Callaghan 1967; Pitkin and Shipley 1958), a theoretical linguistic construct which appears to have its origins in the northwestern Great Basin (Hattori 1982). Penutian-speaking peoples presumably slowly migrated into Central California, perhaps as early as around 2500 BC (Moratto 1984). The proto-Utian migration (one of an estimated three major Penutian migrations) appears to have entered California from the Great Basin and settled the Sacramento/San Joaquin Basin. This may have been the origins of the Windmiller Pattern, which began around 4,400 years ago and is associated with the great shellmounds of the San Francisco Bay Area (Golla 2007:76). As proto-Utian peoples continued to spread west after 2000 BC, they would have come in contact with existing Hokan populations. This fusion of Hokan and Utian may have become the Miwok and Ohlone cultures (Moratto 1984:553). By 300-500 AD, proto-Ohlone speakers of Penutian stock were firmly ensconced in the San Francisco Bay region.

The 2nd and Gilman Project is located within what was, at the time of contact, part of the tribal territory of the Huchiun Ohlone, who spoke the Chochenyo Ohlone dialect. Although the Ohlone, as an identifiable language and cultural group, often used bayshore shellmounds for their major village centers, they were not the original builders of the most ancient Bay Area mounds. The earliest shellmound components date to approximately 2,000 years before the arrival of the proto-Ohlone to the region. The cultural identity of the earliest shellmounds inhabitants remains unclear even today.

The Ohlone were semi-sedentary collectors and hunters of fish and game. Of major importance to the diet, as documented both ethnographically and archaeologically, were acorns, which were pounded by stone mortar and pestle to create flour or mush. Other key food resources included fish, mollusks, crustaceans, waterfowl, land and sea mammals, and plant seeds. Native people used vegetal material for making nets, cords, and baskets; animal remains and shells for tools and ornamentation; pelts and

feathers for clothing and bedding; and local rock and mineral resources for tools and trade. Exotic materials, such as steatite and particularly obsidian, could be obtained in trade, using for barter such locally available commodities as red ochre and shell. Other valuable resources used to obtain exotic materials in trade with non-coastal peoples included salt and marine food resources.

Usually composed of about fifteen individuals, the family household was the basic social unit. Small tribal groups, or groups of interrelated villages, consisted of around 200 people served as the autonomous political unit: presumably for enforcing equal access to resources for its members and for protection from hostile neighbors. Following the common Central Californian practice, the Ohlone were divided into moieties – the Bear and the Deer.

In 1770, it is estimated that the Ohlone numbered at most around 10,000 (Levy 1978), perhaps fewer (Kroeber 1925). Forty years later, by about 1810, much of the native population and much of their traditional culture and languages had been subjected to the disastrous effects of European encroachment—primarily, the disease and displacement brought by the California mission system and its devastating impacts (Cook 1943; Golla 2011; Hurtado 1989; Milliken 1995). Native peoples remain an important part of the social fabric of the modern Bay Area, but there is no indication that they or their ancestors had a material impact on the Project site after colonization.

Historical Context

Spanish and Mexican Period (1769-1848)

The first Spanish explorer to arrive to San Francisco Bay was Gaspar de Portola and his party in 1769; by 1770, the Fages Expedition had reached the East Bay. Fages made it as far north as Oakland or Emeryville, opposite the Golden Gate, before turning around and heading back south (Fages 1911). The East Bay was again explored in 1772 during the Fages–Crespí Expedition. The Huchiun living in the vicinity of present-day Berkeley in 1772 were said to have “received the alien visitors with great joy” (Milliken 1995).

However, with new contacts came new conflicts and new diseases. By 1832, it is estimated that the San Francisco Bay Area Native American population had declined by 80 percent. Native villages were abandoned, and the people relocated, either voluntarily or by compulsion, to the various Franciscan missions that had been established throughout the region.

Because the Spanish government was having difficulty supplying food and other provisions for the missions and presidios they had founded in Alta California, Governor Felipe de Neve selected several locations for the placement of agricultural settlements (Kyle et al. 1990). Beginning in the first decade of the nineteenth century and continuing until 1822, the lands encompassing the 2nd and Gilman Project Site were part of the extensive East Bay ranch holdings of Mission Dolores in present-day San Francisco and later Mission San Jose in what is now Fremont. As with all mission activities, most of this ranch work depended upon the labor of “Indian neophytes”, from local villages as well as those kidnapped from raided communities throughout Northern and Central California.

Upon Mexico’s independence from Spain in 1822, the missions and former mission lands were supposed to be granted to the Native American residents. Instead, Mexican authorities offered generous land grants to encourage selected families, often those of military officers, to develop large cattle and horse ranchos. The Castro and Peralta families, whose heads were ranking members of the Spanish military, had already requested title to some of these lands in compensation for their past services. By the end of 1823, these

private landholders had taken control of the entire eastern bay shore north of San Leandro Creek (Milliken 1997; Hendry and Bowman 1940).

Peralta's large grant (43,000 acres) was called Rancho San Antonio and included all of present-day Albany, Berkeley, Emeryville, Oakland, Piedmont, and Alameda, as well as part of San Leandro. The primary economic activities of this rancho during the mid-nineteenth century were cattle ranching and lumbering (Hendry and Bowman 1940). The rancho system continued to use Native labor, building upon the exploitative labor practices of the mission system. In 1842, Don Peralta subdivided his immense ranch between his four sons. The present subject property fell within the portion of Rancho San Antonio, which was given to his fourth son, José Domingo Peralta.

In 1841, the first known structure in the area—José Domingo Peralta's residence—was constructed in the vicinity of what today is the intersection of Hopkins Street and Albina Avenue in Berkeley (Hendry and Bowman 1940:592). That location lies just over one mile east of the current Project site. It is unlikely that the Peralta family utilized the present Project area for any purpose except, possibly, cattle grazing. At that time, the route of present-day San Pablo Avenue, which is only eight narrow blocks east of the Project site, was a trail that connected the various ranches scattered throughout the East Bay region. San Pablo Avenue is sufficiently far enough away from the Project area that scattered, isolated items, lost or casually discarded over the years, are very unlikely to have had any lasting impression on the archaeological record of the Project site.

American Period (1849-present)

The discovery of gold in 1848 in the Sierra foothills brought settlers to the area in considerable numbers, and during the 1850s, with California newly annexed to the United States, newcomers associated with the Gold Rush began to settle in the East Bay region in large numbers. During that time, various members of the Peralta family retained formal ownership of virtually all the lands that constitute modern-day Oakland, Berkeley, and Albany. Nevertheless, by the close of the California Gold Rush era, an increasing number of squatters had settled with impunity upon the lands of Rancho San Antonio, claiming ownership of most of the land that had originally been granted to the Peralta family by the Spanish government during the first quarter of the 19th century.

The first intensive settlement of the East Bay region during the historical era occurred in what is today downtown Oakland. The City of Oakland was formally named and incorporated in 1852. Alameda County was created in 1853. The earliest known historic-period settlement in the Project vicinity dates to the 1850s, when Captain James Jacobs first anchored his ship at the mouth of Strawberry Creek (Wollenberg 2008). This unincorporated town, now the West Berkeley neighborhood of the City of Berkeley, was originally called Ocean View (or Oceanview) until it was absorbed into the newly incorporated City of Berkeley in 1878.

Despite the settlement of nearby areas, the Project site and its immediate surroundings remained in an undeveloped state throughout the 1850s (Figure 2). At that time, the Project site lay along a marshy shoreline estuary/slough where Schoolhouse Creek approached San Francisco Bay. The first documented topographic modification of the present Project site's immediate environs occurred during the 1860s, when tracks for the Central Pacific Railroad were laid along the eastern edge of the subject property (Figure 3).

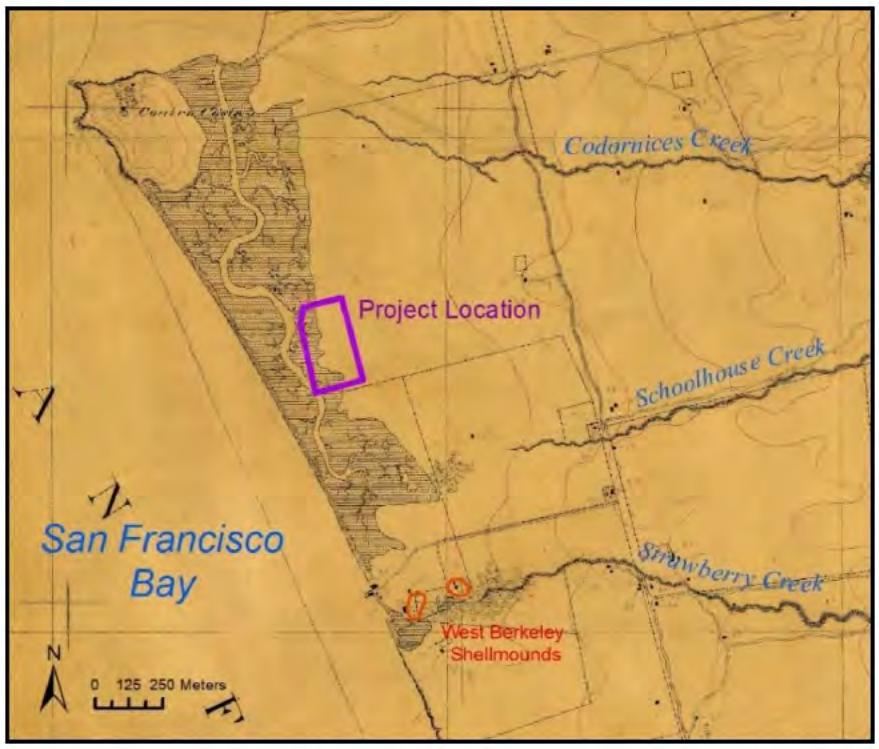

Figure 2: 1860 Coast Survey Map. At that time, the Project location lay along a marshy margin of Schoolhouse Creek Slough. The slough drained northward to an outlet at what is now called the Albany Mudflats (U.S. Coast Survey 1860).

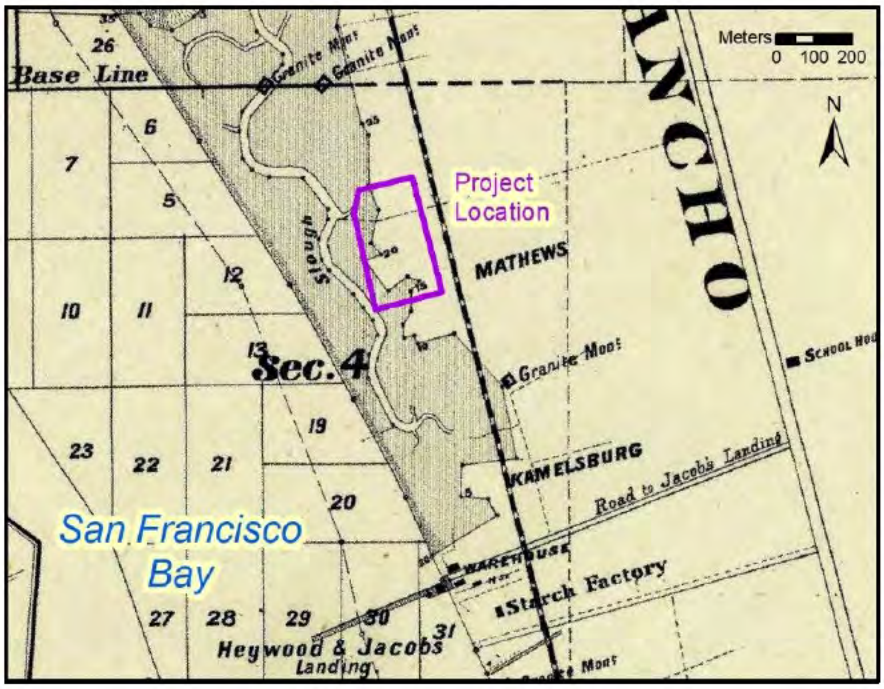

Figure 3: 1872 Map. The Project location lay along a marshy slough; more inland areas were owned by a Mr. Mathews (Allardt and California Board of Tide Land Commissioner 1872).

An 1872 map shows that what would eventually become the Berkeley Marina started as a small commercial wharf at the foot of the future Delaware Street (Allardt and California Board of Tide Land Commissioner 1872). The marina was owned by Captain James Jacobs and his business partner Samuel Heywood. It appears that the lands occupied by the current Project site were owned at that time by an individual named Mathews.

By 1874, the Project site was part of the Berkeley L.T.I. Association's holdings (Berkeley L.T.I. Association 1874). During the 1870s and 1880s, as lots were sold and developed, West Berkeley became a mix of industrial, commercial, and residential interests (Figure 4).

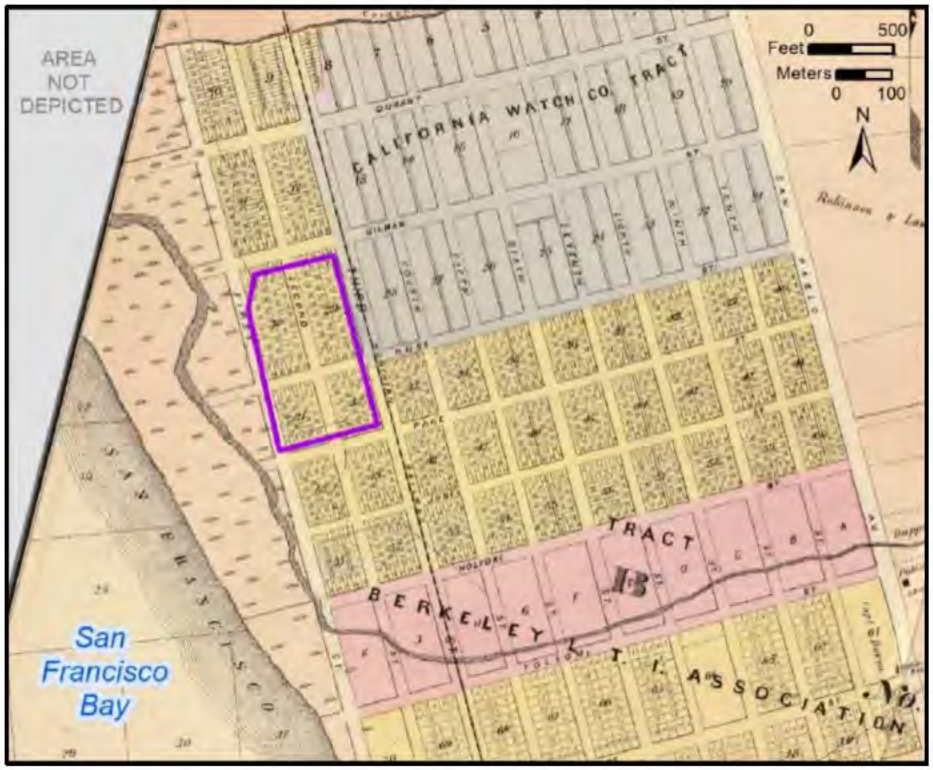

Figure 4: 1878 Map. The Project Site lay between the Schoolhouse Creek Slough and the Northern Railway/3rd Street (Thompson & West 1878:116–117, Map 17).

By 1903, the Project site was mixed residential and commercial. The 1903 Sanborn Map (Figure 5) only depicts areas east of Second Street; lands to the west were presumably too marshy for development at that time. A spur rail track had been laid along 2nd Street and the parcels north of Camelia Street (formerly Rose Street) and between the railroad tracks were all residential. Ten separate, single-story dwellings, many of them with outbuildings, had been constructed on 20 parcels of land of varying shapes and sizes. Three residences (1320 and 1324 3rd Street, an 639-641 Camelia Street) had elevated water tanks. South of Camelia Street were six residences as well as vacant buildings associated with a tannery, a bark shed, and an organ factory.

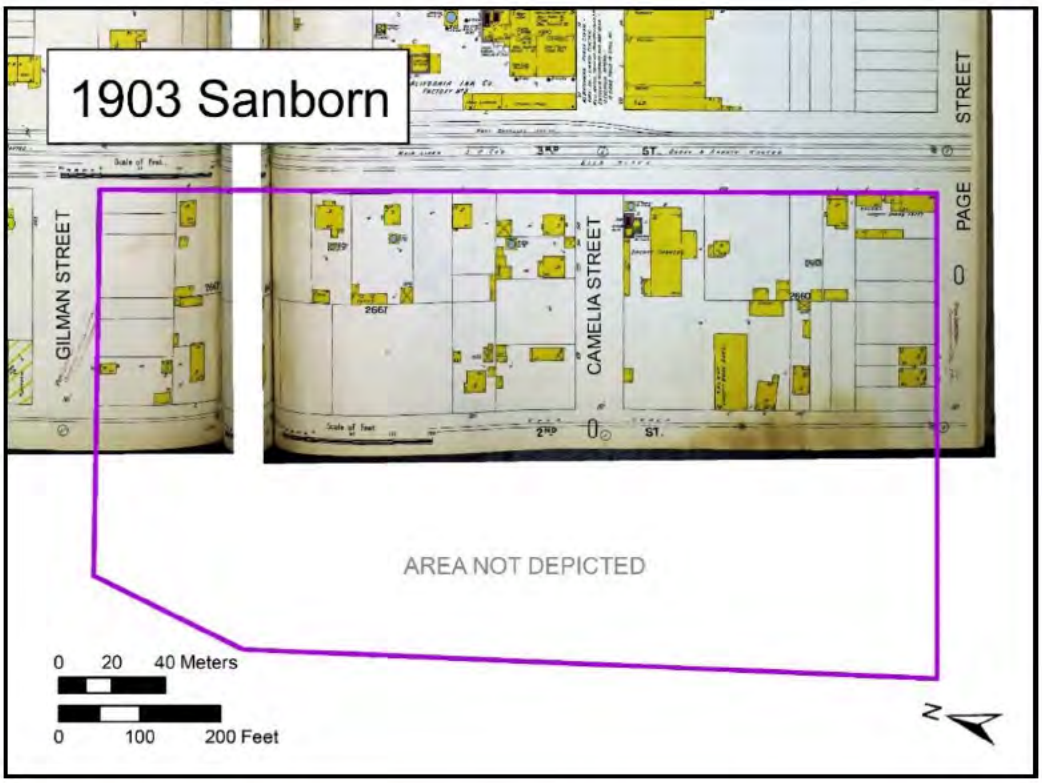

Figure 5: 1903 Sanborn Map. The Project Site included residential and abandoned commercial/light industrial interests (Sanborn Map Company 1903:Sheets 359-360).

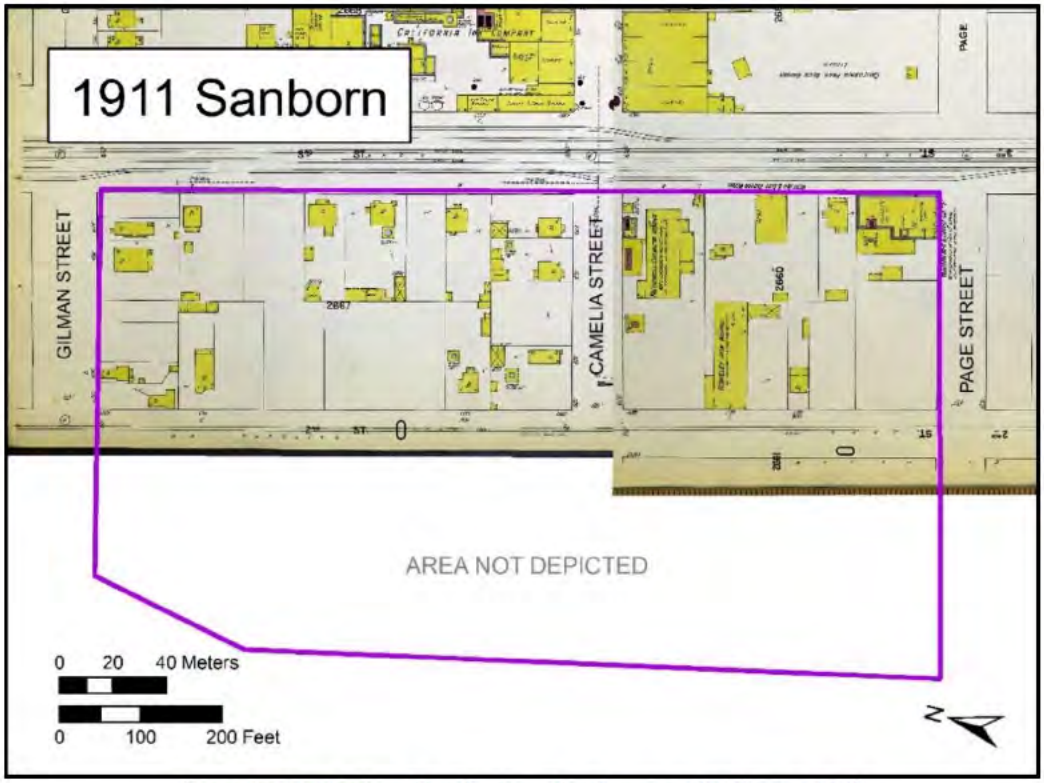

Figure 6: 1911 Sanborn Map (Sanborn Map Company 1911:Sheets 12-13).

By 1911, there were 13 houses north of Camelia Street. Landuse south of Camelia Street was mostly commercial and industrial (Figure 6). Notable infrastructure included furnaces, an oven, and water tanks. This period marks the birth of the iron and steel industry in the West Berkeley area, an industry that would be of great economic importance to the area until the early 21st century. Specific businesses included the Berkeley Iron Works at 1411 2nd Street, the "West Afr & Elev. Anchor Works" at 1408-1410 3rd Street, the non-operational Western Manufacturing & Supply Company at 647A Page Street, and the shuttered Treadwell Chemical Works at 3rd Street. Situated between the heavy industrial operations, only three small single-story residential dwellings remained south of Camelia Street.

The middle decades of the 20th century brought major changes to the West Berkeley area, as land use continued to shift toward commercial/industrial interests and houses were replaced by warehouses and foundries. Aerial imagery from 1931 (Figure 7) shows several large buildings and few residences within the Project Site. The San Francisco Bay shoreline lay just to the west and the railroad spur along 2nd Street does not to appear have been in active use. The zone between the shoreline and 2nd Street within the Project site was occupied by several large, warehouse-style buildings, which had not been depicted on previous maps.

One of those buildings had a rooftop sign installed for aviation navigation (Figure 7) as part of the air marker program, which was founded in 1935 by aviation pioneer Phoebe Jane Fairgrove Omlie. Ms. Omlie was a stunt pilot, parachutist, the first woman transport pilot in the Unites States, "special advisor for Air Intelligence to the National Advisory Committee for Aeronautics" (which would later become NASA), and later a "Senior Private Flying Specialist of the Civil Aeronautics Authority". The air marker program was a great success in helping pilots orient themselves in an era before radio, radar, and GPS. The program was discontinued by civil defense officials during WWII: all signs were destroyed to avoid the possibility that they might assist potential invaders.

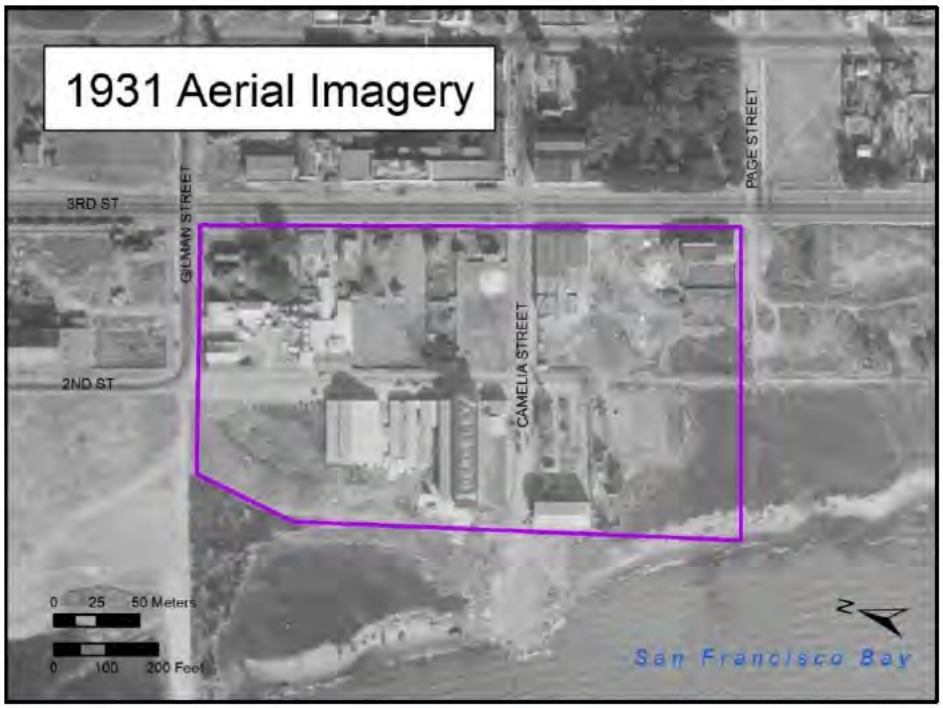

Figure 7: 1931 Aerial Imagery. The rooftop sign with arrows was a navigation marker to help pilots orient themselves in the days before radio and GPS navigation (Fairchild Aerial Services 1931:Frame 52; Mola 2006).

Beginning in the late 1930s, the Berkeley shoreline underwent significant changes brought about by the construction of the Eastshore Highway. The highway, which was built with funding by the New Deal, was designed to serve as a major artery for the San Francisco-Oakland Bay Bridge (then under construction). Rather than building on existing land, the roadbed was laid on artificial fill in the bay shallows and marshy margins—passing just west of the Project blocks. The West Berkeley segment of the highway, which boasted a median, stoplights and stop signs, was dedicated in 1937. Later, the principal roadway would be expanded to the west with the construction of the Eastshore Freeway/Interstate-80; the older Eastshore Highway then became a service road.

By the publication of the 1944 Sanborn Map updates (Figure 8), the Project area was decidedly industrial. In the block bounded by Gilman, Camelia, 2nd and 3rd streets—which had once been the setting for 13 homes and their associated outbuildings—stood the General Petroleum Corporation, offices and warehouses of Montgomery Ward, and the Flask Yard of the Pacific Steel Casting Company. Only two residences remained (1392 3rd Street and 643 Camelia Street). West of Second Street, which less than a century before had been marshlands of the Schoolhouse Creek Slough, was the drafting equipment factory A. Leitz Company, a restaurant, the main foundry and pattern shops of the Pacific Steel Casting Company, and the Berkeley Steel Construction Company. South of Camelia Street, Berkeley Steel operations extended halfway to Page Street, with the undeveloped areas remaining as marsh. On the east side of 2nd Street and south of Camelia Street was the A.F.A. Venetian Blind Wood Products Company. Aerial imagery from 1946 shows few changes from 1944- save the installation of new highway ramps for the Gilman Street exit (Figure 9).

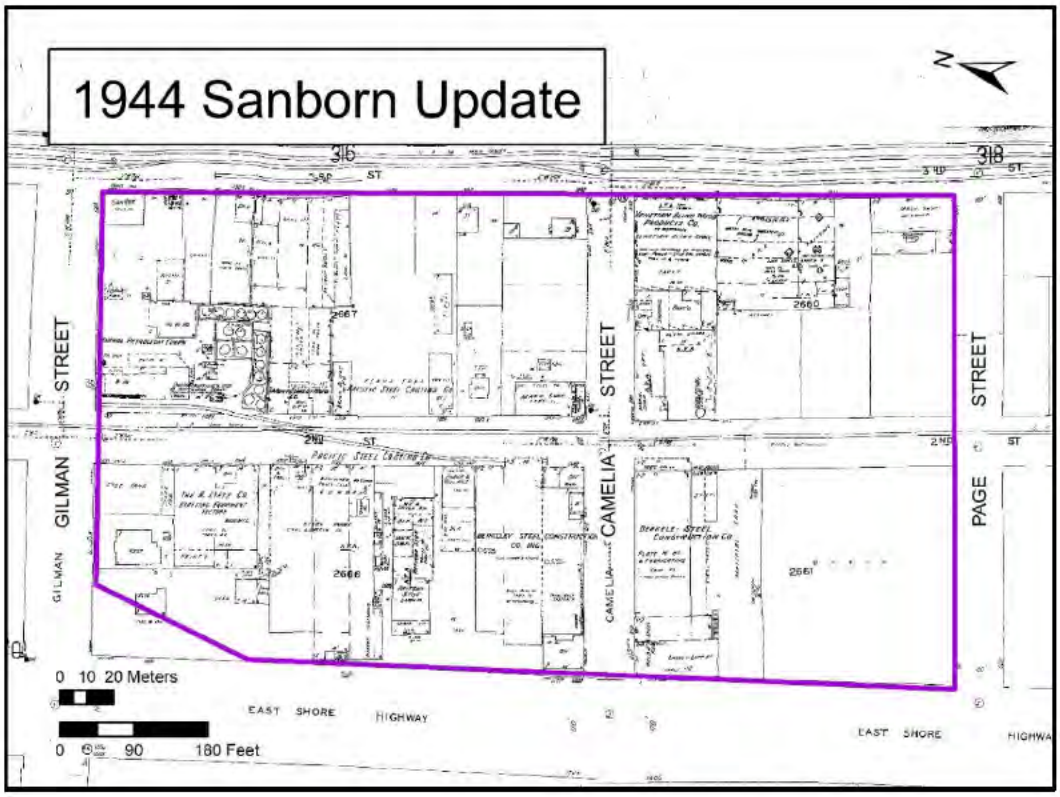

Figure 8: 1944 Sanborn. The project blocks were commercial and industrial areas east of the new Eastshore Highway (Sanborn Map Company 1929:Sheets 321-322).

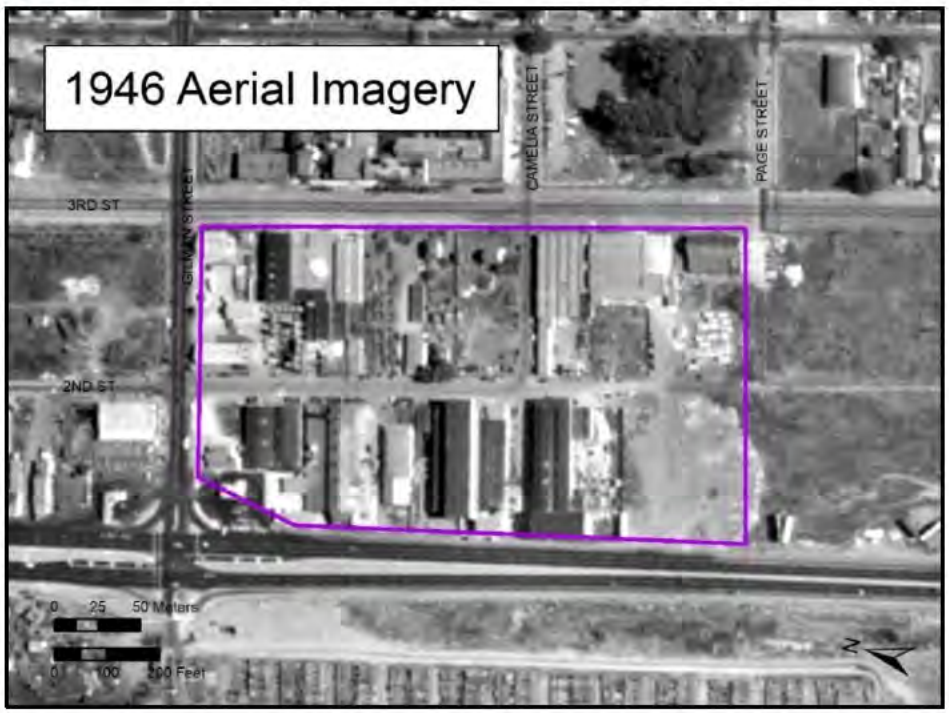

Figure 9: 1946 Aerial Imagery. The Gilman Street exit was one of the first East Shore Highways cross-streets to require ramp exits. Note that the rooftop air marker has been removed (Jack Ammann Photogrammetric Engineers 1947).

Berkeley Steel Construction Company and Pacific Steel Casting Company had thrived and expanded during World War II. When peace returned, operations slowly shifted away from wartime production, and specialized manufacturers such as Hawkins and Hawkins, the Berkeley Forge and Tool Company, and the Merit Tank and Body Company emerged to fill more domestic needs.

Pacific Steel Castings shut down in 2018 after 84 years of operation. Berkeley Forge and Tool remains in operation along with a handful of other specialty manufacturers, a car rental location, and an insurance office. The area is commercial and industrial and is currently zoned for manufacturing.

Shellmound History

In the years following the establishment of Ocean View (which was later annexed to the city of Berkeley), interest in the then-obvious shellmounds that dotted the landscape was rife. The largest in what is now Berkeley, commonly called the West Berkeley Shellmound, was then situated on the property of a local mill. Early maps indicate that there was also a secondary, smaller mound located adjacent to the primary mound (Thus, the resource would be more aptly termed the West Berkeley Shellmound Complex.)

As is evident from newspaper reports of the time, as well as subsurface archaeological studies conducted in the area, Native American shellmounds were an attractive resource for road-building and agricultural soil enhancement. Shellmound material was used extensively for road building because it became nearly impenetrable after soaking. Horse teams were routinely used to cart away large portions of the shellmound, which were then laid down along the major streets in West Berkeley, including San Pablo and University Avenues. The Emeryville Shellmound, located south of Berkeley in present-day Emeryville, saw a similar pattern of wholesale destruction. In addition, because of the rich calcium, phosphorus, and

humus content of the shellmound material (which included large quantities of seashells, animal bones, human remains, and charred plant matter), it was sometimes spread over agricultural fields to fertilize crops and enrich the soil. Indeed, this practice continued until well into the 1940s. However, no historical evidence could be found to indicate that any significant amount of midden material was used as fill in the current Project site.

Adding to this destruction, the West Berkeley Shellmound, like nearly every other shellmound along the East Bay shoreline, was the target of amateur relic hunting and trophy taking. Many human bones and attendant grave goods were removed from the West Berkeley Shellmound without any thought to the cultural importance to the public, particularly to living descendants, or to the cultural and scientific knowledge lost with the removal of provenience and context. Thus, when the West Berkeley Shellmound was first encountered by scientists in the early 20th century, it was already so highly disturbed that it was but a remnant of what it had been not 50 years earlier.

Archaeological Context

An in-person records search of the California Historic Resources Information System (CHRIS) archives at the Northwest Information Center (NWIC) at Sonoma State University was conducted by staff archaeologist Juliana Quist on April 19, 2022 (Access Agreement 21-1753). The principal objective of the archival review was to determine whether any archaeological sites and/or associated cultural resources, dating to either the prehistoric or the historic period, were previously recorded within, or within a half mile of the proposed Project Site.

Precontact Resources

The records search identified no cultural resources dating to before European contact within the proposed Project footprint. However, it is important to emphasize that the Project site has never been subjected to archaeological study. Indeed, most of the development within the parcels occurred prior to modern regulatory oversight. Therefore, the lack of previously recorded resources does not indicate that no cultural resources exist, or ever existed, within the parcels. Furthermore, one precontact midden site has been identified immediately adjacent to the Project site and that resource very possibly extends into the subject property.

In addition to the adjacent site, two other highly significant, prehistoric resources—the Schoolhouse Creek Site and the West Berkeley Shellmound Complex—lie within the half-mile Study Area. This confirms that the San Francisco Bay shoreline area, in which the current Project site is situated, is a culturally sensitive area.

Midden Site near Project Location (Name Redacted)

During a 2016 program of geotechnical borings, both intact and displaced prehistoric-period buried midden soil deposits were identified in a location adjacent to the proposed Project site (Ryan and Newland 2016). Its formal designation, precise location, and other identifying characteristics have been redacted from this version of the report.

Intact midden deposits were identified at a depth of between 140 and 185 centimeters (4.6 to 6.1 feet) below surface in two borings and archaeological materials were identified within disturbed soil contexts in four borings. Cultural materials included burned and unburned wood, charcoal, flaked stone, marine shell fragments, faunal bone, and lignite coal pieces. Some of the lignite was recovered from intact midden

contexts and in association with burned shell and bone. The study authors therefore hypothesize that lignite coal (which has its geologic origins in the foothills of Mount Diablo) may have been intentionally mined and imported by the native site inhabitants as a fuel source— a characteristic not previously recorded in Bay Area archaeology.

Radiocarbon (C-14) testing of marine shell yielded a date of 3147 cal BP, a fact which would make the midden deposit contemporaneous with the early phases of occupation of the West Berkeley Shellmound Complex.

Testing indicates that the extent of the intact portions of the midden deposit may be quite small, discontinuous, and—based on an interpretation of soil cores— it has been hypothesized that the site directly overlies "a small island of a former landform in an otherwise unstable environment" (Ryan and Newland 2016:3). More specifically, the midden was identified as a 1.5-foot-thick stratigraphic layer situated between silty clay Bay Mud deposits overlying yellowish-brown, natural, sandy clay sediments. The Ap horizon (surface material) was composed of artificial and imported fill that included brick fragments to a depth of approximately 130 centimeters (4.3 feet).

Because of the very close proximity 2nd and Gilman Project site, it possible, and even likely, that intact and/or displaced portions of this known midden deposit extend into the current Project footprint.

The Schoolhouse Creek Site

In 2000, a prehistoric-period shell midden deposit was identified during archaeological monitoring of trench excavation for the installation of fiber optic cables. The site consisted of dark midden soils containing shell fragments were encountered at a depth of 45 to 113 centimeters below ground surface. No other artifacts were noted. Indeed, no samples were collected, and no testing or data collection was conducted. Instead, the fiber optic cable was installed below the resource via directional boring the site, which is known as the Schoolhouse Creek Site, was left in place.

Based on the proximity of the site to disturbances associated with the railroad line, combined with the established history of using shellmound deposits for surface leveling and fill during development of the area, it is possible that the Schoolhouse Creek Site was deposited as fill displaced from a nearby shellmound. However, no study of the site integrity (intact versus secondary/disturbed) was completed.

The West Berkeley Shellmound Complex

Standing as tall as 15 feet above the surrounding area, the primary West Berkeley Shellmound was a prominent feature of the landscape in the Study Area until well into the twentieth century. It was located only a short distance from the north bank of Strawberry Creek, in close proximity to the stream's entrance into San Francisco Bay. Immediately to the west of the site lay the broad tidal marsh that separated the shoreline of the Bay from the wide expanse of water beyond. As depicted on the 1860 Coast Survey Map, a smaller, secondary shellmound appears to have lain just to the east, but that resource element is not well attested in later documentation.

The first documented archaeological study of the West Berkeley Shellmound was conducted in 1902 by E.L. Furlong (the same year Max Uhle first excavated at the Emeryville Shellmound), working under the direction of John C. Merriam of the University of California, Berkeley. The limited and rather shallow excavation yielded 265 artifacts and a "good ma(n)y [sic] burials" (Dore and Garcia and Associates 2002). Unfortunately, Furlong's notes did not accompany the artifacts and catalog and, as a consequence, there

are substantial gaps in the existing state of knowledge about this initial phase of archaeological study of the West Berkeley Shellmound.

Two years later, in 1904, Joseph Peterson continued the archaeological study of the West Berkeley Shellmound. His excavations, though confined to the northeastern corner of the site, uncovered significant stone and bone artifacts and human remains from nine individuals, seven of whom had been children at time of death. When his field research and follow-up analysis were finished, Peterson prepared a written report of his findings and placed the document in the archives of the Lowie Museum of Anthropology at the University of California, Berkeley.

Near the end of the first decade of the 20th century, Nels C. Nelson completed a comprehensive mapping of the pre-contact shellmounds of the San Francisco Bay region. He recorded no less than 425 shellmounds of varying sizes, including the West Berkeley Shellmound (Nelson 1909). Unfortunately, by that time "not a single mound of any size [was] left in its absolutely pristine condition" (1909:12). Following the publication of Nelson's work, other representatives of the University of California continued to investigate the steadily diminishing remnants of the West Berkeley Shellmound throughout the first half of the 20th century. Unfortunately, a variety of amateur collectors also took artifacts from the shellmound. On occasion, local collectors and construction workers would present themselves at the Lowie Museum and donate the artifacts they had recovered from the West Berkeley Shellmound, the Emeryville Shellmound, and other pre-contact archaeological deposits in the area (Wallace and Lathrap 1975:3), but their finds were usually de-contextualized to such a degree that spatial and temporal information often did not accompany the artifacts.

The West Berkeley Shellmound was not officially recorded with the state clearinghouse until 1949 when Pilling, using data from Nelson's early 20th century survey, compiled the formal site documents. In the site forms, Pilling estimated that the primary West Berkeley Shellmound measured approximately 300 yards north-south by roughly 100 yards east-west.

The most extensive, systematic excavations at The West Berkeley Shellmound were conducted in the early 1950s by representatives of the University of California, Berkeley (Wallace and Lathrap 1975). By that time, the site had been severely disturbed, and impending industrial expansion threatened the remaining portions with total destruction. Only a small 45 foot by 100-foot section remained. Roughly 14,000 cubic feet were subject to archaeological examination (Wallace and Lathrap 1975:8). The research identified two distinct site strata indicative of two primary occupational periods. The younger, shallower deposit extended to about 6 feet below surface and contained Middle Horizon (Middle Period, approximately 500 BC-1100 BC) artifacts contemporary with those from the Emeryville and Ellis Landing shellmounds. By contrast, the older, deeper deposit within the West Berkeley mound contained Early Horizon (Early Period, 100 BC-3000 BC) forms, including Excelsior-type spear points and drilled charmstones, which are notably consistent with assemblages known from the lower Sacramento Valley. In addition to artifacts and dietary faunal remains, the excavation also recovered 95 complete or mostly complete skeletons of all ages and sexes. Overwhelmingly, the burials were loosely flexed, single interments with no burial orientation and few mortuary goods.

Numerous nearby archaeological investigations have identified cultural resources that have been associated with the West Berkeley Shellmound. In this edited and redacted version of the report, project names, addresses, and other details that could be used to identify location have been removed.

In 1988, archaeological monitoring for a Sanitary Sewer Rehabilitation Project encountered "heavy concentrations of midden soils" in the area (Chavez 1989). Three hundred and twenty-one (321) artifacts and ecofacts including flaked stone, groundstone, shell beads and pendants, bone artifacts, and fragmentary human remains were recovered. The deposits were determined to be secondary/displaced materials associated with the West Berkeley Shellmound.

Several iterations of archaeological testing within a large lot in proximity to the West Berkeley Shellmound have been undertaken by Archeo-Tec since 1999 (Archeo-Tec 2014; Pastron 1999; Pastron 2000). Investigations have yielded isolated pockets of displaced (secondary) midden material associated with the West Berkeley Shellmound. Specifically, borings revealed that the pre-historic cultural material was most likely located at a depth of 5 to 9 feet below surface and was within a grey, silty clay soil.

Additional boring programs have been undertaken in the vicinity of the West Berkeley Shellmound to test for the presence and determine the boundaries of remaining subsurface shellmound components. A program by Garcia & Associates and LaRamie Soils Service in 2001 placed 124 cores in the nearby streets. The testing suggested that the original mapping of the site depicted only the central core of the primary mound and that the perimeter of the shellmound most likely extended further than originally mapped (Dore et al. 2002).

In April of 2005, Pacific Legacy recovered a fragment of a human tibia during archaeological monitoring in the area (Holson 2005). The location falls within the current CHRIS site delineation of the West Berkeley Shellmound.

2016 Monitoring for the EBMUD Pipeline replacement Project by GANDA found a single location of disturbed shell midden at an intersection, which fall just outside of the previously recorded boundary of the West Berkeley Shellmound (DeBaker and Siskin 2016).

In 2016, prehistoric-era human remains within midden soils were discovered during the construction of a mixed-use development project within the defined footprint of the West Berkeley Shellmound as defined by the state archives. Subsequent monitoring efforts identified the disarticulated and partial remains of at least six individuals in association with scattered pockets of displaced midden soils. The human remains yielded an AMS radiocarbon date of 2910 to 2985 cal BC—an age which corresponds to the Early Period (3000-500 BC) and is consistent with previously obtained dates describing the habitation and use of the West Berkeley Shellmound Complex. The cultural resources may correspond to the West Berkeley Shellmound complex. However, based on a soils assessment, the report for that project determined that "the majority of the midden observed within the Project Area does not represent an intact deposit or feature(s)" (Holson et al. 2018:74). Instead, the study hypothesizes that the midden, associated artifacts, and human remains most likely represent secondary deposits arising from historic period ground disturbance and/or soil redeposition arising from infilling/ground leveling.

Historic Resources

In addition to the three pre-contact era resources described above, the CHRIS archives also contained information on historic period resources both within the Project Site and the half mile Study Area.

Union Pacific Railroad

This resource includes the late 19th century railroad track alignments of the Northern Railway Company, a Central Pacific (Later Southern Pacific) Railroad subsidiary. Today, portions of the main Central Pacific

Rail line run along 3rd Street from Park Way to Gilman, while remnants of a Southern Pacific spur extend along 2nd Street from Gilman to Page streets. The 2nd Street line therefore bisects the proposed Project site.

The resource was assessed for inclusion in the National Register of Historic Places (NHRP) and the California Register of Historic Places (CRHR) in 2017 by InContext and found to be Not Eligible (Hill 2003).

Historic Trash Deposit

A historic-period trash deposit was identified in 2016 by Garcia and Associates during geocoring for the Proposed Interstate 80/Gilman Street Interchange Improvement Project (Newland et al. 2016). Curved (vessel) glass, metal fragments, fabric remnants, and organic food remains (floral and faunal) were encountered at depths between 4 and 16 feet below surface in six test borings over an almost 30,000 square foot area. The trash deposit lies immediately west of the Eastshore Freeway (I-80) and the proposed Project site, in an area that was tidal wetlands until well into the modern era. A review of the artifacts and history of landfill events indicates that the deposit dates to between 1942 and 1946 (Newland et al. 2016). The resource did not demonstrate enough potential historical importance to warrant a formal NHPA and CEQA significance evaluation.

Historic Infrastructure under Gilman Street

Two undated and unidentified subsurface resource features were identified by Far Western during construction monitoring (Ross 2015). They consist of a concrete slab section and a segment of creosote-impregnated wood conduit for telephone lines. The resources, which lie approximately seven blocks east of the currently proposed Project site, were left in place and no further action was taken.

Historic Standing Structure Resources

Seven built environment cultural resources were also identified during the record search. Four of these, P-01-10810: University Village District; P-01-10811 UC Berkeley Experiment Station District; P-01-12115: Golden Gate Fields; and P-01-12116: Berkeley Marina and Cesar Chavez Park were reviewed for historical context of the general Project area. Although important to an understanding of broader context, it was determined that these resources are not likely to have had any direct physical impact to or influence on the archaeological resources with the Project Site.

Three, previously identified, historic period standing structure resources lie within the boundaries of the proposed Project site (P-01-11811: Berkeley Steel; P-01-11813: General Petroleum; P-01-11816: Pacific Steel Casting). Although the structures themselves are not of archaeological relevance, an understanding of the commercial and industrial activities that took place within and around those building is necessary to inform the identification of potential subsurface features and artifacts that may be encountered during planned redevelopment.

The three historic period standing structure resources were assessed for inclusion in the National Register of Historic Places (NHRP) and the California Register of Historic Places (CRHR) in 2016 by Garcia and Associates (GANDA) and found to be Not Eligible. However, that assessment addressed the standing structures only; no subsurface testing was completed, and no artifacts were recovered. Demolition and construction-related ground disturbance in these areas has the potential to impact important historic period archaeological resources.

The central foundry structure of the Berkeley Steel Construction Company Complex (P-01-011811-Building C), which was built in 1924, is the structure depicted in the 1931 aerial imagery with the "Berkeley" historic air marker (Figure 7). It appears to have been the production site of the Neilson NC-1 Golden Bear cabin monoplane, which was manufactured in 1929 by Berkeley Steel founder and president Thomas S. Neilson. Indeed, aviation production was the motivation for major expansions of the Berkeley Steel facility in 1929 (Waldorf 1929). Though not anticipated in great numbers, any artifacts of sufficient preservation and context found to be related to early California aviation have the potential to qualify as significant under CEQA.

Precontact Period Cultural Sensitivity

The extensive documentation for the Native American cultural resources outlined above revealed detailed information about specific resource findings and their locations. Rather than using the general spatial assignments defined in the CHRIS records, each resource was identified, assessed, and manually located. This information was then added to a comprehensive resources map that includes both intact (in situ) and potentially displaced midden material. The physical position of the West Berkeley Shellmound used for this analysis was that defined by the San Francisco Bay map of 1860 (U.S. Coast Survey 1860); that delineation is supported by the excavations the 1950s archaeological excavations of Wallace and Lathrap (Wallace and Lathrap 1975) and it is almost completely encompassed by the current CHRIS archive record (which may be overly broad).

Next, a classified heatmap based on Euclidean distance from known resources was developed. The process involved a series of sensitivity buffers. Extreme (25m), High (50m) and Moderate (100m) distances were defined for intact (in situ) deposits. For disturbed deposits, the deposits themselves were classed as Extreme; only High (25m) and Moderate (50m) sensitivity areas were defined around resources that were defined as disturbed/displaced. The areal buffer datasets were then merged according to the sensitivity classifications and dissolved (to remove "internal" lines between areas of the same type). The result is a detailed heatmap of all precontact period cultural resources recovered to date in the ½-mile Study area (Figure 10 [Redacted]).

The most sensitive areas of the Project site are those in close proximity to known cultural resources found directly adjacent to one of its borders. Due to the confidentiality of site locations, this site's name and location relative to the site has been redacted from this version of the report; accordingly, the most sensitive zones of the Project site are also not included. It is very possible, and even quite probable, that elements of that prehistoric cultural resource extend into subsurface soils of the Project site. That site was identified in association with a stratigraphic layer representing an ancient, stable shoreline, which would have been appropriate for occupation without the likelihood of flooding. That shoreline dates to a time when sea level was much lower than today.

Figure 10: REDACTED Cultural sensitivity heatmap based on known cultural deposits. (Anthropological Studies Center 2002; Banks and Fredrickson 1977; Basin Research Associates 2005; Chavez 1988; DeBaker and Siskin 2016; Dore et al. 2002; Holson 2005; Holson et al. 2018; Lopez and McEneaney 2000; Pastron 1999; Pastron 2000; Russell 2013; U.S. Coast Survey 1860).

Historic Period Cultural Sensitivity

Beginning in the late 19th century, many areas of the Project site were occupied by single-family residences. The proposed Project therefore has the potential to impact any extant late Victorian-era archaeological resources of residential origin. Based on available maps and the fact that the residences were constructed prior to widespread implementation of indoor sewer lines, and before the area was served by City water, the most likely resource type of archaeological significance is a subsurface privy or a well. Privies, or outhouse pits, and wells, may contain stratified refuse deposits that may be deemed significant under Criterion 4 for their potential to provide significant historic information about life in the late 19th and/or early 20th centuries. The most likely location for such features would be in what would have been the rear yards of residences east of 2nd Street. The degree to which subsequent modern industrial development damaged or displaced potential pit features is unknown; intact elements, if they still exist, would be located below the dark upper soil layer (which based on the geotechnical results, varied in depth throughout the site but is an average of 5 feet in thickness).

Due to the history of land reclamation and highway construction, historic trash deposits of recent historic origin are expected to be rather common in the general Project area. More specifically, they are anticipated in areas of modern landfilling and modification within the Project site west of 2nd Street. However, because of their displaced and modern origins, such deposits are unlikely to qualify as potentially significant cultural resources.

Regarding the railroad lines that once bisected and still run adjacent to the Project site, though the tracks themselves have not been deemed significant, their presence may have resulted in additional archaeological deposits in the form of objects dropped or discarded from the trains. Such items might include metal railway parts as well as trash in the form of bottles and other miscellaneous items. If present, these items would be irregularly scattered in near-surface soil deposits.

Any historic-period object of significant antiquity which may be likely to yield information important to prehistory or history should be inspected and, if warranted, collected for further analysis and recordation.

Broadly speaking, because much of the Project site was dedicated to steel manufacturing, a large amount of slag waste (metal and glass) and fuel remnants (coal and petrochemicals) associated with industrial production is anticipated within near surface soil deposits.

Monitoring of Geotechnical Borings

On April 20 and April 21, 2022, staff archaeologists Abigail Fuchs and Elizabeth Tjoa accompanied a Langan field technician to monitor the excavation and recovery of thirteen (13) direct push geotechnical borings placed throughout the Project site (Figure 11). Three of the geotechnical borings—LAN-10, LAN-06, and LAN-09—were positioned within 200 feet of the location of the known archaeological site found adjacent to the Project site. This nearby site, whose name and location has been redacted, had previously been identified at approximately 5.5 feet below surface in a context of very dark brown silty clay.

Each core measured 2.5 inches in diameter and 5 feet in length. Nine borings were excavated to a terminal depth of 20 feet while four extended to 15 feet below existing ground surface. The borings were analyzed in the field and select soil samples were collected for further analysis in the Archeo-Tec laboratory.

Figure 11: -REDACTED- Geotechnical Borings relative to the known location of a midden deposit

Fieldwork

Following physical recovery, each boring liner was carefully opened longitudinally so that soils could be examined, photographed, and described on boring logs. For consistency with the geotechnical reporting results, the Imperial System of measurement (inches and feet) was used. Soil descriptions were recorded, and colors assigned using the Munsell system. All boring cores were manually inspected for cultural constituents. Soil samples were collected where cultural soils or artifacts were potentially indicated.

Few cultural constituents were noted during boring recovery and field analysis; most consisted of modern and historic material contained within the disturbed/artificial fill nearest the current ground surface. A single fragment of burned faunal bone was recovered from a black, loose, clay sand at approximately five feet below surface in boring LAN-01. The faunal bone is a vertebral fragment; at this time, no species identification has been made. However, it is of potential prehistoric-period archaeological interest.

Coal and charcoal, noted as a constituent of the midden deposits comprising the known archaeological site (name redacted) previously found adjacent to the Project site, were sampled from fill layers within the Project site; these are most likely historic, but the possibility that they represent displaced midden (also found at shallow depths in nearby borings) could not be ruled out entirely. The clay sand/sandy clay context in which the faunal bone was found extended from 4 to 8 feet below surface—becoming more silty and less sandy with depth. A representative soil sample (Sample 5) was collected at a depth of 7 to 7.5 feet below surface.

Laboratory

Selected soil samples were brought to Archeo-Tec's in-house laboratory in Oakland for further investigation. Five samples from LAN-1, LAN-06, LAN-10, and LAN-13, were wet screened before dry screening and visual analysis. Three samples were chosen due to the borings' proximity to a previously identified archaeological site, and two samples were chosen due to the presence of artifacts noted during fieldwork (burned faunal bone and glass).

Each soil sample was weighed and placed onto a sheet of muslin within a mesh container. Water was repeatedly poured over each sample during agitation to facilitate washing. After the process was complete, the sheet of muslin— which contained both the heavy and light fraction— was tied, labeled, and hung to dry.

Once dry, each muslin bag was then carefully opened, and the contents passed through a series of six dry sieves of decreasing mesh sizes (size 10 to size 230)[1]. The contents of each sieve were examined and recorded.

[1] The sieves were manufactured by the Hubbard Scientific Company.

Findings

Soil Stratigraphy

As expected for such a dynamic shoreline and estuarine environment, the subsurface stratigraphy varied throughout the large Project site. The most notable difference was the thickness and composition of grey estuarine silty clay sediments.

Despite the variability, the subsurface stratigraphy can be generally described by three primary stratigraphic layers. Historically imported/disturbed, artificial fill was observed from 0 to an average of about 5 feet below surface. This level contained concrete and brick fragments, colorless glass, melted glass, and wood and coal pieces in a dark but variable matrix that often appeared contaminated by petrochemical residues. Below the artificial fill was a grey or brownish grey, natural, estuarine clay (Bay Mud) of variable thickness, color and inclusions. At times, the silty clays were interbedded with sands and gravels. Inferior to the complex Bay Mud deposits was a sandy clay of a light reddish brown to yellowish brown color, which contained fluctuating amounts of sands and pea gravels.

Two borings, LAN-6 and LAN-10—both of which were placed close to the recorded location of the known archaeological site (name redacted) found adjacent to the Project site, displayed similar stratigraphic sequences to the boring examples from the nearby site in that they also had 1-foot-thick black inclusions at approximately 5-7 feet of depth. These dark, medium compact soils were visually inspected for cultural constituents, but none could be identified.

0-5 Feet

5-10 Feet

Figure 12: LAN-6 boring cores.

Cultural Materials

No trace of intact or disturbed midden, or any other conclusively prehistoric cultural materials, were identified during boring excavation or later soil examination.

Most recovered specimens appear to be structural or industrial in nature; minimal organic materials, such as small roots, were noted. A single, heavily rusted screw with an “X” on its head was retrieved from the Sample 2 (LAN-10 between 4.5 to 4 feet 10 inches below surface). Melted slag glass was recovered from Samples 4 & 5. Charcoal was identified in Samples 1, 3, 4 and 5. Coal was identified in Samples 2, 3, 4 and 5. Table 2 provides the results of screening and analysis of five selected soil samples.

Sample Number	Boring Number	Depth	Screen Size				
			5	10	35	60	230
1	LAN-10	4'-4.5'	Charcoal, asphalt, metal shavings	Gravel	Sand	Sand, increasing fine grain	Sand, increasing fine grain
2	LAN-10	4.5'-4'10"	rusted screw, coal, construction material	gravel, vegetation, other construction material	Sand	Sand, increasing fine grain	Sand, increasing fine grain
3	LAN-06	2'9"-3'3"	Small gravels, quartz, charcoal, coal, metal fragments.	Smaller gravels, asphalt.	Sand.	Sand, increasing fine grain.	Sand, increasing fine grain.
4	LAN-13	3'8"-4'4.5"	Concrete, gravels, coal, possible asbestos	glass, coal, charcoal, smaller gravels	sand, root fragment, smaller fragments of same white substance	Sand	Sand
5	LAN-01	7'-7.5'	Coal, gravel, structural materials, sandstone, glass, charcoal.	Charcoal, small plant materials (roots), coal.	Gravel, sands, smaller plant materials (roots), metal shavings	Metal shavings, sand	Metal shavings, sand

Table 2: Results of wet and dry screening of selected samples.

Conclusions

No conclusive prehistoric cultural resources were identified during boring monitoring or targeted soil analysis. (In the absence of any cultural context or association, the single burned faunal fragment cannot be interpreted as cultural.) However, this does not rule out the possibility of a prehistoric archaeological site being present within the proposed Project footprint. Based on the dynamic subsurface geomorphology along the San Francisco Bay shoreline, which is a zone of established, prehistoric-era, Native American land use, the entire area should be considered sensitive for buried prehistoric cultural resources.

Furthermore, given the unequivocal proximity to a previously recorded precontact period midden deposit (name and location redacted), some areas of the proposed Project should be considered extremely sensitive for intact and disturbed prehistoric resources, which may extend into untested soils within the Project Site. Indeed, the subsurface stratigraphic sequences identified in borings nearest the previously recorded site (LAN-6, LAN-9, and LAN-10) bear notable resemblance to those presented in the

archaeological record in the area, with the important difference that no midden was identified during the current testing.

It is also possible that small pockets of displaced midden material may be mixed within the modern fill stratum itself (secondary deposits). This is because, historically, shellmound (midden) deposits were used for surface leveling and fill. Such secondary midden deposits could be found at any level below surface and have been reported within the half-mile Study Area investigated for this project. Specifically, the adjacent, previously recorded archaeological site (name and location redacted) was partially identified from cultural materials within disturbed soil contexts. Therefore, there is a reasonable probability of encountering significant prehistoric cultural resources, if they exist, within artificial and disturbed fill soils throughout the proposed Project site. All midden deposits, whether primary or secondary, may contain human remains.

Historically, the Project Site has been used for both residential and industrial purposes. It does not appear that any of the early historic structures had basements; they thus did not likely intrude on any previously existing archaeological sites. Although it is unlikely that subsurface materials associated with any of the above-described historic-era development within the Project site, if encountered, will be deemed historically significant, the possibility cannot be ruled out completely. It is possible that residences from the late 19th or early 20th centuries left an important mark on the archaeological record. One example of a potentially significant archaeological resource would be in an intact privy deposit.

The historic period refuse/artifacts that were recovered during geotechnical testing are consistent with industrial activities within the Project site during the late 19th and 20th centuries. The most ubiquitous artifact class recovered is coal, which was found in 4 of the 5 tested boring samples. Fragments of lignite coal had previously been recovered from subsurface midden contexts identified in very close proximity to the Project site and in association with burned bone and shell. According to the researchers, this suggests that Native peoples may have burned coal for fuel. Such a site characteristic is unparalleled in Northern California annals.

By contrast, the coal samples recovered from borings for the current study had no prehistoric cultural associations. Rather than indicating prehistoric origin, the coal is most likely historic. The Project Site has been home to several historic-period forges/foundries and two railroad lines passed adjacent or through the blocks. Those machines would presumably have been fueled by coal, which prior to the widespread importation of higher quality materials from outside the region, would have been lignite coal sourced from nearby Black Diamond Mines. In keeping with the principle of parsimony, the most likely source of the coal identified during the 2nd and Gilman Project geotechnical boring program is coal used for rail power and industrial metalworking during the historic period. That said, based on the finding of coal in association with the known prehistoric midden site— located very close to the current Project site—the possibility that the coal and charcoal found is a disturbed component of prehistoric midden could not be ruled out completely.

Recommendations

Avoiding construction disturbances to potentially significant cultural resources is always the most desirable outcome. This can often be achieved through careful planning. However, if any ground disturbance at all is to take place, avoidance of a subsurface resource is only possible if the resource has been identified and its boundaries delineated. At this point, the only way to determine if the known

midden site, or any other as-yet-unidentified, subsurface cultural resources, extends into the current Project site is to carry out additional testing.

The parcel is currently occupied by buildings, concrete, and landscaping elements. As such, archaeological monitoring of building demolition followed by the implementation of a targeted pre-construction archaeological testing plan is advised. This is especially true for the highly culturally sensitive areas nearest to the previously recorded, adjacent archaeological site (name and location redacted) and in areas along the former shoreline. Demolition-related excavation such as basement slab removal, topsoil removal, mass excavation, and grading should be monitored by a qualified archaeologist. Following demolition, testing may include but is not limited to systematic surface reconnaissance, shovel test pits (STPs), exploratory excavation units, manual or mechanical borings, and mechanical trenching.

In addition to pre-construction testing, a qualified archaeologist should be available to monitor soils-disturbing activities once construction is underway. This is especially important nearest to the recorded location of the adjacent archaeological site. Based on comprehensive fieldwork findings, construction monitoring may be reduced to spot checks in some portions of the Project site at the discretion of the archeological consultant.

The above-described recommendations are based on typical mitigation measures required by the lead agency to ensure compliance with the California Environmental Quality Act (CEQA).

In conclusion, the initial archaeological monitoring program did not identify anything of prehistoric or historic significance. However, absence of evidence is not evidence of absence, particularly when the footprints of the areas tested—as in the very narrow core samples—are extremely small. Given that prehistoric shellmound deposits with intact remnants is present in the immediate vicinity of the Project, additional monitoring and testing is warranted.

At this point in the planning process, the following general mitigation guidelines are recommended. If mass excavation does not extend beyond 5 feet of the surface, potential impacts will be largely limited to fill deposits, and are less likely to impact intact soil deposits. Placing the structures with the least amount of subsurface ground disturbance (e.g. a surface parking lot) on the area closest to where a prehistoric midden deposit was previously identified may also allow avoidance of potential intact resources. Due to the potential for re-deposited cultural materials in fill deposits, it must be emphasized that even if these measures are put in place, archaeological monitoring of all mass excavation and other ground-disturbing work where spoils will be generated would still be necessary.

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APPENDIX C

HISTORICAL RESOURCES EVALUATION

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Gilman Gateway
Historic Resource Evaluation

May 2023

Prepared for Spur Capital, LLC

By
Bridget Maley, architecture + history, llc
Caitlin Hibma, Left Coast Architectural History

LEFT COAST ARCHITECTURAL HISTORY

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INTRODUCTION

The Gilman Gateway Historic Resource Evaluation was prepared for Spur Capital, LLC by Bridget Maley of architecture + history, llc and Caitlin Hibma of Left Coast Architectural History (Authors). Please see *Authors' Qualifications* section, page 11, for further information.

Purpose

The content of this report, and the California Department of Parks and Recreation (DPR) 523 forms appended to it, are based on the requirements of the Berkeley Planning Department. Properties that are greater than 45 years of age and are proposed for either major alteration or demolition require research to determine whether they meet the California Register criteria and qualify as "historical resources" under the California Environmental Quality Act (CEQA). Therefore, this report provides historic context for the subject properties, and evaluates their historic significance according to California Register of Historical Places significance and integrity criteria, and City of Berkeley Landmark and Structure of Merit criteria. The study culminates in property-specific determinations of historic significance and assigns associated historic status codes for the purposes of CEQA.

Project Location/ Description of Study Area

The Gilman Gateway Study Area is in the City of Berkeley, Alameda County, California. It is situated in the neighborhood of West Berkeley and consists of approximately four blocks (2340, 2341, 2344, and 2345) bounded by Gilman Street on the north, Third Street/railroad right-of-way on the east, Page Street on the south, and Eastshore Highway/Interstate 80 on the west. Second Street bisects the Study Area north to south, while Camelia Street bisects the eastern portion, running east to west between Second and Third streets. One outlying parcel is included at the southern edge of the described area, specifically at the northeast corner of Page and Third Street (on block 2323). Meanwhile, the southernmost parcel on block 2341, at the northwest corner of Second and Page streets is excluded. The project area includes a total of eighteen parcels.

The area, located near the bay shore to the west, and influenced heavily by the adjacent Interstate and the major thoroughfare of Gilman Street, is densely developed and almost entirely composed of industrial uses, with only one instance of live/work residential development within the Study Area.

The Study Area is illustrated by maps 1-3 in Appendix 1.

METHODOLOGY

Site Visits/Photography

Bridget Maley and Caitlin Hibma conducted two site visits to the Study Area to visually assess and photograph the subject properties. The first site visit was conducted on 15 September 2022, with a follow-up visit on 5 October 2022. Visual observation and photographs were taken from the public right of way and did not include access to the properties or interiors of buildings.

Research

Research of City of Berkeley Planning & Development Department records was performed by Rhoades Planning Group staff and provided to the Authors. Research of Berkeley Architectural Heritage

Association (BAHA) archives – including Sanborn Fire Insurance maps, building permits, and the Ormsby Donough collection – was performed by City of Berkeley Planning & Development Department staff and provided to the Authors. The Authors performed additional archival research, including newspaper archives, aerial photographs, historic maps, city directories, and other sources of property-specific information that are identified on each of the DPR 523 Forms provided.

Documentation & Analysis

Property-specific documentation and analysis tasks were shared between the Authors, who used the sources named above to formulate contextual and property-specific histories.

The "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project," authored by JRP Consulting and Garcia & Associates for Caltrans in July 2018 (Caltrans Report) was referenced by the Authors. The Caltrans Report included DPR 523 Forms for two large properties within the Gilman Gateway Study Area, historically associated with the Pacific Steel Casting Company and the Berkeley Steel Construction Company. (Copies of these forms are included in the appendix.) The DPR 523 Forms for these properties concluded that they are not eligible for the National Register of Historic Places, nor the California Register of Historical Resources. They did not provide analysis according to City of Berkeley Landmark or Structure of Merit criteria. Consequently, this study provides DPR 523 Continuation Sheets with updates for those two properties, which include additional historical information gathered and analysis according to City of Berkeley local level criteria.

For those properties within the Gilman Gateway Study Area that were not previously recorded, this study provides a full set of DPR 523 Forms for each property, containing physical descriptions, contextual and property-specific information, and evaluation according to the California Register of Historical Resources (CRHR) and City of Berkeley Landmark and Structure of Merit criteria, both applicable to the purposes of CEQA.

The DPR 523 Forms, including the updates to the previously recorded resources, are appended to this report, which provides a brief historic context of the West Berkeley neighborhood in which the Study Area is located, and a summary of the findings related to each property-specific analysis.

HISTORIC CONTEXT

Pre-History & Early Settlement

The area of West Berkeley where the project site is located was originally inhabited by the indigenous Ohlone people, who maintained villages, hunted and gathered, and created shell mounds along the bay shore and inland from approximately 500 CE until the coming of European settlers in 1776.[1]

The European settlers were Spanish soldiers and missionaries, who established their nearest footholds in present-day San Francisco and Fremont. In alignment with the missionaries' goals to evangelize their religion and indoctrinate the native people into the Catholic Church, the Ohlone of the East Bay were relocated to Mission San Francisco de Asis (Mission Dolores) and Mission San Jose and forced to adopt a European way of life and religion.
In 1820, the Spanish government granted 48,000 acres of East Bay land that had been cleared of its

1 Wikipedia, "Chochenyo," https://en.wikipedia.org/wiki/Chochenyo (accessed 1 November 2022)

native inhabitants to Luis Maria Peralta, a soldier and leading citizen of the pueblo of San Jose. This grant, known as Rancho San Antonio, included present-day Berkeley, and was used primarily for grazing cattle. Luis Maria Peralta never actually lived on his Rancho and, instead, divided it among his four sons, with the northern area, centering on Berkeley, claimed by Domingo Peralta. In 1841, Domingo Peralta built a house for his family just north of the current Berkeley-Albany line, near the present-day location of St. Mary's College High School, almost directly east of the Study Area along the line of Gilman Street.[2]

Although Mexico, and thus California, gained independence from Spain in 1821 and Mexico secularized the Missions, the displaced Ohlone people had already experienced dramatic attrition in population and never reclaimed their East Bay territories or traditional way of life. The Peralta family ensured their claim to Rancho San Antonio by having it re-granted by the Mexican government and went on to hold it until 1849 when their control eroded with the events of the Gold Rush and an influx of American squatters.[3]

The Gold Rush brought a massive population influx to the Bay Area and while San Francisco was the epicenter of arrival, much of the eventual settlement, often by disappointed gold-seekers, was absorbed by surrounding areas. In the 1850s, Domingo Peralta's land was commandeered by American squatters Francis Kittredge Shattuck, George Blake, William Hillegass, James Leonard, and Michael Curtis. From 1852 until 1877, the Peraltas fought among themselves and in U.S. federal courts to define and secure their land holdings. Ultimately, although the Peralta grant was confirmed, the costs and efforts were so great that Domingo Peralta was forced to sell his share of the family rancho, clinging to just three hundred acres around his homestead. That, too, was eventually lost to debt about seven years after his death in 1865.[4]

Early Development of West Berkeley

The area along the bay shore had the obvious advantage of transportation connections to San Francisco and markets around the bay. In Berkeley, the small community of Oceanview (a name given to the area's stage stop) developed at the waterfront. Initially, a wharf, known as Jacobs's Landing, was built at the foot of Delaware Street in 1853, just south of the Study Area. Associated development grew up around it, including an inn and stage stop, trading post, grist mill, and lumberyard. The grist mill, known as the Pioneer Starch & Grist Mill was built in 1855 at present-day Second Street and Hearst Avenue, just south of the wharf. It was Berkeley's first factory, processing grain grown locally and easily shipping it from the wharf to growing communities around the bay. It was quickly followed by the likes of Z.B. Heywood's lumberyard, used for storage and distribution of lumber that was harvested and milled on the Sonoma coast and transported to Berkeley, through the Golden Gate, by ship.[5]

The industries that developed around the wharf demanded numerous workers, which generated an early center of population. The workers had families, which resulted in the establishment of additional community services, like churches and a school. Oceanview was characterized by a diverse demographic mix that included both white-collar factory owners and blue-collar laborers, both immigrants and second-generation Americans.
The completion of the transcontinental railroad in 1869 resulted in a boom of population and

2 Charles Wollenberg, *Berkeley: A City in History* (Berkeley: University of California Press, 2008), 6-11.
3 Ibid., 10-11.
4 Ibid., 11-14.
5 Ibid., 15-18. Berkeley Architectural Heritage Association, “41 Berkeley Walking Tours” (Berkeley: Berkeley Architectural Heritage Association, 2009).

productivity in West Berkeley, although no rail line came directly to the area. Eight years later, however; the railroad stimulated the area again more directly. After almost a quarter-decade of being linked to the surrounding region by only water (including a ferry from Jacobs' Landing) and small-scale ground transport (including a horsecar to Oakland), Berkeley gained direct access to rail transport, which linked it to the rest of the nation. In 1877, Southern Pacific Railroad established its transcontinental mainline along the route of Third Street, skirting the eastern edge of the Study Area. This encouraged even more industrial growth around Oceanview that included the establishment of the Niehaus & Schuster Planing Mill, the Cornell Watch Company, the Wentworth Shoe Company, and the Standard Soap Company.[6] It also brought more people, of increasingly diverse demographics, to live in Oceanview.

In addition to factory workers, other working-class people came to live in Oceanview, though they tended to work in the businesses and households of of eastern Berkeley. In this way, the more affluent community in eastern Berkeley was dependent on West Berkeley for the daily orchestration of commerce and living. At this time, Oceanview was becoming more commonly referred to as West Berkeley and the Berkeley Land & Town Improvement Association (Improvement Association) was formed by local businessmen to promote and further develop the western part of the city. The Improvement Association was responsible for laying out the West Berkeley street grid and advertising to bring additional commerce and industry to the area.[7]

Growing quickly and providing such support to eastern Berkeley, Oceanview and the community around the newly established University of California, Berkeley (University), were combined and incorporated as a unified City of Berkeley in 1878, with a population of about 2,000.[8] Despite forming a single municipality, the two communities struggled through growing pains, creating conflicts. West Berkeley often felt the affront of paying taxes that the tax-exempt University benefited from and dealing with the pollution that eastern Berkeley sent downstream to West Berkeley. Nevertheless, the combined influence of the two areas of Berkeley did result in benefits to West Berkeley, such as the installation of gas street lights in 1879, a telephone exchange in 1882, and electric service in the 1890s.[9]

In 1885 and into the 1890s, West Berkeley's industry boasted such heavy manufacturing as a planning mill and lumber yard, soap factory, cement works, mine reduction works, lubricating oil and kerosene works, gunpowder factory, acid works, and paraffin paint works. Lighter industry included cigar manufacturing, blacksmithing, brewing, and the sale of raw building materials like plaster, cement, brick, and hardware.[10]

Early 20th Century

As the 20th century arrived and progressed, West Berkeley continued to develop as both an industrial district and a residential neighborhood; workers and their jobs existing side-by-side. It remained primarily working class (in contrast to the more erudite middle- and upper-class neighborhoods around the University to the east) and was dominated by immigrant and Catholic demographics.

The 1906 earthquake that shook the entire Bay Area resulted in relatively little damage in Berkeley

6 Ibid., 20.
7 Wollenberg, 19.
8 Berkeley Architectural Heritage Association.
9 Karen Jorgensen-Esmaili and Stephanie Manning, *Victorian Berkeley: The Community of Oceanview* (1982).
10 Ibid.

compared to San Francisco. Thus, Berkeley was in a prime position to receive the throngs of refugees fleeing the ruined city. Thousands took the ferry across the bay and arrived in West Berkeley. Many remained permanently and, as a result, a residential building boom filled in the open land between West Berkeley and the University. This also resulted in many of the businesses displaced from the commercial and industrial areas of San Francisco relocating to Berkeley, primarily in the already-industrial district of West Berkeley. In the four months following April 1906, 37 new factories were built in Berkeley, with 84 reported by the Census of Manufacturers in 1909.[11]

With such exponential and ongoing growth, the City of Berkeley was faced with the need to regulate and formally plan the expanding city. In 1916, it was the second city in the state to establish a Planning Commission and enact zoning codes. Initial zoning established West Berkeley as an industrial district, embracing its dominant character. However, as the area was no longer zoned for residential use, existing West Berkeley housing declined in value and much of it was vacated. Residential properties were then either redeveloped with new industrial uses or left derelict. The community and culture of West Berkeley, embodied in its worker-resident population was dispersed, leaving a strictly industry-oriented district.[12]

Between 1910 and 1930, West Berkeley boomed, eventually boasting 173 manufacturing businesses and 3,400 workers (though few resided in the neighborhood). Local companies were joined by larger national enterprises, like Colgate, Heinz, and Durkee Foods, which established their west coast branches in Berkeley. With a need to transport products, many new factories were built on remaining vacant land close to the waterfront and adjacent to the rail line.[13]

The Great Depression of the 1930s brought a downturn in Berkeley's economy and slowed the city's productivity. West Berkeley, as a center of that productivity, experienced substantial job losses. Presumably, many unemployed West Berkeley factory workers found relief by participating in WPA and CCC projects, like building Aquatic Park, and participating in infrastructure upgrades to regional parks, which had lasting effects on the Berkeley landscape.

World War II

In 1941, the United States' entry into World War II quickly reversed the effects of the Great Depression. Workers were in high demand and poured in from out of state to fill positions at shipyards and other local industrial enterprises. Manufacturing and production skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, situated on a shoreline almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like Pacific Steel Casting and the Berkeley Steel Construction Company – secured government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

In part due to Camp Ashby, at Ninth Street and Ashby Avenue, which was a training site for Black military units, and a general influx of Black war workers from the South, the war influenced the development of Berkeley's first substantial Black community. Prior to the war, West Berkeley's Black

11 Ibid., 50. City of Berkeley, "West Berkeley Plan," 1993; 119.
12 Wollenberg, 82.
13 City of Berkeley, 119.

population had been a small 2%, but after the war it had grown to 30%. Many Blacks found housing and community around the wartime housing development called Codornices Village (no longer extant) located near today's Park Way, almost immediately northeast of the Study Area.[14]

Post-WWII

With the war years spent in industrial overdrive, Berkeley's industrial activity naturally waned with the peace that followed. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories cut back their workforce and slowed production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, causing neighborhood decline.

In 1956, the City of Berkeley made more zoning refinements, with the land west of Sixth Street zoned as "special industrial." This was intended to concentrate heavy industry toward the highway and waterfront, while lighter industry and mixed-uses created a buffer for the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme never materialized.[15]

In 1970, the West Berkeley Redevelopment Project was initiated to revitalize the area. As with Redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses – mostly those that still lingered from the time before zoning codes removed residential uses from the area – were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were identified. This was particularly relevant to the 800 block of Delaware Street (between Fifth and Sixth streets), where a cluster of residential buildings dating from 1875 to 1910 were slated for demolition, but were instead preserved and eventually designated locally as the Delaware Street Historic District.[16]

Through the 1970s and 1980s, Berkeley citizens continued to express a desire for less development and redevelopment along the bay shore. The city responded by rejecting proposed plans for shopping malls and mixed-use developments in the area. Meanwhile, a housing project and existing houses that were rehabilitated for first-time, low-income buyers reinvigorated the concept of residential uses within the industrial district. Remaining industrial facilities have, in many cases, been repurposed for lighter uses like office space, research and development labs, specialized retail, restaurants, and even live-work space.[17] In the present day, a few small clusters of truly heavy industrial uses, like those within the Study Area, remain.

14 City of Berkeley, 121.
15 Jorgensen-Esmaili and Manning.
16 Berkeley Architectural Heritage Association.
17 Jorgensen-Esmaili and Manning.

CATALOG OF RESOURCES

Address(es)	APN(s)	Historic Name	CRHR Status Code	COB Landmark (L) or Structure of Merit (SoM)?
1331, 1441 Eastshore Hwy; 1330 Second St.	59-2344-7 59-2344-4 59-2344-5-1	Berkeley Steel Construction Co./Berkeley Forge & Tool	6Z*	No
1305 Eastshore Hwy; 1314, 1320, 1420 Second St.; 600 Gilman St.	59-2344-3-1 59-2344-4-1 59-2341-5 59-2344-1-2 59-2344-2-1	Pacific Steel Casting Co.	6Z*	No
1421 Second St.	59-2340-8-2	Pacific Steel Casting Co.	6Z	No
1333 Second St.	59-2345-9		6Z	No
1337 Second St.	59-2345-8-1		6Z	No
1310 Third St.	59-2345-2-2		6Z	No
1306 Third St.	59-2345-2-1		3CS	Yes
631 Camelia St.	59-2345-7		6Z	No
635 Camelia St.	59-2345-6-1		6Z	No
643 Camelia St.	59-2345-4		6Z	No
640 Gilman St.	59-2345-1	Gilmore Oil Co./General Petroleum Co., Pacific Steel Casting Co.	6Z	No
648 Page St.	59-2323-1		6Z	No

*Determination made by the "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project." Local level determination made by the Gilman Gateway Historic Resource Evaluation via DPR 523 Update Forms.

FINDINGS & CONCLUSIONS

According to the analysis summarized in the preceding chart, the Gilman Gateway Study Area contains only one property – 1306 Third Street – that meets the criteria for listing in the California Register and as a City of Berkeley Landmark. This property meets the definition of an historical resource for the purposes of CEQA, while the remainder of the properties in the Study Area do not.

A number of the properties in the Study Area share common early owners (prior and in addition to the dominant Pacific Steel Casting Co. and Berkeley Steel Construction Co.), such as Ray W. Van Deusen and the Chemical Packaging Company. Many buildings present, often those with common ownership, also have common designers and builders, such as architect Alben Froberg and contractors Christiensen

& Lyons. However, analysis indicates that none of these owners constitute significant historical figures and none of the designers or builders constitute important creative individuals. The fact that they were associated with multiple properties within the Study Area does not appear to indicate any significant overarching theme that would unify the properties as a district, nor raise them to a level of significance that would constitute an eligible historic district.

It is beyond the scope of this study to survey or evaluate industrial properties outside of the Study Area boundaries to determine whether a larger historic district may exist in West Berkeley and whether the properties in the Study Area would contribute to it or not.

SOURCES/BIBLIOGRAPHY

(Bibliographic sources for property-specific information are included on individual DPR 523 Forms, appended.)

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AUTHORS' QUALIFICATIONS

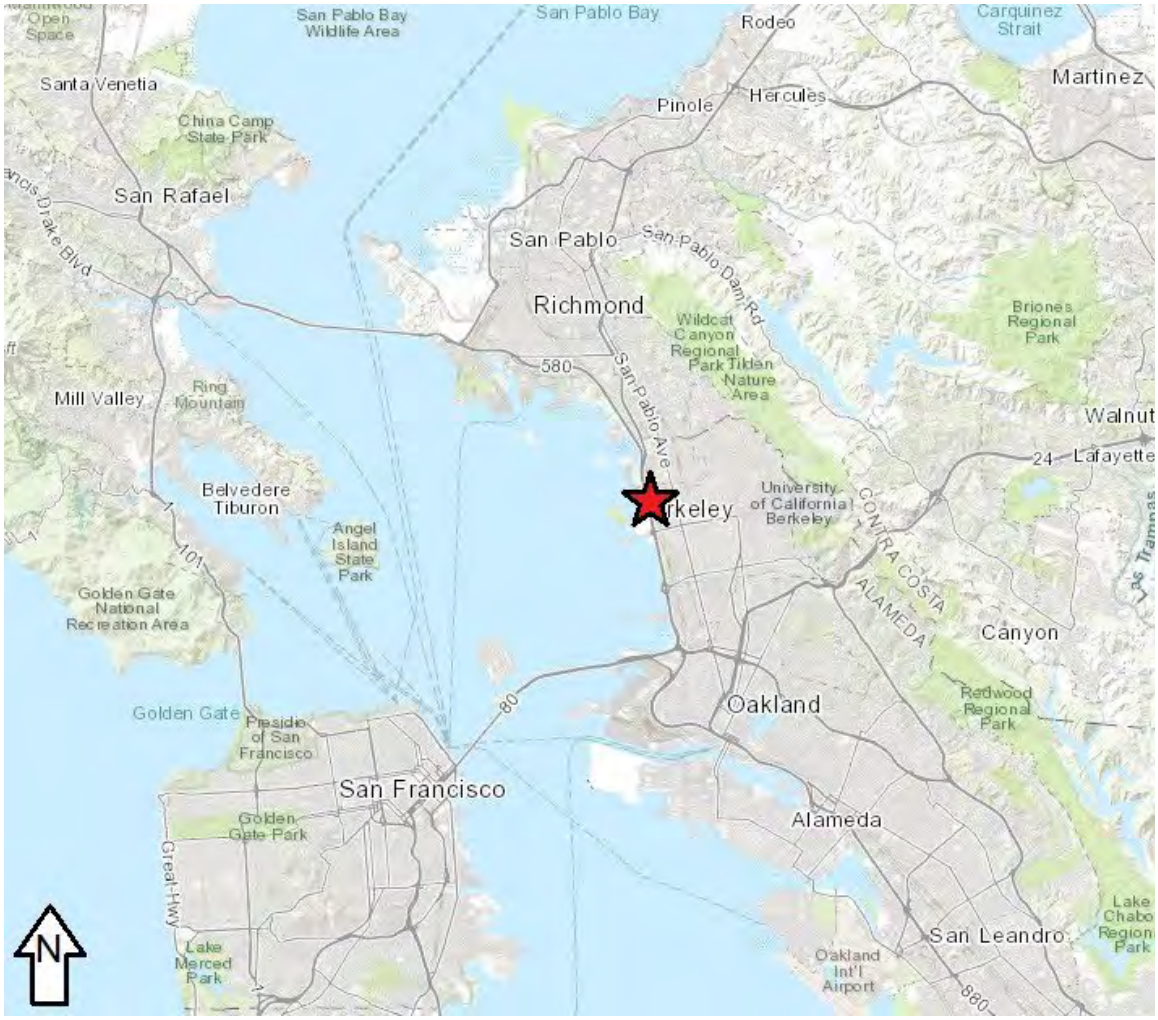
Bridget Maley, architecture + history, llc
Bridget Maley is a co-author of this Historic Resource Evaluation. She is the sole proprietor of architecture + history, llc (a + h) and is qualified under *the Secretary of the Interior's Professional Qualifications Standards* for Architectural History. a + h is a San Francisco-based architectural history and historic preservation consulting firm. Bridget Maley has 30 years of experience in architectural history, historic preservation, and urban planning in municipalities throughout California. She has also completed projects in National, State, and local parks throughout the west. She has a Master of Arts in architectural history from the School of Architecture at the University of Virginia. Bridget has contributed to numerous projects involving historic resources in Berkeley including a historic resources assessment of buildings in Berkeley's downtown for the 2012 Berkeley Downtown Area Plan process and more recently completed historic structure reports for important buildings in Berkeley's Civic Center for the Civic Center Visioning Project. On two previous occasions, Bridget has provided training sessions for the City of Berkeley Landmarks Preservation Commission. In the summer of 2022 Bridget completed the Victorian Society in America summer school in Newport, Rhode Island.

Caitlin Hibma, Left Coast Architectural History
Caitlin Hibma is a co-author of this Historic Resource Evaluation. She is the sole proprietor of Left Coast Architectural History and is qualified under the *Secretary of the Interior's Professional Qualifications Standards* for Architectural History. She has a background in historical research and writing, as well as practical preservation and conservation methods. Caitlin holds a Masters of Science in Historic Preservation from the University of Oregon (2004) and has over eighteen years of experience leading a wide variety of project undertakings, including historic resources surveys and historic context statements, National Register nominations, State and local landmark designations, and numerous Historic American Building Survey projects, Federal and State-level tax credit applications, and historic resource evaluations. Caitlin has been affiliated with two of the Bay Area's leading preservation architecture firms and, in 2010, established Left Coast Architectural History. She focuses on providing quality historic resources consulting in Northern California. Left Coast Architectural History serves private clients and provides project support for larger environmental, architecture, and historic resources consulting firms.

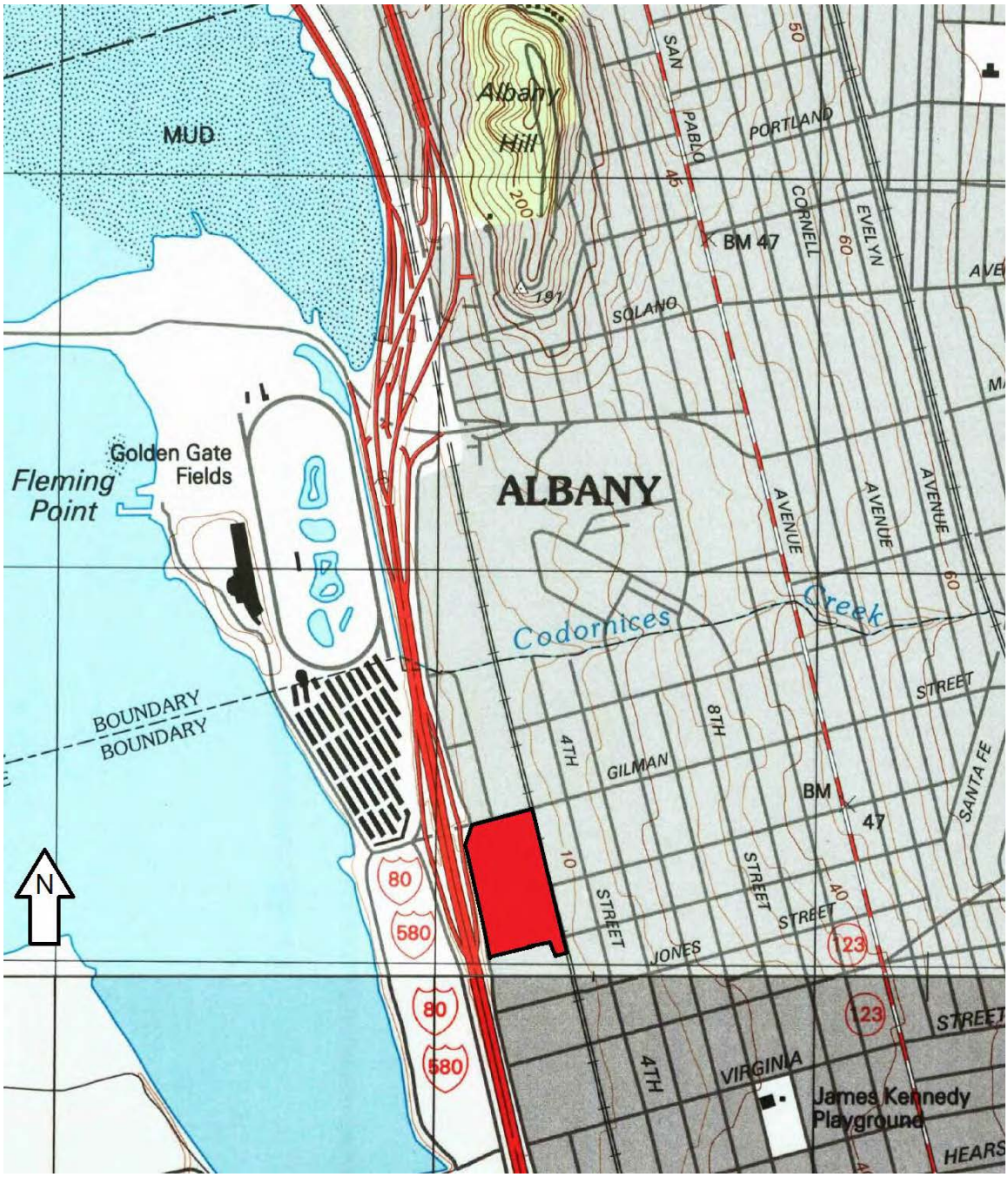
APPENDIX ONE

Study Area Maps

Map 1 – Vicinity Map
Map 2 – Location Map
Map 3 – Study Area Parcel Map



Map 1: Vicinity Map
Star indicates Study Area location. (USGS, altered by author)



Map 2: Location Map
Red shape represents Study Area.
(USGS 7.5' Quad: Richmond (1993) and Oakland West (1993), altered by author)

Map 3: Study Area Parcel Map
(City of Berkeley GIS, altered by author)

APPENDIX TWO

Sanborn Fire Insurance Maps

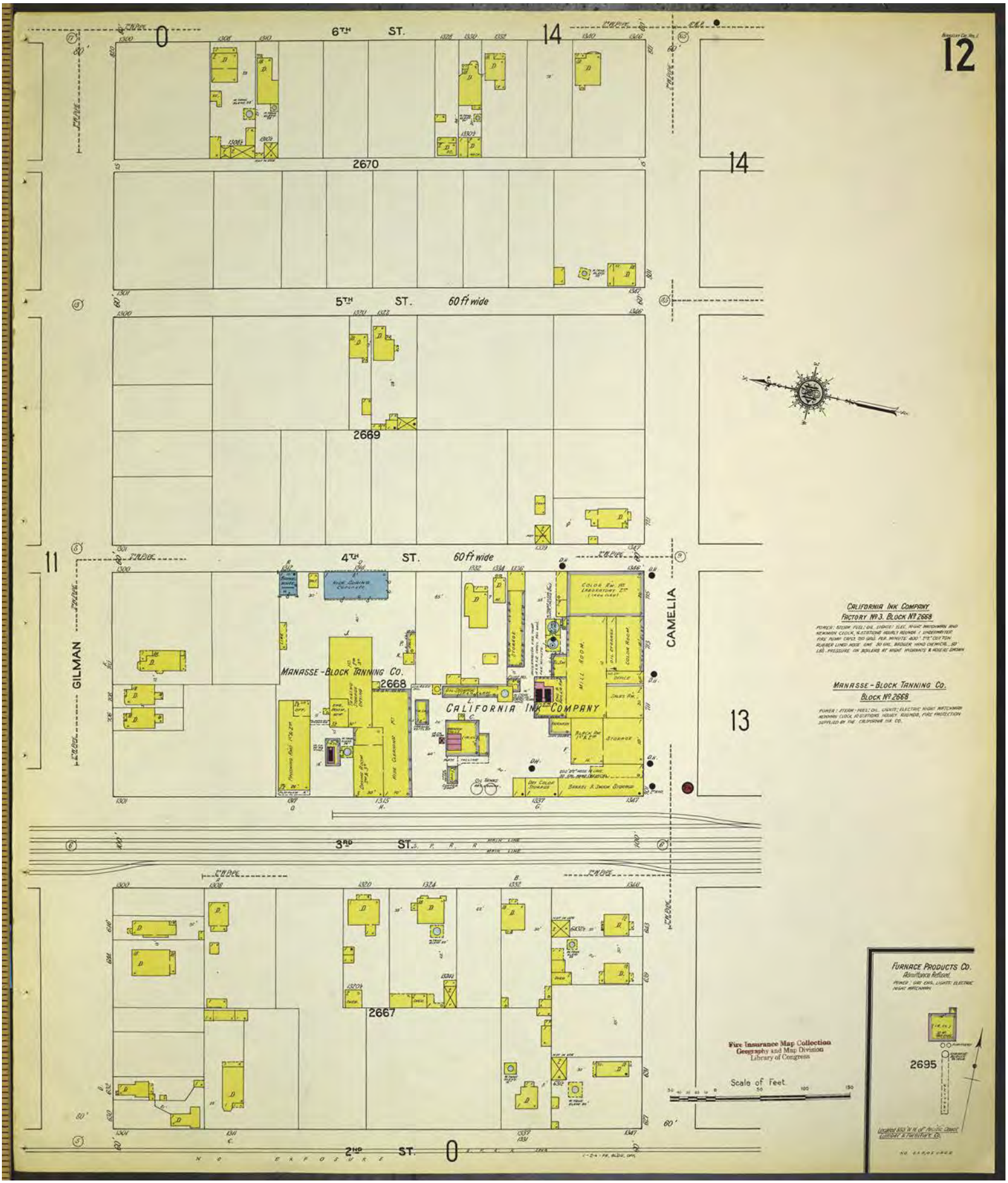
1911
Volume 1, Sheet 12
Volume 1, Sheet 13

1929
Volume 3, Sheet 321
Volume 3, Sheet 322

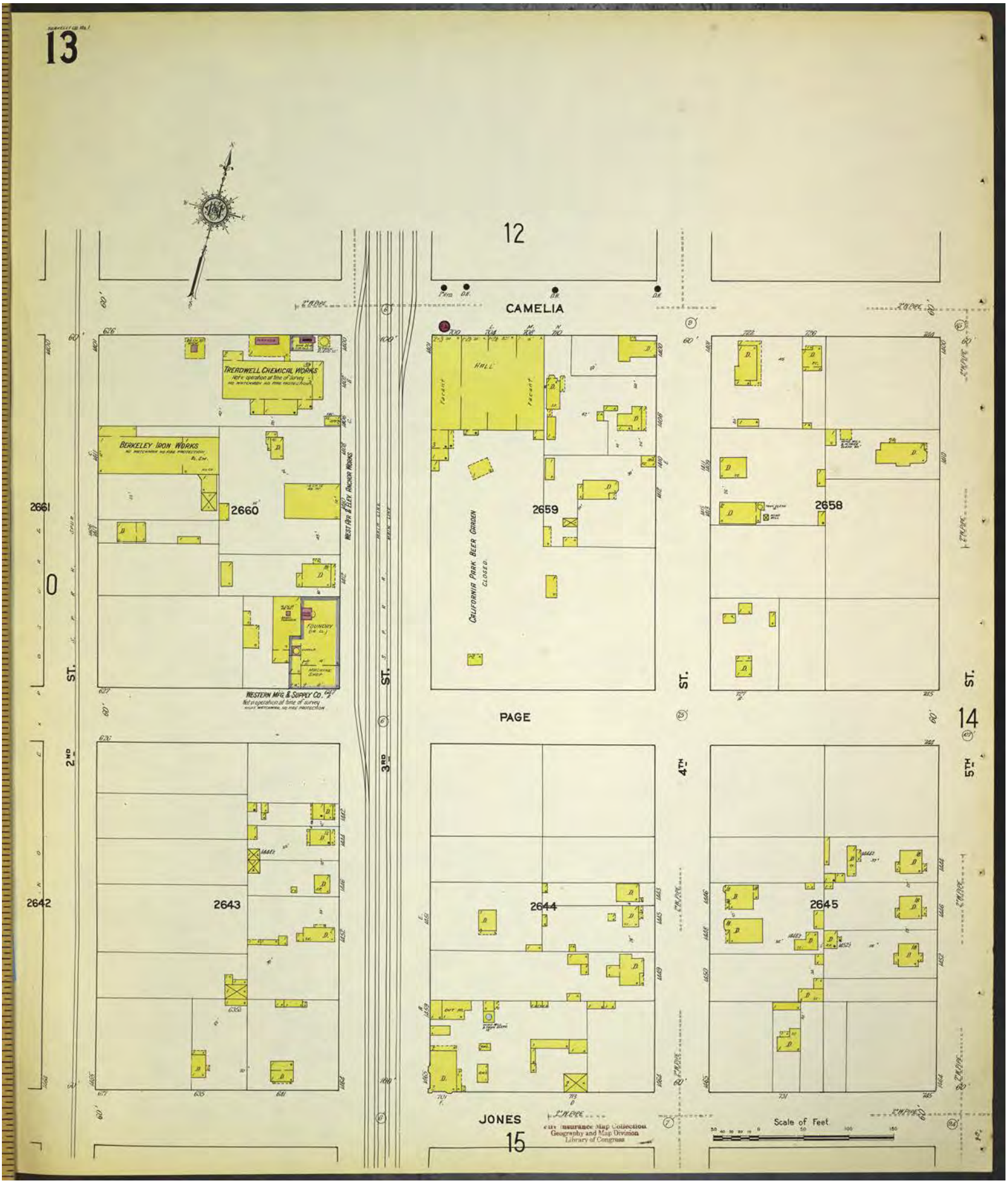
1950
Volume 3, Sheet 321
Volume 3, Sheet 322

1980s
Volume 3, Sheet 321
Volume 3, Sheet 322

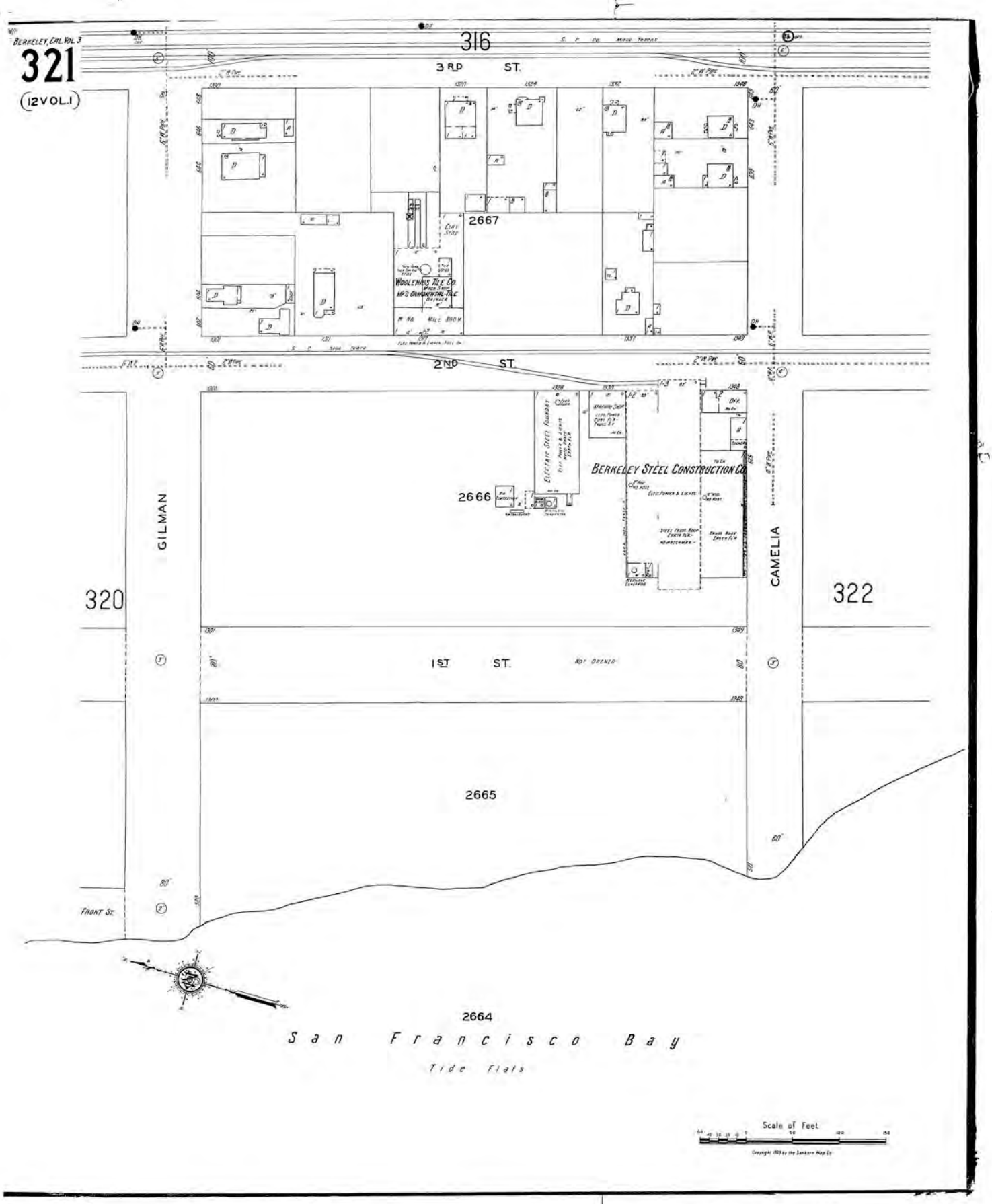
1911 Sanborn Map Sheet 12



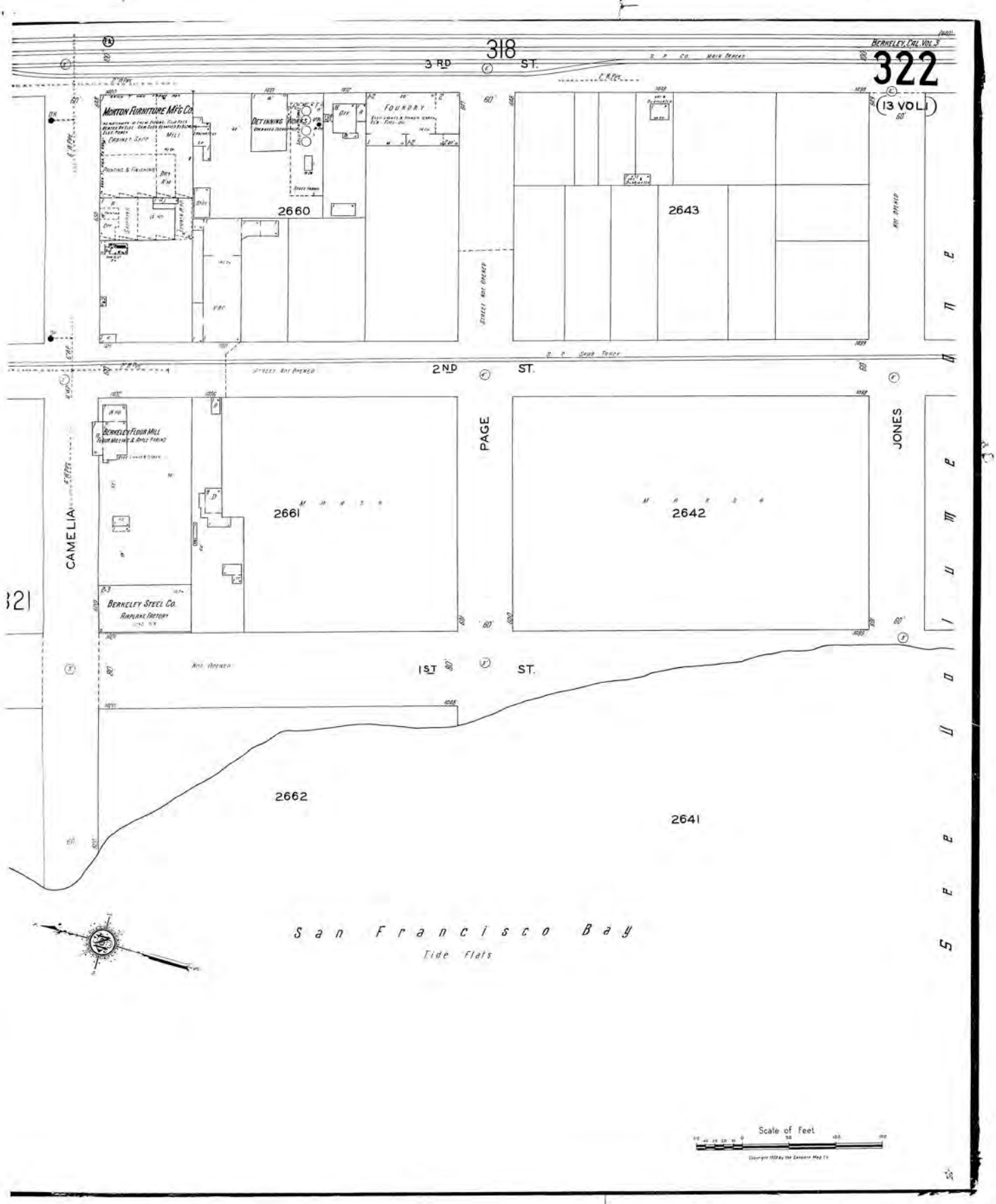
1911 Sanborn Map Sheet 13



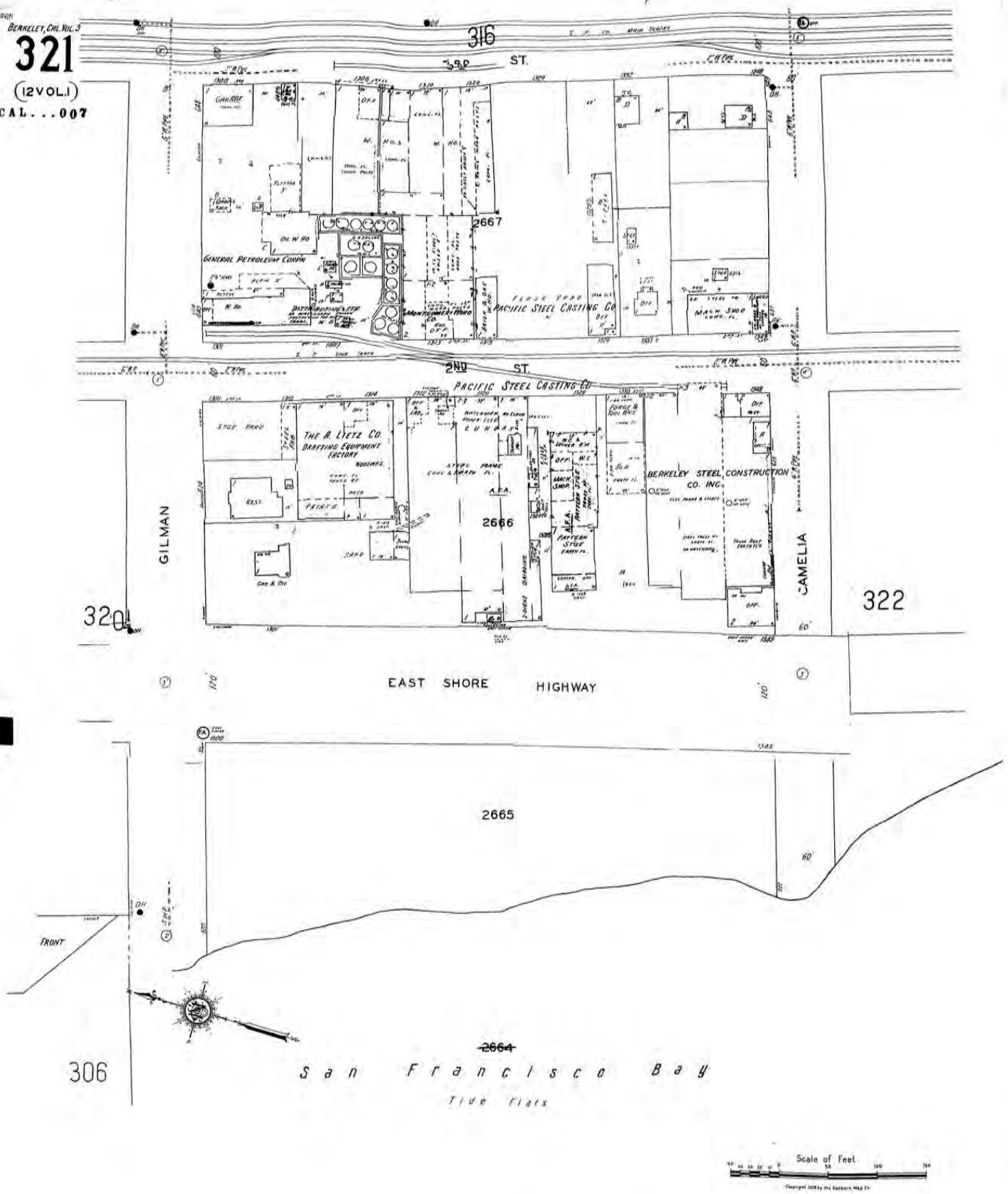
1929 Sanborn Map Sheet 321



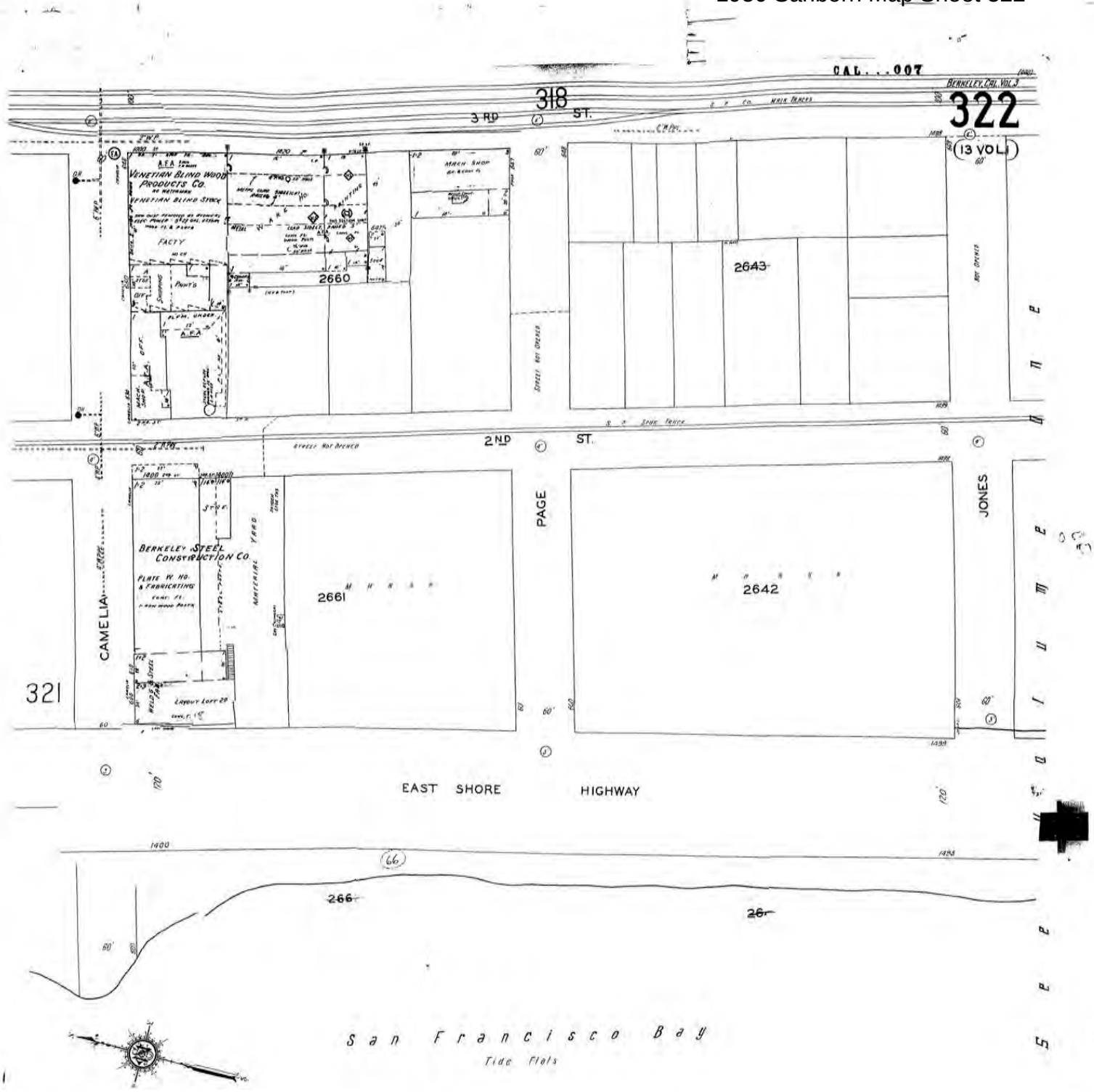
1929 Sanborn Map Sheet 322



1950 Sanborn Map Sheet 321



1950 Sanborn Map Sheet 322



Detail 1980s Sanborn Map
Sheet 321

Detail 1980s Sanborn Map
Sheet 322

APPENDIX THREE

Original Building Permits Located for Project Area Properties

See following summary table of information, followed by building permits in order, as presented in table.

APN	Address	Date	Permit Number	Names / Addresses	Description / Cost	Company / Person Affiliation
59-2344-1-2	1305 Eastshore Hwy	[1990, 2005-2006]	No permit found	n/a	Carbon absorption equipment, shed	Pacific Steel Casting Co.
59-2344-2-1	600 Gilman St	8/8/1956	80336	Union Oil Co., owner; Union Oil Co., designer and builder; John Hunter, engineer.	$12,000.00; single story, 2-room service station; 21 x 41'-8", with canopy over driveway.	Pacific Steel Casting Co.
59-2344-3-1	1314 Second St	8/27/1965	104130	Pacific Steel Casting Co., owner; Blymer & Sons, consulting engineers; CSB Construction, Inc., builder.	$70,000.00; 102 x 121 all-metal steel fabrication mill building adjacent to other facilities.	Pacific Steel Casting Co.
59-2344-4-1	1320 Second St	[1929-1931]	No permit found	n/a	Pacific Steel Casting Co., oldest building of facilities extant (per Caltrans)	Pacific Steel Casting Co.
59-2341-5	1420 Second St	11/20/`974	112174858	Pacific Steel Casting Co., owner; Blymer & Sons, designer/engineer.	$300,000.00; masonry and steel shell foundry.	Pacific Steel Casting Co.
59-2341-3-2	1433 Second St.	[2004-2005]	No permit found	n/a	Canopies	Pacific Steel Casting Co.
59-2340-8-2	1421 Second St	[1981]	No permit found	n/a	Pacific Steel Casting Co. Plant #3	Pacific Steel Casting Co.
59-2345-9	1333 Second St	6/29/1943	54371	Pacific Steel Casting Co., owner; Alben Froberg, architect; Christensen & Lyons, builders.	$300.00; 50 x 100 shed for storage, clad with (used) galvanized iron. [First building on parcel, followed by others.]	Pacific Steel Casting Co.
59-2345-2-2	1310 Third St	1/30/1946	58508	Ray W. Van Deusen, owner; Alben Froberg, architect; W.E. Gould, builder.	$1,400.00; warehouse and office for Chemical Packaging Co.	Pacific Steel Casting Co.
59-2345-1	640 Gilman St	3/26/1930	34223, 34224, 34225, 34226	Gilmore Oil Co., owner; Wm. H. Carr & Co.., designer; Gilmore Oil Co., builder.	$2,700.00; warehouse [Building B]; 36 x 68, corrugated iron walls and roof. $1,000.00 wood frame and corrugated iron garage. $150; 18 x 20; corrugated iron truck loading dock. $450; 8 x 12; wood frame and corrugated iron pump house. [First buildings on parcel, followed by others.]	Pacific Steel Casting Co.
59-2344-5-1	1330 Second St	6/21/1921	10221	Greene-Schaw Co, owner; A. E. Greene 1418 Scenic Ave; C. F. Seammon (hard to read), builder, 2070 University.	$1,800.00; factory; 40 x 50; east section 1921; west section addition facing East Shore Highway is later. 1950s?	Berkeley Steel Construction / Berkeley Forge & Tool
59-2344-7	1331 and 1349 Eastshore Hwy / 1348 Second St	3/20/1942	52478	Berkeley Steel Construction; owner; Architect or designer Reede Hardman office 2068 Allston Way	$7,500.00; offices 2 story, 49 x 40 stucco finish	Berkeley Steel Construction / Berkeley Forge & Tool

APN	Address	Date	Permit Number	Names / Addresses	Description / Cost	Company / Person Affiliation
59-2341-4	1401 Eastshore Hwy / 1400 Second Street	9/8/1942	53125	Berkeley Steel Construction; owner 2nd and Camelia; B. F. Woolby (?) builder	$6,000.00; 34 x 168 redwood covered with corrugated iron	Berkeley Steel Construction / Berkeley Forge & Tool
59-2345-8-1	1337 Second St	9/2/1959	88081	Address on original building permit listed as 1332 Third; lot faces both Second and Third	$7,800.00; Butler Building; 40 x 42	Berkeley Steel Construction / Berkeley Forge & Tool
59-2345-7	631 Camelia St	2/18/1947	60722	George A. Plummer, owner and builder; 1330 2nd Street (Berkeley Steel Corp)	$10,000.00; Machine shop; 40 x 80	Berkeley Steel Construction / Berkeley Forge & Tool
59-2345-6-1	635 Camelia St	4/28/1959	87096	George A. Plummer, owner, 631 Camelia; Vincent A. Arena, architect or engineer, San Jose Steel, builder	$9,175.00; shop building; steel building	Berkeley Steel Construction / Berkeley Forge & Tool
59-2345-4	643 Camelia St	no buildings		gantry cranes		Berkeley Steel Construction / Berkeley Forge & Tool
59-2323-1	648 Page St	11/30/1954	76538	George A. Scott; 3075 Telegraph, owner and builder; Architect or designer Soule Steel	$6,000.00; warehouse; 32 x 60	George A. Scott
59-2345-2-1	1306 Third St	10/24/1944	56438	Chemical Packaging Company, owner; Alben Froberg, architect; Christiansen & Lyons, builder	$5,000.00; one-story bldg; 40 x 130	Peter Voulkos Art Studio

LOT NO. 6-7-8-9-10

BLOCK NO. 30 —

CITY OF BERKELEY
Building Department

Plan checking fee NO 20 50

Building permit fee 41 —

Temporary pole fee

Privy fee

TOTAL FEE

APPLICATION FOR A BUILDING PERMIT FOR A TYPE IV OR V BUILDING

Application is hereby made to the Building Department of the City of Berkeley for permission to build a group F type IV single story, 2 room building to be occupied as a service station. SWcorner Gilman & 2nd.

The building number is 600 Gilman The estimated cost of the building is $ 12,000.

which includes all materials and labor for the finished building, according to plans and specifications herewith submitted. All provisions of the Building Code will be complied with in the erection of said building whether specified herein or not. Size of lot: 93 feet by 125 feet. Size of proposed building: 24 feet by 41'-8" feet. Extreme height of building: 14 feet.

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE:

Construction of a gasoline service station building with canopy over driveways extended to Property Line.

BE SURE TO SIGN STATEMENT ON OTHER SIDE

Name of owner Union Oil Co., Address 425-1st, San Francisco Phone Sutter 1-1400

Name of architect or designer Union Oil Co & Endurance Mfg/Prod. Address 146 So. Maple St. So. S.F.

Name of engineer John Hunter, Address Folsom St., S.F.

Name of builder (Union Oil Co.), Address Same as above, Phone

State license no. 6848 Workmen's Compensation Insurance Policy or Certification filed. Yes ____ No ____

City of Berkeley license no. ____, expires ____

(We) (I) hereby agree to save, indemnify and keep harmless the City of Berkeley and/or its employees, against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and ordinances of the City of Berkeley.

Fire Zone 1( ), 2( ), 3(X) Union Oil Co. by A. J. Schulz
Signature of owner, agent or builder

For Department Use Only

600 Gilman
Number Street

Permit No. 80336

Date issued 6-8-1956

Block Book No. 3

Page 321

ISSUED BY Don Schaary

FORM 254-172

Pd 68

CITY OF BERKELEY

DEPARTMENT OF PUBLIC WORKS
Building Inspection Divison

Plan checking fee _____
Building permit fee 136.00
Temporary pole fee _____
Privy fee _____

TOTAL FEE _____

APPLICATION FOR A BUILDING PERMIT FOR A TYPE IV OR V BUILDING

Application is hereby made to the Building Department of the City of Berkeley for permission to build a group G type IV-1 story, 1 room building to be occupied as a STEEL FAB. The building number is 1314-2nd AVE The estimated cost of the building is $ 70,000.00 which includes all materials and labor for the finished building, according to plans and specifications herewith submitted. All provisions of the Building Code will be complied with in the erection of said building whether specified herein or not. Size of lot: 112 feet by 125 feet. Size of proposed building: 102 feet by 121 feet. Extreme height of building: 33 feet.

Lot No. PORTION 6 THRU 10 11 THRU 14 Block No. 30

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE:

CONSTRUCT ALL METAL MILL BUILDING ADJACENT ~~[illegible]~~ TO EXISTING FACILITIES

BE SURE TO SIGN STATEMENT ON OTHER SIDE

Name of owner PACIFIC STEEL CASTING CO., Address 1333 SECOND STREET, Phone 525-9200

Name of architect or designer _____, Address _____

Name of engineer BLYMYER & SONS (CONSULT. ENGR'S) Address 991 WILLIAMS ST. SAN LEANDRO

Name of builder CSB CONST., INC., Address 800 - 77TH AVE OAKLAND, Phone 562-9200

State license no. 148617 Workmen's Compensation Insurance Policy or Certification filed. Yes ____ No ____

City of Berkeley license no. C-1572, expires _____

(We) (I) hereby agree to save, indemnify and keep harmless the City of Berkeley and/or its employees, against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and ordinances of the City of Berkeley.

Fire Zone 1( ), 2( ), 3(✓)

CSB CONST., INC.
R. Kling
Signature of owner, agent or builder

For Department Use Only

1314 - 2nd
Number Street

Permit No. 104130
AUG 27 1965

Block Book No. _____

Date issued _____

Page _____

ISSUED BY _____

FORM 254-172

BUILDING - ZONING PERMIT APPLICATION 1420

CITY OF BERKELEY

INSPECTION SERVICES DEPT.

FIELD COPY

IDENTIFICATION NUMBER 1201 U2 1 71858 USE FOUNDRY USE ZONE

JOB ADDRESS 1333 SECOND BLDG. AREA LOT AREA

BUILDING-PLAN REVIEW

NEW X ADDITION REPAIR

ALTER MOVE DEMOLITION

REROOFING EXCAVAT.

PLAN REVIEW ONLY:

DESCRIPTION OF WORK

NEW SHELL FOUNDRY EXCLUDING MECHANICAL & ELECTRICAL & LOCKER BLDG.

CONSTRUCTION LENDER

NAME PACIFIC STEEL CASTING CO

ADDRESS 1333 SECOND STREET

FIRE ZONE 1. 2. (3.)

OCCUPANCY GROUP

A B C D E F (G) H I J

1 2 3 4 5

TYPE OF CONSTRUCTION

W.F. (MASONRY) CONCRETE (STEEL)

I II III-1-HR III-H.T. III-N-

IV-1-HR (IV-N-) V-1-HR V-N

BUILDING HEIGHT: STORIES: ONE FEET

VALUATION $ 300,000.00

SIGNS

BUILDING OWNER:

ADDRESS TELE.

STREET FRONTAGE 1. 2. 3.

BUILDING SIZE: LENGTH: HEIGHT: AREA:

LENGTH WIDTH AREA

TYPE:

VALUATION $

OWNER PACIFIC STEEL CASTING TELE. 525-9200

ADDRESS 1333 SECOND ST. BERKELEY

CONTRACTOR TELE.

ADDRESS

STATE LIC. CITY LIC.

DESIGNER R.L. MYERS & SONS TELE. 521-3773

ADDRESS 1429 CLEMENT ST. ALAMEDA

STATE LIC. C.E. 6822. CITY LIC.

WE/I HEREBY AGREE TO SAVE, INDEMNIFY AND KEEP HARMLESS THE **CITY OF BERKELEY** AND/OR ITS EMPLOYEES, AGAINST ALL LIABILITIES, JUDGMENTS, COSTS AND EXPENSES WHICH MAY IN ANY WISE ACCRUE AGAINST SAID CITY IN CONSEQUENCE OF THE GRANTING OF THIS PERMIT. ALL OF THE ABOVE SPECIFIED WORK CAN BE LEGALLY DONE AND WILL BE PERFORMED IN ACCORDANCE WITH THE **ORDINANCES** OF THE **CITY OF BERKELEY** AND ALL OTHER LAWS APPLICABLE THERETO.

SIGNATURE OF APPLICANT: R.L. MYERS & SONS Harold Lewis

ZONING

PERMIT FOR:

DWELLING UNITS: EXISTING: PROPOSED:

YARD CLEARANCES: FRONT DEPTH LEFT WIDTH; REAR DEPTH RIGHT WIDTH

LOT COVERAGE %

BUILDING HEIGHT STORIES FEET

PARKING: NO. OF SPACES SIZE X

DRIVEWAY WIDTH LENGTH

OFF-STREET LOADING:

OTHER REQUIREMENTS:

U.P./VARIANCE: (DL) No 7338

FEES

BUILDING

PLAN REVIEW P/N 0187 4307 ~~$25~~

ZONING

SIGN

TOTAL

ISSUED BY: Carter DATE 11.20.74

	INITIAL	DATE
SITE OBSTRUCTION		
FOUNDATION FORMS		
STEEL TRENCH PART MASONRY WALL	WTM	12-13-74
HEARTH		
MASONRY CHIMNEY		

↓ VALIDATE HERE ↓

	INITIAL	DATE
WALL STEEL		
SHEATH F. W. R. PART FRAME INSPECTION	WTM	12-13-74
LATH INT. EXT.		
SCRATCH COAT		
DRY WALL		

	INITIAL	DATE
SH. PAN BATH BACKING		
ROOF WATER		
PARKING		
FINAL BLDG.	WTM	5-10-76
ZONING		

39

(49)

FORM NO. 254-34

Building Department

APPLICATION FOR BUILDING PERMIT FOR A Group J Building

Application is hereby made to the Building Department of the City of Berkeley for Permission to build a Type V building to be occupied as a Group J occupancy for: shed for storage

Located at 1333 - 2nd Street

Value 500.00

SIZE, LOCATION AND CONSTRUCTION TO BE AS FOLLOWS:
(See Over For Plans)

Size: 50 x 100 Height: average 8'

Floor: none

Outside Walls: galv. iron (used)

Roof: " " "

Distance from nearest building on the lot: 20'

Distance from side lot line: 4'

Distance from rear lot line: 100'

Walls closer than 3 feet to the side and/or rear lot lines will be fireproofed as follows:

WARNING! This construction may be in violation of War Production Board General Limitation Order No. L-41. You are cautioned to consult with your local War Production Board Office before commencing the work authorized in this permit.

Name of Owner Pacific Steel Casting Co. Address 1333 - 2nd St

Name of Architect or Designer Alben Frederg Address Oakland

Name of Engineer Address

Name of Builder Christensen & Lyons Address 3454 Harlan St

State License No.

I We Hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said city in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. Ordinance No.

Alben Frederg
Signature of Owner, Agent or Builder.

Fire Zone No. Address

FOR DEPARTMENT USE ONLY

1333 - 2nd 321
Number Street Page

Permit No. 54371

Filed Ready Checked by

Date Issued 6-29-43

CITY OF BERKELEY
Building Department

APPLICATION FOR BUILDING PERMIT

Additions, Alterations and Repairs

Application is hereby made to the Building Department of the City of Berkeley for Permission to Add to, or Alter, or Repair a group G; Type V; 1 Story; ..... Room Building

Located at 1310 3rd st Berkeley

All provisions of the Building Code will be complied with in the erection, alteration or repairing of said building whether specified herein or not.

Estimated Cost $ 1200 new work 200 new office $1400 total

Building to be occupied as warehouse by Chemical Packaging Co

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE

Small sketches may be drawn on the back of this sheet

Extension front tar & gravel roof 24' OK mgh

See plans

Add office 10'x20' N. plans

Name of Owner H W Van Deusen Address 1310 3rd Berkeley

Name of Architect or Designer A Foley Address Oakland

Name of Engineer ..... Address .....

Name of Builder A. E. Jones Address No 7 Solano ave Berkeley

State License No. 290 Pest Control License No. .....

We

I hereby agree to save, indemnify and keep harmless the City of Berkeley and/or its employees, against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

Use District Class ..... Ordinance No. .....

H W Van Deusen
Signature of Owner, Agent or Builder.

Fire Zone No. 4 Address 1310 3rd st.

FOR DEPARTMENT USE ONLY

1310 - 3rd St.
Number Street Page

Permit No. 58508

Date Issued JAN 30 1940

APPLICATION FOR BUILDING PERMIT
FRAME BUILDING

WRITE IN INK

Permits expire one year from date of issue unless sooner revoked by the City Council. It is unlawful to commence or proceed with any work requiring a building permit until such permit has been issued.

Application is hereby made to the Department of Buildings and Inspections of the City of Berkeley for permission to build a 1 story ..... room frame building to be occupied as Warehouse ..... by (No.) 1 (Dwellings, Stores, Garages)

Lot located on the S.E. Corner side of 2nd & Gilman street ..... feet ..... of ..... street,

Being Lot No. [illegible] Block ..... Tract

Estimated entire cost of building $ 2700 ..... (Includes all materials and labor for finished building.) According to plans and specifications herewith submitted. All provisions of the Building Law will be complied with in the erection of said building whether specified herein or not.

Size of lot 205 by 133 feet. Size of proposed building 36 feet by 68 feet.

Extreme height of building 16 feet

Ceiling heights in clear to be as follows:

Cellar	— ft.	in.
First story	10 ft.	in.
Second story	ft.	in.
Third story	ft.	in.

Foundation to be of (material) .....

Walls: Width at top ..... inches. Width at bottom ..... inches. Least height ..... inches. Greatest height ..... inches.

Piers: Size at top 12 x 12 inches. Size at bottom 21 x 21 inches. 6 - 7 - 8 ft. on centers. Height 12 inches

Mud sills ..... X .....

Main sills (plates) ..... X .....

Post on piers 6 x 6

Girders 6 x 12 Max. span 6 - 8 ft.

Underpinning X inches ..... inches O. C

Size of studs in outside walls to be as follows:

First story	2 x 6 inches	40 inches O. C.
Second story	X inches	inches O. C.
Third story	X inches	inches O. C.

Bearing partitions to be same as outside walls of each story. Exterior wall coverings to be of ..... All outside walls covered with shingles or plaster will be close boarded.

Roof: Covered with Roofing paper. Sheathing 2 x 6 inches 36 inches O. C. Pitch 1/4

First floor joists 2 x 8 inches 18 inches on centers. Longest span between supports 8 ft.

Second floor joists X inches ..... inches on centers. Longest span between supports ..... ft.

Third floor joists X inches ..... inches on centers. Longest span between supports ..... ft.

Ceiling joists X inches ..... inches on centers. Longest span between supports ..... ft.

Rafters 2-2x6 X 8 inches 14 inches on centers. Longest span between supports ..... ft.

Cross Ties

Chimneys: Brick: Number ..... lined with terra cotta. Patent: Number ..... size ..... Number of inlets per flue ..... Size of inlets .....

Instantaneous water heaters (number) ..... not to be connected with smoke flues.

Furnace, to burn .....

Name of Owner of Ground [illegible] Residence Address [illegible]

Name of Owner of Building ..... Residence Address .....

Name of Lessee of Building ..... Residence Address .....

Name of Architect or Designer [illegible] Residence Address 1472 E. [illegible]

Name of Builder [illegible] Residence Address [illegible]

We / I hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. III Ordinance No. .....

[illegible]
Signature of Owner, Architect or Builder.

Address 1472 - E. University, Berkeley

604 640 Gilman
Number Street Page

FOR DEPARTMENT USE ONLY

Permit No. .....

Filed ..... Ready ..... Checked by ..... Date Issued MAR 26 1930

WRITE IN INK

Application for Building Permit

Private Garage

Application is hereby made to the Department of Buildings and Inspections of the City of Berkeley for permission to build a ~~frame~~ ~~masonry~~ garage to house 4 machines.

Located Second and Gilman Sts (SE Corner) Berkeley

Value $1000

SIZE, LOCATION AND CONSTRUCTION TO BE AS FOLLOWS:

Size: 20 X 40

Floor: Gravel and concrete

Outside Walls: Wood frame - corrugated iron

Roof: Corrugated iron

Distance from furthest projection of dwelling:

Distance from side lot line: 3 feet

Distance from rear lot line: 174 feet

Walls closer than 3 feet to the size and/or rear lot lines will be fireproof as follows:

Name of Owner Gilman Oil Co Residence Address [illegible]

Name of Builder Gilman Oil Co Residence Address

~~I~~ We hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. III Ordinance No. [illegible] [illegible] - Bay Valve [illegible]

Signature of Owner, Architect or Builder.

Address [illegible]

FOR DEPARTMENT USE ONLY

604 Gilman 931

Number Street Page

Permit No. [illegible]

Filed Ready Checked by Date Issued MAR 26 1930

WRITE IN INK

Application for Building Permit

Private Garage

Application is hereby made to the Department of Buildings and Inspections of the City of Berkeley for permission to build a frame ~~masonry~~ ~~garage to house~~ Truck Loading Ramp machines.

Located 12th and Kittredge Berkeley

Value $150

SIZE, LOCATION AND CONSTRUCTION TO BE AS FOLLOWS:

Size: 18 X 20

Floor: Wood

Outside Walls: none

Roof: Corrugated Iron

Distance from furthest projection of dwelling:

Distance from side lot line:

Distance from rear lot line:

Walls closer than 3 feet to the side and/or rear lot lines will be fireproof as follows:

Name of Owner [illegible] Residence Address [illegible]

Name of Builder [illegible] Residence Address "

I/We hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. [illegible] Ordinance No. [illegible] [illegible]

Signature of Owner, Architect or Builder

Address

~~804~~ ~~220~~

FOR DEPARTMENT USE ONLY

Number Street Page

Permit No. [illegible]

Filed Ready Checked by Date Issued MAR 26 1930

WRITE IN INK

Application for Building Permit

Private Garage

Application is hereby made to the Department of Buildings and Inspections of the City of Berkeley for permission to build a frame ~~masonry~~ ~~garage~~ Pump House to house _____ machines.

Located _____

Value $450

SIZE, LOCATION AND CONSTRUCTION TO BE AS FOLLOWS:

Size: 5' X 12'

Floor: Concrete

Outside Walls: Wood Frame - Corrugated Iron

Roof: Corrugated Iron

Distance from furthest projection of dwelling: _____

Distance from side lot line: _____

Distance from rear lot line: _____

Walls closer than 3 feet to the side and/or rear lot lines will be fireproof as follows: _____

Name of Owner [illegible] Residence Address [illegible]

Name of Builder [illegible] Residence Address _____

I/We hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No _____ Ordinance No. _____

[illegible]
Signature of Owner, Architect or Builder.

Address [illegible] F University Ave Berkeley

604

FOR DEPARTMENT USE ONLY

Number _____ Street _____ Page _____ Permit No. [illegible]

Filed _____ Ready _____ Checked by _____ Date Issued MAR 26 1930

WRITE IN INK

Application for Building Permit

ALTERATION AND REPAIRS

Application is hereby made to the Department of Buildings and Inspections of the City of Berkeley for permission to

Build, Alter or Add to a ..... story ..... room frame .....

Located West Side 2nd Street North 180 feet of Camelia Street.

All provisions of the Building Law will be complied with in the erection, alteration or repairing of said building whether specified herein or not.

Value 1800.00

Building to be occupied as a Factory ..... by (No.) ..... families.

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE

Building 40' x 50' Concrete Foundation.
Concrete Floor. Wood Frame 12 feet Posts. Walls and
Roof covered With Corugated Sheet Metal

Name of Owner GREENE-SCHAN CO. Residence Address { A E GREENE 1410 SECOND AVE. BERKELEY

Name of Builder C. F. Seammon Business Address 2070 University Ave.

I/We hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

I do solemnly swear that the above is a true and full statement of all work to be done and of the cost thereof.

1330 Second St. Greene-Schan Co - By A. E. Greene

Signature of Owner, ~~Architect or~~ Builder.

Address .....

This permit expires one year from date unless sooner revoked by the City Council.

Date JUN 21 1921

Permit No. 10221

Gilbek Print

CITY OF BERKELEY
Building Department

APPLICATION FOR BUILDING PERMIT FOR A
Type IV or V Building

Application is hereby made to the Building Department of the City of Berkeley for permission to build a Group F, Type X, 2 Story, 10 Room, Building, to be occupied as Offices

Lot located on the E side of EAST SHORE HI ~~street corner~~ ~~Feet~~ ~~of~~ ~~at~~ CAMELIA street,

Being Lot No. 34-35 Block 30 BERKLAND & TOWN IMPROV ASSN Tract

Estimated entire cost of building $ 7500 (Includes all materials and labor for finished building.)

According to plans and specifications herewith submitted. All provisions of the Building Code will be complied with in the erection of said building whether specified herein or not.

Size of lot 50' by 46 feet. Size of proposed building 49-6 feet by 40-0 feet.

Extreme height of building 20' feet

Ceiling heights in clear to be as follows:

Cellar ft. in.
First Story 8 ft. 4 in.
Second Story 8 ft. 4 in.
Third Story ft. in.

Foundation to be of (material) CONCRETE

Walls: Width at top 8" ~~2x4 STUDS~~ inches. Width at bottom 16" & 24" inches. Least height 18" inches. Greatest height 36" inches.

Piers: Size at top 8 x 8 inches. Size at bottom 20 x 20 inches. 6-6 ft. on centers. Height 1-6 inches.

Mud sills 2 x 6 RWD.
Main sills (plates) 2 x 4
Post on piers 4 x 4
Girders 4 x 6 Max. span 6-3 ft.
Underpinning X inches inches O. C.

Size of studs in outside walls to be as follows:

First story 2 x 4 inches 16 inches O. C.
Second story 2 x 4 inches 16 inches O. C.
Third story X inches inches O. C.

Bearing partitions to be same as outside walls of each story.

Exterior wall coverings to be of STUCCO All outside walls covered with shingles or plaster will be close boarded.

Roof: Covered with COMPO ROOFING. Sheating 1 x 8 inches 8 inches O. C. Pitch 6" IN 17'-0"

First floor joists 2 x 8 inches 16 inches on centers. Longest span between supports 8 ft.
Second floor joists 2 x 12 inches 16 inches on centers. Longest span between supports 17 ft.
Third floor joists X inches inches on centers. Longest span between supports ft.
Ceiling joists 2 x 10 & 12 inches 16 inches on centers. Longest span between supports 17 ft.
Rafters 2 x 4 inches 16 inches on centers. Longest span between supports 7 ft.

Chimneys: Brick: Number lined with terra cotta. Patent: Number size Number of inlets per flue Size of inlets

Be Sure to Sign Statement on Other Side

Furnace, to burn
Name of Owner of Ground Berk. Steel Constr. Co. Address
Name of Owner of Building Address
Name of Lessee of Building Address
Name of Architect or Designer B. Reed Hardman Address
Name of Engineer Address
Name of Builder Owner. Address
State License No.

We I hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. Ordinance No.

B. Reed Hardman
Signature of Owner, Agent or Builder.

Fire Zone No. 4

Address 2068 Allston Way

FOR DEPARTMENT USE ONLY

1331 Eastshore 321
Number Street Page

Permit No. 52478

Filed Ready Checked by Date Issued 3-20-42

CITY OF BERKELEY
Building Department

APPLICATION FOR BUILDING PERMIT FOR A
Type IV or V Building

Application is hereby made to the Building Department of the City of Berkeley for permission to build a Group G, Type V, 1 Story, 1 Room, Building, to be occupied as Shop

Lot located on the S-W corner side of Second street and 5712 feet Camelia street,

Being Lot No. ..... Block ..... Tract

Estimated entire cost of building $ 6500 (Includes all materials and labor for finished building.)

According to plans and specifications herewith submitted. All provisions of the Building Code will be complied with in the erection of said building whether specified herein or not.

Size of lot 100 by 168 feet. Size of proposed building 34 feet by 168 feet.

Extreme height of building 32 feet

Ceiling heights in clear to be as follows:

Cellar ..... ft. ..... in.

First Story 25 ft. 0 in.

Second Story ..... ft. ..... in.

Third Story ..... ft. ..... in.

Foundation to be of (material) Concrete

Walls: Width at top 8" inches. Width at bottom 8" inches. Least height 2' 6" inches. Greatest height 2' 6" inches.

Piers: Size at top 1' 4" X 2' 0" inches. Size at bottom 4' 0" X 6' 0" inches. 16' 9" ft. on centers. Height 2' 6" inches.

Mud sills Redwood 2 X 6

Main sills (plates) None X

Post on piers 8 X 8

Girders ..... X ..... Max. span ..... ft.

Underpinning ..... X ..... inches ..... inches O. C.

Size of studs in outside walls to be as follows:

First story ..... X ..... inches ..... inches O. C.

Second story ..... X ..... inches ..... inches O. C.

Third story ..... X ..... inches ..... inches O. C.

Bearing partitions to be same as outside walls of each story.

Exterior wall coverings to be of Cement. All outside walls covered with shingles or plaster will be close boarded.

Roof: Covered with Corrugated Iron. Sheating ..... X ..... inches ..... inches O. C. Pitch 6" to 12"

First floor joists ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.

Second floor joists ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.

Third floor joists ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.

Ceiling joists ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.

Rafters ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.

Chimneys: Brick: Number ..... lined with terra cotta. Patent: Number ..... size ..... Number of inlets per flue ..... Size of inlets .....

Be Sure to Sign Statement on Other Side

Furnace, to burn .....

Name of Owner of Ground Pac. Steel Const. Address 2nd & Camelia

Name of Owner of Building ..... Address .....

Name of Lessee of Building ..... Address .....

Name of Architect or Designer " Address "

Name of Engineer ..... Address .....

Name of Builder R F Woolley Address 3433 - Fruitvale

State License No. 22332

We I hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. ..... Ordinance No. 2180

R F Woolley
Signature of Owner, Agent or Builder.

Fire Zone No. ..... Address 3433 - Fruitvale

FOR DEPARTMENT USE ONLY

1400 Second 322
Number Street Page

Permit No. 53125

Filed ..... Ready ..... Checked by ..... Date Issued 9/8/47

COMMERCIAL

CITY OF BERKELEY

Address 1332 - Third St. Book 10 Par. No. 8-1 Block 2345

Surveyed by Date Remarks 2 of 2

Date	Imp. R.C.	% Gd	Table	N.R.C.L.D.	Obs. etc.	Adj. R.C.L.D.
1959	3864	90				3478
'59	5460	90	50			4914

Building Department Records

Permit for	St. Bldg.		
Permit No.	88081		
Year Built	9-2-59		
Amount	$7,800		

2-18-60. Additions, Alterations, etc.
Complete. SS

Assessment Record

1960-61	1990 / V		

Remarks, Reappraisals, etc.

Form 238-841 7½M 3-47

Bnd ID
Block 2345
Parcel 6

CITY OF BERKELEY
Building Department

Plan checking fee PAID 12 50
Building permit fee 35
Temporary pole fee
Privy fee

TOTAL FEE

APPLICATION FOR A BUILDING PERMIT FOR A TYPE IV OR V BUILDING

Application is hereby made to the Building Department of the City of Berkeley for permission to build a group # Gr. type IV story, 1 room building to be occupied as a SHOP. The building number is _____ The estimated cost of the building is $ 5175.00 which includes all materials and labor for the finished building, according to plans and specifications herewith submitted. All provisions of the Building Code will be complied with in the erection of said building whether specified herein or not. Size of lot: 110 feet by 220 feet. Size of proposed building: 40 feet by 60 feet. Extreme height of building: 22'-8" feet.

Lot No. 30-31-32 Block No. 29 Map of Tract B U.T.I. Assn (10-2345-6)

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE:

STEEL BLDG ERECTED ON 6" CONC. SLAB. - TOILETS ROUGHED IN

BE SURE TO SIGN STATEMENT ON OTHER SIDE

Name of owner GEO. A. PLUMMER, Address 635 CAMELIA ST., Phone LA 5-1700

Name of architect or designer _____, Address _____

Name of engineer VINCENT A. ARENA, Address 414 QUEENS LN. SAN JOSE

Name of builder SAN JOSE STEEL, Address 195 N. 30TH S.J., Phone CY 5-0553

State license no. 19319 Workmen's Compensation Insurance Policy or Certification filed. Yes ✓ No ____

City of Berkeley license no. 548, expires 12/31/59

(We) (I) hereby agree to save, indemnify and keep harmless the City of Berkeley and/or its employees, against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and ordinances of the City of Berkeley.

Fire Zone 1( ), 2( ), 3(X) Leigh Chisholm
Signature of owner, agent or builder

For Department Use Only

635 Camelia
Number Street

Block Book No. 3

Page 321

Permit No. 87096

Date issued APR 28, 1959

ISSUED BY Dan Schany

FORM 254-172

23
11 50

CITY OF BERKELEY
Building Department

APPLICATION FOR BUILDING PERMIT FOR A TYPE IV OR V BUILDING

Application is hereby made to the Building Department of the City of Berkeley for permission to build a Group G, Type IV, one Story, one Room Building, to be occupied as warehouse

Lot located on the corner side of Third street 100 feet 107 of Page street,

Being Lot No. 7 & 8 Block 49 - Berk Land & Town Impvt Assoc. Tract

Estimated entire cost of building $ 6000 00 (Includes all materials and labor for finished building.)
According to plans and specifications herewith submitted. All provisions of the Building Code will be complied with in the erection of said building whether specified herein or not.

Size of lot 100 by 107 feet. Size of proposed building 32' 0" feet by 60' 0" feet.

Extreme height of building ..... feet

Ceiling heights in clear to be as follows:

Cellar ..... ft. ..... in.
First Story 12 ft. 11 in.
Second Story ..... ft. ..... in.
Third Story ..... ft. ..... in.

Foundation to be of (material) Concrete

Walls:
- Width at top Galvanized inches.
- Width at bottom Iron inches.
- Least height ~~[illegible]~~ inches
- Greatest height 13' 11 5/8" inches.

Piers:
- Size at top ..... X ..... inches.
- Size at bottom ..... X ..... inches.
- ..... ft. on centers
- Height ..... inches.

Mud sills ..... X .....
Main sills (plates) See ..... X .....
Post on piers Plans ..... X .....
Girders ..... X ..... Max. span ..... ft.
Underpinning ..... X ..... inches ..... inches O. C.

Size of studs in outside walls to be as follows:

First story ..... X ..... inches ..... inches O. C.
Second story ..... X ..... inches ..... inches O. C.
Third story ..... X ..... inches ..... inches O. C.

Bearing partitions to be same as outside walls of each story.

Exterior wall coverings to be of Steel. All outside walls covered with shingles or plaster will be close boarded.

Roof:
- Covered with Steel
- Sheating ..... X ..... inches ..... inches O. C.
- Pitch .....

First floor joists ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.
Second floor joists ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.
Third floor joists See ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.
Ceiling joists Plans ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.
Rafters ..... X ..... inches ..... inches on centers. Longest span between supports ..... ft.

Chimneys:
- Brick: Number ..... lined with terra cotta.
- Patent: Number ..... size ..... Number of inlets per flue ..... Size of inlets .....

Be Sure to Sign Statement on Other Side

Furnace, to burn .....

Name of Owner of Ground George A Scott Address 3075 Telegraph Ave Berk.
Name of Owner of Building Same Address .....
Name of Lessee of Building ..... Address .....
Name of Architect or Designer Soule Steel Address 1750 Army St. - S.F.
Name of Engineer ..... Address .....
Name of Builder Geo. A Scott Address .....
State License No. .....

We
I hereby agree to save, indemnify and keep harmless the City of Berkeley and/or its employes, against all liabilities, judgments, costs and expenses which may in any wise accrue against said City in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

In Zone No. ..... Ordinance No. .....

[signature]
Signature of Owner, Agent or Builder.

Fire Zone No. .....

Address 3075 Telegraph Ave.

FOR DEPARTMENT USE ONLY

670 Page
Number Street Page

Permit No. 76537

Filed ..... Ready ..... Checked by .....

Date Issued [illegible] 1956

254-172

Nov 30 1956

Bureau of Building and Inspections

APPLICATION FOR BUILDING PERMIT

Type I, II, or III Building

WRITE IN INK

Application is hereby made to the Bureau of Building and Inspections of the City of Berkeley for permission to

Build a Group G Type III 1 Story, 1 Room Building.

on the ~~easterly~~ West side of 3rd Street 200 feet S of Gilman street.

Being Lot No. Block 1306 - 3rd St. Tract.

According to plans and Specifications herewith submitted. All provisions of the Building Code will be complied with in the erection, of said building whether specified herein or not.

Estimated entire cost of building $ 5000.00 Extreme height of building 20 ft.

Size of Lot 200 by 120 feet. Size of proposed building 40 ft. by 120 ft.

Building to be occupied as a Group G Building, by owner

	WALLS				PIERS OR COLUMNS		JOISTS			GIRDERS		
	HEIGHT	MATERIAL	Thickness Side	Thickness Front	MATERIAL	SIZE	MATERIAL	SIZE	LONGEST SPAN	MATERIAL	SIZE	LONGEST SPAN
Footings	See plans & detail drawings attached											
Foundations												
Basement	See Council Resolution #27402 1/5.											
1st Story												
2nd Story												
3rd Story												
4th Story												
5th Story												
6th Story												
7th Story												
8th Story												

Light shaft wall covering to be of none

Roof covered with Sel Pitch flat

Chimneys of none lined with Patent Flues

Gas flues to be patent chimney or brick none

Dumb waiters or chutes Elevator (freight or passenger) none

Cove brackets will be solid.

Name of Owner of Ground Chemical Packaging Address 1316 - 3rd St

Name of Owner of Building same Address same

Name of Lessee of Building none Address

Name of Architect or Designer Albert Frederg Address 3654 Harlan St

Name of Engineer none Address

Name of Builder Christensen & Lyons Bus. Address 3654 Harlan St

State License No. 56122

I We Hereby agree to save, indemnify and keep harmless the City of Berkeley against all liabilities, judgments, costs and expenses which may in any wise accrue against said city in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk space by virtue thereof, and will in all things strictly comply with the conditions of this permit and Ordinances of the City of Berkeley.

Use District Class Ordinance No. Albert Frederg

Signature of Owner, Agent or Builder.

Fire Zone No. 4 Address

FOR DEPARTMENT USE ONLY

1306 - 3rd St

Number Street Page

Permit No. 56438

Filed Ready Checked by Date Issued OCT 24 1944

APPENDIX FOUR

California Department of Parks & Recreation 523 Forms

Pacific Steel Casting Company

Pacific Steel Casting Co. 2018 Caltrans DPRs
Pacific Steel Casting Co. 2022 Update
640 Gilman Street
1310 Third Street
1333 Second Street
1421 Second Street

Pacific Steel Casting Co. & Associated Properties
DPR 523 Forms follow
(Pacific Steel parcels in dark blue, associated properties in light blue)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

*Resource Name or # (Assigned by recorder) Map Reference 7

P1. Other Identifier: Pacific Steel Casting Co., Complex

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Alameda
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Richmond, Calif. Date 1993 T __; R __; __ ¼ of Sec __; __ B.M.

c. Address 1314 and 1320 2nd Street and 1305 Eastshore Highway City Berkeley Zip 94710

d. UTM: (give more than one for large and/or linear resources) Zone 10; _____mE/ _____mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Numbers (APN): 59-2344-2-1, -2344-3-1, and -2344-4-1; Elevation: 10 feet amsl

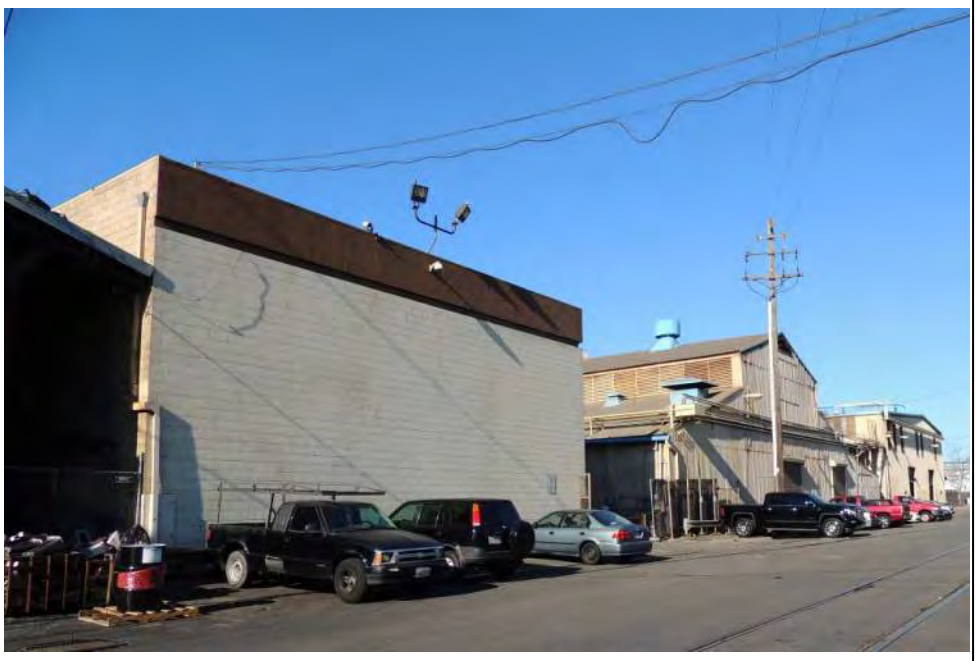
*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This resource is a single property consisting of the buildings associated with the Pacific Steel Casting Company, which has operated at this location since 1934 (**Photograph 1**). The property has two sites at either end of one city block in West Berkeley. At full build out in 1956, the company's facility at this location was composed of a total of seven buildings. For descriptive purposes for this form, these buildings are designated Buildings A through G (see **Site Map** and **Table 1**; see Continuation Sheet.)

*P3b. Resource Attributes: (List attributes and codes) HP8-Industrial building

*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) **Photograph 1:** Left to right, buildings F, A, and B facing northwest from 2nd St., December 7, 2017.

*P6. Date Constructed/Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both
c. 1930; *Oakland Tribune*

*P7. Owner and Address:
Speyside Equity LLC
24 Frank Lloyd Wright Drive
Ann Arbor, MI 48015

*P8. Recorded by: (Name, affiliation, address)
Cheryl Brookshear & Shelby Kendrick
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

Edward Yarbrough & Michael Ciani
Garcia and Associates
1 Saunders Ave.
San Anselmo, CA 94960

*P9. Date Recorded: May 6, 2016 and December 7, 2017

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Siskin, B., et al., 2018. Historical Resources Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project. Prepared by Garcia and Associates, JRP Historical Consulting, LLC, and InContext for Caltrans District 4.

*Attachments: ☐ None ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list)

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Map Reference 7

B1. Historic Name: Pacific Steel Casting Company

B2. Common Name: Pacific Steel Casting Company

B3. Original Use: Steel foundry B4. Present Use: Vacant

***B5. Architectural Style:** Industrial

***B6. Construction History:** (Construction date, alteration, and date of alterations) The Pacific Steel complex was developed in phases, with construction occurring between ca. 1930 and 1993 and alterations occurring through 2005; see Continuation Sheet for building history itemized by building.

***B7. Moved?** ☒ No ☐ Yes ☐ Unknown **Date:** N/A **Original Location:** N/A

***B8. Related Features:** None.

B9. Architect: Various (see Continuation Sheets) b. Builder: Various (see Continuation Sheets)

***B10. Significance: Theme** Manufacturing **Area** Berkeley, California

Period of Significance N/A **Property Type** Manufacturing **Applicable Criteria** N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The property at 1314 and 1320 2nd Street and 1305 Eastshore Highway does not meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) because it is not significant within the context of the metal-working industry at the local, state, or national level. This property has also been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code and is not an historical resource for the purposes of the California Environmental Quality Act (CEQA), (see Continuation Sheets).

B11. Additional Resource Attributes: (List attributes and codes) _____

***B12. References:** County Assessor records, newspaper articles, County building permit files, and historic aerials; see Continuation Sheets.

B13. Remarks:

***B14. Evaluator:** E. Yarbrough; Cheryl Brookshear, and Samuel Skow

***Date of Evaluation:** December 2017

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

P3a. Description (continued):

Table 1: Building Naming Conventions[1]

JRP Assigned Building Identifier	Built Date	Address	Function
A	1929-1931	1320 Second Street	Central Forge
B	1965-1968	1314 Second Street	Ancillary Warehouse
C	1990-1993	1305 Eastshore Highway	Carbon Absorption Equipment
D	1943-1965	1320 Second Street	External Equipment and Central Forge Additions
E	2005-2006	1305 Eastshore Highway	Ancillary Warehouse
F	1939-1947	1320 Second Street	Compression room, Pattern Storage, Industrial Crane
G	1956	600 Gilman Street	Budget Rent-A-Car
H	1974-1980	1420 Second Street	Sand Recycling/Shell Mold Steel Casting Plant

Building A is the largest and oldest extant building on the Pacific Steel Casting Company property. It is approximately 120 feet wide by 200 feet long and entirely made of corrugated metal walls. It has a monitor roof with large vents, three shed-roofed, one-story additions on the south side of the two-story, gable-central building unit, and another shed-roof addition with a shallow slope on the north side. Two roll-up doors provide access from the Second Street frontage to the central and northern bays **(Photograph 3).** Extensive networks of pipes and ducting cross and intersect the top of the structure. At the southeast corner of Building A is a cluster of large external equipment **(Photograph 4).** Buildings A and B are connected by a covered walkway on the eastern half of the north wall of Building A **(Photograph 5).** The northern wall has at least two sets of high ribbon sliding glass windows, a ladder, and steel support beams that are visible from the right of way **(Photograph 6).** There are several additions attached to the western wall and the western half of the northern wall that are grouped together and described under the identifier of Building D.

Building B is a large industrial warehouse fronting on Second Street. The building is two stories tall and has an almost-square floor plan measuring approximately 121 feet wide by 102 feet long. The east façade has two large roll-up doors and six large louvered vents as fenestration on the upper portion of the façade. The north side contains steel-framed, clerestory, multi-light windows to take advantage of natural light and ventilation. The south wall also connects to Building A with a covered walkway and duct work that is described under Building A **(Photograph 7).** The structure is sided in standing seam metal **(Photograph 8).** It currently serves as a cleaning building to neutralize byproducts of the steel casting process.

Building C consists of industrial equipment on a raised metal frame platform. The platform is supported on four steel columns. The equipment is a sheet metal structure with spaced hatches on the north side that provide internal access. The structure has metal railings at the top and at the platform level. Extending from the flat roof of the structure is a smoke stack and two large sets of pipes that connect to Buildings A and B **(Photograph 9).**

Building D is a grouping of additions to Building A and large, external equipment. The first piece of equipment is a set of dust collectors adjacent to the west façade of the group of additions to Building A (**Photograph 10**). The second piece of equipment is a metal cylindrical tank with a shallow, coned roof south and centered of Building B (**Photograph 11**). All additions to Building A appear to be flat or shed-roofed corrugated metal structures, except one addition in the middle, just near the southeastern corner of Building B has a gabled roof. The only addition visible from the public right-of-way is a single-story, shed-roof warehouse that runs along Eastshore Highway. The exposed west façade is unadorned (**Photograph 12**).

Building E is a long and narrow corrugated metal shed along the west fence line that is largely obscured by a fence from the public right-of-way.

[1] Built dates obtained from County Assessor records, newspaper articles, County building permit files, and historic aerials.

Building F consists of four sections that run east to west. The section furthest east, facing Second Street is a rectangular steel-frame building with an opening facing north that contains no wall. All other walls are made of concrete block that are largely unadorned save for a stucco cornice and parapet on the east and west walls. This structure holds an industrial crane **(Photographs 1, 13,** and **14).** The eastern, center section is the oldest section that is largely obscured from the public right of way. The building is constructed of brick and has evenly spaced solid doors. Twelve-light industrial windows sit to either side of each door with a six-light industrial window above. The 1950 Sanborn Map indicates it has a trussed roof and a concrete floor. The western, center section is also not visible from the public right-of-way except for part of the west-facing façade, which indicates a concrete block building with a flat, parapet roof. A second-floor doorway with external staircase is located on the west end. The smallest section faces Eastshore Highway and is a gabled, prefabricated corrugated metal building with an industrial window in the gable end and tall windows at the lower portion covered open screens. Building F also has a lean-to with a corrugated metal roof on the left side and a detached open shed on the left side of the western façade **(Photograph 15).**

Building G is a former gas station that now operates as a rental car service. The building has a rectangular foot print and a detached canopy on two square metal poles. The building is clad in concrete with a high parapet on the north façade. The north façade also has three multi-frame glass door entrances with floor-to-ceiling windows between them. The eastern side has a set of two large fixed windows and two restroom entrances with transom windows above each. The south side of the building contains a prefabricated canopy **(Photograph 16).** The parcel containing this building also contains a portion of Building A. While currently under separate ownership, the legal parcels at this end of the block have historically been a part of Pacific Steel and are addressed as part of the complex.

Building H is a large factory that has several additions, external equipment, a storage yard, and two prefabricated canopies that were all constructed or placed in 1974 or later. It is separate from, but on the same block as, Buildings A-G, and is located south of the Berkeley Steel Construction Company complex, facing on Page Street (**Photographs 17, 18,** and **19**).

*B6. Construction History (continued):

Table 2: Building Construction History

JRP Assigned Building Identifier	Built Date[2]	Historic Building Use	Alterations
A	1929-1931	Foundry	Construction of detached office and shed-roof lab addition on north wall in 1937; cluster of additions on west wall, see Building D; removal of large multi-light windows and main doorway, replaced with modern overhead industrial doors at an unknown date
B	1965-1968	Factory	No known alterations
C	1990-1993	External Carbon Absorption Equipment Platform	No known alterations
D	1943-1965	Water tower, set of dust collectors, additions	First addition constructed in 1943; other additions constructed at unknown dates; water tower added 1950-1958; dust collectors installed 1959-1965; foundation replaced for dust collector in 2007
E	2005-2006	Shed	No known alterations
F	1939-1947	Pattern storage, compressor Room, machine shop, office,	One-story storage shed demolished in 1974; east addition constructed 1965-1980

[2] Built dates obtained from County Assessor records, newspaper articles, County building permit files, and historic aerials.

JRP Assigned Building Identifier	Built Date[2]	Historic Building Use	Alterations
		locker room, water closets	
G	1956	Storage Yard for Pacific Steel, then gas station	Remodeled by Budget Rent-a-Car in 1989; awning demolished ca. 2004, replaced 2005
H	1974-1980	Shell Mold Steel Casting Foundry	Additions to east wall constructed 1987-1988; additions to north wall constructed 1996-2001; canopies erected between 2004 and 2005

*B9. Architect / Builder (continued):[3]

Table 3: Builders

JRP Assigned Building Identifier	Architect	Builder
A	Unknown	unknown
B	Unknown	Pacific Steel
C	Unknown	Pacific Steel
D	Unknown	Pacific Steel
E	Unknown	Pacific Steel
F	Unknown	Pacific Steel
G	Union Oil Company	unknown
H	Blymyer Engineers, Inc.	IVDOCO/Pacific Steel

B10. Significance (continued):

Historic Context

The earliest buildings in the Pacific Steel Casting Company (Pacific Steel) complex were constructed in the northwest part of Berkeley in the mid-1930s near the main Southern Pacific Railroad line and the bay shore. Like most of the shorefront property in Berkeley, accessible transportation led to industrial development and the city of Berkeley continued to fill the salt flats west of Front and Second streets where Pacific Steel is located to accommodate the continued demand for manufacturing sites in the first decades of the twentieth century (Martin 2000). Initially, much of the fill was dumped informally and flats filled with household and business waste (*San Francisco Call* 1908 Mar 26; Sorensen n.d.). By 1931, the area between Codornices Creek and the foot of Gilman Street (and where the Golden Gate Fields stables are located) was filled. The short-lived Berkeley Municipal Airport was established in the first of these filled areas, but was gone by the mid-1930s and replaced by the racing facilities of the Golden Gate Turf Club – later known as Golden Gate Fields (*San Francisco Chronicle* 1928 July 31; *Oakland Tribune*, 1939 Aug 1 and 1939 Nov 20).

There were 173 manufacturers in the City of Berkeley by this time, employing about 29 percent of the working population, a statistic similar to Oakland and San Francisco (City of Berkeley 1993). These Berkeley businesses produced a wide variety of products with no single industry monopolizing production. National brands with production facilities in Berkeley included Heinz, Colgate-Palmolive, and Cutter Laboratories, and all were located along the railroad, south of University Avenue and outside the area studied (see P11). Scattered additions to the West Berkeley area during this time included the Woolenius Tile Company, the Berkeley Flour and Apple Paring Mill, the Commercial Acetylene Supply Company, the

[3] Architect and builder information obtained from newspaper articles and city building permit files.

Tuttle Manufacturing Company, the Pacific Steel Casting Company, and the A. Lietz Company (WPA 1941: 118; and see DPR 523 form "Pacific Steel Casting Company" attached to report cited in P11). Pacific Steel (recorded on this form) selected the East Bay for its foundry location as it was already one of the larger foundry centers on the Pacific Coast and relatively close to the deep-water ports of Richmond and Oakland. Because of the limited capacity of the wharf in Berkeley, and the contemporaneous expansion of the Port of Oakland, many companies in West Berkeley, including several metal related industries located along Gilman and 2nd streets, relied heavily on access to the Southern Pacific Railroad line to send products to the Oakland and Richmond ports. This local use of rail to access local deepwater ports continued until the Eastshore Highway (later known as I-80) was completed in 1937 (Walker 2005; *Oakland Tribune* 1934 May 22).

Companies in Berkeley, such as Pacific Steel recorded on this form, were shipping and receiving globally, transporting huge volumes of raw goods, as well as tanks, pipes, mining equipment, and other steel components via the Southern Pacific Railroad and Port of Oakland by the 1930s. The raw steel for many of these products came from the cities of Pittsburg and Baltimore via the Southern Pacific Railroad spur running along Second Street *Oakland Tribune* 1931 Apr 12 and 1924 May 4). After manufacture, the finished products were loaded onto the train for overland delivery or for transshipment via the Port of Oakland, to Mexico, Russia, Hawaii, Seattle, and Portland (*Oakland Tribune* 1924, 1927, and 1928).

The 1930s saw significant developments in the infrastructure of West Berkeley. In 1937, the Works Progress Administration (WPA) constructed a breakwater along the East Bay shoreline as part of the East Shore Highway (later known as I-80) (Chavez and Hupman 2000). South of Gilman Street, near University Avenue, the WPA also constructed the Berkeley Aquatic Park and Berkeley Marina (Bradley and Corbett 1999). California Division of Highways completed the East Shore Highway, the precursor of I-80 in 1937, which increased commercial distribution opportunities for manufacturers in West Berkeley. Completion of the Oakland Bay Bridge in 1936 further connected West Berkeley with the rest of the Bay Area; however, the railroad remained the primary mode of product distribution. Through the 1920s, the Southern Pacific railroad installed new spurs extending from the main line east along Harrison Street, with spurs to individual blocks and parcels along 5th, 8th, and 10th streets opening more area to industrial development in the 1930s (Fairchild Aerial Surveys 1931; USGS 1946).

Thanks in part to the zoning implemented in 1916, West Berkeley development in and around the Area of Potential Effects (APE) for the project cited in P11 largely confined factories to the area along the railroad and waterfront west of Fourth Street and north and south from Harrison to the Emeryville border. Residences and community buildings were found a bit farther inland, east from Fourth Street to Tenth Street; and a commercial district situated north and south on both sides of San Pablo Avenue (Chavez and Hupman 2000; Sanborn Vol 1, 1911: 12-13; Sanborn Vol. 3, 1929:320). The area west of Second Street near Gilman Street gained a single industrial plant between 1911 and 1929: the Berkeley Steel Construction Company. While metalworking industries that produced machinery for packaging, road grading, clothes washing, canning, and chemicals, as well as boilers, engines, turbines, and cast parts centered around the Port of Oakland, some steel producers located in Emeryville and West Berkeley (Walker 2005; *Oakland Tribune*, 1934 May 22). These early foundries were followed by other steel producers that included galvanizing and tinning shops, and welding and supply warehouses.

World War II spurred rapid growth in all sectors of the economy in the San Francisco Bay area. Before and during the war, the War Department established military facilities throughout the Bay Area including Naval Air Station Alameda; Oakland Naval Supply Center; Oakland Army Base; San Francisco Naval Shipyard; and Treasure Island Naval Shipyard, to name just a few. In Berkeley, the US Navy took over the Golden Gate Fields property and used it as Naval Force Equipment Depot No. 3 (*Oakland Tribune* 31 December 1946). The leading industry in the Bay Area during World War II was shipbuilding. Would War I had launched the industry in Oakland, but World War II outpaced previous production, supported in part by the Merchant Marine Act of 1936 that provided federal funding for construction of American ships, as well as wartime Lend Lease policy providing ships to Britain and "the Bay Area had become the greatest shipbuilding center the world has ever seen, before or since" (Wollenberg 2008: 112). The Moore Dry Dock Company of Oakland was joined by other shipbuilders in Oakland, as well as new "instant shipyards" in Alameda and Richmond. Shipyard employment ballooned from 5,000 workers in 1939, to 240,000 workers in 1944. The massive shipbuilding effort had a direct and immediate impact upon workers in the trades associated with ship construction. The Kaiser shipyard in Richmond did not exist at the beginning of the war and by 1943 employed 100,000 workers (Wollenberg 2008: 110-112; Johnson 1993: 32-33, 62; Bagwell 1982: 236).

Other related defense industries grew along with the rapid growth of the shipyards. Berkeley's factories associated with national companies, such as Colgate-Palmolive, Heinz, and Cutter Laboratories, were not associated with shipbuilding and contributed to other facets of wartime production, while some companies in Alameda County in general had five million dollars' worth of prime non-shipbuilding contracts and two million dollars of non-shipbuilding subcontracts. Food packing and production was the second largest industry in the area by value, with 60 percent of production coming from Oakland canneries. Smaller manufacturing companies, like those located in the APE for the project cited in P11, produced various parts and pieces needed for munitions, equipment, troops, and offices (Bagwell 1982: 236). Otherwise, Berkeley was only tangentially associated with the major shipbuilding industries. Most of Berkeley's contribution to the war effort was housing (in areas near, but outside the APE) many of the workers who arrived in the Bay Area to work in the shipyards and other industries. The streetcar systems in Berkeley linked the residential areas with the large shipyards in Oakland and Richmond. The lack of a deep-water port reduced Berkeley's ability to participate in shipbuilding efforts. (Wollenberg 2008: 112; *Berkeley Daily Gazette* 1942 Jan 7).

Physical growth of industry in Berkeley was limited because the site was confined by the shoreline and existing highway and rail corridors, and then by burgeoning war housing projects. During the war the city made no concerted effort to fill in the salt marshes along the shore, and without filling the salt marshes there was little room for manufacturing plants to grow. Existing industries producing goods needed for the war effort were able to add to their existing facilities and generally expanded within their parcels during this period. As a result of these limitations, industry remained distributed among other uses along Berkeley's shoreline. Within the APE for the project cited in P11, Pacific Steel was able to add to its existing facilities, but land to the south and north remained salt marsh (Sunderland, 1947).

Following World War II, East Bay industries, including those in Berkeley, needed to reconfigure for peacetime. Berkeley also faced increased competition from Oakland and Richmond, both of which were able to establish new industrial parks by the early 1960s. These parks were zoned to allow for very large, one-story plants that reduced material handling and increased productivity. The available lots were large and unencumbered by previous development and allowed Oakland and Richmond to "poach" industry from Berkeley, which could not offer such spacious sites. Berkeley's shore line industrial area still included a mixture of industry and worker housing in a layout that dated from the late nineteenth and early twentieth century. While some small lots were available, they rarely included sufficient room for the new model of industry. The Berkeley master plan of the 1950s anticipated filling additional tidal marsh and receiving new areas granted to the city from the state, but environmental concerns nullified this plan. New industry was then faced with trying to cobble together parcels amid previously existing development. Consequently, industry in Berkeley declined and by the turn of the twenty-first century many industrial buildings began to be adaptively reused for commercial retail and residential purposes (Wollenberg 2008: 130; Sullivan 1963: 2-3; Fultz 1962: 1-2).

Beginning in the 1980s and continuing into the present, commercial enterprises, residential conversions, and mixed-use projects have adaptively reused several industrial buildings to the east of the APE for the project cited in P11. During the past 30 years, Public Storage, the Woodbank, and the Berkeley Recycling Center have built or significantly altered large warehouses north of Gilman Street along the railroad. Pacific Steel and other similar businesses continue to face increasing pressure from surrounding residents, as well as changes to neighboring business through and the adaptive reuse of surrounding industrial buildings. Complaints about odors and other environmental concerns have resulted in the replacement of equipment and installation of protective measures, and ultimately, Pacific Steel closed at the end of 2017.

Pacific Steel Casting Company

The Pacific Steel Casting Company (Pacific Steel) was founded in 1934 on Second Street in West Berkeley by longtime steelworkers, Ivan Johnson, J. D. Genger, and E. S. Shonk. While Johnson had worked with the Best Steel Casting Company, based in East Oakland, for 22 years prior to cofounding the Pacific Steel, Genger and Shonk originally hailed from the eastern U.S., where they worked for decades in that region's steel industry. Assuming ownership of the former Electric Steel Foundry plant and equipment (no longer extant), the company began operations with a small crew of five workers. The foundry was successful and its prime location near the Southern Pacific Railroad allowed it to grow quickly. Within two years, the crew had grown to 50 employees, the plant expanded to include the sand-casting building recorded on

this form (Building A; **Plate 1**), and the company manufactured grate bars, automobile, airplane, and ship parts, mining, well-drilling, and agricultural equipment, and other steel products. The company initially acquired virtually all of its materials locally, with alloys originating from the Oakland metropolitan area and sand transported from the Brentwood area of Contra Costa County (*Oakland Tribune* 1936 Nov 20 and 1934 May 22). In 1936, the *Oakland Tribune* applauded the foundry's rapid growth to become "one of the largest steel foundry buildings in California" and "one of the most important steel casting plants on the Pacific Coast," although no comparisons were provided, and the publication did not qualify its criteria for importance (*Oakland Tribune* 1936 Nov 20). It is known that there were other similar businesses in Oakland and the southern Bay Area, and the newspaper's hyperbole is typical of local boosterism in news accounts of the time.

Plate 1. Pacific Steel Casting Company Green Sand Casting building (Building A, left) and no longer extant office building (right), 1938. Note the presence of windows and absence of metal roll-up doors on the casting building. (*Oakland Tribune* 1938 Sep 25).

In the years leading up to World War II, Pacific Steel, like other Bay Area foundries, manufactured increasing volumes for the war effort. The firm produced a variety of steel castings for the military (principally gears), which were used in ships and tanks. By the end of the war, the firm had grown substantially, with peak employment ranging up to 600 employees. Some expansions of the plant include the acquisition of the Leitz warehouse in 1965 and the construction of $140,000 smog control equipment in 1958. In 1974 they began construction of "Plant #2" the shell mold steel casting foundry south of their neighbor Berkeley Steel Casting Company facing on Page Street (Building H). In 1981 Pacific Steel built a third plant across Second Street between Camelia and Page streets (outside the APE for the project cited in P11 and no longer part of the plant described on this form). Pacific Steel was ultimately acquired by Speyside Equity in 2014 before the plant shut its doors in 2017 (*Berkeley Daily Gazette* 1941 Nov 15; Dinkelspiel 2017; *Oakland Tribune* 1958 Dec 14; Pacific Steel Casting Company, LLC 2017).

Evaluation

Under NRHP Criterion A or CRHR Criterion 1, the Pacific Steel complex does not have significant associations with important historic events or trends at the local, state, or national level. Pacific Steel is generally associated with the metal-working industry within West Berkeley, but it did not play a demonstrably important role within this industry. Since its mid-nineteenth-century beginnings, Berkeley has maintained a diverse industrial base, with the local steel industry supporting shipbuilding and other large industrial companies in the neighboring, deep-port cities of Richmond, Oakland, and Alameda. Pacific Steel was established in the early 1930s, well after the advent of the East Bay metal-working industry, and historical evidence does not indicate that the company played an important role in the development of that industry in the region, state, or nation. Pacific Steel was a moderately successful metal-working company, and, along with industrial sectors throughout the nation, it received a major economic boost in the years leading up to and during World War II. However, its success and participation in wartime production was a common occurrence for businesses such as Pacific Steel, and its experience does

not elevate it to the level of historically significant. As a result, the Pacific Steel complex is not eligible for listing in the NRHP or the CRHR under Criterion A/1. In addition, the gas station that is part of this property is a property type that had become commonplace by the 1940s and 1950s. Building G (originally constructed as a service station in 1956) did not play an important role in the development of such stations, nor a specific role in the development of the surrounding area. Therefore, it is not eligible for listing under these criteria.

The property does not have significant association with the lives of persons important to history (NRHP Criterion B or CRHR Criterion 2). None of the individuals associated with Pacific Steel's establishment or growth were significant in local, regional, or national history. While Ivan Johnson, J. D. Genger, and E. S. Shonk operated a successful business with the establishment of Pacific Steel, there is no evidence that their roles as businessmen rise to the level of historically significant. Therefore, the Pacific Steel complex does not meet NRHP or CRHR Criterion B/2.

The buildings that comprise the Pacific Steel complex are not significant as important examples of a type, period, or method of construction, nor are they known to be the work of a master architect or builder (NRHP Criterion C or CRHR Criterion 3). The overall design is utilitarian and possesses neither individual nor collective distinction. The buildings do not represent the work of a master or possess high artistic values. None of the buildings or parts thereof were designed and/or constructed by notable architects/engineers and/or builders. Additionally, the buildings do not form a significant and distinguishable entity, and their components lack individual distinction. As a result, the Pacific Steel complex does not meet NRHP or the CRHR Criterion C/3.

The property is not significant as a source (or likely source) of important information regarding history (NRHP Criterion D or CRHR Criterion 4). The property types present have been thoroughly documented in the historical record; therefore, the property does not appear to have any likelihood of yielding important information about historic construction materials or technology.

In addition to lacking significance under the criteria discussed above, the Pacific Steel complex has diminished historic integrity. Buildings A, D, F, G, and H have all been modified through the construction of additions, the replacement of doors and windows, and various renovations to the exteriors. The complex as a whole has likewise been altered by the construction of additional prefabricated metal buildings. As a result of these modifications, the Pacific Steel complex has diminished integrity of design, materials, workmanship, setting, and feeling. It does, however, retain integrity of location and association.

Looking at West Berkeley more broadly in and around the subject property, there is not a historically significant industrial historic district present. The available transportation modes, marine, rail, and roadways, as well as local zoning have long encouraged industrial growth along the Berkeley shore, but the development of industry has been piece meal, depending upon the slow filling of the salt marshes, a process that began in the nineteenth century and continued into the 1980s. While there is a concentration of industrial buildings in the area, they are not temporally linked to a specific important period of development and none are associated with historically significant contributions to their various industries. None of the businesses evaluated in the surrounding area date to the pioneering period of metal-working industries and none were demonstrably important individually, which does not support identification of a historic district. Moreover, the diverse businesses and construction types now present obscure a visual linkage among the current industries in the surrounding area, which was once populated by lumber, tanning, stock-raising, and ink production, and now represent a wide variety of other businesses, including recycling, storage, equipment and vehicle rentals, recreation facilities, and retail outlets.

B12. References (Continued):

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1982 *Oakland: The Story of a City*. Oakland Heritage Alliance, Oakland, California.

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1999 *Historic Property Survey Report for the I-80 Bicycle/Pedestrian Overcrossing Project, Berkeley, California*. Prepared for the City of Berkeley.

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1965 Flight CAS-65-130 Frame 15-13. 1 May. Alameda, California.

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2000 *Archaeological Resources Investigations for the EBMUD East Bayshore Recycled Water Project, Alameda County, California.* Prepared by David Chavez and Associates for Parsons Engineering Science, Inc. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, California (S-023778).

City of Berkeley
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1926 Jul 12 Building Permit No. 25406.
1937 May 15 Building Permit No. 42683.
1943 Jan 27 Building Permit No. 53854.
1956 Jun 8 Building Permit No. 80336.
1974 Sep 4 Permit ID 090474064.
1989 Aug 21 Permit ID 08218928005.
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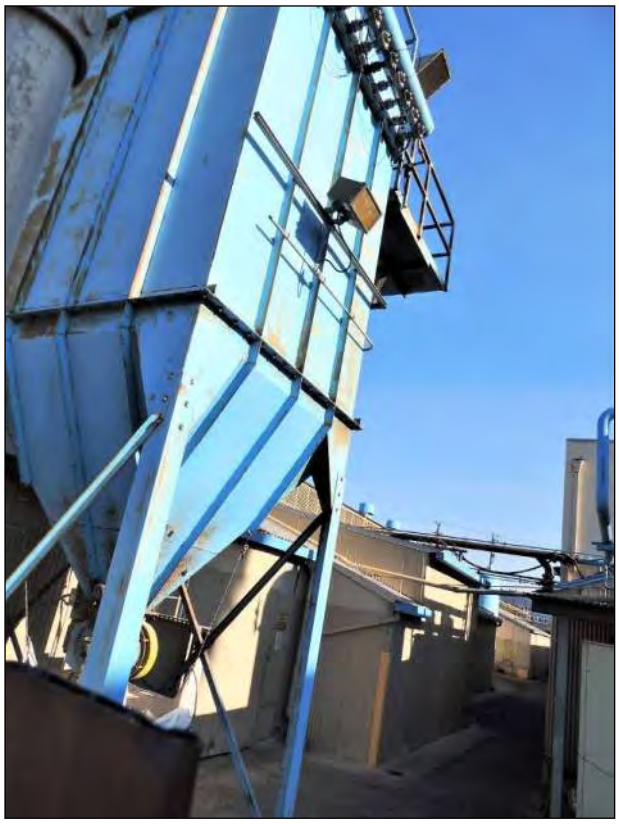
Photographs (continued):

Photograph 2: Buildings G, B, C, D, and E, from left to right respectively, facing south from Gilman Street, December 7, 2017.

Photograph 3: Building A, facing west from 2nd Street. October 25, 2017.



Photograph 4: Building A, facing east from Eastshore Hwy, December 7, 2017.

Photograph 5: Walkway between Buildings A and B, facing west from 2nd Street, December 7, 2017.

Photograph 6: North wall of Building A from walkway, facing southwest from 2nd Street, December 7, 2017.

Photograph 7: South wall of Building B from walkway, facing northwest from 2nd Street, December 7, 2017.

Photograph 8: Cleaning Building, view southwest.

Photograph 9: Buildings G and C from left to right, respectively, facing south from Gilman Street, December 7, 2017.

Photograph 10: Northern half of Building D, facing southeast from Eastshore Hwy, December 7, 2017.

Photograph 11: Western extension of Building B, northern half of Building D, and southern edge of Building E on left, facing east from Eastshore Hwy, December 7, 2017.

Photograph 12: Southern half of Building D, facing southeast from Eastshore Hwy, December 7, 2017.

Photograph 13: Buildings F and A, from left to right respectively, facing northwest from 2nd Street, December 7, 2017.

Photograph 14: Northeast corner of Building F, facing southeast from 2nd Street, December 7, 2017.

Photograph 15: West side of Building F, facing east from Eastshore Hwy, December 7, 2017.

Photograph 16: Building G with Building B and C in background, facing southwest from corner of Gilman and 2nd Streets, December 7, 2017.

Photograph 17: Building H from 2nd Street, facing northwest, December 7, 2017.

Photograph 18: Building H on right, building from Berkeley Steel Construction Company on left, from Eastshore Hwy facing southeast, December 7, 2017.

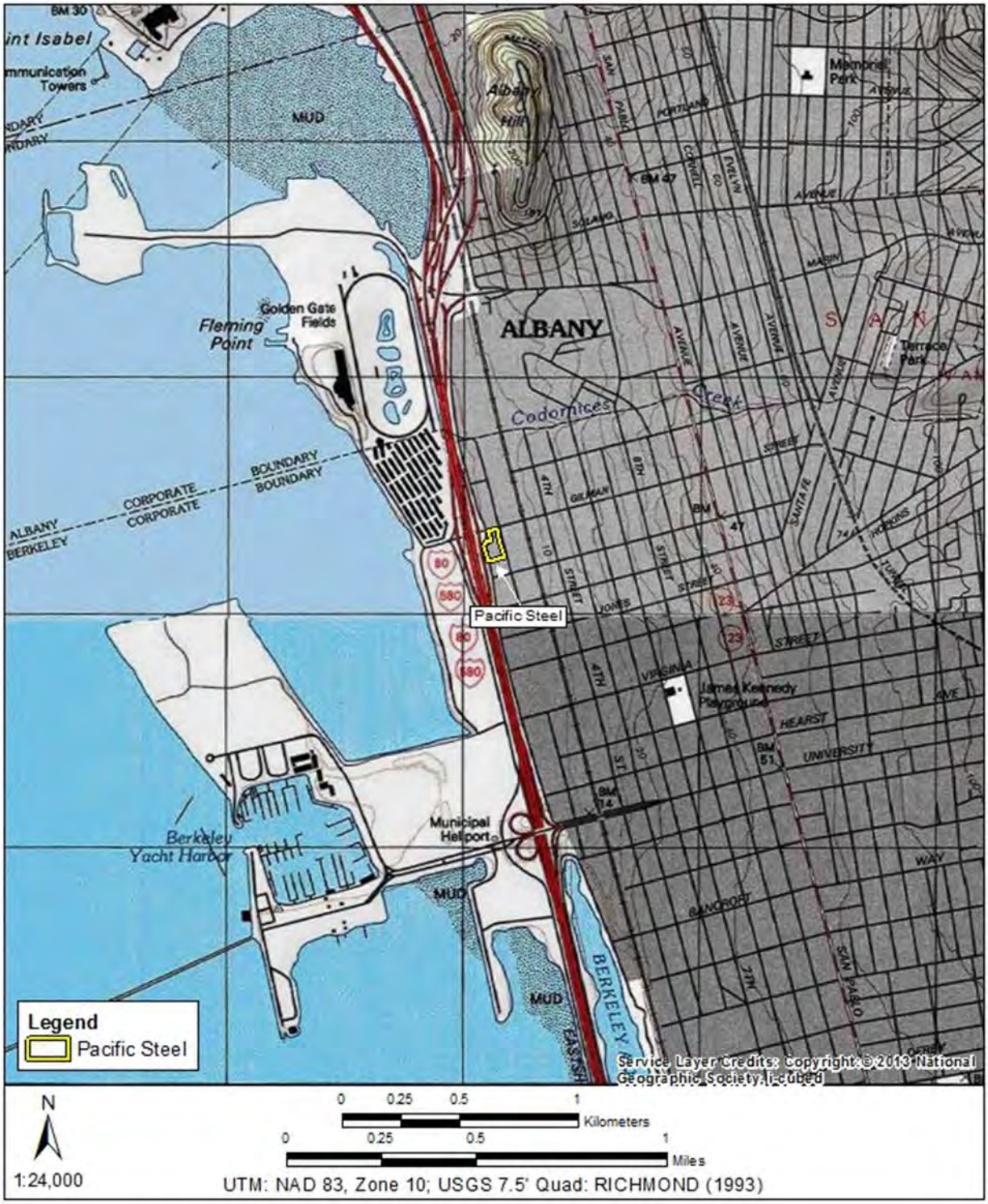
Photograph 19: Building H from Eastshore Hwy, facing northeast, December 7, 2017.

Site Map:

APN: 59-2344-2-1
APN: 59-2344-1-2
G
G
C
E
B
APN: 59-2344-3-1
D
A
APN: 59-2344-4-1
F
H
APN: 59-2341-5
H
APN: 59-2341-3-2
H
0
140
280
420
Feet
NORTH
Basemaps: IRP (2017); Northrop Grumman Corporation and U.S. Geological Survey (2015)

***Resource Name or #** (Assigned by recorder) Map Reference 7

***Recorded by** E. Yarbrough; C. Brookshear & S. Kendrick *Date May 6, 2017 & December 7, 2017 ☒ Continuation ☐ Update



The Pacific Steel Casting Co. complex, consisting of five parcels (discontiguous) at 1305 Eastshore Highway; 1314, 1320, 1420, and 1433 Second Street; and 600 Gilman Street, was documented and evaluated according to National Register of Historic Places and California Register of Historical Resource significance criteria in May 2016 and December 2017 by JRP Historical Consulting, LLC and Garcia & Associates for a report entitled "Historical Resources Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project" (Siskin, B., et al., 2018. Historical Resources Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project. Prepared by Garcia and Associates, JRP Historical Consulting, LLC, and InContext for Caltrans District 4). That study assigned the resource name Map Reference 7.

Subsequently, in December 2022, the property is included within the Study Area of, and assessed by, the "Gilman Gateway Historic Resource Evaluation" authored by architecture + history, llc and Left Coast Architectural History. This study concurs with the documentation and findings of the earlier study, but provides the following additional information, as well as evaluation according to local City of Berkeley Landmark and Structure of Merit criteria.

Additional Building Permits

The 2017 JRP/Garcia & Assoc. report referenced building permits obtained from the City of Berkeley Planning & Development Department. This study also reviewed those records and researched additional building permit records in the archives of Berkeley Architectural Heritage Association (BAHA). Only permits that pre-date the current buildings were found in BAHA files, while Planning & Development Department permits included no instances of permits issued since the 2017 study.

Pacific Steel Casting Co. Context Summary & Additional Information

Pacific Steel Casting was founded in 1935 by steelworkers Ivan Johnson, J. D. Genger, and E. S. Shonk. The three bought out the small factory and equipment of the Electric Steel Foundry located at 1328 Second Street (no longer extant) and initially employed just five workers, which grew to 50 just two years later. In 1936, the *Oakland Tribune* called the Pacific Steel Casting foundry "one of the largest steel foundry buildings in California" and "one of the most important steel casting plants on the Pacific Coast." (Yarbrough, Brookshear, & Kendrick, 2017.) The foundry served Northern California and the western states. It was established in West Berkeley because of the presence of already-established foundry activities there and the area's easy access to transportation; particularly the Southern Pacific rail line running along Third Street and the nearby deep-water ports of Oakland and Richmond. In 1937, the completion of the Eastshore Highway added an option for transporting products to market.

Pacific Steel Casting used the sand casting method to produce automobile, airplane, and ship parts; mining, well-drilling, and agricultural equipment; and other steel parts. Although many foundries like Pacific Steel Casting received raw steel from the eastern United States via railroad, Pacific Steel Casting initially sourced both raw steel and sand locally, from Oakland and Contra Costa County. (Yarbrough, Brookshear, & Kendrick, 2017.)

Like many foundries, during World War II Pacific Steel Casting increased production to serve military needs; specifically producing parts, like gears, for military vehicles like ships and tanks. The company employed nearly 600 people during the war, contributing as so many businesses did to the Bay Area's ample employment opportunities and related population boom. (Yarbrough, Brookshear, & Kendrick, 2017.) In 1943, the company acquired the property at 1333 Second Street (see separate DPR forms), which later became its shell mold casting foundry.

Production naturally declined to more normal levels once peace was reinstated, but Pacific Steel Casting continued to experience success and growth in the post-war years. In 1958, the property at 640 Gilman Street (see separate DPR forms) was added to the company's holdings and appears to have been used for activities secondary to metal casting. In 1960, the company introduced a new process known as "shell casting" in conjunction with normal foundry operations. This new method produced castings of higher quality at higher production rates, increasing output volume. The main facility on the west side of Second Street was expanded with the acquisition of the adjacent A. Leitz Company factory to the north (at current 1314 Second Street), which had previously manufactured drafting equipment, but became Pacific Steel Casting's cleaning department. Smog control equipment was installed at the foundry in 1968, along with side bay molding facilities. (Yarbrough, Brookshear, & Kendrick, 2017. Blymer & Sons, 1974.)

Around 1974, Pacific Steel Casting was one of four steel foundries in Northern California and produced the majority of the region's steel products. (Blymer & Sons, 1974.) That year, the company expanded to a site south of their original location, at Second and Page streets, now 1420 Second Street. Known as Plant #2, that property became the new shell mold casting foundry. It did not remain so for long, however; as in 1981, the whole-block property now addressed 1421 Second Street (see separate DPR forms) became the shell mold casting foundry, known as Plant #3. Around 1988, the property at 1310 Second Street was acquired for Pacific Steel Casting's use (see separate DPR forms).

Pacific Steel Casting operated until 2014, when it was acquired by Speyside Equity, then closed in 2017. (Yarbrough, Brookshear, & Kendrick, 2017.) The property at 1433 Second Street was zone for recycled materials processing by Universal

Berkeley Landmark Evaluation

Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of the Pacific Steel Casting Co. complex according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The buildings of the Pacific Steel Casting Co. complex are of common and unremarkable utilitarian construction. All were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures, they are common and unremarkable within their context with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. None of the buildings are the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. None of the buildings were designed and/or constructed by notable architects, engineers, or builders. They provide no exceptional architectural value to the neighborhood, thus, the complex does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City

Neither the construction of the Pacific Steel Casting Co. complex, nor its ownership and use history, were influenced by religious, cultural, governmental, social, or economic events or developments in the area. The Pacific Steel Casting Co. was associated with the metalworking industry in West Berkeley, but was not the first such company, nor exceptionally important or influential within the local industry, which supported many steel and metalworking plants. Its participation in World War II-era production was common to many industries in Berkeley and the surrounding region. Therefore, the property does not appear to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3. Educational value: Structures worth preserving for their usefulness as an educational force

The Pacific Steel Casting Co. complex does not appear to have any use as an educational tool, as it is not associated with important events or people, and is not outstanding as an example of industry in Berkeley. Numerous other properties could illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The Pacific Steel Casting Co. complex does not provide an outstanding example of the economic growth of Berkeley. The company's founding in the 1930s and organic growth over time is common to many industrial plants in the area and is not outstanding in expressing the city's industrial or commercial history. The company's owners and occupants do not appear to have been historically significant or claim any noteworthy accomplishments and no specific events of significance occurred at the property. It does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The Pacific Steel Casting Co. complex is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit

Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, the Pacific Steel Casting Co. complex is not of great architectural merit or

cultural, educational, or historic value. It is an unremarkable later element of West Berkeley's industrial development. Study of buildings around the property does not indicate any cohesive or thematically representative grouping for which the complex would play a meaningful role. The city has numerous older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject complex is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. The property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the "Gilman Gateway Historic Resource Evaluation" Study Area there are five City of Berkeley Landmarks or Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

Some of the buildings associated with the Mannasse-Block Tanning Co. and California Ink Co., which were also multi-building complexes with a wide range of construction dates, are roughly contemporaneous with some of the buildings in the Pacific Steel Casting Co. complex. However, all of these properties include multiple buildings of varying ages and do not present a strong focus on any particular era of development. Other Landmarks in the area are much older. The construction of the Pacific Steel Casting Co. complex, at various points over time, does not appear to coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of the Pacific Steel Casting Co. complex. Three are smaller single buildings, while the two properties that are larger in area consist of multi-building complexes that are comparable to the multi-building complex on the subject property. Those two properties also exhibit somewhat utilitarian industrial design, but have different and more consistent character in terms of materials and the apparent age of their utilitarian design.

c. The structure is a good example of architectural design.

The Pacific Steel Casting Co. complex is industrial in use and utilitarian in architectural aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As utilitarian industrial structures, the buildings of the Pacific Steel Casting Co. complex are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. No notable architect or builder were known to be involved with design or construction of buildings in the complex.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The Pacific Steel Casting Co. complex demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a 20th century element of West Berkeley industrial development, but not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the complex would play a meaningful role.

Integrity

In order to qualify for historic designation, a property must possess significance under the aforementioned criteria *and* have historic integrity. The Pacific Steel Casting Co. complex does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion

Based on the above analysis, the Pacific Steel Casting Co. complex does not qualify as a Berkeley Landmark or Structure of Merit.

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial NRHP Status Code	
Other Listings Review Code	Reviewer	Date

 ***Resource Name or #:** 640 Gilman Street, Berkeley, CA

P1. Other Identifier: n/a

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Oakland West, Calif. **Date:** 2015 **T** ; **R** ; **¼ of** **¼ of Sec** **;** M.D. **B.M.**

c. Address: 640 Gilman Street City: Berkeley Zip: 94710

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN: 59-2345-1

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

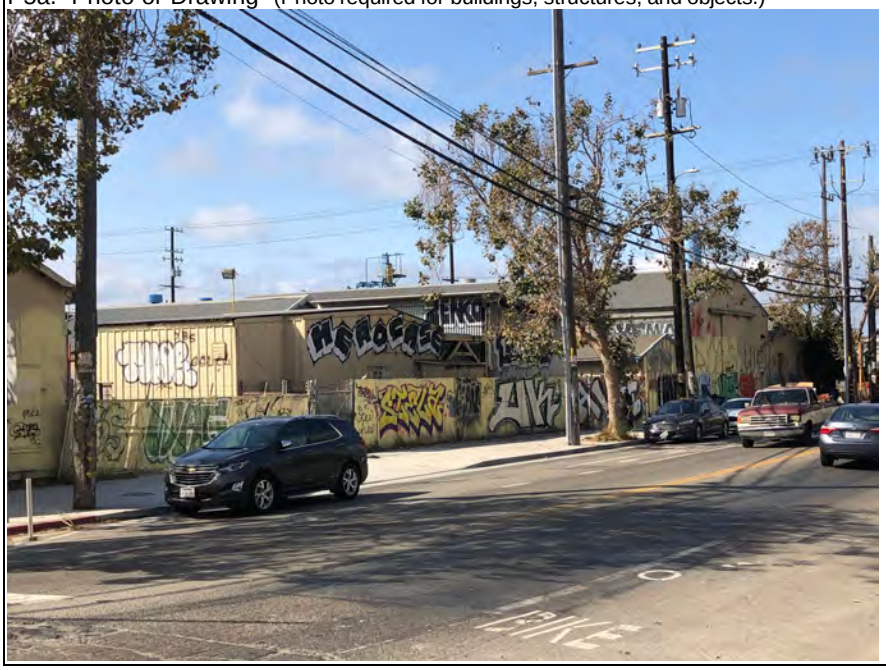
This property is located at the northern end of the block bounded by Gilman Street on the north, Third Street on the east, Camelia Street on the south, and Second Street on the west. It has frontage on Gilman, Second, and Third streets. The property is comprised of nine buildings situated within a utility yard setting. (See page 17 for Building Key diagram.)

Building A
Building A is located at the southwestern corner of the property, fronting on Second Street. It is a large one-story, partially-enclosed shed structure. It is enclosed by unfenestrated corrugated metal walls on the east, south, and west sides. The north side is open, but is overhung by the roof, creating a vehicular pass-through. The structure is made of heavy steel beams, including arched trusses that support the gently-arched corrugated metal roof. The north edge of the roof connects to the south ends of Buildings B-D. (Continued)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial buildings, HP4. Ancillary buildings

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
North facades, looking southwest from Gilman/Third Sts.; November 2022

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1930; BAHA; permits, Donough file

***P7. Owner and Address:**
Berkeley Properties, LLC

***P8. Recorded by:** (Name, affiliation, and address)
Caitlin Hibma/Left Coast Architectural History

***P9. Date Recorded:** Dec. 2022

P10. Survey Type: Intensive

***P11. Report Citation:**
Gilman Gateway HRE

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 640 Gilman Street, Berkeley, CA

B1. Historic Name: Gilmore Petroleum Co.
B2. Common Name: None
B3. Original Use: Industrial **B4. Present Use:** Industrial
***B5. Architectural Style:** Industrial/utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Constructed 1930. (See Continuation Sheets for additional construction history.)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** n/a **Original Location:** n/a
***B8. Related Features:** None

B9a. Architect: Gilmore Oil/Genl. Petroleum Staff, Robert Stewart **b. Builder:** Fred J. Early Co., Stolte Inc.
***B10. Significance: Theme:** None **Area:** West Berkeley
Period of Significance: None **Property Type:** Industrial **Applicable Criteria:** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History

The property at 640 Gilman Street was initially developed circa 1930. Between 1910 and 1930, West Berkeley had boomed, eventually boasting 173 manufacturing businesses and 3,400 workers (though few neighborhood residents). Local companies were joined by larger national enterprises, like Colgate, Heinz, and Durkee Foods, which established their west coast branches in Berkeley. Still responding strongly to the need to transport products, many new factories were built on remaining vacant land close to the waterfront and adjacent to the rail line. (City of Berkeley, 1993)

The Great Depression of the 1930s, of course, brought a downturn in the economy and a slowing in productivity. West Berkeley, as a center of that productivity, experienced drastic effects, including substantial loss of jobs. Presumably, many unemployed West Berkeley factory workers found relief by participating in WPA and CCC projects, like building Aquatic Park and infrastructure in nearby regional parks, that had lasting effects on the Berkeley landscape.

In 1941, the United State's entry into World War II had quickly reversed the effects of the Great Depression. Workers were in high demand and poured in from out of state to fill positions at shipyards and other local industrial plants. Manufacturing and production skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and
(Continued)

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial buildings, HP4. Ancillary buildings

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks:

***B14. Evaluator:** Caitlin Hibma/Left Coast Architectural History

***Date of Evaluation:** November 2022

(This space reserved for official comments.)

P3a. Description: (continued)

Building B
Building B is located at the northwest corner of the property with frontage on Second and Gilman streets. It is a long rectangular building, one-story high, with a partially-enclosed loading dock spanning most of the west facade. The building is clad with wood lap siding and has a front-gable roof clad with corrugated metal. The north facade, facing Gilman Street, has two symmetrically placed window openings covered by meal mesh grilles. The gable end above has shallow boxed eaves. The east facade abuts Building C and is not visible. The south facade abuts Building A, but is visible. It is clad with corrugated metal and unfenestrated. The west facade is within the loading dock, which has corrugated metal walls and roof. It features at least one service entrance with a sliding metal panel door.

Building C
Building C is located immediately adjacent to the east side of Building B and fronts on Gilman Street. It is a long rectangular building, one-story high, that is clad with corrugated metal and has a front-gable roof, also clad with corrugated metal. The north facade, facing Gilman Street, has a large vehicular entrance with two sliding corrugated metal doors on overhead tracks. A pedestrian entrance with a flush metal door is located on the right. The gable end is eaveless. The east facade abuts Buildings D and E, but between those buildings it has a large vehicular entrance with sliding doors on an overhead track. The south facade abuts Building A, but is visible. It is clad with corrugated metal and unfenestrated. The west facade abuts building B and is not visible.

Building D
Building D is located immediately adjacent to the east side of Building C and has no street frontage. It is a short rectangular building, one-story high, that is clad with corrugated metal and has a front-gable roof, also clad with corrugated metal. The north facade has a large vehicular entrance that appears to be partially boarded up with corrugated metal panels. The gable end above has shallow eaves with plain bargeboards. The east facade features a vehicular entrance with a roll-up metal door on the left side. The south and west facades abut Buildings A and C and are not visible.

Building E
Building E is located on the north side of the lot, near the center of the Gilman Street frontage. It is a small, square, one-story building, clad with vertical metal panels with standing seams, and is topped by a front-gable roof. The north facade features three regularly spaced, four-lite, steel-sash windows covered with metal mesh grilles. The east facade appears to have two of the same type of windows. The south facade appears to be unfenestrated and the west facade abuts Building C and is not visible.

Building F
Building F is located on the north side of the lot, near the center of the Gilman Street frontage. It is a small, square, one-story partially-enclosed shed. It is clad with corrugated metal, and is topped by a shed roof. The north, west, and east facades are all unfenestrated. The south facade is completely open. The eaves of the roof overhang and have exposed rafters.

Building G
Building G is located on the north side of the lot, near the center of the Gilman Street frontage. It is a small, rectangular, one-story building that is clad with corrugated metal and vertical metal panels with standing seams. It is topped by a shallow gable roof that is asymmetrical; broader on the east than the west. The north, west, and east facades are all unfenestrated. The south facade features three vehicular entrances. The roof is eaveless.

Building H
Building H is located at the northeast corner of the lot with frontage on Gilman and Third streets. It is a rectangular, one-story building that is clad with corrugated metal and topped by a gable roof that has a shed extension on the east side. The north facade features two elevated pedestrian entrances that are boarded up. The east facade is unfenestrated. The south facade features a pedestrian entrance at the left side. The west facade is spanned by vehicular openings with a series of sliding, corrugated metal doors on overhead tracks. The corrugated metal roof has overhanging eaves with exposed rafters and plain barge/fascia boards.

Building I
Building I is located on the east side of the lot, with frontage on Third Street. It is a small, rectangular, one-story brick building topped by a gable roof. The north facade appears to feature a pedestrian entrance. The east and south facade appear to be unfenestrated. The east facade may have a shed roof addition. The west facade appears to have a vehicular entrance near the center. The roof has broad overhanging eaves with plain barge/fascia boards.

B10. Significance: (continued)

foundries like Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

After the war years spent in industrial overdrive, Berkeley's industrial activity natural waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, bringing the neighborhood down.

In 1956, more zoning refinements were made, with property west of Sixth Street zoned as “special industrial.” This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off. (Jorgensen-Esmaili and Manning, 1982)

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Actions of the 1970s and 1980s continued to reinforce Berkeley citizens' desire for less development and redevelopment along the bay shore. Proposed plans for shopping malls and mixed-use developments were rejected. Meanwhile, a housing project and existing houses that were rehabilitated for first-time, low-income buyers reinvigorated the concept of residential uses within the industrial district. Remaining industrial facilities were, in many cases, repurposed for lighter uses like office space, research and development labs, specialized retail, restaurants, and even live-work space. (Jorgensen-Esmaili and Manning, 1982) A few small clusters of truly heavy industrial uses, like those at 1421 Second Street, remained.

Property History

Prior to 1930, a number of small residences were located on the land that would eventually make up the subject property. (Sanborn maps) About 1930, the smaller properties were bought up and consolidated by the Gilmore Oil Company, which began to develop the site for their use. In 1930, a one-story warehouse (Building B), a garage/machine shed, a truck loading rack and a pump house were built. The following year a hollow clay tile boiler house, oil storage (Building D), a one-story garage, and a paint shed were built. As permits were not explicit about the location of these structures on the parcel, it is unclear whether they still stand (unless otherwise noted). In 1938, Gilmore Oil continued to develop the parcel with an additional one-story warehouse. The same year, a pump shelter and a reinforced concrete dyke for three15,000 gallon lubrication oil tanks were added. Similar improvements eventually increased the facility's capacity from six gas/oil tanks to a dozen. On the later 1950 Sanborn Fire Insurance map, numerous tanks are illustrated at the southwestern corner of the lot, in the area currently covered by Building A. In 1940, an oil pump house and a fire house were removed, but the platform on which they had stood was enclosed, the roof modified, and four sliding doors installed across the front. Based on the description of the modifications, the result may have been the current Building H. Storage space, expansion of warehouse space, and relocation of buildings was undertaken during the 1940s.

Gilmore Oil Company was founded in Southern California in 1903, when Arthur F. Gilmore struck oil on his dairy farm in Los Angeles. He immediately went into the oil and gasoline business, selling gasoline from a horse-drawn tanker. Gilmore died in 1918 and his son, Earl Bell Gilmore, took over the business. He transitioned it from the movable tanker to a fixed gas station and eventually expanded to 3,000 gas stations on the West Coast. Gilmore Oil sold Red Lion brand gasoline and Earl Gilmore was known for his elaborate ad campaigns that included a live lion, as well as airplane and automobile races. The original Gilmore ranch was developed into an amusement park known as Gilmore Island. By the 1940s, the majority of the company was owned by the Socony-Vacuum Oil Company. (Wikipedia) “Socony” stood for Standard Oil Company of New York. Standard Oil also owned the General Petroleum Corporation of California, which it merged with Gilmore Oil in 1946. Subsequently, the subject property came to be owned by the General Petroleum Corporation of California.

General Petroleum continued improving the property with additional office space within an existing warehouse in 1946. By that time, aerial photographs show that current Buildings B, D, H, and I were in place. City of Berkeley records indicate that the property went unused from 1948 to 1957, although the 1950 Sanborn Fire Insurance Map still labels it as General Petroleum Corporation at that time. BAHA's Donough file for the property indicates that in 1950 General Petroleum sold the property to a title, insurance, and guarantee company and that it was quickly deeded to Clarence T. and Marjorie Garrity and Gilbert W. and Catherine L. Myers. The 1940 and 1950 censuses indicate that Clarence Garrity was a real estate broker and that Gilbert W. Myers was the president and owner of a factory that reconditioned barrels. Their purchase of the property was presumably for

B10. Significance: (continued)

investment purposes, as it continued to sit unused during their ownership.

From 1957 to about 1968, the property was owned by O.L. King & Co, which also went by King Oil Co., Dacus Oil Co., and later, Far Best Corp. The company manufactured industrial and automotive lubricants and chemicals. The property used as a tank vehicle loading station and later included an office and 100,000 gallon production facility, continuing oil-related uses. (CoB permits. *Oakland Tribune,* 3 Feb. 1959)

Thereafter, 640 Gilman Street was occupied by the Pacific Steel Casting Company. The property was thus added to the collection of multiple properties that the company owned and utilized along Second Street, between Gilman and Camelia streets. Sanborn maps from the 1980s indicate that activities such as industrial oil blending, drum storage, and solvent mixing and storage were taking place on the subject property. Pacific Steel Casting retained the subject property and continued operating until 2014, when it was acquired by Speyside Equity, then closed in 2017. (Yarbrough, Brookshear, & Kendrick, 2017.)

Architects/Builders
As was common with the physical plants of many industrial businesses, improvements to the property were mostly made by the Gilmore Oil Company, itself. With the company name listed as designer, engineer, and builder on most building permits for the subject property, the use of in-house expertise is implied. In fact, in a number of the cases where specific names are listed on building permits, such as William H. Carr, Henry A. Gurries, Melvin J. Scholting, and Edward J. Carlson, these individuals are confirmed to be engineers, architects/draftsmen, and construction superintendents employed by either Gilmore Oil or General Petroleum. (*Building & Engineering News*, 1 Nov. 1930, U.S. Federal censuses,)

One name, Robert Stewart, who is listed as an architect on a 1946 permit, yield little to no information. His name does not appear in AIA American Architects Directories or the Pacific Coast Architecture Database.

The Fred J. Early Co. appears as the builder on a 1944 permit, alongside Robert Stewart as architect, for the relocation of some buildings on the subject property. The Fred J. Early Company operated from 1943 to 1978, with offices in San Francisco, Oakland, Los Angeles, and Honolulu, Hawaii. It undertook projects throughout the United States and in some international locations. The company specialized in heavy engineering construction, construction of water filtration, sewage treatment and processing plants, dams, tunnels, mass transit systems, pipe lines, and heavy mechanical installations. In California, the company was involved with construction of the Richmond-San Rafael Bridge, Folsom Dam, Lincoln High School in San Francisco, and three BART stations (12th and 19th street in Oakland and Montgomery Street in San Francisco). (PCAD)

Another builder, Stolte Inc., is listed on a 1946 permit, alongside General Petroleum's engineer Edward Carlson, for the construction of an office inside an existing warehouse. The Pacific Coast Architectural Database notes only that this company was headquartered in Oakland in 1970 and was involved with the construction of the Ontario Motor Speedway in Ontario, California, which is no longer extant. A 1985 newspaper article relates that Fred C. Stolte was a house builder prior to 1932, when he was joined by an engineering partner and Stolte, Inc. was formed. Stolte, Inc. was involved in the construction of Hearst Castle in the 1920s and 30s. (*Los Angeles Times*, 27 Jan. 1985) The company remained in business into the 1990s and had projects domestic and international.

Alterations
The following building permits and other records are on file with the City of Berkeley Department of Planning & Development and Berkeley Architectural Heritage Association. They provide documentation of alterations that the property has undergone throughout it's history:

Date	Permit #	Description of Work
26 Mar. 1930	34223	One story warehouse, 36' x 68'. Owner: Gilmore Oil Co., Eng: William H. Carr.
26 Mar. 1930	34224	build frame garage for four machines at Second & Gilman Streets SE corner (604 Gilman), 30x40, gravel and concrete floor, wood frame, corrugated iron cladding. Owner/builder: Gilmore Oil Co.
26 Mar. 1930	34225	Build truck loading rack at 604 Gilman. 18X20, no walls, wood floor, corrugated iron roof. Owner/builder: Gilman Oil Co.
26 Mar. 1930	34226	Build pump house at 604 Gilman, wood frame, corrugated iron walls and roof. Owner/builder: Gilmore Oil Co.
6 Feb. 1931	35540	Build boiler house at 604 Gilman, tile walls, corrugated iron roof. Owner/designer/eng/builder: Gilmore Oil Co.

B10. Significance: (continued)

6 Feb. 1931	35541	Build oil storage at 604 Gilman, corrugate iron walls and roof. Owner/designer/eng/builder: Gilmore Oil Co.
12 May 1931	35814	one story garage at 620 Gilman. Metal lath and plaster both sides of common wall and construct additional garage space 24x19 of wood frame and corrugated galvanized iron. Owner/builder: Gilmore Oil Co.
10 Sept. 1931	36279	Build paint shed at 604 Gilman. Add on paint shed to end of present lube dyke. Owner/builder: Gilmore Oil Co.
13 Nov. 1934	38939	One story warehouse at 604 Gilman. Build additional warehouse space of 24x28 duplicating present construction. Owner/builder: Gilmore
11 Feb. 1938	44201	Build pump shelter at 640 Gilman. Owner/designer/eng/builder: Gilmore Oil Co.
11 Feb. 1938	44202	(Duplicate of above)
11 Feb. 1938	44203	Ton construct a reinforced concrete dyke for three 15,000 gallon lubrication oil tanks at 640 Gilman. Owner/designer/eng/builder: Gilmore Oil Co.
11 Feb. 1938	44204	Add 20x21 dyke (concrete) to present gas tanks, enlarging present 6 tank dike to double capacity, etc. at 640 Gilman. Owner/designer/eng/builder: Gilmore Oil Co.
13 Mar. 1939	46387	Pump houses to be moved from present position to new position at 604 Gilman. Owner/designer/eng/builder: Gilmore Oil Co.
24 Jan. 1940	48074	Fill in platform in space left vacated by removal of one oil pump house 8x12 and one Foamon fire house 8x12. Change pitch of roof and continue pitch over vacated spaces with four sliding doors across front for wind break. 604 Gilman. Owner/designer/builder: Gilmore Oil Co. Eng: H.A Gurries.
17 Sept. 1940	49584	Storage space for tires. Proposed addition to present warehouse building, etc. Owner/Builder: Gilmore Oil Co. Arch/designer: MJ Scholting. Eng: HA Gurries.
5 Oct. 1942	53359	Build loading platform at 2nd and Gilman (1301 Second), 16-8x74, attached to nearest building. Owner/designer/builder: Gilmore Oil Co. [No longer extant]
15 Mar. 1944	55489	640 Gilman; Move existing wood frame corrugated garage and office building and loading rack to new location on adjacent property. Owner: Gilmore Oil Co. Arch/designer: Robert Stewart. Builder: Fred J. Early Co.
30 Aug. 1946	59761	Additional office space within existing warehouse for General Petroleum Corp. Owner/designer: General Petroleum Corp. Eng: EJ Carlson. Builder: Stolte Inc.
2 Feb. 1953	726531	Fire repairs; rafters and tar and gravel roofing.
20 Aug. 1958	85331	Steel building
29 Oct. 1958	85835	Install locker room and toilets. Repair office floors, install new linoleum. Repair walls of existing buildings. Install wiring in new buildings and repair wiring in existing buildings. Owner/builder: O.L. King & Co.
23 June 1959	87465	15' x 20' addition to/for oil storage; remove corrugated sheeting on rear wall, add shed roof over concrete slab. Install two 1,000 gallon tanks and add shed roof, no walls. Owner/builder: O.L. King & Co.
31 Aug. 1959	88057	Enlarge boiler house, add 7' x 15' concrete block addition to 15' x 15' brick boiler house. Present roof to be extended over new construction. Owner/builder: O.L. King & Co.
21 Nov. 1961	93717	Erect 20' x 20' steel Butler Building on concrete slab. Owner: O.L. King & Co. Builder: Butler Manufacturing Co.
4 March 1968	111211	Re-side one side and part of front of building with steel siding over present corrugated steel. Owner: Far Best Corp. (O.L. King & Co.) Builder: [illegible] Imp. & Roof.
3 March 1997	96-00005002	Accessory structure: metal construction shelter, staging area for shipping cargo Owner: Pacific Steel Casting Co.

California Register Evaluation

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 640 Gilman Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The property was used by the Gilmore Oil Company and its successor the General Petroleum Corporation throughout most of its history, and Pacific Steel Casting Company later on. The oil companies were regional operations with national connections and their activities at the subject property did not contribute to any broad patterns of history or local development. Use by Pacific Steel Casting occurred late in West Berkeley's industrial history and was not significant to local industrial development patterns. The property was initially developed during the years of the Great Depression, but was not particularly influenced by or influential to that context.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. The Gilmore Oil Company was founded by Arthur F. Gilmore and continued by his son Earl Bell Gilmore; however Arthur Gilmore died well before the establishment of a Gilmore Oil facility at 640 Gilman Street and Earl Bell Gilmore was not directly associated with it. The company was based in Los Angeles and operated throughout the West, so it is unlikely that Earl Bell Gilmore had any meaningful interaction with the Berkeley location. Later owners, Clarence T. and Marjorie Garrity and Gilbert W. and Catherine L. Myers, appear to have purchased the property as an investment and it is not clear whether the Myers' barrel refurbishing business was even based at the property. If so, it was for a very short time and neither the Garritys or the Myers appear to have been influential people. Ivan Johnson, J. D. Genger, and E. S. Shonk were the founders and original operators of the Pacific Steel Casting Company in 1935. They were successful Berkeley businessmen, but were not influential to the steel casting industry or commerce, locally or beyond. When the facility at 640 Gilman Street began to be used by Pacific Steel Casting in 1958, the three men may have still been leading the company, but were probably not directly active in the steel-working activities or the functions of the property, which was outlying to the main plant.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The buildings at 640 Gilman Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction.

Most building permits for the property name a corporate entity (Gilmore Oil or General Petroleum) or its staff designers/engineers, who do not appear to have been prominent or influential creative individuals. The Fred J. Early Company and Stolte, Inc. are named on two permits as outside contractors. Both companies were prominent businesses with projects on the national and international scale, including some noteworthy Bay Area-local projects. In relation, their work at 640 Gilmore Street was minor and unimportant within their portfolios. Additionally, no specific individuals from either large company were named in connection with the work at 640 Gilman Street, and the design and engineering roles for the projects in question are attributed to others on building permits, such that the property would not claim significance for associations with important creative individuals connected with the Fred J. Early Co. or Stolte, Inc.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 640 Gilman Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

Berkeley Landmark Evaluation

Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 640 Gilman Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The majority of the buildings at 640 Gilman Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. None of the buildings are the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. Associated designers, engineers, and builders appear to have primarily been the staff designers/builders for the company that owned the property and do not appear to have been prominent or influential creative individuals. A couple construction companies not connected to the property owner are known, but they appear to have much more substantial portfolios within which their projects at 640 Gilman Street would not rank as noteworthy. No specific individuals from these construction companies are connected to the work at the subject property. The property provides no exceptional architectural value to the neighborhood, thus, it does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City

Neither the construction of the buildings at 640 Gilman Street, nor the property's ownership and use history, were influenced by religious, cultural, governmental, social, or economic events or developments in the area. The buildings were built in 1930 through the 1940s by the Gilmore Oil Company/General Petroleum Corporation and used for the distribution of oil and gasoline. The industrial activities at the subject property were a small component of much wider regional operations of both companies and do not appear to be associated with important economic development in Berkeley; therefore, the property does not appear to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3. Educational value: Structures worth preserving for their usefulness as an educational force

The property at 640 Gilman Street does not appear to have any use as an educational tool, as it is not associated with important events or people, and is not outstanding as an example of industry or commerce in Berkeley. Numerous other properties could better illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 640 Gilman Street does not reflect the industrial or commercial growth of Berkeley. The property's development in 1930 through the 1940s occurred during the Great Depression and World War II, but in addition to not reflecting West Berkeley's initial industrial development it was a common and minor element of its Depression-era subsistence and war-era boom. The property's long-time use for oil and gasoline distribution was not specifically important to war-time industry, beyond a general need for such products that was consistent both before and after the war. The property's owners and occupants do not appear to have been historically significant and no specific events of significance occurred at the property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 640 Gilman Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit

Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

*1. **General Criteria** shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.*

As assessed under Berkeley Landmark criteria, 640 Gilman Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and relatively late element of West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 640 Gilman Street would play a meaningful role. The city has numerous older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject property is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

Only the latest building of the Manasse-Block Tanning Co. complex and some of the later buildings of the approximately 20-building California Ink Company Industrial site might be contemporaneous with the buildings at 640 Gilman Street; however, those Landmarks also consists of other buildings that are older and newer, while other Landmarks in the area are also much older. Built from 1930 through the 1940s, the construction of the buildings on the subject property does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 640 Gilman Street. Three are smaller single buildings, while the two properties that are larger in area consist of multi-building complexes that have larger buildings and more extensive development than that at the subject property. Those two Landmark properties also exhibit somewhat utilitarian industrial design, but have much different character in terms of materials and overall design, giving the Landmarks and subject property few physical characteristics in common.

c. The structure is a good example of architectural design.

The buildings at 640 Gilman Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. The architects, engineers, and builders that were involved with the property's design and construction do not appear to rank as important or influential designers or builders.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The property at 640 Gilman Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a early to mid-20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 640 Gilman Street would play a meaningful role.

Integrity

In order to qualify for historic designation, a property must possess significance under the aforementioned criteria *and* have historic integrity. The property at 640 Gilman Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion

Based on the above analysis, the property at 640 Gilman Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource for the purposes of the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

Sources

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Pacific Coast Architecture Database (PCAD); https://pcad.lib.washington.edu/
Sanborn Fire Insurance Map archives via ProQuest and HIG
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection
Wikipedia https://en.wikipedia.org/wiki/Gilmore_Oil_Company

Current Images:

West facade of Buildings A and B, looking northeast from Second Street.

Interior of pass-through between Building A (right) and Buildings B and C (left), looking east from Second Street.

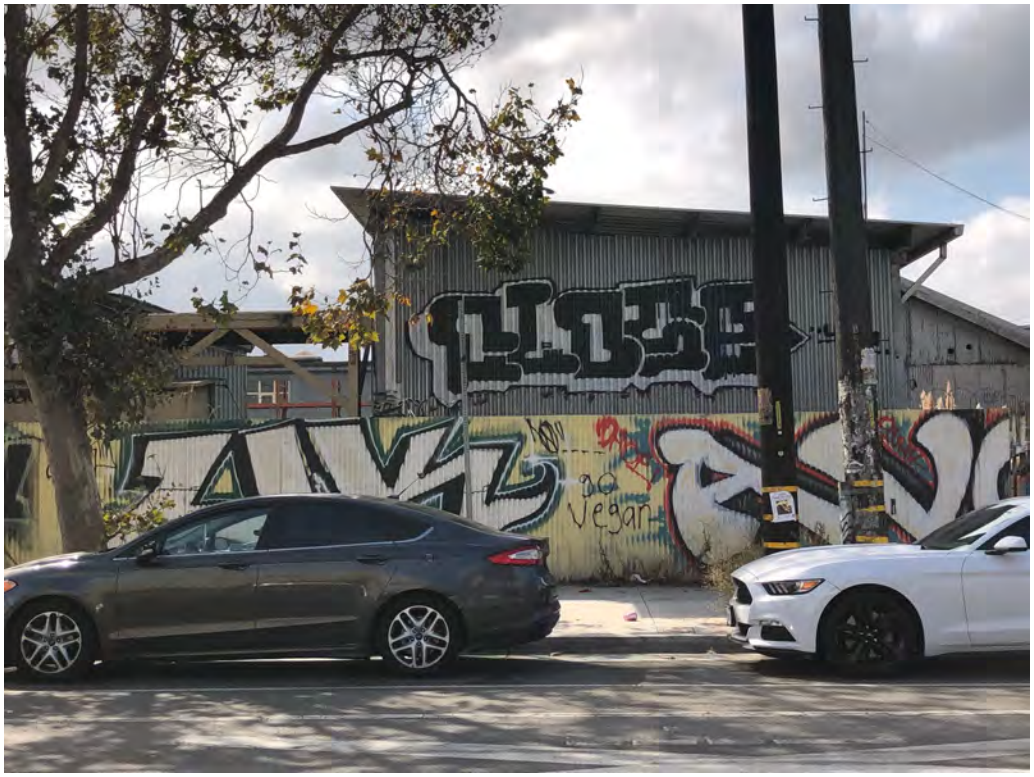
West facades of Buildings B (left) and A (right), looking southeast from Gilman and Second streets.

North facade of Building B, looking southwest from Gilman Street.

North facade of Building C, looking southeast from Gilman Street.

North facade of Building D, behind Buildings F (left) and E (right), looking south from Gilman Street.

North facade of Building E, looking south from Gilman Street.



North facade of Building F, looking south from Gilman Street.

East and north facades of Building G, looking southwest from Gilman Street.

West facade of Building H, looking east from Gilman Street.

East and north facades of Building H, looking southwest from Gilman Street.

Buildings I (left) and H (right), looking west from Third Street.

Building Key.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial NRHP Status Code	
Other Listings Review Code	Reviewer	Date

 ***Resource Name or #:** 1310 Third Street, Berkeley, CA

P1. Other Identifier: 1315 Second Street

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Oakland West, Calif. **Date:** 2015 **T** ; **R** ; **¼ of** **¼ of Sec** **;** M.D. **B.M.**

c. Address: 1310 Third Street City: Berkeley Zip: 94710

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN: 59-2345-2-2

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property is located mid-block, between Gilman Street on the north and Camelia Street on the south, spanning the block, so that it has frontage on Second and Third streets. It is made up of a series of three conjoined buildings that fill the parcel. (See page 13 for Building Key diagram.) The building on the western portion of the parcel is two-stories at the front (west end) and one-story with a roof-top monitor at the rear (east end). It has corrugated metal cladding on the west facade and the north and south facades are brick. It is capped by flat or gently sloped roof forms. The two buildings on the eastern portion of the block are one story and clad with corrugated metal. The southern building has a flat roof with an L-plan monitor on top, while the northern building has an offset gable roof form. The west facade faces Second Street and is two stories high. It is clad with modern corrugated metal that has an irregular, widely-spaced corrugation pattern. The first story features, from left to right: a vehicular entrance with a metal roll-up door, a flush metal pedestrian door, a pedestrian door that is clad with plywood and has a brick surround, a sliding vinyl sash window, and another vehicular entrance with a metal roll-up door. The second story features three large, symmetrically arranged, steel industrial sash windows. The facade is topped by a flat, unadorned roofline. (Continued)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
West facade, looking northeast; November 2022

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1944-1946; BAHA; permits, Donough file

***P7. Owner and Address:**
Berkeley Properties, LLC

***P8. Recorded by:** (Name, affiliation, and address)
Caitlin Hibma/Left Coast Architectural History

***P9. Date Recorded:** Dec. 2022

P10. Survey Type: Intensive

***P11. Report Citation:**
Gilman Gateway HRE

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 1310 Third Street, Berkeley, CA

B1. Historic Name: None
B2. Common Name: None
B3. Original Use: residential **B4. Present Use:** commercial
***B5. Architectural Style:** Altered; Craftsman (original), no style (current)
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Constructed 1944-1946. (See Continuation Sheets for additional construction history.)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** n/a **Original Location:** n/a
***B8. Related Features:** None

B9a. Architect: Alben Froberg **b. Builder:** Christiensen & Lyons, J.H. Fitzmaurice, etc.
***B10. Significance: Theme:** None **Area:** West Berkeley
Period of Significance: None **Property Type:** Industrial **Applicable Criteria:** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The property at 1310 Third Street was developed around the end of World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

After the war years spent in industrial overdrive, Berkeley's industrial activity natural waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, bringing the neighborhood down.

In 1956, more zoning refinements were made, with property west of Sixth Street zoned as “special industrial.” This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off. (Jorgensen-Esmaili and Manning, 1982) (Continued)

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial Building

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks:

***B14. Evaluator:** Caitlin Hibma/Left Coast Architectural History

***Date of Evaluation:** November 2022

(This space reserved for official comments.)

P3a. Description: (continued)

Vertical brick bands are found at the outer edges of the facade and relate to the construction material of the side facades.

The north and south facades of the western building nearly abut neighboring structures, but are partially visible. These side facades are constructed of brick, with concrete structural beams visible between floors and at the roofline. Both stories of the front portion feature a regular pattern of large, steel industrial sash windows. At the east end of the western portion of the building, the roofline drops to one-story, while a monitor runs down the center of the roof. The lower section of the building also features brick walls and steel industrial sash windows on the first story, while the monitor appears to be clad with corrugated metal and has industrial sash windows along its length. The rooflines of the side facades are flat and unadorned.

The east facade faces Third Street and the rail right-of-way and consists of the two eastern buildings side-by-side. Both are clad in traditional corrugated metal. The southern building features a vehicular entrance with a sliding door that is clad with corrugated metal and runs on an overhead track. The roofline of the southern building is higher on the left and lower on the right, though both sections are basically flat and are unadorned. The northern building features two vehicular openings; one with a sliding door that is clad with corrugated metal and runs on an overhead track, the other that is boarded up with plywood. The northern building also has a roofline that is higher on the left and lower on the right, though the height difference is less than on the southern building and the roof planes are more sloped, like shed roofs, but also unadorned.

The north facade of the northern building abuts an adjacent building and is not visible. The south facade of the southern building nearly abuts a neighboring building, but is partially visible. It is made of brick and unfenestrated. The southern side of the rooftop monitor on this building features a continuous band of steel industrial sash windows. The north side of the monitor also appears to feature a continuous band of windows.

(See following sheets for current images)

B10. Significance: (continued)

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History

Prior to 1944, the subject property consisted of separate lots owned by the Woolenius Tile Company (1315 Second Street) and Ray W. Van Deusen (1320 Third Street), although they were associated; Ray Van Deusen was the son-in-law of the owner of Woolenius Tile, Charles Elsenius. (Tile Heritage Foundation) In 1944, the properties were purchased from those parties and combined by the Chemical Package Company. (BAHA Donough file) Other than the presumed services described by its name, no information was found about the Chemical Package Company. The Chemical Package Company set to work immediately, building a corrugated iron storage shed at the rear of 1315 Second Street and demolishing the small single-family residence that stood at 1320 Third Street. The company went on to build another storage shed, an addition to that shed, and a second one-story building in place of the house at 1320 Third Street, all in 1944. Two years later, further development took place with the demolition of the Woolenius Tile Company's kiln room and its replacement with a new warehouse facing Second Street. Roof reconfiguration and an addition were also made to the earlier warehouse. (BAHA permits) By the time of a 1947 aerial photograph, the current arrangement of buildings on the property was in place.

Ray Van Deusen continued to be associated with the property, as his name appears on real estate transactions and building permits after it was purchased by the Chemical Package Company. (Donough, BAHA permits) The 1950 federal census correspondingly indicates that he was employed as a warehouse proprietor. Records also suggest that additional businesses may have leased space from the Chemical Package Company during the mid and late-1940s, including the General Bearing & Supply Company, which was addressed at 1315 Second Street and appears to have closed at the end of 1947 (Oakland Tribune, 7 December 1947), and the Special Package Company, about which no information was found.

In 1947, the Berkeley Warehouse Company either purchased or leased the property; its name appearing on real estate records for both the 1310 Second and 1315 Street addresses. Other than general warehousing, as its name suggests, no information was found about the Berkeley Warehouse Company. A classified ad in the 14 May 1947 edition of the *Oakland Tribune* notes that trucks were for rent at the 1315 Second Street address, but does not give a corresponding business name, although truck rental might very well fall under the operations of a general warehousing business.

By at least June 1949, the property was being used by Montgomery Ward, the nation's third largest department store chain at the time. (Wikipedia; Montgomery Ward) An advertisement in the *Berkeley Daily Gazette* (6 June 1949) touted expert

appliance repair services at the Montgomery Ward Service Shop at 1315 Second Street. The following year, the Sanborn Fire Insurance map confirms that the property was occupied by Montgomery Ward Company, with a small office on Second Street and warehouses behind.

In 1951, the Berkeley Warehouse Company appears to have sold the property to Melvin L. Makower, a physician. (Donough files) The tenant, Montgomery Ward Company, does not appear to have changed. In 1953, a newspaper article notes that eleven rifles were stolen from the Montgomery Ward warehouse at 1315 Second Street. *(Oakland Tribune, 5* Oct 1953) In 1956, the building appears to have been used in-part (the unit addressed 1320 Third Street, in the southeastern building) by Diablo Animal Labs, which was based in Walnut Creek and used the space for storage and animal-related laboratory activities. (CoB permits)

Records do not indicate when Montgomery Ward ceased use of the property for warehousing, nor when Pacific Street Casting Company took over the property. Sanborn maps from the 1980s indicate that the property was used for wood pattern storage, tire warehousing, and cabinet works, which suggests other uses between those by Montgomery Ward and Pacific Steel Casting. By about 1988, the property was being used by the Pacific Steel Casting Company, which had maintained a plant across Second Street since the mid-1930s and also used other properties in the immediate area. Pacific Steel Casting operated until 2014, when it was acquired by Speyside Equity, then closed in 2017. (Yarbrough, Brookshear, & Kendrick, 2017.)

Architects/Builders
Building permits for various structural portions of the property provide the following names of architects and builders:

Alben Froberg is listed as the architect of a number of, if not all of the current, sections of the property. Froberg was educated at University of California, Berkeley, under John Galen Howard. He earned a civil engineering degree in 1913 and became a licensed architect in 1915. In 1920, he worked as a draftsman for San Francisco architect Frederick Whitton. He was eventually based in Oakland and appears to have worked solo at some points, but also partnered with builders Christensen & Lyons, especially the former, Henry J. Christensen. *Building & Engineering News,* as far back as the late 1920s, shows Froberg and Christensen working together on projects, while a number of building permits for properties in the Study Area that have dates into the 1940s, list Froberg as the architect and Chistensen & Lyons as the builders. In both cases, the two parties shared a business address (a location in Oakland) indicating that they had a formal collaborative arrangement lasting for years.

Froberg's portfolio includes a number of commercial and industrial buildings in Oakland and Berkeley, including the Laher Auto Spring Company Factory (1925, 2619-25 Magnolia Street, Oakland), the Consolidated Freightways Warehouse (1940-41, 1700 24th Street, Oakland), the Connell GMC Pontiac Cadillac dealership (1947, 3093 Broadway, Oakland), I.B. Hoagie's building (1950, 1601 San Pablo Ave., Oakland), and industrial shipyard buildings in Alameda. Froberg's career spanned into the 1950s, and at least a few of his buildings exhibited the popular Streamline Moderne and Googie styles that were popular toward the end of his career. (Oakland Wiki)

As noted, Froberg often worked with builders Christensen & Lyons and may have even had a formal collaborative arrangement with them. Christensen & Lyons, itself was a partnership or collaboration between the H.J. Christensen Construction Co. and the N.E. Lyons Construction Co., which are listed together but as distinct companies on building permits (ie: a rubber stamp used on the permits names both companies together). Like Froberg, Christensen & Lyons are listed as the builders of a number of, if not all of the current, sections of the property. The Froberg, Christensen & Lyons collaboration is also responsible for other projects in the Study Area, primarily for the Pacific Steel Casting Company. Other than the above information, little additional information was found about the Christensen & Lyons partnership. Projects of H.J. Christensen's listed in *Building & Engineering News* tend to focus on buildings with industrial and utilitarian uses.

Various permits for the subject property list builders besides Christensen & Lyons, but who also worked with Alben Froberg. One was J.H. Fitzmaurice. J.H. Fitzmaurice, Inc. is still in business and states that the company began as a landscaping, grading, and paving company in the early 1900s, and incorporated in the field of general engineering and contracting in 1920. The company constructed buildings ranging from residences to civic projects, including Piedmont High School (1924), Bank of Italy, SF (1928), U.C. Berkeley campus buildings (ca. 1929), California State Home for the Blind (1949), Standard Oil refinery buildings, Richmond (1958), and Oakland Coliseum (1962). (J.H. Fitzmaurice, Inc.)

The names Swanstrom & Stahl and W.E. Gould appear on other permits for the subject property, but research yielded no information about these companies.

Alterations
The following building permits and other records are on file with the City of Berkeley Department of Planning & Development and Berkeley Architectural Heritage Association. They provide documentation of alterations that the property has undergone throughout it's history:

Date	Permit #	Description of Work
11 Feb. 1944	55375	One-story storage shed at rear of 1315 Second. Corrugated iron, tar and gravel roof. Owner: Chemical Package Co. Builder: Swanstrom & Stahl.
18 April 1944	55701	Demolish building [single-family dwelling] at 1320 Third. Owner: Chemical Packing Co.
14 Sept. 1944	56262	Build wood and galvanized iron storage shed at 1316 Third St. Owner: Chemical Packaging Co. Arch/designer: Alben Froberg. Builder: J.H. Fitzmaurice.
16 Sept. 1944	56281	Addition to existing building, 12x21, to be used as packing shed at 1316 3rd. Owner: R.W. Van Deusen. Builder: Swanstrom & Stahl.
24 Oct. 1944	56437	One-story, 60'x130' building, west side of 3rd 200' south of Gilman (1320 Third) Owner: Chemical Packaging Co. Arch/designer: Alben Froberg. Builder: Christensen & Lyons.
15 Jan. 1946	58414	Demolish kiln room at rear of 1315 Second. Owner/contractor: R.W. Van Deusen.
30 Jan. 1946	58508	Extension of present roof, add 10x12 office to warehouse at .: RW Van Deusen/Chemical Packaging Co. Arch/designer: Alben Froberg. Builder: W.E. Gould.
9 July 1946	59426	Build warehouse at 1315 Second, 72x73. Owner: R.W. Van Deusen. Arch/designer: Alben Froberg. Builder: Christensen & Lyons.
12 Jan. 1956	78957	Erection of non-bearing walls in warehouse (at 1320 Third) to divide storage areas from laboratory animal sections. Owner: Diablo Animal Labs/Theodore Aarons. Builder: Mr. McAllister.

California Register Evaluation

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 1310 Third Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The property was used by a number of small light-industrial businesses, primarily for warehousing purposes, throughout its history. This fits the industrial context of the area; however, it was not outstanding or influential within the industrial context that dominated a broad area of West Berkeley and the East Bay shoreline, included numerous other industrial uses, and which had been established well before the development of the current buildings on the property.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. Owners and occupants were primarily commercial entities with no specific names attached to their operations. Ray Van Deusen was associated with the property for many years in ownership and management capacities, but was employed as a warehouse proprietor and is not known to have been an important or influential figure. Melvin L. Makower's name also appears as a later owner. He was a physician and his ownership of the subject property had nothing to do with his professional activities or uses. He is not considered an important historic figure.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The buildings at 1310 Third Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill its intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. Architect Alben Froberg and builders Christiensen & Lyons and J.H. Fitzmaurice were involved with the design and construction of various components of the conjoined structures that make up the property (as were other builders about whom no information was found). While these designers and builders appear to have been active and successful professionals in Oakland and Berkeley, they do not rise to the level of "important creative individuals." Other better examples of Froberg's design and Christiensen's construction exist locally.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 1310 Third Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

Berkeley Landmark Evaluation

Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 1310 Third Street according to local significance criteria:

1. Architectural Merit:

a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth

preserving for the exceptional values they add as part of the neighborhood fabric.

The buildings at 1310 Third Street are of common and unremarkable utilitarian construction. They were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As a utilitarian industrial structure they are common and unremarkable within their context with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. They are not the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. The architect and builders of most components of the property are known, but do not appear to have been influential or considered important creative individuals. The property provides no exceptional architectural value to the neighborhood, thus, it does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City

Neither the construction of the buildings at 1310 Third Street, nor the property's ownership and use history, were influenced by religious, cultural, governmental, social, or economic events or developments in the area. The buildings were built from 1944 to 1946 by the Chemical Package Company and used by a number of light-industrial business for primarily warehousing purposes over the years. Neither the businesses or their activities at the subject property appear to be associated with important economic development in Berkeley; therefore, the property does not appear to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3. Educational value: Structures worth preserving for their usefulness as an educational force

The property at 1310 Third Street does not appear to have any use as an educational tool, as it is not associated with important events or people, and is not outstanding as an example of industry or commerce in Berkeley. Numerous other properties could better illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 1310 Third Street does not reflect the industrial or commercial growth of Berkeley. The building's construction from 1944 to 1946 occurred at the end of World War II. In addition to it not reflecting West Berkeley's initial industrial development nor its war-era boom, it was built as industry waned and the neighborhood began to decline. The building's owners and occupants do not appear to have been historically significant and no specific events of significance occurred at the property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 1310 Third Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit

Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

*1. **General Criteria** shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.*

As assessed under Berkeley Landmark criteria, 1310 Third Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and relatively late element of West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1310 Third Street would play a meaningful role. The city has numerous older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject property is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

Only some of the later buildings of the approximately 20-building California Ink Company Industrial site might be contemporaneous with the buildings at 1310 Third Street; however, that Landmark also consists of other buildings that are older and newer, while other Landmarks in the area are also much older. Built from 1944 to 1946, the construction of buildings on the subject property does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 1310 Third Street. Three are smaller buildings than the structures at 1310 Third Street, while the two properties that are larger in area consist of multi-building complexes that are not comparable to the conjoined building on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but have much different character in terms of materials and overall design, giving the Landmarks and subject building few physical characteristics in common.

c. The structure is a good example of architectural design.

The buildings at 1310 Third Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. The architect and builders that were involved with the property's design and construction do not appear to rank as important or influential designers or builders.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The property at 1310 Third Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a mid-20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1310 Third Street would play a meaningful role.

Integrity

In order to qualify for historic designation, a property must possess significance under the aforementioned criteria *and* have historic integrity. The building at 1310 Third Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion

Based on the above analysis, the property at 1310 Third Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource for the purposes of the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

Sources

1974 Blymer & Sons
"Pacific Steel Casting Co. Shell Foundry Facilities" (from CoB Planning files)

J.H. Fitzmaurice, Inc. http://www.jhfitzmaurice.com/about-jhf/#HISTORY

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"Woolenius Tile Company," tileheritage.com

Oakland Wiki. https://localwiki.org/oakland/Alben_R._Froberg

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Sanborn Fire Insurance Map archives via ProQuest and HIG
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

Current Images:

South facade of western building, looking north from Second Street.

Detail of south facade of western building, looking northeast from Second Street..

North facade of western building, looking southeast from Second Street.

East facade of northeastern building, looking west from Third Street.

East facade at juncture of northeastern (right) and southwestern (left) buildings, looking northwest from Third Street.

East facade of southeastern building, looking west from Third Street.

Building Key.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial NRHP Status Code	
Other Listings Review Code	Reviewer	Date

 ***Resource Name or #:** 1333 Second Street, Berkeley, CA

P1. Other Identifier: n/a

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Oakland West, Calif. **Date:** 2015 **T** ; **R** ; **¼ of** **¼ of Sec** **;** M.D. **B.M.**

c. Address: 1333 Second Street City: Berkeley Zip: 94710

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN: 59-2345-9

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property is located mid-block, between Gilman Street on the north and Camelia Street on the south, spanning the block, so that it has frontage on Second and Third streets. The property is comprised of five buildings situated within a utility yard setting. (See page 12 for Building Key diagram.)

Building A
Building A is located at the southwestern corner of the property, fronting on Second Street. It is a one-story commercial (office) building with a long rectangular plan and a shallow gable roof. The primary facade faces west and features brick cladding on the lower wall and wavy-edge asbestos shingle above. The left side of the facade features a large, rectangular picture window. The right side features the main entrance, which is recessed, accessed by concrete steps, and features a fully-glazed, extruded aluminum frame entry assembly. The facade is topped by a pent roof parapet with overhanging boxed eaves. A recessed area on the pent roof bears signage reading "Pacific Steel Casting Co." (Continued)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
Bldg. A, west facade, looking east; November 2022

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1943; BAHA; permits, Donough file

***P7. Owner and Address:**
Berkeley Properties, LLC

***P8. Recorded by:** (Name, affiliation, and address)
Caitlin Hibma/Left Coast Architectural History

***P9. Date Recorded:** Dec. 2022

P10. Survey Type: Intensive

***P11. Report Citation:**
Gilman Gateway HRE

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 1333 Second Street, Berkeley, CA

B1. Historic Name: Pacific Steel Casting Co.
B2. Common Name: None
B3. Original Use: Industrial **B4. Present Use:** Industrial
***B5. Architectural Style:** Industrial/utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Constructed 1943. (See Continuation Sheets for additional construction history.)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** n/a **Original Location:** n/a
***B8. Related Features:** None

B9a. Architect: Alben Froberg **b. Builder:** Christiensen & Lyons
***B10. Significance: Theme:** None **Area:** West Berkeley
Period of Significance: None **Property Type:** Industrial **Applicable Criteria:** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History

The property at 1333 Second Street was initially developed during World War II. In 1941, the United State's entry into World War II had quickly reversed the effects of the Great Depression. Workers were in high demand and poured in from out of state to fill positions at shipyards and other local industrial plants. Manufacturing and production skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

After the war years spent in industrial overdrive, Berkeley's industrial activity natural waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, bringing the neighborhood down.

In 1956, more zoning refinements were made, with property west of Sixth Street zoned as “special industrial.” This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off. (Jorgensen-Esmaili and Manning, 1982) (Continued)

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial buildings, HP4. Ancillary buildings

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks:

***B14. Evaluator:** Caitlin Hibma/Left Coast Architectural History

***Date of Evaluation:** November 2022

(This space reserved for official comments.)

P3a. Description: (continued)

The north facade of Building A is clad entirely with wavy-edge asbestos shingle, except where the brick dado wraps the northwest corner from the front facade. It is fenestrated with a regular pattern of single-lite, fixed, plate glass windows. A secondary entrance is located at the far left side. The facade is topped by a pent roof parapet with overhanging boxed eaves. The roof angles up at the rear, creating a shed form at the left side of the north facade.

The south facade of Building A abuts structures on the adjacent property and is not visible. The rear (east) facade is attached to an open shed structure that connects it to Building E.

Building B
Building B is located at the center of the western, Second Street, frontage of the property. It is a one-story industrial building with a rectangular plan, topped by a gable roof with a shed extension on the south side. The primary facade faces west and is clad with corrugated metal. There is a vehicular entrance with a sliding, corrugated metal door on an overhead track on the right side of the facade. A small steel, industrial sash window it located on the right. The facade is topped by a gable end and shed extension that have shallow overhanging eaves.

The north and south facades of Building B are clad with corrugated metal and feature a series of irregularly spaced openings fitted with steel industrial sash windows, louvered vents, and at least one opening that is covered by corrugated metal panels. A vehicular entrance is located at the far right side of the south facade. The flat rooflines feature shallow eaves.

The rear (east) facade of Building B is clad with corrugated metal. A large metal rack and a hopper are located against the wall on the left and center. On the right is a secondary entrance, accessed by low stairs. The facade is topped by a gable end and shed extension that have shallow overhanging eaves. Large cylindrical vents protrude from the ridge of the roof.

Building C
Building C is located at the northwestern corner of the property, fronting on Second Street. The left side consists of a tall open shed structure, while the right side is enclosed. It is clad with corrugated metal and has a flat roof. The roof of left side of the enclosed portion is lower than the right. There is an entrance with a sliding paneled wood door on an overhead track on the lower left section, while a large doorless vehicular entrance is located on the higher right section. The roofline is flat and eaveless. The north and south facades of the structure abut structures on the adjacent property and are not visible.

Building D
Building D is located at the northeastern corner of the property, fronting on Third Street. It is a pre-fabricated metal Butler building, with corrugated metal exterior walls, a rectangular plan, and a gable roof. The east facade features a series of three, multi-part, horizontal, rectangular, metal louvered vents spanning the upper wall and large cylindrical vent protruding from the gable end. The south facade features a vehicular entrance with a metal roll-up door at the center and a shed-roofed metal rack against the wall to the right. The west facade is unfenestrated and the north facade abuts structures on the adjacent property and is not visible. The rooflines are generally eaveless and large cylindrical vents protrude from the ridge of the roof.

Building E
Building E is located at the southeastern corner of the property, fronting on Third Street and the rail right-of-way. It is clad with corrugated metal, has a rectangular plan, and is topped by a shed roof. The east facade is unfenestrated. The north facade features a vehicular entrance with a metal roll-up door on the left and a smaller service entrance with a sliding door on an overhead track at the center. The rear (west) facade is attached to an open shed structure that connects it to Building A.

(See following sheets for current images)

B10. Significance: (continued)

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Through the 1970s and 1980s, Berkeley citizens continued to express a desire for less development and redevelopment along the bay shore. The city responded by rejecting proposed plans for shopping malls and mixed-use developments in the area. Meanwhile, a housing project and existing houses that were rehabilitated for first-time, low-income buyers reinvigorated the concept of residential uses within the industrial district. Remaining industrial facilities were, in many cases, repurposed for lighter uses like office space, research and development labs, specialized retail, restaurants, and even live-work space. (Jorgensen-Esmaili and Manning, 1982) A few small clusters of truly heavy industrial uses remained.

Property History

Prior to 1943, the subject property was largely undeveloped, with only a couple of small residences and their auxiliary buildings fronting on Third Street. (Sanborn maps) The Pacific Steel Casting Company purchased the eastern portion of the current parcel from owners of the houses there in 1942 and, the following year, purchased the western portion of the parcel. (BAHA, Donough files) The property was thus added to the collection of multiple properties that the company owned and utilized along Second Street, between Gilman and Camelia streets. It was at this time, that ore bins, a storage shed/car shed, and a one-story office were built on the site. (BAHA; permits, Donough file)

Pacific Steel Casting continued to experience success and growth in the post-war years. A 1946 aerial image, substantiated by the 1950 Sanborn map, shows the current Building A in place. A two-car shed behind it (to its east) may be the current open shed that connects Buildings A and E. A brick and ore warehouse at the northwestern corner of the lot has either been replaced or modified as a portion of Building C. The primarily open yard between these structures was labeled “flask yard.” (NETR Online historic aerials, Sanborn maps) In 1947, a compressor room was added to the property and in 1950, alterations were made and a storeroom was added. (BAHA, Donough files)

Newspaper articles from 1947 and 1948 described Pacific Steel Casting's big electric furnace at 1333 Second Street, which used 18 to 20 different alloys to produce a ton-and-a-half of molten steel per hour for castings used in truck and trailer parts, gold and suction dredgers, and earth-moving units, as well as many items used in agricultural machinery. One article makes note of a small recession at the start of 1948, but reports that the company's president, Ivan Johnson, said business volume had rebounded and was greater than before the war, when the company primarily cast gun parts. At the time, J.D. Genger was also still involved with the company as vice-president, while F.E. Marquardsen was secretary-treasurer. Operating solely in Berkeley, the company employed 120 workers. (BAHA, Donough file; unk. newspapers, 20 May 1947 and 12 May 1948)

In 1953, a permit record indicates that a foundry building was constructed on the parcel, which may have been Building B. In 1954, some foundation work was completed and, in 1956, the pre-fabricated metal Butler Building at the northeastern corner of the property was added. In 1957 a steel tank was installed, and by 1958, aerial photos show all but Building D present and generally in their current configurations, although Building A did not yet connect to the shed behind it and apparently received a later addition at the rear, filling that gap. (NETR Online aerials, CoB permits)

Around 1974, Pacific Steel Casting was one of four steel foundries in Northern California and produced the majority of the region's steel products. (Blymer & Sons, 1974.) That year, the company took another leap in growth. The subject property became the shell mold casting foundry, which it remained until 1977, when that function was relocated to a site at Second and Page streets, now 1420 Second Street, known as Plant #2.

Sanborn maps from the 1980s show activities like heat treating, core manufacturing, and pattern storage happening at the subject property. Pacific Steel Casting retained the subject property and continued operating until 2014, when it was acquired by Speyside Equity, then closed in 2017. (Yarbrough, Brookshear, & Kendrick, 2017.)

Architects/Builders

Building permits for various structural portions of the property provide the following names of architects and builders:

Alben Froberg is listed as the architect for all portions of the property for which permit records are available. Froberg was educated at University of California, Berkeley, under John Galen Howard. He earned a civil engineering degree in 1913 and became a licensed architect in 1915. In 1920, he worked as a draftsman for San Francisco architect Frederick Whitton. He was eventually based in Oakland and appears to have worked solo at some points, but also partnered with builders Christensen & Lyons, especially the former Henry J. Christensen. *Building & Engineering News,* as far back as the late 1920s, shows Froberg and Christensen working together on projects. A number of building permits for properties in the Study Area that have dates into the 1940s, especially those associated with Pacific Steel Casting co., list Froberg as the architect and Chistiensen & Lyons as the builders. In most cases, the two parties shared a business address (a location in Oakland) indicating that they had a formal collaborative arrangement lasting for years.

Froberg's portfolio includes a number of commercial and industrial buildings in Oakland and Berkeley, including the Laher Auto Spring Company Factory (1925, 2619-25 Magnolia Street, Oakland), the Consolidated Freightways Warehouse (1940-41, 1700 24th Street, Oakland), the Connell GMC Pontiac Cadillac dealership (1947, 3093 Broadway, Oakland), I.B. Hoagie's building (1950, 1601 San Pablo Ave., Oakland), and industrial shipyard buildings in Alameda. Froberg's career spanned into the 1950s, and at least a few of his buildings exhibited the popular Streamline Moderne and Googie styles that were popular toward the end of his career. (Oakland Wiki)

As noted, Froberg often worked with builders Christensen & Lyons and may have even had a formal collaborative arrangement with them. Christensen & Lyons, itself was a partnership or collaboration between the H.J. Christensen Construction Co. and the N.E. Lyons Construction Co., which are listed together but as distinct companies on building permits (ie: a rubber stamp

used on the permits names both companies together). Like Froberg, Christensen & Lyons are listed as the builders of all elements of the subject property for which permits are available. The Froberg, Christensen & Lyons collaboration is also responsible for other projects in the Study Area. Other than the above information, little additional information was found about the Christensen & Lyons partnership. Projects of H.J. Christensen's listed in *Building & Engineering News* tend to focus on buildings with industrial and utilitarian uses.

Alterations

The following building permits and other records are on file with the City of Berkeley Department of Planning & Development and Berkeley Architectural Heritage Association. They provide documentation of alterations that the property has undergone throughout it's history:

Date	Permit #	Description of Work
27 Jan. 1943	53853	Two wood frame lean-to additions to north side of existing factory building at 1318 Second Street. Owner: Pacific Steel Casting. Architect: Alben Froberg. Builder: Christensen & Lyons.
27 Jan. 1943	53854	“Building #3” at 1318 Second Street. Construct one-story, 50 x 100, brick building. Owner: Pacific Steel Casting. Architect: Alben Froberg. Builder: Christensen & Lyons.
27 Jan. 1943	53855	Build one-story, 28 x 70, office building at 1333 Second Street. Concrete foundation, rustic siding, tar and gravel roof. Owner: Pacific Steel Casting Co. Arch/designer: Alben Froberg. Builder: Christiensen & Lyons.
3 March1943	53953	Build ore bins at 1319 Second St. Owner: Pacific Steel Casting Co. Arch/designer: Alben Froberg. Builder: Christiensen & Lyons.
29 June 1943	54371	Storage shed, 50x100, exterior galvanized iron. Owner: Pacific Steel Casting. Arch/designer: A. Froberg. Builder: Christensen & Lyons.
12 Sept. 1950	68236	22 x 64' shelter shed for ore storage; concrete floor, wood roof frame, composition roof; wood frame walls with galvanized iron cladding.
20 Oct. 1950	68476	New building.
8 Nov. 1954	76429	Foundation for machinery.
11 March 1960	89253	Stl. Building.
23 June 1960	89847	Enlarge heat treating building.
1 May 1951	97601	Extend metal building #6.
19 July 1963	98229	Add office to building #1. 10' x 28' addition.
11 May 1956	106126	Addition to building, 40' x 40' Butler type steel building, east end open to existing building.
25 April 1969	113934	Alteration.
7 July 1969	114392	Steel sand bin.
9 May 1973	537	Remodel molding station to accommodate equipment.
6 March 1978?	030678436	Add to existing building for new office.

In addition to or elaborating upon permit records above, it appears that Building A underwent an exterior remodeling, possibly in 1963 or 1978. This changed its stylistic appearance and included an addition to its east end, connecting it to the shed between it and Building E. The description of Building A on its original building permit included rustic siding, which is no longer evident. It was re-sided with the current wavy-edge asbestos siding and brick dado at the front, new plate glass windows and glazed entry assembly inserted, and the pent roof parapet added; all indicative of a 1960s or 1970s aesthetic.

California Register Evaluation

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 1333 Second Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The property was used by the Pacific Steel Casting Co. throughout its history. The Pacific Steel Casting Company was founded in 1935 and was substantial in terms of the size of its operations, but was not outstanding or influential within the industrial context that dominated West Berkeley and the East Bay shoreline, which included numerous other steel and metal-working plants. Heavy industry in West Berkeley had been established well before the founding of Pacific Steel Casting. The construction of the facility at 1333 Second Street in 1943, 8 years after the founding of Pacific Steel Casting and a late addition to its multi-property facilities, also occurred relatively late in West Berkeley's industrial history. It was built during the boom period of World War II, when West Berkeley industry was extremely active, but is one of many properties associated with that context.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. Ivan Johnson, J. D. Genger, and E. S. Shonk were the founders and original operators of the Pacific Steel Casting Company in 1935. They were successful Berkeley businessmen, but were not influential to the steel casting industry or commerce, locally or beyond. When the facility was built at 1333 Second Street in 1943, the three men were still leading the company and may have used the office on the site, but were probably not directly active in the steel-working activities that took place at the outlying property.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The majority of the buildings at 1333 Second Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. Building A exhibits some architectural style with aesthetic intent, but this is the result of remodeling and not authentic nor noteworthy as an example of that style. Building D is a Butler Building; a pre-fabricated "rigid frame" steel construction, which was developed by the Butler Manufacturing Company in 1940. (butlermfg.com) However, Building D was not added to the site until after 1958, so it is not an early or important example of a Butler Building and is a relatively common feature of mid to late-20th century industrial properties, many of which are still extant.

Architect Alben Froberg and builders Christensen & Lyons were involved with the design and construction of most of the built components that make up the property. While these designers and builders appear to have been active and successful professionals in Oakland and Berkeley, they do not rise to the level of "important creative individuals." Other better examples of Froberg's design and Christiensen's construction exist locally.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 1333 Second Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

Berkeley Landmark Evaluation

Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on

areas of significance. The following provides an evaluation of the historic significance of 1333 Second Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The majority of the buildings at 1333 Second Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. Building A exhibits some architectural style as the result of remodeling, but is not as authentic nor noteworthy example of that style. Building D is a Butler Building, but is not an early, unusual, or important example of the type. None of the buildings are the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. The architect and builders appear to have been active and successful professionals in Oakland and Berkeley, but do not appear to have been influential or considered important creative individuals. The property provides no exceptional architectural value to the neighborhood, thus, it does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City

Neither the construction of the buildings at 1333 Second Street, nor the property's ownership and use history, were influenced by religious, cultural, governmental, social, or economic events or developments in the area. The buildings were built in 1943 by the Pacific Steel Casting Company and used for shell mold casting and other steel working processes, auxiliary to the main plant. The industrial activities at the subject property do not appear to be associated with important economic development in Berkeley; therefore, the property does not appear to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3. Educational value: Structures worth preserving for their usefulness as an educational force

The property at 1333 Second Street does not appear to have any use as an educational tool, as it is not associated with important events or people, and is not outstanding as an example of industry or commerce in Berkeley. Numerous other properties could better illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 1333 Second Street does not reflect the industrial or commercial growth of Berkeley. The building's construction in 1943 occurred during World War II, but in addition to it not reflecting West Berkeley's initial industrial development it was a common and minor elements of its war-era boom. The building's owners and occupants do not appear to have been historically significant and no specific events of significance occurred at the property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 1333 Second Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

*1. **General Criteria** shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.*

As assessed under Berkeley Landmark criteria, 1333 Second Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and relatively late element of West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1333 Second Street would play a meaningful role. The city has numerous older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject property is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

Only some of the buildings of the approximately 20-building California Ink Company Industrial site might be contemporaneous with the buildings at 1333 Second Street; however, that Landmark also consists of other buildings that are older and newer, while other Landmarks in the area are also much older. Built in 1943, the construction of the buildings on the subject property does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 1333 Second Street. Three are smaller single buildings, while the two properties that are larger in area consist of multi-building complexes that have larger buildings and more extensive development than that at the subject property. Those two Landmark properties also exhibit somewhat utilitarian industrial design, but have much different character in terms of materials and overall design, giving the Landmarks and subject property few physical characteristics in common.

c. The structure is a good example of architectural design.

The buildings at 1333 Second Street are industrial in use and, consequently, utilitarian in architectural aesthetic; that is, they were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures they are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. The architect and builders that were involved with the property's design and construction do not appear to rank as important or influential designers or builders.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The property at 1333 Second Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a mid-20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1333 Second Street would play a meaningful role.

Integrity

In order to qualify for historic designation, a property must possess significance under the aforementioned criteria *and* have historic integrity. The building at 1333 Second Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion

Based on the above analysis, the property at 1333 Second Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource for the purposes of the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

Sources

1974 Blymer & Sons
"Pacific Steel Casting Co. Shell Foundry Facilities" (from CoB Planning files)

Butler Manufacturing, https://www.butlermfg.com/about/

1982 Karen Jorgensen-Esmaili and Stephanie Manning
Victorian Berkeley: The Community of Oceanview.

Oakland Wiki. https://localwiki.org/oakland/Alben_R._Froberg

2017 Yarbrough, E.; C. Brookshear, & S. Kendrick.
California Department of Parks & Recreation 523 Forms: Map Reference 7.

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Sanborn Fire Insurance Map archives via ProQuest and HIG
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

Current Images:

Building A, north and west facades, looking southeast from Second Street.

Building B, west and south facades, looking northeast from Second Street.

Building B, north facade, looking southwest from Second Street.

Building C, looking northeast from Second Street.

Eastern portion of Building C, looking east from Second Street.

Building D, looking northwest from Third Street.

Building E, looking southwest from Third Street.

Building key.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial NRHP Status Code	
Other Listings Review Code	Reviewer	Date

 ***Resource Name or #:** 1421 Second Street, Berkeley, CA

P1. Other Identifier: n/a

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Oakland West, Calif. **Date:** 2015 **T** ; **R** ; **¼ of** **¼ of Sec** **;** M.D. **B.M.**

c. Address: 1421 Second Street City: Berkeley Zip: 94710

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN: 59-2340-8-2

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property occupies an entire block bounded by Second Street on the west, Camelia Street on the north, Third Street on the east, and Page Street on the south. A single building fills the majority of the parcel. The building is one-story, double-height and has a generally square plan with appendages on the north and south sides. It is capped by a flat roof. The exterior walls are clad with corrugated metal, except for the northern appendage, which consists of concrete block construction.

The west facade faces Second Street. The northern appendage makes up the far left side of the facade and is set back slightly. It features two entrances at the first story that have fully-glazed, extruded aluminum frame entry assemblies. The two entrances are accessed by concrete steps and divided by a heavy pillar that supports and overhanging pent roof. A concrete block half-wall extends at a diagonal from the left side of the leftmost entryway. Above the pent roof are two sets of multi-part extruded aluminum sash windows. The remainder of the west facade, to the right of the appendage, consists of a blank unfenestrated wall. The entire facade terminates in a flat, unadorned roofline. (Continued)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
West facade, looking southeast; November 2022

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1981;
Yarbrough et al, aerial photos

***P7. Owner and Address:**
Berkeley Properties, LLC

***P8. Recorded by:** (Name, affiliation, and address)
Caitlin Hibma/Left Coast Architectural History

***P9. Date Recorded:** Dec. 2022

P10. Survey Type: Intensive

***P11. Report Citation:**
Gilman Gateway HRE

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 1421 Second Street, Berkeley, CA

B1. Historic Name: Pacific Steel Casting Co. Plant #3
B2. Common Name: None
B3. Original Use: Industrial **B4. Present Use:** Industrial
***B5. Architectural Style:** Industrial/utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Constructed 1981. (See Continuation Sheets for additional construction history.)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** n/a **Original Location:** n/a
***B8. Related Features:** None

B9a. Architect: Pacific Steel Casting Co. Staff **b. Builder:** Pacific Steel Casting Co.
***B10. Significance: Theme:** None **Area:** West Berkeley
Period of Significance: None **Property Type:** Industrial **Applicable Criteria:** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
At the time the Pacific Steel Casting Company's shell mold casting foundry was built at 1421 Second Street in 1981, the West Berkeley industrial district had already experienced its heyday and was in decline.

In 1970, the West Berkeley Redevelopment Project had initiated in an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Through the 1970s and 1980s, Berkeley citizens continued to express a desire for less development and redevelopment along the bay shore. The city responded by rejecting proposed plans for shopping malls and mixed-use developments in the area. Meanwhile, a housing project and existing houses that were rehabilitated for first-time, low-income buyers reinvigorated the concept of residential uses within the industrial district. Remaining industrial facilities were, in many cases, repurposed for lighter uses like office space, research and development labs, specialized retail, restaurants, and even live-work space. (Jorgensen-Esmaili and Manning, 1982) A few small clusters of truly heavy industrial uses, like those at 1421 Second Street, remained.

Property History
The property at 1421 Second Street, which comprises an entire block, has had numerous successive industrial uses since at least 1911 and probably earlier. Sometime after 1968, however; the entire block was cleared of previous structures. (NETR Online; 1968 aerial) In 1974 Pacific Steel Casting was granted a use permit for the current facility. (CoB) A 1980 aerial photograph shows the block mostly vacant; all previous structures having been razed. (Continued)

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial building

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks:

***B14. Evaluator:** Caitlin Hibma/Left Coast Architectural History

***Date of Evaluation:** November 2022

(This space reserved for official comments.)

P3a. Description: (continued)

The north facade faces Camelia Street and is an unfenestrated wall plane. On the left side, a metal platform supporting equipment and duct work extends from the facade. Near the center, a flat metal canopy supported by metal beams and roofed with corrugated metal extends from the facade. A small, low, flat-roofed, corrugated metal bay extends from the facade to the right of the canopy, and at the far right is the concrete block northern appendage, which is unfenestrated. The facade terminates in a flat, unadorned roofline, with metal duct work above the roofline.

The east facade faces Third Street. The facade is set back on the left side and otherwise consists of a blank plane. The setback left side features a low shed-roofed bay that is the east side of the southern appendage and has a canopy extending from it. To the right is a vehicular entrance with a roll-up metal door. To the right of that, there is a pair of vertical stacks or silos made of metal. The right side of the facade, that is not set back, features a tall vehicular entrance near the jog and a standard vehicular entrance at the far right. A metal platform, supporting two massive metal hoppers, sits in front of the majority of the right side of the facade. The facade terminates in a flat, unadorned roofline, with metal duct work and other equipment above the roofline.

The south facade faces Page Street. There are two vehicular entrances with a roll-up metal doors on the left side. The right side is dominated by the southern appendage, which has a vehicular entrance with a roll-up metal door on its west-facing wall. An low bay and shed-roofed canopy extend from the left side of the appendage's south wall. A vehicular entrance is near the center and equipment sits against the right side of the facade. The main facade and the appendage have flat, unadorned rooflines.

(See following sheets for current images)

B10. Significance: (continued)

Only scattered small structures or pieces of equipment were located at the northwest corner, center of the block, and at the southern end. (NETR Online; 1980 aerial) In 1981, the current building was constructed, filling most of the block. (NETR Online; 1982 aerial) The property was owned by the Pacific Steel Casting Company, which had its main facilities at 1320 Second Street and on other nearby properties. Sanborn maps from the 1980s identify the subject property as Pacific Steel Casting Plant #3.

Pacific Steel Casting was founded in 1935, weathered Depression, war, post-war decline, and by 1974, was one of four steel foundries in Northern California that produced the majority of the region's steel products. (Blymer & Sons, 1974.) That year, the company expanded to a site south of their original location, at Second and Page streets, now 1420 Second Street. Known as Plant #2, that property became the shell mold casting foundry in 1977; relocated from 1333 Second Street. However, in 1981, the subject property became the shell mold casting foundry, known as Plant #3. (Sanborn map, 1980)

The shell mold casting method had been developed by Pacific Steel Casting in 1960 and was a superior and more prolific method compared to sand casting, although it involved similar processes. Shell mold casting involved the production of small precision castings in large quantities on a production line basis. Sand was received at the facility by truck and rail and stored in 120-ton bins on the site. The sand was mixed with small quantities of resin and put in molds made from parts patterns. The assembled molds were filled with molten steel made from raw steel, scrap, and rejected product. The facility included an electric arc furnace that melted these items down. A conveyor belt carried the shell molds full of molten steel through a cooling tunnel, which eventually deposited them in a shake-out area, where sand and steel were separated. A Rotoblast machine removed any excess sand from the castings, which then went on to additional cleaning, saw/grinding/cutting, and heat treating stations. The shell mold casting facility also included extensive dust control and ventilation systems. (Blymer & Sons, 1974.)

Pacific Steel Casting operated until 2014, when it was acquired by Speyside Equity, then closed in 2017. (Yarbrough, Brookshear, & Kendrick, 2017.)

Architect/Builder
Archival research did not reveal an architect or builder associated with the property. As with many of the Pacific Steel Casting Company's other buildings, the building was constructed by staff designers/engineers/builders of the company, itself. (Yarbrough, Brookshear, & Kendrick, 2017.)

Alterations
Records of the City of Berkeley Department of Planning & Development provide the following information about alterations that the current building has undergone since its construction:

Date	Permit #	Description of Work
1998	Unknown	Build metal canopy for exterior storage.
2006	UP#06-10000045	Construct carbon absorption system.

California Register Evaluation

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 1421 Second Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The Pacific Steel Casting Company was founded in 1935 and was substantial in terms of the size of its operations, but was not outstanding or influential within the industrial context that dominated West Berkeley and the East Bay shoreline, which included numerous other steel and metal-working plants. Heavy industry in West Berkeley had been established well before the founding of Pacific Steel Casting. The construction of the shell mold casting foundry at 1421 Second Street in 1981, 46 years after the founding of Pacific Steel Casting and a very late addition to its facilities, also occurred extremely late in West Berkeley's industrial history, as such uses were rapidly declining in the area. This makes the subject property something of an anomaly within the area's industrial development context, inconsistent with the patterns of industrial growth and decline.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. Ivan Johnson, J. D. Genger, and E. S. Shonk were the founders and original operators of the Pacific Steel Casting Company in 1935. They were successful Berkeley businessmen, but were not influential to the steel casting industry or commerce, locally or beyond. By the time the shell mold casting facility was built at 1421 Second Street in 1981, the company had grown well beyond their involvement and the three men were most likely retired or deceased. Additionally, neither they, nor any others associated with Pacific Steel Casting, are known to have been active or directly association with the outlying property that was separate from Pacific Steel Casting's original main facility.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The building at 1421 Second Street is industrial in use and, subsequently, utilitarian in architectural aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction and it is likely that staff of the Pacific Steel Casting Company handled design and construction of the building in-house to fit their uses.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 1421 Second Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

Berkeley Landmark Evaluation

Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 1421 Second Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more

notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The building at 1421 Second Street is of common and unremarkable utilitarian construction. It was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure it is common and unremarkable within its context with no distinctive characteristics that would make it a notable or important example of its period, style, or construction. It is not the first, last, only, or most significant example of industrial or utilitarian architecture in West Berkeley. No architect or builder were known to be involved with its design or construction. It provides no exceptional architectural value to the neighborhood, thus, the property does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City

Neither the construction of the building at 1421 Second Street, nor its ownership and use history, were influenced by religious, cultural, governmental, social, or economic events or developments in the area. It was built in 1981 by the Pacific Steel Casting Company, which was a substantial industrial operation in Berkeley during its heyday, but by 1981 was in decline, as was the surrounding industrial district. The construction of the subject building was almost antithetical to the decline in industry and commerce that was happening in West Berkeley at the time and, therefor, the property does not appear to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3. Educational value: Structures worth preserving for their usefulness as an educational force

The property at 1421 Second Street does not appear to have any use as an educational tool, as it is not associated with important events or people, and is not outstanding as an example of industry or commerce in Berkeley, especially having been built so late in the timeline of the area's industrial history. Numerous other properties could better illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 1421 Second Street does not reflect the industrial or commercial growth of Berkeley. The building's construction in 1981 was almost antithetical to the decline in industry and commerce that was happening in West Berkeley at the time and, therefore, it does not accurately express the city's industrial or commercial history. The building's owners and occupants do not appear to have been historically significant or have any noteworthy accomplishments to their names and no specific events of significance occurred at the property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 1421 Second Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, 1421 Second Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and relatively late element of West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1421 Second Street would play a meaningful role. The city has numerous older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject building is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

Only some of the later buildings of the approximately 20-building California Ink Company Industrial site appear to be contemporaneous with the building at 1421 Second Street; however, that Landmark also consists of other buildings that are older, while other Landmarks in the area are also much older. Built in 1981, the construction of the subject building does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 1421 Second Street. Three are smaller buildings than 1421 Second Street, while the two properties that are larger in area consist of multi-building complexes that are not comparable to the large single building on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but have much different character in terms of materials and overall design. Giving the Landmarks and subject building few physical characteristics in common.

c. The structure is a good example of architectural design.

The building at 1421 Second Street is industrial in use and, subsequently, utilitarian in architectural aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The building at 1421 Second Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a late 20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1421 Second Street would play a meaningful role.

Integrity

In order to qualify for historic designation, a property must possess significance under the aforementioned criteria *and* have historic integrity. The building at 1421 Second Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion

Based on the above analysis, the property at 1421 Second Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource for the purposes of the California Environmental Quality Act (CEQA).

Sources

1974 Blymer & Sons
"Pacific Steel Casting Co. Shell Foundry Facilities" (from CoB Planning files)

1982 Karen Jorgensen-Esmaili and Stephanie Manning
Victorian Berkeley: The Community of Oceanview.

2017 Yarbrough, E.; C. Brookshear, & S. Kendrick.
California Department of Parks & Recreation 523 Forms: Map Reference 7.

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Sanborn Fire Insurance Map archives via ProQuest and HIG
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

Current Images:

West facade, looking southeast from Camelia and Second streets.

Northwest corner and primary entrance, looking southeast from Camelia and Second streets.

North facade, looking southwest from Camelia Street.

Northeast corner, looking southwest from Third and Camelia streets.

East facade, looking southwest from Third Street.

Southwest corner, looking northeast from Second Street.

South facade, looking east from Second Street.

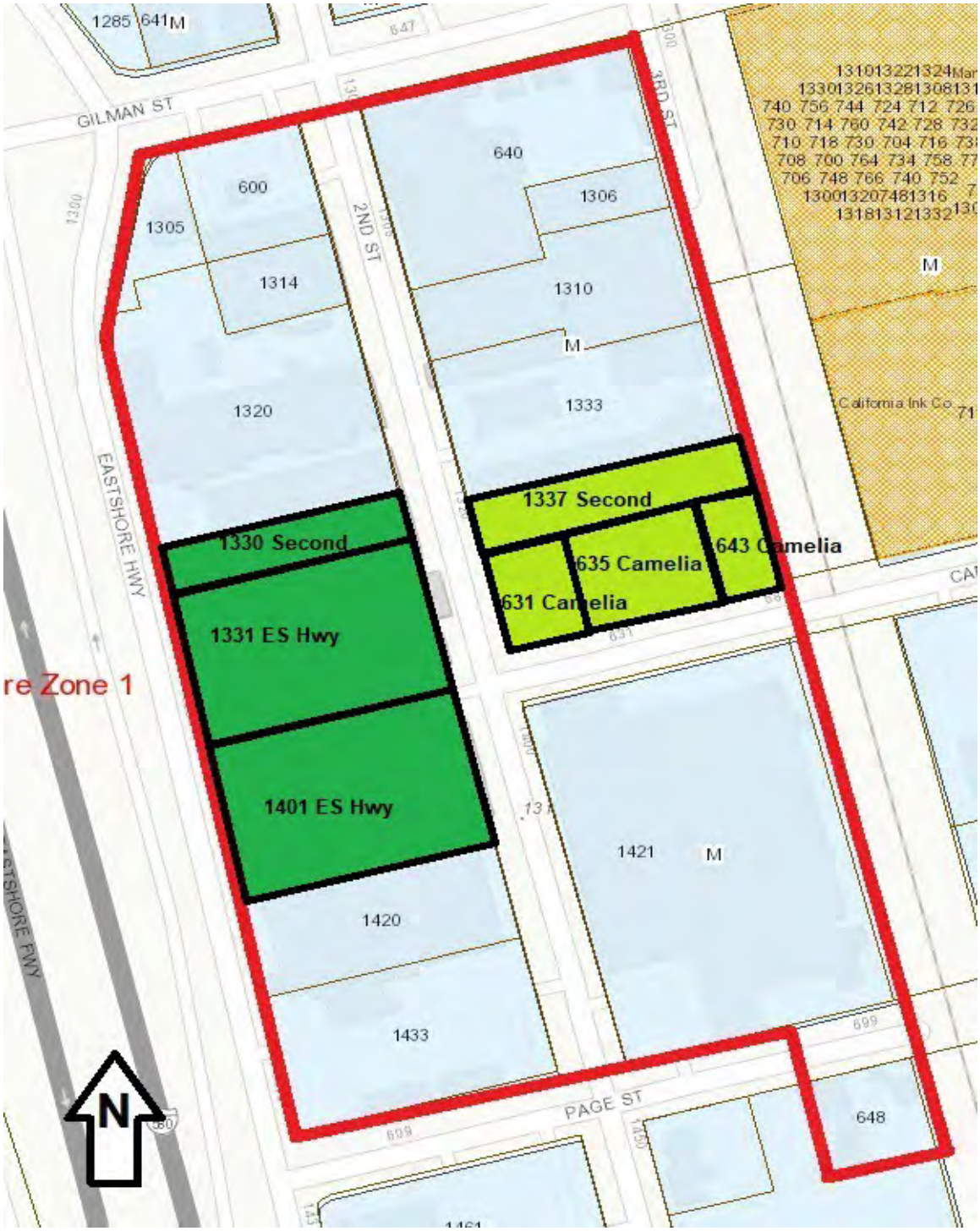
Right side of south facade, looking northeast from Page Street.

APPENDIX FIVE

California Department of Parks & Recreation 523 Forms

Berkeley Steel Construction Company

Berkeley Steel Construction Co. 2018 Caltrans DPRs
Berkeley Steel Construction Co. 2022 Update
1337 Second Street
631 Camelia Street
635 Camelia Street
643 Camelia Street



Berkeley Steel Construction Co. & Associated Properties
DPR 523 Forms follow
(Berkeley Steel parcels in dark green, associated properties in light green)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

***Resource Name or #** (Assigned by recorder) Map Reference 6

P1. Other Identifier: Berkeley Steel Construction Co. Complex

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Alameda
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Richmond, CA. **Date** 1995 **T** __; **R** __; __ ¼ **of Sec** __; __ **B.M.**

c. Address 1330 2nd Street and 1331 Eastshore Highway City Berkeley Zip 94710

d. UTM: (give more than one for large and/or linear resources) Zone 10; _____mE/ _____mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Numbers (APN): 59-2344-5-1, 59-2344-7, and 59-2341-4; Elevation: 10 feet amsl

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Berkeley Steel Construction Company (Berkeley Steel) complex includes seven buildings bound by Eastshore Highway on the west, Second Street on the east, and the Pacific Steel Casting Company complex to the north and south (**Photograph 1**). Established at this location in 1924, Berkeley Steel was later bought by Berkeley Forge and Tool, which continues to operate out of this facility. For descriptive purposes on this form, the buildings that comprise the complex are designated Buildings A through G (see **Site Map** and **Table 1**; see Continuation Sheet).

***P3b. Resource Attributes:** (List attributes and codes) HP8-Industrial building; HP4-Ancillary building; HP6-Commercial building

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, **accession #) Photograph 1:** Complex along 2nd Street with Building G on the left, facing northwest, December 7, 2017.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1924 -1950 (see table in B6)

***P7. Owner and Address:**
Berkeley Tool and Forge
1331 Eastshore Highway
Berkeley, CA 94710

***P8. Recorded by:** (Name, affiliation, address)
Cheryl Brookshear & Shelby Kendrick
JRP Historical Consulting, LLC
2850 Spafford St., Davis, CA 95618
Edward Yarbrough & Michael Ciani
Garcia and Associates
1 Saunders Ave, San Anselmo, CA 94960

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Siskin, B. et al., 2018. Historical Resources Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project, prepared by Garcia and Associates, JRP Historical Consulting, LLC, and InContext for Caltrans District 4.

***Attachments:** ☐ None ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list)

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Map Reference 6

B1. Historic Name: Berkeley Steel Construction Company

B2. Common Name: Berkeley Forge and Tool, Inc.

B3. Original Use: Industrial B4. Present Use: Industrial

***B5. Architectural Style:** Industrial

***B6. Construction History:** (Construction date, alteration, and date of alterations) The Berkeley Steel complex was developed in phases: with construction occurring between 1924 and 1993, and alterations occurring through 1993; see Continuation Sheets and Table 2 for building history itemized by building.

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A

***B8. Related Features:** None.

B9. Architect: unknown b. Builder: various (see Continuation Sheet)

***B10. Significance: Theme** Manufacturing **Area** Berkeley, California

Period of Significance 1920-1948 **Property Type** Industrial **Applicable Criteria** N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The property at 1330 2nd Street and 1331 Eastshore Highway does not meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) because it is not significant within the context of the metal-working industry at the local, state, or national level. This property has also been evaluated in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code and is not an historical resource for the purposes of CEQA (see Continuation Sheets).

B11. Additional Resource Attributes: (List attributes and codes) _____

***B12. References:**

County Assessor records, newspaper articles, city building permit files, Sanborn maps, and historic aerials; see Continuation Sheet, section B12.

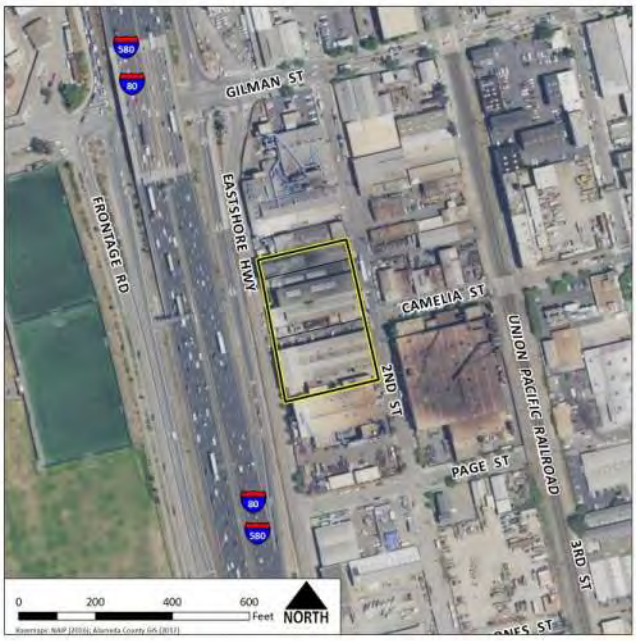
B13. Remarks:

***B14. Evaluator:** E. Yarbrough; Cheryl Brookshear and Samuel Skow

***Date of Evaluation:** December 2017

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



P3a. Description (continued):

Table 1: Building Naming Conventions[1]

JRP Assigned Building Names	Built Date*	Address	Function
A	1992-1993	1330 Second Street	Ancillary Warehouse
B	ca. 1993	1331 Eastshore Highway	Ancillary Warehouse
C	1924-1928	1331 Eastshore Highway	Central Forge
D	ca. 1948	1331 Eastshore Highway	Office Building
E	1924-1928	1331 Eastshore Highway	Ancillary Warehouse
F	1924-1928	1331 Eastshore Highway	Office Building
G	1924-1929	1401 Eastshore Highway	Warehouse

Building A measures approximately 45 feet by 230 feet between Second Street and Eastshore Highway, just south of the Pacific Steel Casting Company complex (see "Pacific Steel Casting Company Complex" DPR 523 form attached to reported cited in P11). Facing Second Street, the warehouse is a single-story, front-gable building with roll-up doors and replacement corrugated metal siding. The northern side of the roof is extended an extra several feet to cover external equipment **(Photograph 2).** The western half of the building is two stories tall with a monitor roof that has wide overhanging eaves, original corrugated metal siding, a large industrial overhead door **(Photograph 3).**

Building B is a warehouse that currently measures 35 feet north-south and 225 feet east-west. It is one story tall with corrugated metal siding and roofing. Like Building A, the siding has been replaced on the east façade, but original siding is present on the west. The eastern edge of the roof has been raised and altered to an irregular roof shape **(Photograph 2).** The western side has a gable roof with two shed-roof additions. The north addition is two-stories that connects to Building A and the south addition. The south addition is one story and extends across the west side of Building C to connect to the north side of Building D **(Photograph 3).** Next to the western walls are external equipment. Building B appears to have at least a partially-open plan between it and Building C to the south.

Building C, the central foundry structure fronting onto Second Street, is a three-story open warehouse that measures about 225 feet long and 42 feet wide. It has a shallow-pitched, gabled roof with corrugated metal siding. The roof overhangs onto Second Street to create a shelter over the five-ton central crane beam. Mid-way up the south side of the structure is a continuous band of multi-light, metal-framed industrial windows. The north side also lets in natural light with fiberglass translucent panels **(Photographs 4-6).** The western wall is unadorned and abuts the southern addition of Building B **(Photograph 3).**

Building D is a two-story, wood-frame office building clad in stucco with a wood-shingle, mansard roof. It measures approximately 50 feet wide along Eastshore Highway and 35 feet deep until it joins Building E on its eastern wall. The second story has seven double-hung windows cut into the mansard roof on the western wall, two on the northern wall, and four on the southern wall. The western façade has a plywood decorative band between the row of windows on the top and bottom floors. It also has a centered, recessed doorway that has glassblock sidelights, as well as a small and a large multi-pane casement window on either side. Above the doorway is a wooden shingle mansard decorative awning to match the roof **(Photograph 7).** Building D connects to the south addition of Building B on the north wall and Buildings C and E on the east wall **(Photograph 8).**

Building E is a narrow, one-story warehouse measures approximately 180 feet east-west by 40 feet north-south. It does not have a façade that is visible from the public right-of-way, but the northern wall has a corrugated metal roofed lean-to **(Photograph 9).**

[1] Built dates obtained from County Assessor records, newspaper articles, city building permit files, Sanborn maps, and historic aerials.

Building F is a two-story, stucco-clad office building fronting Second Street with a narrow mansard roof. It has three single-pane, double-hung windows in the upper story. The bottom story, including the south addition, has two doorways, two sets of large sliding windows covered by metal grates, and a small double hung window. The north section is one story with a flat roof and cladding to match the main structure. The southern addition has a metal frame and shed roof with metal groove siding **(Photograph 9).**

Building G has a rectangular footprint with a side-gable on the western end and two front gables with a crane canopy on the east end **(Photograph 10).** The canopy has concrete supporting posts, high wooden bands, and diagonal wooden rafters **(Photograph 11).** Most of the building has corrugated metal siding, save for the eastern wall, which has metal groove siding. The eastern wall has a single overhead industrial door. The northern wall has a band of twelve light industrial sash windows that face a parking lot south of Building E **(Photograph 10).** The western, side-gabled portion of the building is three stories with several ribbons of industrial sash casement windows on all sides and a two-story, shed-roof addition on the east side that looks out into a loading area **(Photograph 12-14).** Just east of the loading area on the south wall is a large corrugated metal shed roof addition next to an older gable roof addition on the eastern half of Building G **(Photograph 12).**

*B6. Construction History (continued):[2]

Table 2: Building Construction History

JRP Assigned Building Names	Built Date*	Historic Building Use	Builder	Alterations*
A	1992-1993	Machine Shop	Berkeley Forge & Tool	No known alterations
B	ca. 1993	Forge Office	Berkeley Forge & Tool	Roof alteration on east side at unknown date; two shed roof additions on west side at unknown date
C	1924-1928	Central Foundry	Berkeley Steel	No known alterations
D	ca. 1948	Office	Berkeley Forge & Tool	Mansard siding on roof added in 1978
E	1924-1928	Pattern Shop with Office	Berkeley Steel	Multi-paned windows replaced with corrugated metal siding on south wall at unknown date; shed-roof additions constructed on south wall 1980-1993
F	1924-1928	Office	Berkeley Steel	Roof replaced in 1948
G	1924-1929	Airplane Factory/Warehouse	Berkeley Steel	Storage warehouse constructed with on east wall in 1945; metal-seam eastern façade altered and replacement overhead industrial door installed at unknown date

[2] Built dates obtained from County Assessor records, newspaper articles, city building permit files, Sanborn maps, and historic aerials.

B10. Significance (continued):

Historic Context

The Berkeley Steel Construction Company (Berkeley Steel) began operating at this West Berkeley location near the main Southern Pacific rail line and the bay shore in 1924. Berkeley Steel was a successor company to an older iron works that had also been located in West Berkeley. Like most of the shorefront businesses in Berkeley, these companies were attracted to the location by access to marine and rail transportation, and the city of Berkeley continued to fill the salt flats west of Front and Second streets in and around the Project Area of Potential Effects (APE) cited in P11 in the first decades of the twentieth century to accommodate this continued demand for manufacturing sites (Martin 2000). Initially, much of the fill was dumped informally and flats filled with household and business waste (*San Francisco Call* 1908 Mar 26; Sorensen n.d.). By 1931, the area between Codornices Creek and the foot of Gilman Street (approximately where the Golden Gate Fields stables are presently located) was filled. The short-lived Berkeley Municipal Airport was established in the first of these filled areas, but was gone by the mid-1930s and replaced by the racing facilities of the Golden Gate Turf Club – later known as Golden Gate Fields (*San Francisco Chronicle* 1928 July 31; *Oakland Tribune*, 1939 Aug 1 and 1939 Nov 20; also see Map 2).

By 1929, there were 173 manufacturers in the City of Berkeley, which employed about 29 percent of the working population, similar to statistics for Oakland and San Francisco (City of Berkeley 1993). These Berkeley businesses produced a wide variety of products with no single industry monopolizing production (WPA 1941: 118). National brands producing goods in Berkeley included Heinz 57, Colgate-Palmolive, and Cutter Laboratories, all located along the railroad south of University Avenue and outside the area studied (see P11). Additions to the West Berkeley area during this time included the Woolenius Tile Company, the Berkeley Flour and Apple Paring Mill, the Commercial Acetylene Supply Company, the Tuttle Manufacturing Company, the Pacific Steel Casting Company, and the A. Lietz Company (see DPR 523 form "Pacific Steel Casting Company" attached to report cited in P11). Between 1929 and 1948 several other metal related industries located along Gilman and 2nd streets, in and near the APE (for project cited in P11) because of access via rail to the deep-water ports of Richmond and Oakland (Walker 2005; *Oakland Tribune* 1934 May 22). Owing to the limited shipping capabilities of the wharf in Berkeley, and the contemporaneous expansion of the Port of Oakland, steel companies in West Berkeley relied heavily on access to the Southern Pacific Railroad for shipping products to the Oakland and Richmond ports until the Eastshore Highway (later known as I-80) was completed in 1937.

By 1930, companies in the APE (for project cited in P11), such as Berkeley Steel recorded on this form, were shipping and receiving globally, transporting huge volumes of raw goods, as well as tanks, pipes, mining equipment, and other steel components via the Southern Pacific Railroad and Port of Oakland. The raw steel for many of these products came from the cities of Pittsburg and Baltimore via the Southern Pacific Railroad spur running along Second Street (*Oakland Tribune* 1931 Apr 12 and 1924 May 4). After manufacture, the finished products were loaded onto the train for overland delivery or for transshipment via the Port of Oakland, to Mexico, Russia, Hawaii, Seattle, and Portland (*Oakland Tribune* 1924, 1927, and 1928).

The 1930s saw significant developments in the infrastructure of West Berkeley. In 1937, the Works Progress Administration (WPA) constructed a breakwater along the East Bay shoreline as part of the East Shore Highway (Chavez and Hupman 2000). South of the APE, near University Avenue, the WPA also constructed the Berkeley Aquatic Park and Berkeley Marina (Bradley and Corbett 1999). California Division of Highways (precursor to Caltrans) completed the East Shore Highway (later known as I-80) in 1937, which increased commercial distribution opportunities for manufacturers in West Berkeley. Completion of the Oakland Bay Bridge in 1936 further connected West Berkeley with the rest of the Bay Area; however, the railroad remained the primary mode of product distribution. Through the 1920s, the Southern Pacific railroad installed new spurs extending from the main line east along Harrison Street, with spurs to individual blocks and parcels along 5th, 8th, and 10th streets opening more area to industrial development in the 1930s (Fairchild Aerial Surveys 1931: 41 C-1820; USGS 1946).

Thanks in part to the zoning implemented in 1916, West Berkeley development in and around the APE for the project cited in P11 largely confined factories to the area along the railroad and waterfront west of Fourth Street and north and south from Harrison to the Emeryville border. Residences and community buildings were found a bit farther inland, east from Fourth Street to Tenth Street; and a commercial district situated north and south on both sides of San Pablo Avenue (Chavez and Hupman 2000; Sanborn Vol 1, 1911: 12-13; Sanborn Vol. 3, 1929:320). The APE west of Second Street gained a single industrial plant between 1911 and 1929: the Berkeley Steel complex recorded on this form. While metalworking industries that produced machinery for packaging, road grading, clothes washing, canning, and chemicals, as well as boilers, engines, turbines, and cast parts centered around the Port of Oakland, some steel producers located in Emeryville and West Berkeley (Walker 2005; *Oakland Tribune*, 1934 May 22). These early foundries were followed by other steel producers that included galvanizing and tinning shops, welding and supply warehouses.

Between 1910 and 1930, Berkeley's industrial expansion resulted in the building out of the coastal area south of University. The area around Gilman Street continued to industrialize slowly and manufacturing businesses took the place of some residences. Scattered development included the Berkeley Flour Mill and the Woolenius Tile Company moved onto the east side of Second Street near Camelia Street and Page Street respectively. This development replaced the few dwellings south of Gilman Street between Second and Third streets that had been occupied by workers or night-watchman for the various industries in the area, while most residential buildings in West Berkeley were southeast of the APE, particularly east of Fifth Street, west of San Pablo Avenue, south of Camelia Street, and north of University Avenue. Prior to 1929, Sanborn Insurance maps indicate no development worthy of insuring was west of Second Street within the APE (Sanborn 1911, Vol. 1, Sheets 11-13). However, by the early 1920s, Berkeley Steel had built a facility on the northwest corner of Second and Camelia streets in the APE. The company also built a small airplane factory on the southeast corner of First and Camelia streets next to the Berkeley Flour and Apple Paring Mill. An additional steel-working facility operated by the Pacific Steel Casting Company was constructed north of and adjacent to the Berkeley Steel complex at the southwest corner of Gilman and Second streets by the mid-1930s (see DPR 523 form "Pacific Steel Casting Company" attached to report cited in P11).

World War II spurred rapid growth in all sectors of the economy in the San Francisco Bay area. Before and during the war, the War Department established military facilities throughout the Bay Area including Naval Air Station Alameda; Oakland Naval Supply Center; Oakland Army Base; San Francisco Naval Shipyard; and Treasure Island Naval Shipyard, to name just a few. In Berkeley, the US Navy took over the Golden Gate Fields property and used it as Naval Force Equipment Depot No. 3 (*Oakland Tribune* 31 December 1946). The leading industry in the Bay Area during World War II was shipbuilding. Would War I had launched the industry in Oakland, but World War II outpaced previous production, supported in part by the Merchant Marine Act of 1936 that provided federal funding for construction of American ships, as well as wartime Lend Lease policy providing ships to Britain and "the Bay Area had become the greatest shipbuilding center the world has ever seen, before or since" (Wollenberg 2008: 112). The Moore Dry Dock Company was joined by other shipbuilders in Oakland, as well as new "instant shipyards" in Alameda and Richmond. Shipyard employment ballooned from 5,000 workers in 1939, to 240,000 workers in 1944. The massive shipbuilding effort had a direct and immediate impact upon workers in the trades associated with ship construction. The Kaiser Shipyards in Richmond did not exist at the beginning of the war and by 1943 employed 100,000 workers (Wollenberg 2008: 110-112; Johnson 1993: 32-33, 62; Bagwell 1982: 236).

Other defense related industries grew along with the rapid growth of the shipyards. Companies in Alameda County alone had five million dollars' worth of prime, non-shipbuilding contracts and two million dollars of non-shipbuilding subcontracts. Food packing and production was the second largest industry in the area by value, with 60 percent of production coming from Oakland canneries. Smaller manufacturing companies, like those located in the APE for the project cited in P11, produced various parts and pieces needed for munitions, equipment, troops, and offices (Bagwell 1982: 236). Otherwise, Berkeley was only tangentially associated with the major shipbuilding industries. Most of Berkeley's contribution was housing (in areas near, but outside the APE) many of the workers who arrived in the Bay Area to work in the shipyards and other industries. The streetcar systems in Berkeley linked the residential areas with the large shipyards in Oakland and Richmond. The lack of a deep-water port reduced Berkeley's ability to participate in shipbuilding efforts; however, Berkeley Steel was able to cobble together a small, single berth "shipyard" at the foot of University Avenue, outside the APE to the south, where it built a tug boat for the Panama Canal. In general, Berkeley's factories associated with

national companies, such as Colgate-Palmolive, Heinz, and Cutter Laboratories, were not associated with shipbuilding and contributed to other facets of war time production (Wollenberg 2008: 112; *Berkeley Daily Gazette* 1942 Jan 7).

Physical growth of industry in Berkeley was limited because the site was surrounded by the shoreline and existing highway and rail corridors, and burgeoning war housing projects. During the war the city made no concerted effort to fill in the salt marshes along the shore, and without filling the salt marshes there was little room for manufacturing plants to grow. Existing industries producing goods needed for the war effort were able to add to their existing facilities and generally expanded within their parcels during this period. As a result of these limitations, industry remained distributed among other uses along Berkeley's shoreline. Within the APE, Berkeley Steel was able to add to its existing facilities, but land to the south and north remained salt marsh (Sunderland 1947).

Following World War II, East Bay industries, including those in Berkeley, needed to reconfigure for peacetime. Berkeley faced increased competition from Oakland and Richmond, both of which were able to establish new industrial parks by the early 1960s. These parks were zoned to allow for very large, one-story plants that reduced material handling and increased productivity. The available lots were large and unencumbered by previous development and allowed Oakland and Richmond to "poach" industry from Berkeley, which could not offer such spacious sites. Berkeley's shore line industrial area still included a mixture of industry and worker housing in a layout that dated from the late nineteenth and early twentieth century. While some small lots were available, they rarely included sufficient room for the new model of industry. The Berkeley master plan of the 1950s anticipated filling additional tidal marsh and receiving new areas granted to the city from the state, but environmental concerns, however, nullified this plan. New industry was then faced with trying to cobble together parcels amid previously existing development. Consequently, industry in Berkeley declined and by the turn of the twenty-first century, many industrial buildings began to be adaptively reused for commercial retail and residential purposes (Wollenberg 2008: 130; Sullivan 1963: 2-3; Fultz 1962: 1-2).

Beginning in the 1980s and continuing into the present, commercial enterprises, residential conversions, and mixed-use projects have adaptively reused several industrial buildings to the east of the APE for the project cited in P11. During the past 30 years, Public Storage, the Woodbank, and the Berkeley Recycling Center have built or significantly altered large warehouses north of Gilman Street along the railroad. Complaints about odors and other environmental concerns about industrial facilities in the area have resulted in the replacement of equipment and installation of protective measures, while others have closed or changed businesses. Berkeley Steel, now Berkeley Forge and Tool, and other similar businesses continue to face increasing pressure from surrounding residents, as well as changes to neighboring business through the adaptive reuse of surrounding industrial buildings.

Berkeley Steel Construction Company

The Berkeley Steel Construction Company was incorporated June 1, 1923, as a reorganization of the Berkeley Iron Works, a local foundry established before 1904 on Second Street between Page and Camelia streets, one block southeast of the current facility. Founded by brothers Thomas S. and Duncan S. Neilson, Berkeley Steel reported a 120 percent production increase within the first year of operations. Productivity increased further with the construction of the modern plant, which included a new $15,000 machine shop and foundry building (**Plate 1**), two giant travelling cranes, and an expansion of the parcel to 2.5 acres (ultimately expanded to four acres by 1931). The shop was reportedly the first electrically welded building west of Pittsburgh, Pennsylvania to carry heavy-load electric cranes (**Photograph 5**). The company initially imported steel from eastern refineries in Pittsburgh, Pennsylvania and Maryland, manufactured steel tanks, boilers, pipes, fumigating plants, and mining equipment, and, according to the *Oakland Tribune*, "pioneered the electric welding of tanks when other companies were riveting them." The electric welding work was an application of technology developed in the 1880s and widely adopted for increased productivity in various types of manufacturing during World War I. In addition to making steel products, Berkeley Steel also managed a construction crew that performed repairs throughout the region. By 1930, the company manufactured steel products for distribution throughout the Pacific Coast, Hawaii, Mexico, and Canada, and had shipped products as far as Japan, Russia, Australia, and South Africa (California Secretary of State N.D.; *Berkeley Daily Gazette* 1904 Nov 12, 1923 Dec 17, 1924 Jan 1, 1924 Mar 4; *Oakland Tribune* 1924 May 4, 1928 Sep 2, 1930 Aug 31; Cary 1998).

In the years leading up to World War II, Berkeley Steel, like other Bay Area foundries, manufactured items for the war effort. The firm produced a variety of steel products, including machinery, buoys, storage tanks, cargo vessels, and others used by the allied forces. To accommodate its ship-related work, Berkeley Steel used a part of a former lumber yard site at the foot of Delaware Street near the original Berkeley landing. This was reportedly the only shipbuilding yard within Berkeley's city limits. By the end of the war, the firm had grown substantially, from a crew of 10 employees to over 250, and had constructed several additional buildings on the plant site, including two offices (Buildings B and D) and a large warehouse (eastern portion of Building G; **Plate 2**). Berkeley Steel operated until it was sold at auction in 1973, and the company ultimately dissolved in 1976. The plant site is currently owned and occupied by Berkeley Tool & Forge, Inc., another local foundry established in 1961 (*Berkeley Daily Gazette* 1941 Nov 10, 1948 May 12; *Oakland Tribune* 1973 Feb 4; California Secretary of State N.D.).

Plate 1. Published rendering of Berkeley Steel plant, 1928, facing northwest (*Oakland Tribune* 1928 Sep 2).

Major projects undertaken by Berkeley Steel include the manufacture of several products: an emergency supply pipeline for the City of San Francisco, under contract with the East Bay Municipal Utilities District; the steel forms used in the construction of the Broadway Tunnel through the Berkeley Hills; two all-steel tugboats for the U.S. Army Corps of Engineers (USACE) for deployment at the Panama Canal Zone; the all-diesel motorship *Putah*, a utility ship commissioned by the USACE; numerous landing craft deployed during the D-Day Invasion; components of the San Francisco-Oakland Bay Bridge; component parts (principally radial floodgates) for the Boulder, Bonneville, Shasta, Grand Coulee, Nimbus, and Thermalito Diversion dams; and partial fabrication of the University of California's famous Cyclotron (*Oakland Tribune* 1931 Apr 12, 1936 Jan 12; *Berkeley Daily Gazette* 1940 Sep 18, 1942 Jan 7, 1944 Jan 10, 1948 May 12; *Bakersfield Californian* 1952 Aug 16; *Hayward Daily Review* 1964 Nov 17).

Born in Greenock, Scotland in 1884, Thomas S. Neilson was involved in several ventures in Berkeley in addition to his work with Berkeley Steel. In 1928, he established the $1,000,000 Neilson Steel Aircraft Corporation, which manufactured a three-passenger dual-control monoplane—the *Golden Bear*—that was reportedly the first all-metal plane with welded parts produced in the U.S. This plane was produced in the western end of Building G. To supplement his airplane construction, Neilson also contributed funds to develop a 70-acre aviation site, which included three runways. However, the airfield was discontinued about eight years later with the construction of the WPA-built Eastshore Highway in 1936. Neilson was a member of the American Society of Mechanical Engineers, the Lions Club, and was a founding director of the Bank of Berkeley, former president of the Berkeley Chamber of Commerce, and a director of the East Bay Municipal Utilities District. Thomas Neilson died in 1957 (S. J. Clarke Publishing Co. 1928: 433-434; *Oakland Tribune* 1928 Nov 2, 1931 Apr 12, 1957 Apr 27; Rosen 2006: 1 and 3).

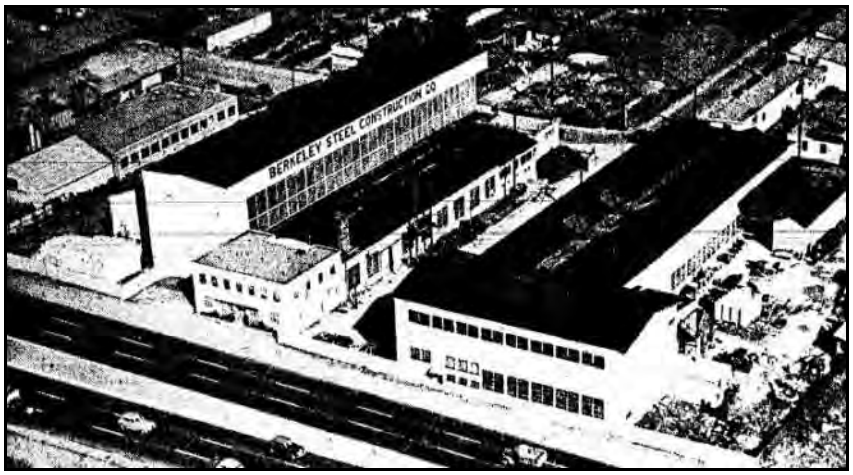


Plate 2. Oblique photograph of Berkeley Steel, 1949, facing northeast (*Berkeley Daily Gazette* 1949 May 11).

Development of Electric Arc Welding

Berkeley Steel participated in the early adoption of electric arc welding in the steel manufacturing and construction industries. Welding, or electric arc-welding, was originally invented in 1881 by French inventor Auguste de Meritens, but was not used in building construction until the early twentieth century and ultimately proved to be one of the most important innovations in the steel construction industry. Welding was initially used for limited purposes and in some building projects in the United States during the 1920s, such as Building C in the Berkeley Steel complex recorded on this form. The earliest application of arc welding to building framing appeared in Brooklyn in 1920, when the Electric Welding Company of America incorporated welded steel trusses into the factory's gable roof, although the rest of the framing used conventionally rivetted connections. The first building constructed as an entirely welded structure was the five-story Westinghouse Electric and Manufacturing Company factory built in Sharon, Pennsylvania, in 1926. By 1932, Westinghouse had constructed 26 additional buildings that all featured completely welded steel framing. Factors contributing to the rising popularity of arc welding were that welded structures were lighter and easier to construct than riveted structures because they did not require rivets, tie plates, and lacing bars, and they could be constructed on the ground and moved into place. Welded construction also promised to provide cost savings by decreasing the volume of metal necessary. Implementing the use of welding in construction, however, required investment in welding equipment, as well as skilled designers and welders. Proponents not only considered welding economically viable, but they also claimed there would be aesthetic advantages in bridge construction. Welding was not used widely at first because engineers tended to design with known and proved methods, which welding had yet to become. Furthermore, there were difficulties in externally inspecting it for defects, and early welding techniques were, at times, structurally weak (Condit 1982: 192-193; Sax 1960: 53; Blodgett 1966: 1.1-1 – 1.1-3).

Dissemination of information regarding welding and promotion of its use was, in large part, the result of publications from key organizations. One of the earliest was the American Welding Society (AWS), established as a non-profit in 1919 to provide dependable information on the development of welding. Although arc-welding had enabled efficient wartime production during World War I, government officials and industry leaders alike agreed that the emerging construction method needed standards and best practices in order to advance. The AWS functioned primarily to disseminate the latest findings of the American Bureau of Welding and other official bodies through its publication *Journal of the American Welding Society* (later changed to *Welding Journal* in 1922 when it incorporated advertisements into the publication). Other non-profit welding organizations emerged with similar goals, like the James F. Lincoln Arc Welding Foundation. Established in 1936 to promote the art and science of arc welding, the foundation was a spin-off of the Lincoln Electric Company in Cleveland, Ohio, which pursued this technology when it was relatively new, shifting its emphasis to manufacturing welding equipment. The company saw the need to encourage greater practical experience if the technology was to reach its potential. This led to the formation of the non-profit foundation, which disseminated information and

stimulated research by sponsoring awards programs for innovative uses and designs for welded structures. The first awards contest was held in 1938, with subsequent awards presented in 1943 and afterward. The foundation began publishing its own texts in 1954 (American Welding Society 1922 and 2017; Amirikian 1950: 5-6; Lincoln Electric n.d.; JF Lincoln Arc Welding Foundation 2017; Blodgett 1966: 1.1-1 – 1.1-7).

Building projects had generally declined nationally from the 1930s to the mid-1940s, but picked up again immediately following the close of World War II. See **Plate 2** for an aerial view of Berkeley Steel about this time. Because welding technology had once again proved itself during wartime, it grew to become the preferred method for building framing, as well as steel bridge construction in the following decades. A plethora of public and private building projects have incorporated arc welding into their designs and the technique has since emerged as an industry standard.

Evaluation

Under NRHP Criterion A or CRHR Criterion 1, the Berkeley Steel complex does not have significant associations with important historic events or trends at the local, state, or national level. Berkeley Steel is generally associated with the metal-working industry within West Berkeley and was an early proponent of electric arc-welding technology, but it did not play a demonstrably important role within the industry or the development of arc-welding technology. Since its mid-nineteenth-century beginnings, Berkeley has maintained a diverse industrial base, with the local steel industry supporting shipbuilding and other large industrial companies in the neighboring, deep-port cities of Richmond, Oakland, and Alameda. Berkeley Steel was established well after the advent of the East Bay metal-working industry, and although the company an early adopter of electrical arc welding, there is no demonstrable evidence that the company contributed to the development of the technology, or that it played a significant role in the execution of the method. Berkeley was one company in a growing national roster of companies to adopt the technology following World War I. While it may have pioneered the practice of welding storage tanks, Berkeley Steel's application of a well-known technology in this way does not rise to the level of historically significant under these criteria.

Likewise, the company, under president Thomas S. Neilson, dabbled in the construction of aircraft as the industry began to mature in the period between the two World Wars. However, Berkeley Steel never emerged as a major contributor in the field of aviation. Moreover, Neilson's hopes to establish an airfield in Berkeley were not very long lived, quashed by the construction of the Eastshore Highway in 1937; therefore, Berkeley Steel's limited participation in the aviation industry was not significant under these criteria.

Berkeley Steel, like countless other companies, played an active role in supplying a broad range of steel products to the U.S. Armed Forces in the years leading up to and during World War II. The company likewise produced component parts for a host of prestigious post-war building projects, including the San Francisco-Oakland Bay Bridge and a number of dams throughout the state. As with industrial regions throughout the U.S., the East Bay industrial economy received a major boost during World War II and the metal-working industry in particular benefitted from the Federal Government's urgent, high-volume demand for a wide variety of steel products. Having satisfied these needs, many wartime contractors such as Berkeley Steel continued to benefit from the government's massive investments in infrastructure during the postwar period. Ultimately, historical evidence does not indicate that Berkeley Steel's wartime and postwar productivity distinguished itself within this context, and while generally associated with the trend, there is no evidence that this role was individually or specifically important. The Berkeley Steel complex, therefore, is not eligible for listing in the NRHP or the CRHR under Criterion A/1.

The property does not have significant association with the lives of persons important to history (NRHP Criterion B or CRHR Criterion 2). None of the individuals associated with Berkeley Steel's establishment or growth were significant in local, regional, or national history. Thomas S. Neilson was undoubtedly a prominent local figure during his life time. In addition to establishing Berkeley Steel, Neilson also occupied positions within several civic and professional organizations, including the American Society of Mechanical Engineers and the East Bay Municipal Utilities District. Nevertheless, Neilson was not a founding member of any of these organizations, nor does historical evidence indicate that his contributions to his various endeavors significantly affected local, state, or national history. Neilson's primary business

activity, the establishment of Berkeley Steel and the short-lived Neilson Steel Aircraft Corporation, did not include historically important contributions to the metal-working industry or the aviation industry, and did not profoundly affect either industry. Therefore, the Berkeley Steel complex does not meet Criterion B/2, and is not eligible for listing in the NRHP or CRHR for association with a historically important individual.

The buildings that comprise the Berkeley Steel complex are not significant as important examples of a type, period, or method of construction, nor are they known to be the work of a master architect or builder (NRHP Criterion C or CRHR Criterion 3). The overall design of the plant is utilitarian, and although several buildings make use of electrical welding in their assembly, the method is not a significant example of the application of the technique. Electrical welding was a known construction method that gained in popularity during World War I and the earliest example of an entirely welded building frame was a five-story factory constructed in 1926. While Building C was constructed with an entirely welded frame two years later, this application of the method is not a groundbreaking representation of arc welding. Likewise, Berkeley Steel employed electrical arc welding in the construction of Building C's overhead, heavy-load cranes, but their application of the technique did not pose any important technical modifications to the method; instead, it is one of many such projects that used welding as the method gained popularity after the First World War. The buildings do not represent the work of a master or possess high artistic values. None of the buildings or parts thereof were designed and/or constructed by notable architects/engineers and/or builders. Additionally, the buildings do not form a significant and distinguishable entity, and their components lack individual distinction. As a result, the Berkeley Steel complex is not eligible for listing in the NRHP or the CRHR under Criterion C/3.

The property is not significant as a source (or likely source) of important information regarding history (NRHP Criterion D or CRHR Criterion 4). The property types present have been thoroughly documented in the historical record; therefore, the property does not appear to have any likelihood of yielding important information about historic construction materials or technology.

In addition to lacking significance under the criteria discussed above, the Berkeley Steel complex has diminished historic integrity. Buildings A, B, E, and G have all been modified through the construction of additions, alterations to the roof, and/or replacement of original siding. The complex as a whole has likewise been altered by the construction of additional prefabricated metal buildings. As a result of these modifications and additions, the Berkeley Steel complex has diminished integrity of design, materials, workmanship, setting, and feeling. It does, however, retain integrity of location and association.

Looking at West Berkeley more broadly in and around the subject property, there is not a historically significant industrial historic district present. The available transportation modes, marine, rail, and roadways, as well as local zoning have long encouraged industrial growth along the Berkeley shore, but the development of industry has been piece meal, depending upon the slow filling of the salt marshes, a process that began in the nineteenth century and continued into the 1980s. While there is a concentration of industrial buildings in the area, they are not temporally linked to a specific important period of development and none are associated with historically significant contributions to their various industries. None of the businesses evaluated in the surrounding area date to the pioneering period of metal-working industries and none were demonstrably important individually, which does not support identification of a historic district. Moreover, the diverse businesses and construction types now present obscure a visual linkage among the current industries in the surrounding area, which was once populated by lumber, tanning, stock-raising, and ink production, and now represent a wide variety of other businesses, including recycling, storage, equipment and vehicle rentals, recreation facilities, and retail outlets.

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Photographs (continued):

Photograph 2. Buildings A and B from 2nd Street; camera facing northwest, December 7, 2017.

Photograph 3. Buildings A, B, and C; camera facing northeast from Eastshore Hwy, December 7, 2017.

Photograph 4. Building C from 2nd Street; camera facing northwest, December 7, 2017.

Photograph 5. Building C interior, showing five-ton steel cranes; camera facing west from 2nd Street, December 7, 2017.

Photograph 6. Buildings C, E, and F (from right to left) from 2nd Street; camera facing northwest, May 2016.

Photograph 7. Berkeley Forge and Tool office building; camera facing northeast, May 2016.

Photograph 8. North and west sides of Building D, with Buildings C (left) and G (right) from Eastshore Hwy; camera facing southeast, December 7, 2017.

Photograph 9. Building F from 2nd Street; camera facing west, May 2016.

Photograph 10. Building G, from 2nd Street; camera facing southwest, May 2016.

Photograph 11. Detail view of Building G awning, from 2nd Street; camera facing northwest, December 7, 2017.

Photograph 12. Alley south of Building G (right) from 2nd Street; camera facing southwest, December 7, 2017.

Photograph 13. Building G from Eastshore Highway; camera facing southeast, May 2016.

Photograph 14. Building G (left) from Eastshore Highway; camera facing southeast, December 7, 2017.

Site Map:

Golden Gate Fields
Fleming Point
ALBANY
Codornices
Creek
Berkeley Steel
Berkeley Yacht Harbor
Municipal Heliport
MUD
BERKELEY AQ
Legend
Berkeley Steel
Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
N
1:24,000
0 0.25 0.5 1 Kilometers
0 0.25 0.5 1 Miles
UTM: NAD 83, Zone 10; USGS 7.5' Quad: RICHMOND (1993)

Berkeley Steel Construction Company/Berkeley Forge and Tool Complex
59-2344-5-1
A
B
C
59-2344-7
F
E
D
G
59-2341-4
Eastshore Hwy
Camelia St
2nd St
80
Legend
Building
Parcel Boundary
N
1:1,000
0 12.5 25 50
Meters
0 50 100 200
Feet
UTM: NAD 83, Zone 10; USGS 7.5' Quad: RICHMOND (1993)

***Resource Name or #** (Assigned by recorder)
***Recorded by:** B. Maley, architecture + history, llc ***Date** January 2023 **X** Update

The Berkeley Steel Construction Co. complex, consisting of three contiguous parcels at 1330 Second Street, 1331 Eastshore Highway and 1401 Eastshore Highway was documented and evaluated according to National Register of Historic Places and California Register of Historical Resource significance criteria in May 2016 and December 2017 by JRP Historical Consulting, LLC and Garcia & Associates for a report entitled "Historical Resources Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project" (Siskin, B., et al., 2018. Historical Resources Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project. Prepared by Garcia and Associates, JRP Historical Consulting, LLC, and InContext for Caltrans District 4). That study assigned the resource name Map Reference 6.

Consequently, in December 2022, the property is included within the Study Area of, and assessed by, the "Gilman Gateway Historic Resource Evaluation" authored by architecture + history, llc and Left Coast Architectural History. This study concurs with the documentation and findings of the earlier study, but provides the following additional information, as well as evaluation according to local City of Berkeley Landmark and Structure of Merit criteria.

Additional Building Permits
The 2018 JRP/Garcia & Assoc. report referenced building permits obtained from the City of Berkeley Planning & Development Department. The current study researched additional building permit records in the archives of Berkeley Architectural Heritage Association (BAHA) and on microfiche records of the City of Berkeley found the following information:

1330 Second Street – Permit # 10221, June 21, 1921, $1,800.00, factory 40 x 50 (east section) west section appears to be 1950s

1331 Eastshore Highway – Permit #52478, March 20, 1942, $7,500.00 offices, two-stories 40 x 40, stucco finish

1401 Eastshore Highway – Permit #53125, September 9, 1942, $6,000.00 34 x 128 redwood covered with corrugated metal

Based on the information in the additional permits found, the office building at 1331 Eastshore Highway was designed by architect B. (Berkeley) Reede Hardman. Born in Ohio in 1896 and educated Ohio State University, Hardman was a partner in the Berkeley firm of Schmidts & Hardman from 1945-1964. (1962 and 1970 AIA Directory). Little additional information was located on Hardman.

Berkeley Steel Construction Company and Berkeley Forge & Tool Company
Context Summary & Additional Information

The 2018 DPR forms include a detailed history of the Berkeley Steel Construction Company. While there is little additional information to include in the history of this company, the company does appear to have been involved with the development of several additional parcels in the area including:
List parcels.

Further, the 2018 DPR forms do not include much information on the second firm that occupied these sites, the Berkeley Forge & Tool Company. Berkeley Forge & Tool was established in 1948 (*Oakland Tribune*, August 12, 1948). The company was founded by Sidney L. McVicar and the firm grew and expanded into the 1960s. McVicar was named Small Businessman of the Year for Northern California in May 1965 (*Oakland Tribune*, May 28, 1965). In the 1970s the buildings owned by Berkeley Forge & Tool were subject to several arson fires (*Berkeley Gazette*). Berkeley Forge & Tool still operates in some of the buildings within these parcels.

*Resource Name or # (Assigned by recorder)
*Recorded by: B. Maley, architecture + history, llc *Date January 2023 X Update

Berkeley Landmark Evaluation
Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of the Berkeley Steel Construction later the Berkeley Forge & Tool complex according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The buildings of this complex are of common and unremarkable utilitarian construction. All were designed and constructed strictly to fulfill their intended functions and have no definable architectural style or artistic value. As utilitarian industrial structures, they are common and unremarkable within their context with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. None of the buildings are the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. None of the buildings were designed and/or constructed by notable architects, engineers, or builders. They provide no exceptional architectural value to the neighborhood, thus, the complex does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

Neither the construction of the buildings in this complex, nor its ownership and use history, were influenced by religious, cultural, governmental, social, or economic events or developments in the area. The Berkeley Steel Construction Company was associated with the metalworking industry in West Berkeley, but was not the first such company, nor exceptionally important or influential within the local industry, which supported many steel and metalworking plants. Its participation in World War II-era production was common to many industries in Berkeley and the surrounding region. After the War, the Berkeley Forge & Tool company began to operate out of these buildings, but that firm does not appear to have been significant within this context either. Therefore, the property does not appear to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3. Educational value: Structures worth preserving for their usefulness as an educational force.

The Berkeley Steel Construction Company complex does not appear to have any use as an educational tool, as it is not associated with important events or people, and is not outstanding as an example of industry in Berkeley. Numerous other properties could illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The Berkeley Steel Construction Company complex does not provide an outstanding example of the economic growth of Berkeley. The company's founding in the late 1920s and organic growth over time is common to many industrial plants in the area and is not outstanding in expressing the city's industrial or commercial history. The company's owners and occupants do not appear to have been historically significant or claim any noteworthy

accomplishments and no specific events of significance occurred at the property. It does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The Berkeley Steel Construction Company complex is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, the Berkeley Steel Construction Company complex is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable later element of West Berkeley's industrial development. Study of buildings around the property does not indicate any cohesive or thematically representative grouping for which the complex would play a meaningful role. The city has numerous older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject complex is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. The property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria
a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the "Gilman Gateway Historic Resource Evaluation" Study Area there are five City of Berkeley Landmarks or Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

Some of the buildings associated with the Mannasse-Block Tanning Co. and California Ink Co., which were also multi-building complexes with a wide range of construction dates, are roughly contemporaneous with some of the buildings in the Berkeley Steel Construction Company complex. However, all of these properties include multiple buildings of varying ages and do not present a strong focus on any particular era of development. Other Landmarks in the area are much older. The construction of the Berkeley Steel Construction Company complex, at various points over time, does not appear to coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of the Berkeley Steel Construction Company complex. Three are smaller single buildings, while the two properties that are larger in area consist of multi-building complexes that are comparable to the multi-building complex on the subject property. Those two properties also exhibit somewhat utilitarian industrial design, but have different and more consistent character in terms of materials and the apparent age of their utilitarian design.

c. The structure is a good example of architectural design.

The Berkeley Steel Construction Company complex is industrial in use and utilitarian in architectural aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As utilitarian industrial structures, the buildings of the Berkeley Steel Construction Company complex are common and unremarkable within their context, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction. No notable architect or builder were known to be involved with design or construction of buildings in the complex.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The Berkeley Steel Construction Company complex demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a 20th century element of West Berkeley industrial development, but not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the complex would play a meaningful role.

Integrity
In order to qualify for historic designation, a property must possess significance under the aforementioned criteria and have historic integrity. The Berkeley Steel Construction Company complex does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion
Based on the above analysis, the Berkeley Steel Construction Company complex does not qualify as a Berkeley Landmark or Structure of Merit.

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

***Resource Name or #** (Assigned by recorder)
***Recorded by:** B. Maley, architecture + history, llc ***Date** January 2023 **X** Update

***B12. References Continued**

Berkeley Forge & Steel Newspaper Articles

"Robert Hawley." *The Berkeley Gazette*. August 30, 1983: 11.

"Fabricating Plant for Hopland." *Ukiah Daily Journal*. April 29, 1965: 1.

"Forge Operator Honored." *Oakland Tribune*. May 28, 1965: 62.

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"$25,000 Fire Hits Berkeley Tool Firm." *Oakland Tribune*. June 27, 1975: EE-32, 32.

"New Plant Opens." *Oakland Tribune*. August 12, 1948: 20.

"Berkeley Forge Seeks New Site." *Oakland Tribune*. June 14, 1966: 50.

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

State of California The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial _____
NRHP Status Code

Other Listings

Review Code _____ Reviewer _____ Date _____

 ***Resource Name or #:** (Assigned by recorder) 1337 Second Street, Berkeley, CA

P1. Other Identifier:
***P2. Location:** Unrestricted
***a. County;** Alameda
***b. USGS 7.5':** Oakland West, Calif **Date:** 2015
c. Address 1337 Second Street City: Berkeley, California Zip: 94710
d. Other Locational Data: APN: 59-2345-8-1
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

There are two buildings on this parcel, and both are prefabricated steel buildings. The western building on the parcel has a rectangular footprint, a gable roof, and is set back from Second Street. It is fronted by a large work yard. At the Third Street frontage along the railroad tracks there is a second, gable-roofed, prefabricated Butler Building that appears to have been erected on the parcel in 1959. The buildings abut each other at their end walls; the western building is taller than the eastern building. Both buildings have corrugated metal exterior walls and corrugated metal roofing material over gable roofs.

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** X Building Structure Object Site District Element of District Other

P5a. Photograph or Drawing

P5b. Description of Photo:
East and south facades,
looking northwest
November 2022

***P6. Date Constructed/Age and Sources:** East building 1959; west building1990s

***P7. Owner and Address:**
Paul F. Beirwith and Margaret A. Kennedy Trust

***P8. Recorded by:**
B. Maley; architecture + history, llc

***P9. Date Recorded:**
January 2023

***P10. Survey Type:** Intensive

***P11. Report Citation:** Second & Gilman HRE

***Attachments:** Building, Structure, and Object Record (BSO) and Continuation Sheet

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 1337 Second Street, Berkeley, California 94710 ***NRHP Status Code** 6Z

B1. Historic Name: None **B2.** Common Name: 1337 Second Street
13B3. Original Use: Industrial **B4.** Present Use: Industrial
***B5. Architectural Style:** No style
***B6. Construction History:** The east prefabricated building on this parcel was constructed in 1959; the west building was constructed in the 1990s.

***B7. Moved?** No
***B8. Related Features:** None

B9a. Architect: Unknown **b.** Builder: Unknown
***B10. Significance: Theme** None **Area** West Berkeley, Alameda County, California
Period of Significance None **Property Type** Industrial **Applicable Criteria** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The property at 1337 Second Street was occupied by a small office and dwelling on the 1950 Sanborn Map. This house likely served workers or caretakers of the surrounding industrial sites both before and after World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like nearby Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

Compared to the war years, which had been spent in industrial overdrive, Berkeley's industrial activity waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, impacting the neighborhood (See Continuation Sheet).

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial Building

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** B. Maley, architecture + history, llc

***Date of Evaluation:** January 2023

(This space reserved for official comments.)

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***B10. Significance (Continued)**

Contextual History Continued
In 1956, zoning refinements were made, with property west of Sixth Street zoned as "special industrial." This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off (Jorgensen-Esmaili and Manning, 1982).

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History
The previous house and office on this parcel appear on the 1950 Sanborn Map. By the mid 1980s Sanborn Map the eastern, prefabricated steel Butler building, which was built in 1959, was present on the parcel. The City of Berkeley issued permit number 88081 on September 2, 1959, for this steel building that cost $7,800.00. The City of Berkeley Building Card noted this building was a Butler Building. western prefabricated building was constructed in the 1990s. The parcel has been used by Berkeley Forge & Tool since 1959. (See DPR Form for 635 Camelia for more information on Berkeley Forge & Tool).

California Register Evaluation
The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 1337 Second Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The buildings on the property were constructed in 1959, 1960 and 1964 and while they are likely associated with the industrial context that dominated West Berkeley and the East Bay shoreline, which included numerous other steel and metal-working plants, these buildings do not appear to possess significance within the context. Heavy industry in West Berkeley had been established well before these buildings were constructed. The business associated with this building does not appear to be significant within the broad patterns of development in West Berkeley.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. No individuals of significance have been identified as related to this property.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The two steel buildings at 1337 Second Street do not have a definable architectural style nor does it possess any artistic value. As utilitarian, industrial buildings they are common and unremarkable within the context of West Berkeley's industrial past, with no distinctive characteristics that would make them notable or important example of their type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction; in fact, they appear to be of prefabricated construction.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings, structures or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 1337 Second Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

City of Berkeley Landmark Evaluation
Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 635-637 Camelia Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The buildings at 1337 Second Street are of common and unremarkable utilitarian construction. They were not designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structures, they are common and unremarkable within the context of West Berkeley's industrial past with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. These buildings are not the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. No architect or builder were known to be involved with its design or construction; in fact, they are prefabricated Butler Buildings. These buildings provide no exceptional architectural value to the neighborhood; thus, the property does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

The buildings at 1337 Second Street do not relate to nor were they influenced by religious, cultural, governmental, social, or economic events or developments in the area. These buildings were constructed between 1959 and 1964. The property does not appear to possess the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3.Educational value: Structures worth preserving for their usefulness as an educational force

The structures at 1337 Second Street do not appear to have any use as educational tools, as they are not associated with important events or people and are not outstanding as an examples of industry or commerce in Berkeley, especially having been built after World War II as the area's industrial uses were beginning to decline. These buildings therefore do not appear to have the high educational value that would qualify them as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 1337 Second Street do not reflect the industrial or commercial growth of Berkeley. These structures were constructed on the parcel between 1959 and 1964. They are not significant within Berkeley's industrial or commercial history. The building's owners and occupants do not appear to have been historically significant or have any noteworthy accomplishments to their names and no specific events of significance occurred at the property. These buildings therefore do not appear to have the high historic value that would qualify them as a Berkeley Landmark under this criterion.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 1337 Second Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

City of Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, 1337 Second Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and a relatively late addition to West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1337 Second Street would play a meaningful role. There are numerous other older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject structure is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

These structures, constructed late in West Berkeley's industrial history, after World War II, do not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 1337 Second Street. Three are smaller buildings, while the two properties that are larger in area consist of multi-building complexes that are not comparable to modern structure on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but these resources possess very different character in terms of materials and overall design. The nearby Landmarks and subject structure share few physical characteristics in common.

c. The structure is a good example of architectural design.

The structures at 1337 Second Street are industrial in use and, consequently, have a highly utilitarian aesthetic; that is, they were designed and constructed strictly to fulfill their intended industrial functions and have no definable architectural style or artistic value. As utilitarian industrial structures, they are common and unremarkable within the context of West Berkeley's industrial past, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The structures at 1337 Second Street demonstrate no particular historical significance within the context of West Berkeley's history or that of the neighborhood that surrounds it. These building were constructed late in the context of West Berkeley industrial development, and do not represent one of the earliest or more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the subject property would play a meaningful role.

Integrity
To qualify for historic designation, a property must possess significance under the aforementioned criteria, *and* possess historic integrity. The structures at 1337 Second Street do not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion
Based on the above analysis, the property at 1337 Second Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource under the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

***B12. References Continued**

Sources

1982 Karen Jorgensen-Esmaili and Stephanie Manning. *Victorian Berkeley: The Community of Oceanview*.

1993 City of Berkeley. "West Berkeley Plan."

2018 JRP Consulting and Garcia & Associates for Caltrans. "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project."

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

P5a Photographs (Continued)

Above: The east façade of 1337 Second Street, looking southwest
Below: Detail of the "Butler" stamp at the apex of the east gable.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

P5a Photographs (Continued)

Above: View from the railroad tracks toward Second Street.
Below: View from Second Street looking east.

State of California The Resources Agency **DEPARTMENT OF PARKS AND RECREATION**	Primary # HRI #
PRIMARY RECORD	Trinomial _____ **NRHP Status Code**
Other Listings	
Review Code _____ Reviewer _____ Date _____	

 ***Resource Name or #:** (Assigned by recorder) 631 Camelia Street, Berkeley, CA

P1. Other Identifier: 1349 Second Street (noted on Sanborn Maps)
***P2. Location:** Unrestricted
***a. County;** Alameda
***b. USGS 7.5':** Oakland West, Calif **Date:** 2015
c. Address 631 Camelia Street City: Berkeley, California Zip: 94710
d. Other Locational Data: APN: 59-2345-7
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This building is located at the northeast corner of Camelia Street and Second Street. It has an irregular footprint and is composed of one and two-story components, built in phases. The western section was built in 1947 and the eastern portion constructed as an addition in 1966. The Camelia Street façade of the original, western building has a two-story (mezzanine) component that likely housed an office for the business. The western portion of the Camelia Street facade has two, six-lite steel windows at the first story and four aluminum windows, two fixed and two sliders, at the second story. The lower story is sheathed in painted corrugated metal sheets and the upper story in unpainted vertical wood boards. The lower story has two unpainted corrugated metal patches that do not appear to correspond to openings. The two-story element of the building is capped with a low gable roof. (See Continuation Sheet

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** X Building Structure Object Site District Element of District Other

P5a. Photograph or Drawing

P5b. Description of Photo:
South façade, looking northeast
November 2022

***P6. Date Constructed/Age and Sources:** 1947; City Building Permit

***P7. Owner and Address:**
Thomas Impey – Clearflow Valve
631 Camelia Street
Berkeley, Ca 94710

***P8. Recorded by:**
B. Maley; architecture + history, llc

***P9. Date Recorded:**
January 2023

***P10. Survey Type:** Intensive

***P11. Report Citation:** Gilman Gateway HRE

***Attachments:** Building, Structure, and Object Record (BSO) and Continuation Sheet

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 631 Camelia Street, Berkeley, California 94710 ***NRHP Status Code** 6Z

B1. Historic Name: None **B2.** Common Name: 631 Camelia Street
B3. Original Use: Industrial **B4.** Present Use: Industrial
***B5. Architectural Style:** No style
***B6. Construction History:** This building was built in two phases: the western section in 1947 and the eastern section in 1966 (City of Berkeley Building Permits).

***B7. Moved?** No
***B8. Related Features:** None

B9a. Architect: Unknown **b.** Builder: Unknown
***B10. Significance: Theme** None **Area** West Berkeley, Alameda County, California
Period of Significance None **Property Type** Industrial **Applicable Criteria** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The main building at 631 Camelia Street was built in 1947, two years after the conclusion of World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like nearby Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

Compared to the war years, which had been spent in industrial overdrive, Berkeley's industrial activity waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, impacting the neighborhood (See Continuation Sheet).

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial Building

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** B. Maley, architecture + history, llc

***Date of Evaluation:** January 2023

(This space reserved for official comments.)

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***P3a. Description (Continued)**

The eastern addition along Camelia Street has a gable roof of lower height than the original portion of the building. The south, or Camelia Street façade of this addition has a large metal overhead door and no other openings. The façade is sheathed in corrugated metal sheets.

The Second Street façade of the original building has a two-story component at the north end and a one-story component extending northward. The lower story at the Second Street two-story element has two six-lite steel windows like those at the Camelia Street façade and two aluminum windows, one fixed and one slider, at the upper story. Like the Camelia Street façade, the lower story is sheathed in painted corrugated metal and the upper story has vertical wood siding. There is also a pedestrian door at the north end of the two-story component.

The north, one-story portion of the 1947 building, facing Second Street, has large, multi-lite, industrial sash, steel windows that flank a tall, vehicular opening that is covered by a sliding corrugated metal door. The lower portion of this façade is sheathed in painted corrugated metal.

The north, or rear, façade has a similar configuration to the Second Street façade with large, multi-lite, industrial sash, steel windows that flank a tall, vehicular opening that is covered by a sliding corrugated metal door.

The east façade of the 1947 building abuts the later addition. The east façade of the 1966 addition has several large, multi-lite, industrial sash, steel windows and the remainder of the façade is sheathed in corrugated metal.

***B10. Significance Continued**

Contextual History Continued
In 1956, zoning refinements were made, with property west of Sixth Street zoned as “special industrial.” This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off (Jorgensen-Esmaili and Manning, 1982).

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History
The 1911 Sanborn Map shows a residence and water tank on this parcel. A 1919 notice in the *Berkeley Daily Gazette* noted that Thomas Williams was residing at 631 Camelia Street (*Berkeley Daily Gazette* February 2, 1919: 8). An October 1928 City of Berkeley building permit involved demolishing the house on this parcel (COB Permit #26338, BAHA). The 1929 Sanborn shows the parcel vacant except for two very small sheds at the northeast corner of the parcel. A 1947 aerial photograph my show the western section of the building under construction (1947 Aerial). The western section of current building at 631 Camelia Street was constructed in 1947 for $10,000.00 as a machine shop (COB Building Permit #60722 Feb 18, 1947). The owner of the building at the time was identified as George A. Plummer; no architect or engineer was listed, but Plummer was also identified as the builder. He was listed at the address of 1330 Second Street, a building associated with the Berkeley Steel Construction Company at that time. Plummer’s WWII draft card indicated he worked for himself. By 1947, when this building was constructed, is unclear if Plummer was working for Berkeley Steel Construction Company, but he is identified as the owner, or this could have meant the owners agent. The building at 631 Camelia appears on the 1950 Sanborn Map and is identified as a machine shop. George Plummer was identified as a machinist during this period of time (1930, 1940 and 1950 Census Records).

The eastern addition, to be used as a machine shop, was constructed for $8,000.00 in 1966 (COB Building Permit #105397, Feb 7, 1966). The 1966 Building Permit indicates the building owner was J. H. Plummer; this was likely Jack Plummer, son of George A. Plummer (1940 Berkeley Census Records). The addition was designed by San Jose Steel with Vincent Arena, engineer.

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By 1979, the building was being used by Clearflow Valve and the roof and second floor office were damaged by fire at that time (City of Berkeley Fire Report). Clearflow Valve was incorporated in 1975 and is a wholesale valve and pipe fitting business (State of California). Tom Impey was the owner of Clearflow Valves.

California Register Evaluation
The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 631 Camelia Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The building was constructed in 1947 with an addition in 1966 and while it is likely associated with the industrial context that dominated West Berkeley and the East Bay shoreline, which included numerous other steel and metal-working plants, it does not appear to possess significance within the context. Heavy industry in West Berkeley had been established well before this building was constructed. The business associated with this building does not appear to be significant within the broad patterns of development in West Berkeley.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. No individuals of significance have been identified as related to this property.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The warehouse at 631 Camelia Street does not have a definable architectural style nor does it possess any artistic value. As a utilitarian, industrial building it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction. The original permit information was not located only references to the permits on the City of Berkeley Building Card.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings, structures or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 631 Camelia Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

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City of Berkeley Landmark Evaluation

Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 631 Camelia Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The building and addition at 631 Camelia Street are of common and unremarkable utilitarian construction. It was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context with no distinctive characteristics that would make it a notable or important example of its period, style, or construction. It is not the first, last, only, or most significant example of industrial or utilitarian architecture in West Berkeley. No architect or builder were known to be involved with its design or construction. It provides no exceptional architectural value to the neighborhood; thus, the property does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

The building at 631 Camelia Street does not relate to nor was it influenced by religious, cultural, governmental, social, or economic events or developments in the area. It was built in 1947 with an addition in 1966. The property does not appear to possess the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3.Educational value: Structures worth preserving for their usefulness as an educational force

The structure at 631 Camelia Street does not appear to have any use as an educational tool, as it is not associated with important events or people and is not outstanding as an example of industry or commerce in Berkeley, especially having been built after World War II as the area's industrial uses were beginning to decline. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 631 Camelia Street does not reflect the industrial or commercial growth of Berkeley. This structure was constructed on the parcel in 1947 with an addition in 1966. It is not significant within Berkeley's industrial or commercial history. The building's owners and occupants do not appear to have been historically significant or have any noteworthy accomplishments to their names and no specific events of significance occurred at the property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 631 Camelia Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

City of Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, 631 Camelia Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and a relatively late addition to West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 631 Camelia Street would play a meaningful role. There are numerous other older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject structure is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

This structure, constructed late in West Berkeley's industrial history, after World War II, does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 631 Camelia Street. Three are smaller buildings, while the two properties that are larger in area consist of multi-building complexes that are not comparable to modern structure on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but these resources possess very different character in terms of materials and overall design. The nearby Landmarks and subject structure share few physical characteristics in common.

c. The structure is a good example of architectural design.

The structure at 631 Camelia Street is industrial in use and, consequently, has a highly utilitarian aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. No architect or builder were identified as involved with its design or construction.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The structure at 631 Camelia Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a late 20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the subject property would play a meaningful role.

Integrity
To qualify for historic designation, a property must possess significance under the aforementioned criteria, *and* possess historic integrity. The structure at 631 Camelia Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion
Based on the above analysis, the property at 631 Camelia Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource under the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

***B12. References Continued**

Sources

1947 City of Berkeley Building Permit #60722, February 18, 1947.

1966 City of Berkeley Building Permit #105397, February 7, 1966.

1982 Karen Jorgensen-Esmaili and Stephanie Manning. *Victorian Berkeley: The Community of Oceanview*.

1993 City of Berkeley. "West Berkeley Plan."

2018 JRP Consulting and Garcia & Associates for Caltrans. "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project."

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

P5a. Additional Photographs

Above: West façade, looking northeast. November 2022.
Below: North and west façades, November 2022.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

P5a. Additional Photographs

Above: East façade of east addition, looking northwest. November 2022.

P1. Other Identifier: 635-637 Camelia
***P2. Location:** Unrestricted
***a. County;** Alameda
***b. USGS 7.5':** Oakland West, Calif **Date:** 2015
c. Address 635 Camelia Street City: Berkeley, California Zip: 94710
d. Other Locational Data: APN: 59-2345-4
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

There are two buildings on this parcel: 635 Camelia, a one-story, double-gable warehouse and 637 Camelia, a one-story, single-gable warehouse. Both have a rectangular footprints, but 637 Camelia extends further to the north on the parcel. At the south façade 635 Camelia has a metal overhead vehicular door below each gable. At the west gable the vehicular door is centered, while at the east gable the vehicular door is flush to the east side of the façade. The building is sheathed in corrugated metal. There is an exterior light fixture centered under the east gable. There are no windows or pedestrian doors at the south façade; however, there is a pedestrian door inset into the west overhead door. There is exterior piping and conduit at the south façade. The double-gable roof appears to have corrugated metal roofing material. Both gables have a centered, clerestory, gabled roof monitor, and the east gable appears to have several skylights as well. The is projecting roof mechanical equipment at the north portion of the roof valley (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** X Building Structure Object Site District Element of District Other

P5a. Photograph or Drawing

P5b. Description of Photo:
South façades, looking northwest November 2022

***P6. Date Constructed/Age and Sources:** 1959 Building Permit

***P7. Owner and Address:**

***P8. Recorded by:**
B. Maley; architecture + history, llc

***P9. Date Recorded:**
January 2023

***P10. Survey Type:** Intensive

***P11. Report Citation:** Second & Gilman HRE

***Attachments:** Building, Structure, and Object Record (BSO) and Continuation Sheet

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 635 Camelia Street, Berkeley, California 94710 ***NRHP Status Code** 6Z
Page 2 **of** 9

B1. Historic Name: None **B2.** Common Name: 635 Camelia Street
13B3. Original Use: Industrial **B4.** Present Use: Industrial
***B5. Architectural Style:** No specific style; industrial
***B6. Construction History:** Three buildings on parcel: Steel shop building, measuring 40' x 60' 1959 (Building Permit #87096, April 28, 1959); Steel building, also 40' x 60' 1960 (Building Permit #89648, May 19, 1960); Steel building (Building Permit 101226 August 3, 1964).
***B7. Moved?** No
***B8. Related Features:** None

B9a. Architect: Unknown **b.** Builder: Unknown
***B10. Significance: Theme** None **Area** West Berkeley, Alameda County, California
Period of Significance None **Property Type** Industrial **Applicable Criteria** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The first building at 635-637 Camelia Street was built in 1959 almost 15 years after the conclusion of World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like nearby Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

Compared to the war years, which had been spent in industrial overdrive, Berkeley's industrial activity waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, impacting the neighborhood (See Continuation Sheet).

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial Building

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** B. Maley, architecture + history, llc

***Date of Evaluation:** January 2023

(This space reserved for official comments.)

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***P3a. Description (Continued)**

The east and west facades of 635 Camelia Street abut adjacent buildings are not visible. The north façade faces and opens up onto the property at 1337 Second Street. There appear to be two overhead doors at this façade as well, but it is not readily visible from the public right-of-way.

637 Camelia is taller in height than its neighbor 635 Camelia. It has a centered, metal, overhead, vehicular door at the south facade. The building is sheathed in corrugated metal. There are no windows or pedestrian doors at the south façade. The gable roof is also sheathed in corrugated metal. There are no roof monitors or skylights on the roof. There is a small projecting shed dormer that covers equipment below at the southeast corner of the roof. The majority of the west façade abuts the building at 635 Camelia Street. There is a band of clerestory, industrial sash windows at the east façade. The north façade does not appear to have any openings, but it is not readily visible from the public right-of-way.

***B10. Significance Continued**

Contextual History Continued
In 1956, zoning refinements were made, with property west of Sixth Street zoned as “special industrial.” This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off (Jorgensen-Esmaili and Manning, 1982).

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History
This parcel was vacant on the 1950 Sanborn Map. A steel shop building, measuring 40’ x 60’ was constructed in 1959 (Building Permit #87096, April 28, 1959). It was built for George A. Plummer of 631 Camelia Street by engineer Vincent A. Arena and San Jose Steel. A second steel building, also 40 x 60 was constructed in 1960 (Building Permit #89648, May 19, 1960). This permit notes that the new building is to be placed at the existing east wall of the present building. A third steel building at a cost of $20,000.00 was constructed in 1964 (Building Permit 101226 August 3, 1964). The City of Berkeley building card for this property notes that the two earlier 40’ x 60’ buildings are attached to each other (these are referred to as 635 Camelia) and the third building measures 60’ x 80’ (this is referred to as 637 Camelia). The Building Card notes these buildings are used by Berkeley Forge & Steel (likely means Berkeley Forge & Tool).

Berkeley Forge & Tool was established in 1948 (*Oakland Tribune*, August 12, 1948). The company was founded by Sidney L. McVicar, and the firm grew and expanded into the 1960s. McVicar was named Small Businessman of the Year for Northern California in May 1965 (*Oakland Tribune*, May 28, 1965). In the 1970s the buildings owned by Berkeley Forge & Tool were subject to several arson fires (*Berkeley Gazette*). It is unclear how George A. Plummer is related to either Berkeley Steel Construction Company or Berkeley Forge & Tool, but he is the person who is listed on the first building permit for this site.

California Register Evaluation
The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 635-637 Camelia Street:

<u>Criterion 1 (Event)</u>: *Resources that are associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The buildings on the property were constructed in 1959, 1960 and 1964 and while they are likely associated with the industrial context that dominated West Berkeley and the East Bay shoreline, which included numerous other steel and metal-working plants, these buildings do not appear to possess significance within the context. Heavy industry in West Berkeley had been established well before these buildings were

constructed. The business associated with this building does not appear to be significant within the broad patterns of development in West Berkeley.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. No individuals of significance have been identified as related to this property.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The three steel buildings at 635-637 Camelia Street do not have a definable architectural style nor does it possess any artistic value. As utilitarian, industrial buildings they are common and unremarkable within the context of West Berkeley's industrial past, with no distinctive characteristics that would make them notable or important example of their type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction; in fact, they appear to be of prefabricated construction.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings, structures or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 635-637 Camelia Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

City of Berkeley Landmark Evaluation
Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 635-637 Camelia Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The buildings at 635-637 Camelia Street are of common and unremarkable utilitarian construction. They were not designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structures, they are common and unremarkable within the context of West Berkeley's industrial past with no distinctive characteristics that would make them notable or important examples of their period, style, or construction. These buildings are not the first, last, only, or most significant examples of industrial or utilitarian architecture in West Berkeley. No architect or builder were known to be involved with its design or construction; in fact, they may have been prefabricated. These buildings provide no exceptional architectural value to the neighborhood; thus, the property does not appear to qualify it as a Berkeley Landmark under this criterion.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

The buildings at 635-637 Camelia Street do not relate to nor were they influenced by religious, cultural, governmental, social, or economic events or developments in the area. These buildings were constructed between 1959 and 1964. The property does not appear to possess the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3.Educational value: Structures worth preserving for their usefulness as an educational force

The structures at 635-637 Camelia Street do not appear to have any use as educational tools, as they are not associated with important events or people and are not outstanding as an examples of industry or commerce in Berkeley, especially having been built after World War II as the area's industrial uses were beginning to decline. These buildings therefore do not appear to have the high educational value that would qualify them as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 635-637 Camelia Street do not reflect the industrial or commercial growth of Berkeley. These structures were constructed on the parcel between 1959 and 1964. They are not significant within Berkeley's industrial or commercial history. The building's owners and occupants do not appear to have been historically significant or have any noteworthy accomplishments to their names and no specific events of significance occurred at the property. These buildings therefore do not appear to have the high historic value that would qualify them as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 635-637 Camelia Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

City of Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, 635-637 Camelia Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and a relatively late addition to West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 635-637 Camelia Street would play a meaningful role. There are numerous other older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject structure is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use

- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

These structures, constructed late in West Berkeley's industrial history, after World War II, do not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 635-637 Camelia Street. Three are smaller buildings, while the two properties that are larger in area consist of multi-building complexes that are not comparable to modern structure on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but these resources possess very different character in terms of materials and overall design. The nearby Landmarks and subject structure share few physical characteristics in common.

c. The structure is a good example of architectural design.

The structures at 635-637 Camelia Street are industrial in use and, consequently, have a highly utilitarian aesthetic; that is, they were designed and constructed strictly to fulfill their intended industrial functions and have no definable architectural style or artistic value. As utilitarian industrial structures, they are common and unremarkable within the context of West Berkeley's industrial past, with no distinctive characteristics that would make them notable or important examples of their type, period, region, or method of construction.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The structures at 635-637 Camelia Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. These building were constructed late in the context of West Berkeley industrial development, and do not represent one of the earliest or more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the subject property would play a meaningful role.

Integrity
To qualify for historic designation, a property must possess significance under the aforementioned criteria, *and* possess historic integrity. The structures at 635-637 Camelia Street do not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion
Based on the above analysis, the property at 635-637 Camelia Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource under the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***B12. References Continued**

Sources

1959 Steel shop building, measuring 40' x 60' City of Berkeley Building Permit #87096, April 28, 1959.

1960 Steel building, also 40' x 60' City of Berkeley Building Permit #89648, May 19, 1960

1964 Steel building City of Berkeley Building Permit 101226 August 3, 1964.

1982 Karen Jorgensen-Esmaili and Stephanie Manning. *Victorian Berkeley: The Community of Oceanview*.

1993 City of Berkeley. "West Berkeley Plan."

2018 JRP Consulting and Garcia & Associates for Caltrans. "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project."

Berkeley Forge & Steel Newspaper Articles

"Robert Hawley." *The Berkeley Gazette*. August 30, 1983: 11.

"Fabricating Plant for Hopland." *Ukiah Daily Journal*. April 29, 1965: 1.

"Forge Operator Honored." *Oakland Tribune*. May 28, 1965: 62.

"Huge fires cause $157,000 damage." *The Berkeley Gazette*. June 10, 1978: 1.

"Blaze damages forge and Tool Company." *The Berkeley Gazette*. November 6, 1975: 1.

"Probability of 'repeat' arson try." *The Berkeley Gazette*. October 20, 1973: 1-2.

"Suspicious fire destroys plant." *The Berkeley Gazette*. June 27, 1975: 4.

"$25,000 Fire Hits Berkeley Tool Firm." *Oakland Tribune*. June 27, 1975: EE-32, 32.

"New Plant Opens." *Oakland Tribune*. August 12, 1948: 20.

"Berkeley Forge Seeks New Site." *Oakland Tribune*. June 14, 1966: 50.

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

P5a. Additional Photographs

Above: South facades, looking east. November 2022.
Below: South façades, looking northwest. November 2022.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

P5a. Additional Photographs

Above: South façade, 635 Camelia, looking north. November 2022.
Below: South façade, 637 Camelia, looking north. November 2022.

State of California The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial _____
NRHP Status Code

Other Listings

Review Code _____ Reviewer _____ Date _____

 ***Resource Name or #:** (Assigned by recorder) 643 Camelia Street, Berkeley, CA

P1. Other Identifier:
***P2. Location:** Unrestricted
***a. County;** Alameda
***b. USGS 7.5':** Oakland West, Calif **Date:** 2015
c. Address 643 Camelia Street City: Berkeley, California Zip: 94710
d. Other Locational Data: APN: 59-2345-2-1
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This parcel is situated at the northwest corner of Camelia Street and Third Avenue (railroad line). There are currently no buildings on the parcel. Presently, a double-beam bridge crane on a A-frame or tripod support is situated on the parcel. The gantry crane rolls along tracks in a north south direction. There is a perimeter chain link fence with wood slats behind along Camelia Street and Third Avenue, adjacent to the railroad tracks. A rolling vehicular gate is centered on the Camelia Street side of the fence. There is a pedestrian gate at the east end of Camelia Street side of the fence. A remnant, low concrete perimeter wall lines the Third Street side of the parcel. The adjacent building at 635 Camelia Street appears to have an overhead door that opens onto the parcel at 643 Camelia Street, along its east façade, indicating it is currently used as an equipment and storage yard by the adjacent building at 635 Camelia.

***P3b. Resource Attributes:** (List attributes and codes) HP11. Engineering Structure
***P4. Resources Present:** Building **X** Structure Object **X** Site District Element of District Other

P5a. Photograph or Drawing

P5b. Description of Photo:
View looking northwest
October 2022

***P6. Date Constructed/Age and Sources:**

***P7. Owner and Address:**

***P8. Recorded by:**
B. Maley; architecture + history, llc

***P9. Date Recorded:**
January 2023

***P10. Survey Type:** Intensive

***P11. Report Citation:** Second & Gilman HRE

***Attachments:** Building, Structure, and Object Record (BSO) and Continuation Sheet

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 643 Camelia Street, Berkeley, California 94710 ***NRHP Status Code** 6Z
Page 2 **of** 7

B1. Historic Name: None **B2.** Common Name: 643 Camelia Street
B3. Original Use: Residential (demolished) **B4.** Present Use: Industrial / Storage
***B5. Architectural Style:** No defined style
***B6. Construction History:** A wood-frame residence was situated on this parcel until 1959 when a permit to demolish it was issued due to its dilapidated and unsanitary conditions. It is unclear when the current gantry crane was built. The mid-1980s Sanborn Map reads "Material and Equipment Storage." The 1980 aerial photograph is not of high enough resolution to see if the cranes are present on the parcel.

***B7. Moved?** No
***B8. Related Features:** None

B9a. Architect: Unknown **b.** Builder: Unknown
***B10. Significance: Theme** None **Area** West Berkeley, Alameda County, California
Period of Significance None **Property Type** Industrial **Applicable Criteria** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The property at 643 Camelia Street was occupied by a small, wood-frame residence until 1959. This house likely served workers or caretakers of the surrounding industrial sites both before and after World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like nearby Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

Compared to the war years, which had been spent in industrial overdrive, Berkeley's industrial activity waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, impacting the neighborhood (See Continuation Sheet).

B11. Additional Resource Attributes: (List attributes and codes)
HP11. Engineering Structure

***B12. References:**
(See parenthetical citations within text and on last Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** B. Maley, architecture + history, llc

***Date of Evaluation:** January 2023

(This space reserved for official comments.)

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***B10. Significance (Continued)**

Contextual History Continued
In 1956, zoning refinements were made, with property west of Sixth Street zoned as "special industrial." This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off (Jorgensen-Esmaili and Manning, 1982).

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History
There was a wood-frame residence on the 643 Camelia Street parcel until 1959 when a permit to demolish it was issued due to its dilapidated and unsanitary conditions. Both the 1929 and 1950 Sanborn Maps for this parcel illustrated a small dwelling situated near the lot line along Camelia Street and a small, ancillary auto garage at the rear lot line at the northwest corner of the parcel. In 1959, the parcel was owned by John Major (City of Berkeley Building Permit, BAHA). The 1958 aerial photograph shows the former residence that was situated on the parcel (NETR Online, Historic Aerials).

The 1965 aerial photograph does not show a building on the site, and it does not appear to show the gantry cranes. The 1980 aerial photograph is not of high enough resolution to see if the cranes are present on the parcel. By the date of the mid-1980s Sanborn Map, the parcel was labeled "Material and Equipment Storage" with no buildings or structures illustrated.

This site appears to have been used by the Berkeley Steel Construction Company and later the Berkeley Forge & Tool Company from around 1960 to the present day. (See DPR form for 635-637 Camelia for further information on Berkeley Forge & Tool).

California Register Evaluation
The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 643 Camelia Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. This property appears to have been used as an equipment yard beginning in the 1960s, perhaps by Berkeley Steel Construction Company. Heavy industry in West Berkeley had been established well before the use of this property changed to industrial storage. The use of this parcel for industrial purposes was a late addition to these types of facilities in the area and occurred extremely late in West Berkeley's industrial history. This makes the subject property something of an anomaly within the area's industrial development context, inconsistent with the patterns of industrial growth and decline.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. While the parcel eventually came to be used by the Berkeley Steel Construction Company and later by the Berkeley Forge & Tool Company it is not significant within the context of these two companies or individuals associated with these firms.

The property does not appear to be eligible for listing in the California Register under Criterion 2.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The modern, industrial overhead gantry crane is utilitarian and likely mass produced. It has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings, structures or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 643 Camelia Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

City of Berkeley Landmark Evaluation
Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 643 Camelia Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The structure at 643 Camelia Street is of common and unremarkable utilitarian construction. It was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context with no distinctive characteristics that would make it a notable or important example of its period, style, or construction. It is not the first, last, only, or most significant example of industrial or utilitarian architecture in West Berkeley. No architect or builder were known to be involved with its design or construction; in fact, it was likely mass produced. It provides no exceptional architectural value to the neighborhood; thus, the property does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

The modern crane structure at 643 Camelia Street does not relate to nor was it influenced by religious, cultural, governmental, social, or economic events or developments in the area. The property does not appear to possess the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3.Educational value: Structures worth preserving for their usefulness as an educational force

The structure at 643 Camelia Street does not appear to have any use as an educational tool, as it is not associated with important events or people and is not outstanding as an example of industry or commerce in Berkeley, especially having been built so late in the timeline of the area's industrial history. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

The property at 643 Camelia Street does not reflect the industrial or commercial growth of Berkeley. This structure was constructed on the parcel in recent years. It does not accurately express the city's industrial or commercial history. The previous owners of this parcel do not appear to have been historically significant or have any noteworthy accomplishments to their names and no specific events of significance occurred at the property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 643 Camelia Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

City of Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, 643 Camelia Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and a relatively late addition to West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 643 Camelia Street would play a meaningful role. There are numerous other older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject structure is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

This structure, constructed late in West Berkeley's industrial history does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 643 Camelia Street. Three are smaller buildings, while the two properties that are larger in area consist of multi-building complexes that are not comparable to modern structure on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but these resources possess very different character in terms of materials and overall design. There is a structure in the neighborhood, the Berkeley Municipal Incinerator of 1913, unrelated to this crane in its design or function.

c. The structure is a good example of architectural design.

The structure at 643 Camelia Street is industrial in use and, consequently, has a highly utilitarian aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. No architect or builder were known to be involved with its design or construction.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The structure at 643 Camelia Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a late 20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the subject property would play a meaningful role.

Integrity
To qualify for historic designation, a property must possess significance under the aforementioned criteria, *and* possess historic integrity. The structure at 643 Camelia Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion
Based on the above analysis, the property at 643 Camelia Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource under the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

***B12. References Continued**

Sources

1982 Karen Jorgensen-Esmaili and Stephanie Manning. *Victorian Berkeley: The Community of Oceanview*.

1993 City of Berkeley. "West Berkeley Plan."

2018 JRP Consulting and Garcia & Associates for Caltrans. "Historic Resource Evaluation Report for the Proposed Interstate 80/Gilman Street Interchange Improvement Project."

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

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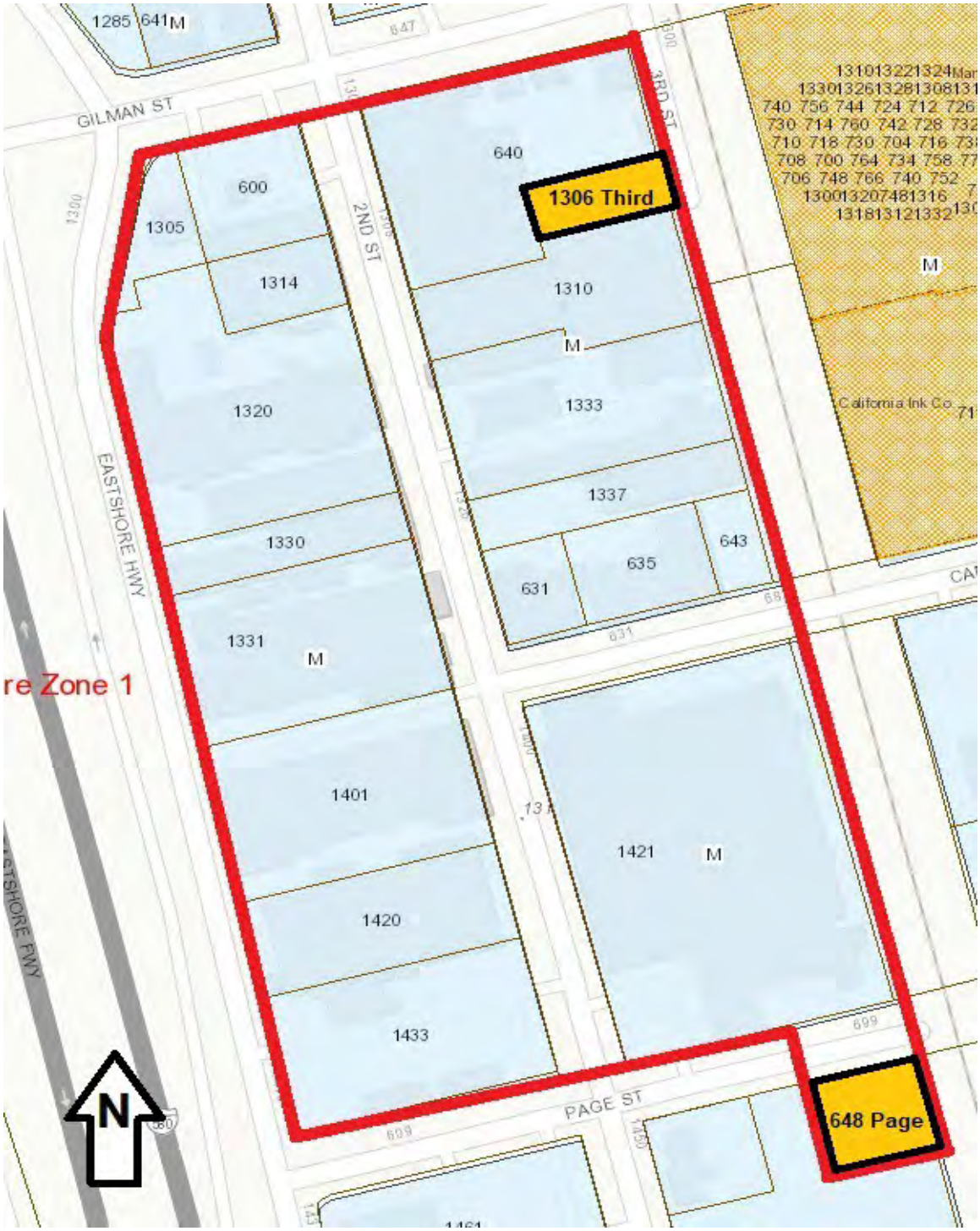
P5a. Additional Photographs

View looking north with rolling vehicular gate open.

APPENDIX SIX

California Department of Parks & Recreation 523 Forms

Single Unrelated Properties in the Project Area
1306 Third Street
648 Page Street



Properties Unassociated with Pacific Steel Casting Co. or Berkeley Steel Construction Co.
DPR 523 Forms follow

State of California The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial _____
NRHP Status Code 3CS

Other Listings

Review Code _____ Reviewer _____ Date _____

 ***Resource Name or #:** (Assigned by recorder) 1306 Third Street, Berkeley, CA

P1. Other Identifier:
***P2. Location:** Unrestricted
***a. County;** Alameda
***b. USGS 7.5':** Oakland West, Calif **Date:** 2015
c. Address 1306 Third Street City: Berkeley, California Zip: 94710
d. Other Locational Data: APN: 59-2345-2-1
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This building is located on the west side of Third Street, fronting the railroad tracks, south of Gilman Street. It is a one-story warehouse with a rectangular footprint. It has a low gable roof fronting Third Street. The roof is sheathed in composition roll roofing and is punched with numerous skylights and vents. The east façade is sheathed in corrugated metal siding. The north side of the east façade has a false, shaped parapet whereas the south side does not. The north end of the east façade has a metal, overhead vehicular door with a band of four, three-over-three, clerestory windows above. In this band of windows, the center window of the lower row of sash is operable. These windows appear to be replacements. North of the overhead door there is vertical feature that ends in an ached portion of the shaped parapet. Aligned under the rounded parapet is a pedestrian door with a top lite. Above the pedestrian door there is a set of fixed windows in two tall columns with four windows each. (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** X Building Structure Object Site District Element of District Other

P5a. Photograph or Drawing

P5b. Description of Photo:
East façade, looking southwest
November 2022

***P6. Date Constructed/Age and Sources:** 1944; City Building Permit

***P7. Owner and Address:**
Rosebloom Project, LLC
1306 Third Street
Berkeley, CA 94710

***P8. Recorded by:**
B. Maley; architecture + history, llc

***P9. Date Recorded:**
January 2023

***P10. Survey Type:** Intensive

***P11. Report Citation:** Gilman Gateway HRE

***Attachments:** Building, Structure, and Object Record (BSO) and Continuation Sheet

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 1306 Third Street, Berkeley, California 94710 ***NRHP Status Code** _____

B1. Historic Name: None **B2.** Common Name: 1306 Third Street
B3. Original Use: Industrial **B4.** Present Use: Live work
***B5. Architectural Style:** No particular style
***B6. Construction History:** This building was built in 1944 and appears on the 1950 Sanborn Map. In 1992 the Third Street façade was significantly altered when a new shaped parapet was installed. Some windows were replaced at that point. Other appear to have been replaced at a later date.

***B7. Moved?** No
***B8. Related Features:** None

B9a. Architect: Alben Froberg **b.** Builder: Christiansen and Lyons
***B10. Significance: Theme** Art **Area** West Berkeley, Alameda County, California
Period of Significance 1963-2002 **Property Type** Industrial **Applicable Criteria** Cal Reg 2
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The property at 1306 Third Street was developed near the end of World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like nearby Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

Compared to the war years, which had been spent in industrial overdrive, Berkeley's industrial activity waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, impacting the neighborhood (See Continuation Sheet).

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial building

***B12. References:**
(See parenthetical citations within text and on Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** B. Maley, architecture + history, llc

***Date of Evaluation:** January 2023

(This space reserved for official comments.)

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***P3a. Description (Continued)**
The shaped parapet and the tall set of windows above the pedestrian door were installed in 1992.

The south end of the east façade has a pedestrian door with a fixed, arched awning above. The door has a top lite. To the south of the door are paired, multi-lite windows with a fixed shed roof awning. Both awnings at this end of the façade are sheathed with corrugated metal roofing material. At the upper portion of the south end of the east facade, aligned with the clerestory windows at the north end, is a set of two, three-over-three windows. These windows appear to be replacements.

The north façade has five, three-over-three, clerestory, industrial sash windows with an operable center lower sash like those on the east façade. There do not appear to be any other openings on the north façade. The south façade is obscured by an adjacent building, but it appears that the upper portion of the façade has several windows. However, these windows appear to be of various types, sizes and eras and are likely replacement windows. The west façade is also obscured by an abutting building. There do not appear to be any windows at the upper portion of the west façade under the low gable.

***B10. Significance Continued**

Contextual History Continued
In 1956, zoning refinements were made, with property west of Sixth Street zoned as “special industrial.” This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off (Jorgensen-Esmaili and Manning, 1982).

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History
This warehouse was constructed in 1946 for the owner R. W. Van Deusen, by Christiansen and Lyons, the builder, and designed by architect Albert Froberg (COB Building Permit #59969, September 30, 1946, BAHA). The parcel had been purchased by the Chemical Packaging Company of 1315 Third Street in September 1944 (Donogh File, BAHA). However, this company does not appear to have built any structures on the parcel. Other than the presumed services described by its name, no information was found about the Chemical Package Company.

The parcel may be associated with other nearby properties owned by the Woolenius Tile Company (1315 Second Street) and Ray W. Van Deusen (1320 Third Street). Ray Van Deusen was the son-in-law of the owner of Woolenius Tile, Charles Elsenius, (Tile Heritage Foundation, tileheritage.org).

Ray Van Deusen continued to be associated with the property through the 1940s, as his name appears on real estate transactions and building permits. (Donough, BAHA permits) The 1950 federal census correspondingly indicates that Van Duesen was employed as a warehouse proprietor. While the other two buildings constructed by the team of Van Deusen, Christiansen and Lyons and Froberg were associated with Montgomery Ward, this building does not appear to share that association.

The building was being used by David C. Brannan (or Brannau?) by August 28, 1957. Brannan was a distributor of “stoves & refrigerators” (Donogh file, BAHA). The 1950 Sanborn Map is labeled “Warehouse” and “concrete floors and wood posts.”

The parcel was sold by Brannan to Peter H. and Margaret S. Voulkos on April 19, 1963 (Donogh File, BAHA). That same year Voulkos converted the building for use as his art studio (City of Berkeley Permit). Voulkos has been called “a Master of Expressive Ceramics.” Of Voulkos, and the building at 1306 Third Street, the Berkeley Historical Plaque Project (e-Plaque) notes:

> Internationally renowned ceramist Peter Voulkos moved his studio from Shattuck Avenue (near Ashby Avenue) to this building on 3rd Street in the mid 1960s. He lived and worked here until his death. Voulkos was an energetic and charismatic teacher and sculptor whose outsized personality was likened by one art critic to Zorba the Greek.

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> Panagiotis Voulkos (called Peter) was born in 1924 to Greek immigrant parents in Bozeman, Montana. Drafted in 1943, he spent three years as an airplane gunner in the Pacific. With funds from the GI Bill, he returned to Montana to study ceramics before coming to the California College of the Arts and Crafts in Oakland, where he earned an MFA.
>
> Attracted to the freedom and spontaneity of abstract expressionist painting, in the mid 1950s Voulkos abandoned the vessel forms he had perfected as a student. He rejected functionalism, pushing ceramics in radical new directions. Voulkos' increasingly large, violent, passionate, rough, torn, ripped, gouged, broken, and pounded works were often left unglazed or spattered in a painterly manner. Major art museums worldwide exhibited and purchased his sculptures, effectively blurring the distinction between art and craft.
>
> Voulkos came to the University of California, Berkeley in 1959 and established a ceramics studio as part of what was then called the Design Department. The studio quickly became a hotbed of creativity, attracting students from all the arts as well as other disciplines and inspiring many to pursue successful artistic careers. After retiring in 1985, he continued making large cast metal and ceramic sculpture. (Berkeley Historical Plaque Project - https://berkeleyplaques.org/e-plaque/peter-voulkos/ - contributed by Robert Kehlmann, 2012).

Voulkos had studied at Montana State University in Bozeman and was affiliated early in his career with the sculptor, Rudy Autio, who founded the world-renown Archie Bray Institute in Helena, Montana. In the summer of 1953, Voulkos taught a course at the now famous, experimental, interdisciplinary, Black Mountain College, near Asheville, N.C. (*New York Times*, Obituary, February 21, 2002). Of this experience Voulkos' New York Times obituary stated:

> There he met men who were soon to be legends, including Robert Rauschenberg, John Cage, Merce Cunningham and Charles Olson. Afterward, he visited New York City, where he met Abstract Expressionist painters like Philip Guston, Willem de Kooning and Franz Kline (*New York Times*, February 21, 2002)

Voulkos then migrated west, teaching at the Otis College of Art and Design in Los Angeles for five years, beginning in the fall of 1953. He relocated again to northern California to begin a long tenure at the University of California, Berkeley. Of his work, in a University of California, Berkeley-published obituary noted:

> There is hardly a major museum in America without a work of his in its collection. The best examples in Europe are at the Stedelijk Museums in Amsterdam and Eindhoven, and at the Victoria and Albert Museum in London. His largest following abroad has been in Japan, where there are Voulkos works at the National Museum of Modern Art in Kyoto and in the many prefectural ceramics museums that one finds there (UCB in Memoriam - https://senate.universityofcalifornia.edu/_files/inmemoriam/html/PeterVoulkos.htm)

The 1981 Sanborn Map notes that the building was being used as an "Ornamental Art Studio" (COB, Sanborn Map, Planning Department). This was most likely referring to Voulkos' studio. In 1986, ceramicist Sandy Simon acquired property which at the time had three units: one main unit, two smaller units (City of Berkeley). However, Voulkos continued to use a portion of the building for his studio until he died in February 2002. Sandy Simon, started TRAX gallery in 1995 in this building along the railroad tracks in West Berkeley. The focus of TRAX was to showcase exceptional functional wares from potters across the U.S. committed to making pots. In 2001, Simon and her husband Robert Brady moved TRAX to 1812 5th Street (TRAX Gallery website - https://traxgallery.com/artist/sandy-simon/). The front façade of 1306 Third Street may be more reflective of Simon's use of the building.

In 1992, the City of Berkeley permitted office use in the building. In 2004 the City of Berkeley issued a zoning determination that the three live/work units that have been occupied since the 1960s were legally non-conforming.

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Architects/Builders
Alben Froberg is listed as the architect of this building on the original building permit. Froberg was educated at University of California, Berkeley, under John Galen Howard. He earned a civil engineering degree in 1913 and became a licensed architect in 1915. In 1920, he worked as a draftsman for San Francisco architect Frederick Whitton. He was eventually based in Oakland and appears to have worked solo at some points, but also partnered with builders Christensen & Lyons, especially the former Henry J. Christensen. *Building & Engineering News,* as far back as the late 1920s, shows Froberg and Christensen working together on projects, while a number of building permits for properties in the Study Area that have dates into the 1940s, list Froberg as the architect and Chistensen & Lyons as the builders. In both cases, the two parties shared a business address (a location in Oakland) indicating that they had a formal collaborative arrangement lasting for years.

Froberg's portfolio includes a number of commercial and industrial buildings in Oakland and Berkeley, including the Laher Auto Spring Company Factory (1925, 2619-25 Magnolia Street, Oakland), the Consolidated Freightways Warehouse (1940-41, 1700 24th Street, Oakland), the Connell GMC Pontiac Cadillac dealership (1947, 3093 Broadway, Oakland), I.B. Hoagie's building (1950, 1601 San Pablo Ave., Oakland), and industrial shipyard buildings in Alameda. Froberg's career spanned into the 1950s, and at least a few of his buildings exhibited the Streamline Moderne and Googie styles that were popular toward the end of his career. (Oakland Wiki)

As noted, Froberg often worked with builders Christensen & Lyons and may have even had a formal collaborative arrangement with them. Christensen & Lyons, itself was a partnership or collaboration between the H.J. Christensen Construction Co. and the N.E. Lyons Construction Co., which are listed together but as distinct companies on building permits (ie: a rubber stamp used on the permits names both companies together). Like Froberg, Christensen & Lyons are listed as the builders of a number of buildings in the Study Area. The Froberg, Christensen & Lyons collaboration is also responsible for other projects in the Study Area, primarily for the Pacific Steel Casting Company. Other than the above information, little additional information was found about the Christensen & Lyons partnership. Projects of H.J. Christensen's listed in *Building & Engineering News* tend to focus on buildings with industrial and utilitarian uses.

California Register Evaluation
The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 1306 Third Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The property was used by a number of small light-industrial businesses, primarily for warehousing purposes, throughout its history. This fits the industrial context of the area; however, it was not outstanding or influential within the industrial context that dominated a broad area of West Berkeley and the East Bay shoreline, included numerous other industrial uses, and which had been established well before the development of the current buildings on the property. During the period that the building was used by American master artist and sculptor Peter Voulkos no significant historical events are known to have occurred on the property.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The building at 1306 Third Street is associated with American master artist and sculptor Peter Voulkos, an innovative, prolific expressive ceramicist and metallurgist who taught at the University of California, Berkeley and whose works of art are found in almost every major American art museum with a significant sculpture collection and in other museums worldwide. The property appears to be eligible for listing in the California Register under Criterion 2 at the local level for its long association (1963-2002) with American sculptor Peter Voulkos, who created significant works of art in this space. It is unclear if Voulkos used the space after Sandy Simon purchased the property.

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Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The building at 1306 Third Street is industrial in character and consequently, utilitarian in architectural aesthetic; that is, it was designed and constructed strictly to fulfill its intended warehousing functions and have no definable architectural style or artistic value. As a utilitarian industrial building, it is common and unremarkable within the context of West Berkeley, with no distinctive characteristics that would make it notable or important examples of their type, period, region, or method of construction. Further, the building, especially the east façade, was modified in 1991. Architect Alben Froberg and builders Christensen & Lyons were involved with the design and construction of this building in 1946. While the architect and builders appear to have been active and successful professionals in Oakland and Berkeley, they do not rise to the level of "important creative individuals." Other better, representative examples of Froberg's design and Christiansen's construction exist locally.

The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 1306 Third Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

Berkeley Landmark Evaluation
Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 1306 Third Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The building at 1306 Third Street is of common and unremarkable utilitarian construction. It was designed and constructed strictly to fulfill an intended industrial warehousing function and has no definable architectural style or artistic value. As a utilitarian industrial building it is common and unremarkable within its context of industrial development in West Berkeley with no distinctive characteristics that would make it notable or an important example of its period, style, or construction. It is not the first, last, only, or most significant example of industrial or utilitarian architecture in West Berkeley. The architect and builders are known, but do not appear to have been influential or considered important creative individuals or masters. The property provides no exceptional architectural value to the neighborhood, thus, it does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

This building was the studio of master American sculptor Peter Voulkos. The property appears to have the high cultural value that would qualify it as a Berkeley Landmark under this criterion for its association with American master artist and sculptor Peter Voulkos, an innovative, prolific expressive ceramicist and metal sculptor who taught at the University of California, Berkeley and whose works of art are found in almost every major American art museum with a significant collection sculpture and in other museums worldwide. Voulkos used the building as his art studio from 1963, when he and his wife purchased the building, to 2002 when he died. He created significant works of art in this space. Voulkos also had a large building in Oakland at 951 62nd Street that he purchased in 1976. The Oakland building is called The Dome and is still in use by Voulkos' daughter today.

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3.Educational value: Structures worth preserving for their usefulness as an educational force

The property at 1306 Third Street does not appear to have any use as an educational tool, as is not outstanding as an example of industry or commerce in Berkeley. Numerous other properties could better illustrate the full extent of industrial activities in West Berkeley, spanning back to the late 19th and early 20th centuries. Further, as it has been altered and has not been consistently used as a ceramic studio, it is not able to fully convey its use by Peter Voulkos. Therefore, it does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 1306 Third Street does not reflect the industrial or commercial growth of Berkeley. The building's construction in 1946 occurred after World War II. It does not reflect West Berkley's initial industrial development nor its war-era boom. The building's significant owners and occupant, Peter Voulkos is historically significant within the area of culture and art at the local level and perhaps even at a national level The building possesses high historic value that would qualify it as a Berkeley Landmark under this criterion for its association with the work of Peter Voulkos.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 1306 Third Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. *General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.*

Does not apply: Meets Landmark Criteria 2 and 4 as detailed above.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

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Only some of the later buildings of the approximately 20-building California Ink Company Industrial site might be contemporaneous with the building at 1306 Third Street; however, that Landmark also consists of other buildings that are older and newer, while other Landmarks in the area are also much older. Built in 1946, the construction of building on the subject property does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant industrial development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 1306 Third Street. Three are smaller buildings than the structures at 1306 Third Street, while the two properties that are larger in area consist of multi-building complexes that are not comparable to the single building on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but have much different character in terms of materials and overall design. These nearby Landmarks and subject building have few physical characteristics in common.

c. The structure is a good example of architectural design.

The building at 1306 Third Street is industrial in use and, subsequently, utilitarian in architectural aesthetic; that is, it was designed and constructed strictly to fulfill its intended warehousing function and has no definable architectural style or artistic value. As a utilitarian industrial building it is common and unremarkable within the context of West Berkeley, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. The architect and builders that were involved with the property's design and construction do not appear to rank as important or influential designers or builders.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The building is reflective of mid-20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood with regard to its architecture. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 1306 Third Street would play a meaningful role. However, the building is associated with innovative American sculptor and ceramicist Peter Voulkos and was used by him as a studio from 1953 to 2002 (need to confirm dates of use).

Integrity
In order to qualify for historic designation, a property must possess significance under the aforementioned criteria *and* have historic integrity. The building at 1306 Third Street appears to possess the historic significance for its association with the work of innovative American sculptor and ceramicist Peter Voulkos.

The front façade has been altered, and its integrity of design, materials and workmanship have been somewhat altered from the period of significance. It retains integrity of location and setting. It also retains integrity of association with Peter Voulkos and the feeling of an industrial building converted to artist use.

Conclusion
Based on the above analysis, the property at 1306 Third Street appears to be eligible for listing the California Register of Historical Resources and as a City of Berkeley Landmark. Therefore, it qualifies as a Historic Resource under the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***B12. References Continued**

Sources

1946 *Berkeley Daily Gazette*, October 8, 1946. Building Permit Announcement "1306 Third Street, $3000."

1946 City of Berkeley Building Permit Number #59969, September 30, 1946, BAHA Collection.

1968 "Tour to Visit Bay Area Art Studios." *Oakland Tribune*. April 21, 1968, 34-EN.

1982 Karen Jorgensen-Esmaili and Stephanie Manning. *Victorian Berkeley: The Community of Oceanview*.

1995 Voulkos, Peter. *The Art of Peter Voulkos*. Oakland and Tokyo: Oakland Museum and Kodansha International, 1995.

2002 "Peter Voulkos, 78, a Master of Expressive Ceramics, Dies." *New York Times*, Obituary, February 21, 2002, Section B, Page 9.

2016 Adamson, Glenn, Andrew Perchuk, and Barbara Paris Gifford. *Voulkos: The Breakout Years*. Museum of Art and Design, London: Black Dog Publishing, 2016.

No date Oakland Wiki. https://localwiki.org/oakland/Alben_R._Froberg

No date UC Berkeley. Academic Senate, In Memoriam. Voulkos, Peter (1924-2002), Professor of Art.

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

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P5a. Additional Photographs

Above: East façade, looking west. November 2022.
Below: Detail of east and north façades, looking southwest. November 2022.

State of California The Resources Agency **DEPARTMENT OF PARKS AND RECREATION**	Primary # HRI #
PRIMARY RECORD	Trinomial _____ **NRHP Status Code**
Other Listings	
Review Code _____ Reviewer _____ Date _____	

 ***Resource Name or #:** (Assigned by recorder) 648 Page Street, Berkeley, CA

P1. Other Identifier:
***P2. Location:** Unrestricted
***a. County;** Alameda
***b. USGS 7.5':** Oakland West, Calif **Date:** 2015
c. Address 648 Page Street City: Berkeley, California Zip: 94710
d. Other Locational Data: APN: 59-2323-1
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This building is located at the southwest corner of Page Street and Third Street in West Berkeley. It is a one-story warehouse with a front facing gable. The exterior walls are sheathed in corrugated metal sheets. The roof is also covered in corrugated metal sheets. It has a centered, metal, overhead vehicular door at the Page Street façade. The overhead door has no glazed openings or pedestrian door inset. There is a horizontal metal strip above the overhead door that likely protects an obsolete rolling door track. There is a second building or an addition on the parcel, which is situated at rear, south, of the main building. This smaller building has a gable roof running in the opposite direction of the main building. This addition is not illustrated on the most recent Sanborn Map from the mid-1980s. (Berkeley Planning Department). The remainder of the parcel is surrounded by chain link fencing (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP8. Industrial building

***P4. Resources Present:** X Building Structure Object Site District Element of District Other

P5a. Photograph or Drawing

P5b. Description of Photo:
North façade, looking south
November 2022

***P6. Date Constructed/Age and Sources:** 1954; City Building Permit

***P7. Owner and Address:**

***P8. Recorded by:**
B. Maley; architecture + history, llc

***P9. Date Recorded:**
January 2023

***P10. Survey Type:** Intensive

***P11. Report Citation:** Gilman Gateway HRE

***Attachments:** Building, Structure, and Object Record (BSO) and Continuation Sheet

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** 648 Page Street, Berkeley, California 94710 ***NRHP Status Code** 6Z
Page 2 **of** 6

B1. Historic Name: None **B2.** Common Name: 648 Page Street
B3. Original Use: Industrial Warehouse **B4.** Present Use: Vacant
***B5. Architectural Style:** No definable style
***B6. Construction History:** This building was constructed in 1954 per City of Berkeley building permits; the rear addition was not present on the mid-1980s Sanborn Map.

***B7. Moved?** No
***B8. Related Features:** None

B9a. Architect: Unknown **b.** Builder: Unknown
***B10. Significance: Theme** None **Area** West Berkeley, Alameda County, California
Period of Significance None **Property Type** Industrial **Applicable Criteria** None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Contextual History
The property at 648 Page Street was developed in 1954, almost ten years after the conclusion of World War II. During the war, manufacturing and production had skyrocketed, with the San Francisco Bay Area serving as an epicenter for shipbuilding and other war-time industry. Berkeley played a significant role and West Berkeley, sitting on the shoreline that was almost entirely built out with industrial plants from Oakland to Richmond, was at the forefront.

While no shipbuilding, or the like, occurred in West Berkeley, the factories already in place – in particular, steel mills and foundries like nearby Pacific Steel Casting and the Berkeley Steel Construction Company – entered into government contracts to produce parts that were then transported to the shipyards, like those in nearby Richmond, for installation in Navy vessels.

Compared to the war years, which had been spent in industrial overdrive, Berkeley's industrial activity waned once peace was reinstated. While much of the nation experienced post-war prosperity, West Berkeley fell into decline as local factories had to cut back their workforce and slow production, albeit to more normal levels. The physical plants themselves fell into disrepair and many were vacated, impacting the neighborhood (See Continuation Sheet).

B11. Additional Resource Attributes: (List attributes and codes)
HP8. Industrial Building

***B12. References:**
(See parenthetical citations within text and on Continuation Sheet)

B13. Remarks: None

***B14. Evaluator:** B. Maley, architecture + history, llc

***Date of Evaluation:** January 2023

(This space reserved for official comments.)

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***B10. Significance Continued**

Contextual History Continued
In 1956, zoning refinements were made, with property west of Sixth Street zoned as "special industrial." This was intended to concentrate more heavy industry toward the highway and water, while lighter industry and mixed-uses created a buffer between it and the rest of Berkeley to the east. A 20-block West Berkeley Industrial Park was envisioned south of Cedar Street and south of the Study Area, but while some land was cleared and sold to developers, the industrial park scheme failed to take off (Jorgensen-Esmaili and Manning, 1982).

In 1970, the West Berkeley Redevelopment Project initiated an effort to revitalize the challenged area. As with redevelopment in so many communities, this involved the demolition of buildings deemed blighted. In West Berkeley, 42 houses were demolished before local concern, and some federal assistance, stopped the clearance and other methods for revitalizing the neighborhood were perused. (BAHA)

Property History
This parcel is illustrated on the 1911, 1929, and 1950 Sanborn Map, but was undeveloped on all three maps (Sanborn Maps, FIMO). The building at 648 Page Street was built in 1954 for $6,000.00 for George A. Scott by Soule Steel for use as a warehouse (City of Berkeley Building Permit #76538). Scott's address was noted as 3075 Telegraph Avenue, Berkeley. Scott established a company called the Concrete Grid Form Company and he developed multiple buildings in West Berkeley constructed of an unusual building system of pre-cast concrete wall panels with translucent glass blocks set into the concrete to form various geographic patterns. His office building on Telegraph was one of these concrete form buildings. He employed architects Bernard Maybeck and Walter Steilberg to consultant on the designs (Cerny, *Berkeley Daily Planet,* August 10, 2002). It is unclear how Scott used this warehouse or for how long, but it does not employ this distinctive construction technique and it was built by Soule Steel, an early manufacturer of fabricated steel buildings, founded by Edward Soule in San Francisco, with its main office on Army Street (Wikipedia, Soule Steel Company).

The 1954 building is visible on 1958 and 1965 aerial photographs (UCSB Library Collection). By the mid-1980s Sanborn Map, the parcel was shown with a one-story warehouse at the western end of the parcel, fronting Page Street. It was labeled "Machine Shop" and was noted to have a concrete floor. The building or addition at the rear post-dates the mid-1980s Sanborn (Berkeley Planning Department). The building was owned by 1986 this warehouse was owned by Thomas Impey of Clearview Valves of 631 Camelia Street.

California Register Evaluation
The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more criteria relating to historically significant events, people, architects or architectural merit, or information potential. The following provides an evaluation of the historic significance of 648 Page Street:

Criterion 1 (Event): *Resources that are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*

No specific events of historical importance are known to have occurred at the property. The property was developed late in West Berkeley's industrial development and is somewhat inconsistent with the patterns of industrial growth and decline. While the property appears to be linked with George A. Scott and his Concrete Grid Form Company, it does not appear to have played any significant role in that particular business.

The property does not appear to be eligible for listing in the California Register under Criterion 1.

Criterion 2 (Persons): Resources associated with the lives of persons important in our past.

The property is not associated with any people important to local, state, or national history. No persons of historic significance have been identified as affiliated with the property. While the property appears to be linked with George A. Scott and his Concrete Grid Form Company, it does not appear to have played any significant role in that particular business or have been significant in relation to Scott's innovative design work. The property does not appear to be eligible for listing in the California Register under Criterion 2.

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Criterion 3 (Architecture): *Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*

The modern, industrial warehouse was created from fabricated building materials by Soule Steel. It has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. While the building appears to be linked with George A. Scott and his Concrete Grid Form Company, it does not appear to have played any significant role in that particular business or have been significant in relation to Scott's innovative design work. It is not an example of his unique concrete form buildings. The property does not appear to be eligible for listing in the California Register under Criterion 3.

Criterion 4 (Information Potential): *Resources that have yielded, or may be likely to yield, information important in prehistory or history.*

Criterion 4 is typically concerned with archaeological investigation. Where buildings, structures or architectural elements are concerned, Criterion 4 typically relates to rare construction types, of which 648 Page Street is not an example.

The property does not appear to be eligible for individual listing in the California Register under Criterion 4.

City of Berkeley Landmark Evaluation
Berkeley Landmarks are designated historical resources within the City of Berkeley. Resources may be designated as Landmarks if they meet one or more of five criteria similar to those used for the California Register, but which elaborate on areas of significance. The following provides an evaluation of the historic significance of 643 Camelia Street according to local significance criteria:

1. Architectural Merit:
a-c. Property that is the first, last, only or most significant architectural property of its type in the region; Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

The structure at 648 Page Street is of common and unremarkable utilitarian construction. It was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context with no distinctive characteristics that would make it a notable or important example of its period, style, or construction. It is not the first, last, only, or most significant example of industrial or utilitarian architecture in West Berkeley. The building was likely mass produced and while it is reflective of the buildings developed by Soule Steel, it is not a unique or excellent example of a fabricated structure. It provides no exceptional architectural value to the neighborhood; thus, the property does not appear to qualify it as a Berkeley Landmark under this criterion.

2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.

The modern structure at 648 Page Street does not relate to nor was it influenced by religious, cultural, governmental, social, or economic events or developments in the area. It was built in 1954 and while the property appears to be linked with George A. Scott and his Concrete Grid Form Company, it does not appear to have played any significant role in that particular business. The property does not appear to possess the high cultural value that would qualify it as a Berkeley Landmark under this criterion.

3.Educational value: Structures worth preserving for their usefulness as an educational force

The structure at 648 Page Street does not appear to have any use as an educational tool, as it is not associated with important events or people and is not outstanding as an example of industry or commerce in Berkeley, especially having been built after World War II and in a later era of the area's industrial history. It therefore does not appear to have the high educational value that would qualify it as a Berkeley Landmark under this criterion.

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4. Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States. History may be social, cultural, economic, political, religious or military.

The property at 648 Page Street does not reflect the industrial or commercial growth of Berkeley. The main structure was constructed on the parcel in 1954. It does not appear to have been significant within the industry and commerce that was happening in West Berkeley in the era after World War II. The building's owners and occupants do not appear to have been conducted important work or involved in specific events of significance at this property. It therefore does not appear to have the high historic value that would qualify it as a Berkeley Landmark under this criterion.

5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

The property at 648 Page Street is not listed in the National Register of Historic Places and therefore does not qualify as a Berkeley Landmark under this criterion.

City of Berkeley Structure of Merit
Berkeley Structures of Merit are designated historical resources within the City of Berkeley. Resources may be designated as Structures of Merit if they meet general and/or specific criteria. An evaluation follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

As assessed under Berkeley Landmark criteria, 648 Page Street is not of great architectural merit or cultural, educational, or historic value. It is an unremarkable and a relatively late addition to West Berkeley's industrial development. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which 648 Page Street would play a meaningful role. There are numerous other older industrial buildings, better illustrative of West Berkeley's industrial history, such that the subject structure is not exceptional or representative of a type, style, development pattern, or the work of a particular architect or builder. Therefore, the property does not appear to qualify as a Structure of Merit under the General Criteria.

Specific Criteria

a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

Within a quarter-mile radius of the Study Area there are five City of Berkeley Landmarks of Structures of Merit. They are:

- Berkeley Municipal Incinerator – 1120 Second Street, built 1913, industrial use
- Manasse-Block Tanning Co. - 1300 Fourth Street, built 1898/1905/1906/1922/1937, industrial use
- California Ink. Co Industrial Site – 1326-1404 Fourth Street, built 1906-1978, industrial use
- Sutter Langel House – 1521 Fifth Street, built 1895, residential use
- Charles R. Brown House – 1614 Sixth Street, built 1888, residential use

This structure, constructed late in West Berkeley's industrial history does not coincide with any major event or historic period specific to Berkeley's history and is not representative of the early or significant development of West Berkeley.

b. The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.

As noted, five designated Landmarks are located within a quarter mile of 648 Page Street. Three are smaller buildings, while the two properties that are larger in area consist of multi-building complexes that are not comparable to modern structure on the subject property. Two of the Landmark properties also exhibit somewhat utilitarian industrial design, but these resources possess very different character in terms of materials and overall design. The nearby Landmarks and subject structure share few physical characteristics in common.

c. The structure is a good example of architectural design.

The structure at 643 Camelia Street is industrial in use and, consequently, has a highly utilitarian aesthetic; that is, it was designed and constructed strictly to fulfill its intended functions and has no definable architectural style or artistic value. As a utilitarian industrial structure, it is common and unremarkable within its context, with no distinctive characteristics that would make it a notable or important example of its type, period, region, or method of construction. It was mass produced by Soule Steel as a typical warehouse.

d. The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings.

The structure at 648 Page Street demonstrates no particular historical significance within the context of Berkeley's history or that of the neighborhood that surrounds it. It is a late 20th century element of West Berkeley industrial development, and not one of the earliest nor more noteworthy properties developed in the neighborhood. Study of buildings around the property does not indicate any significantly cohesive or thematically representative grouping for which the subject property would play a meaningful role.

Integrity
To qualify for historic designation, a property must possess significance under the aforementioned criteria, *and* possess historic integrity. The structure at 648 Page Street does not appear to possess the historic significance necessary to qualify for designation; therefore, an analysis of its integrity is not required.

Conclusion
Based on the above analysis, the property at 648 Page Street does not appear to be eligible for listing the California Register of Historical Resources or as a City of Berkeley Landmark or Structure of Merit. Therefore, it does not qualify as a Historic Resource under the California Environmental Quality Act (CEQA).

No designated historic district is present within, or comprised of, the Study Area. Although many properties in the Study Area that are addressed by this evaluation share common industrial uses and, in some cases, common ownership and design/construction professional, it has been determined that these uses and associations, in themselves, do not rise to a level of significance that the related properties would constitute a historic district at the local, state, or national levels.

*Recorded by: B. Maley, architecture + history, llc *Date: January 2023 **X** Continuation Update

***B12. References Continued**

Sources

1954 City of Berkeley. Building Permit Number #76538, November 30, 1954. Microfiche.

1982 Karen Jorgensen-Esmaili and Stephanie Manning. *Victorian Berkeley: The Community of Oceanview*.

2002 Susan Cerny, "An Unusual Building System was Developed in Berkeley." *Berkeley Daily Planet,* August 10, 2002.

2009 Susan Cerny, BAHA, Berkeley Landmarks, "Bernard Maybeck and Berkeley's Concrete Grid-Form Wall Panels," December 3, 2009.

No date Wikipedia Soule Steel Company

Archival Information

Berkeley Architectural Heritage Association (BAHA)
City of Berkeley Planning & Development Department
Internet Archive
NETR Online, Historic Aerials
NewspaperArchive.com
Newspapers.com
Sanborn Fire Insurance Map archives via ProQuest and FIMO
University of California Riverside, California Digital Newspaper Collection
University of California Santa Barbara Library, aerial photographs collection

APPENDIX D

NATIVE AMERICAN HERITAGE COMMISSION RESPONSE LETTER

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NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
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COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[Vacant]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 14, 2023

Ashley James
City of Berkeley

Via Email to: AJames@cityofberkeley.info

Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Gilman Gateway Rezone Project, Alameda County

Dear Ms. James:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was positive. Please contact the tribes on the attached list for more information.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address:

Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Alameda County
2/14/2023

Amah MutsunTribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road — Costanoan
Lakeport, CA, 95453
Phone: (650) 851 - 7489
Fax: (650) 332-1526
amahmutsuntribal@gmail.com

Costanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street — Costanoan
Pomona, CA, 91766
Phone: (909) 629 - 6081
Fax: (909) 524-8041
rumsen@aol.com

Guidiville Indian Rancheria
Donald Duncan, Chairperson
P.O. Box 339 — Pomo
Talmage, CA, 95481
Phone: (707) 462 - 3682
Fax: (707) 462-9183
admin@guidiville.net

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD Contact
1615 Pearson Court — Costanoan
San Jose, CA, 95122
Phone: (408) 673 - 0626
kanyon@kanyonkonsulting.com

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28 — Costanoan
Hollister, CA, 95024
Phone: (831) 637 - 4238
ams@indiancanyons.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Charlene Nijmeh, Chairperson
20885 Redwood Road, Suite 232 — Costanoan
Castro Valley, CA, 94546
Phone: (408) 464 - 2892
cnijmeh@muwekma.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano, Vice Chairwoman
20885 Redwood Road, Suite 232 — Costanoan
Castro Valley, CA, 94546
Phone: (408) 205 - 9714
monicavarellano@gmail.com

North Valley Yokuts Tribe
Katherine Perez, Chairperson
P.O. Box 717 — Costanoan
Linden, CA, 95236 — Northern Valley
Phone: (209) 887 - 3415 — Yokut
canutes@verizon.net

North Valley Yokuts Tribe
Timothy Perez,
P.O. Box 717 — Costanoan
Linden, CA, 95236 — Northern Valley
Phone: (209) 662 - 2788 — Yokut
huskanam@gmail.com

The Ohlone Indian Tribe
Andrew Galvan, Chairperson
P.O. Box 3388 — Bay Miwok
Fremont, CA, 94539 — Ohlone
Phone: (510) 882 - 0527 — Patwin
Fax: (510) 687-9393 — Plains Miwok
chochenyo@AOL.com

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. — Foothill Yokut
Salinas, CA, 93906 — Mono
Phone: (831) 443 - 9702
kwood8934@aol.com

The Confederated Villages of Lisjan
Corrina Gould, Chairperson
10926 Edes Avenue — Bay Miwok
Oakland, CA, 94603 — Ohlone
Phone: (510) 575 - 8408 — Delta Yokut
cvltribe@gmail.com

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65352.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed Gilman Gateway Rezone Project, Alameda County.

APPENDIX E

TRANSPORTATION IMPACT ANALYSIS

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TRANSPORTATION IMPACT ANALYSIS

Gilman Gateway Rezone Project

PREPARED FOR
Forge Development LLC
City of Berkeley

PREPARED BY
Fehr & Peers
FEHR & PEERS

DATE
January 2024

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0. Executive Summary

This report presents the transportation impact analysis conducted for the Gilman Gateway Rezone Project in West Berkeley. At maximum buildout, the Rezone Project would result in just over 1,000,000 square feet of new R&D/ office uses in the area bound by Gilman Street to the north, Union Pacific railroad tracks to the east, Page Street to the south, and Eastshore Highway to the west.

The main findings are summarized below:

- **VMT:** The Project would have a less-than-significant impact on vehicle miles traveled (VMT), with the implementation of a transportation demand management (TDM) Plan, which would reduce the VMT generated by the Project.
- **TDM Plan**: The Project would implement a TDM plan that would reduce the VMT by between six to ten percent. The main components of the TDM Plan include:
    - Shuttle service to BART and Amtrak
    - Potential extension of bus service closer to the Project area
    - Bicycle parking and amenities
    - Transit fare subsidy
    - Marketing and education
- **Automobile Trip Generation:** The Gilman Gateway Rezone Project is estimated to generate about 9,980 daily, 918 AM, and 868 PM peak hour automobile trips.
- **Traffic Operations:** Since Project effects on traffic congestion is not considered an environmental topic under CEQA, the effects of the Project on traffic operations at the intersections serving the Project is completed outside the CEQA process. Based on the analysis, which accounts for the completion of the currently under-construction I-80/Gilman Street Interchange Project and traffic generated by other approved and pending development projects in the area, the Project would trigger the City of Berkeley's thresholds for traffic operations at the currently under construction Gilman Street/I-80 Ramps roundabouts.

  The I-80 Ramp intersections on Gilman Street currently operate at Level of Service (LOS) E or LOS F during both AM and PM peak hours. After the completion of the I-80/Gilman Street Interchange Project, both roundabouts are estimated to operate at LOS D or better during the AM and PM peak hours. The Gilman Street/I-80 Ramps/West Frontage Road intersection (the West Roundabout) is estimated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour and the Gilman Street/I-80 Ramps/Eastshore Highway intersection (the East Roundabout) is estimated to operate at LOS F during both AM and PM peak hours after Project completion. The Project is also estimated to increase the queues on the southbound I-80 Off-Ramp at Gilman Street to spill back onto the freeway mainline during the AM peak hour.

Implementation of the TDM Plan would reduce the delay at the roundabouts but they would continue to operate at LOS E or LOS F during the AM and PM peak hours.

Other improvements, such as a more rigorous TDM Plan, keeping the at-grade railroad crossing on Camelia Street open, and/or installing metering signals upstream of the roundabouts on the West Frontage Road and/or Eastshore Highway, could improve conditions at the roundabout. However, the feasibility and effectiveness of these measures is not known at this time.

All other evaluated study intersections would operate at LOS D or better during both the AM and PM peak hours.

The traffic operations analysis completed for the Project is somewhat conservative in that it is based on pre-pandemic traffic volumes which may overestimate current traffic volumes in the study area, assumes similar rates of traffic diversion from the I-80 freeway to the West Frontage Road as pre-pandemic conditions, and does not account for upstream bottlenecks that may constrain the vehicle volumes that reach the roundabouts during the peak congestion periods.

- **Access and Circulation:** The Project would accommodate access and circulation for passenger automobiles, trucks, bicycles, pedestrians, and emergency vehicles in and around the Project area. This report includes recommendations, which are provided at the end of Chapter 7 and would need to be approved by the City of Berkeley staff, to improve access and circulation around the Project area. Note that the final circulation plans for the Project will be refined in coordination with the City of Berkeley and designed to meet City standards.

1. Introduction

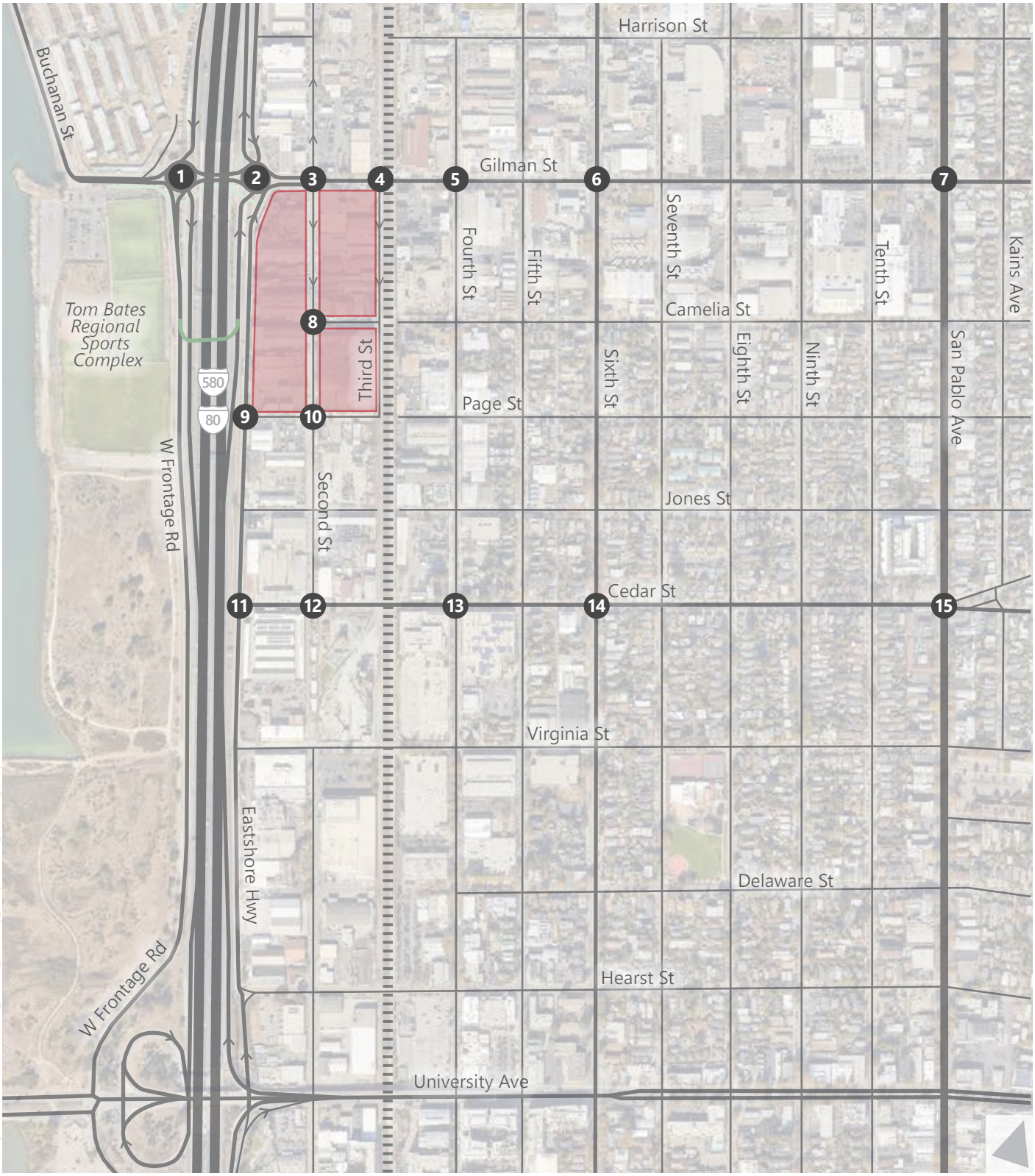
This report evaluates the effects of the proposed Gilman Gateway Rezone Project on traffic and transportation. Maximum buildout of the Rezone Project would result in just over 1,000,000 square feet of new R&D/office uses in the area bound by Gilman Street to the north, Union Pacific railroad tracks to the east, Page Street to the south, and Eastshore Highway to the west. The Berkeley Forge Project is the primary component of the Gilman Gateway Rezone Project, which would consist of about 890,000 square feet of new R&D/office uses. This report evaluates the effects of the larger Gilman Gateway Rezone Project on the off-site transportation network and provides a more detailed evaluation of the Project area for the Berkeley Forge Project, specifically.

Figure 1 shows the location of the Project site and study intersections.

1.1 Report Organization

This report is divided into the following seven chapters:

- ***Chapter 1 – Introduction*** describes the analysis methods used for the traffic operations analysis of the Project. This chapter also includes the criteria used to determine the substantial effects caused by the Project.
- ***Chapter 2 – Existing Conditions*** describes the existing conditions within and in the vicinity of the Project area, including the existing roadway network, traffic operations, transit, and bicycle and pedestrian circulation, and a summary of expected changes to the transportation network.
- ***Chapter 3 – Project Transportation Characteristics*** describes the Project, the estimated number of trips generated by the Project, and the projected trip distribution and assignment of Project trips.
- ***Chapter 4 – VMT Assessment*** describes the VMT assessment for the Project.
- ***Chapter 5 – Traffic Operation Analysis*** describes traffic operations under Near-Term No Project and Near-Term Plus Project conditions and identifies potential substantial effects of the Project on traffic operations.
- ***Chapter 6 – Congestion Management Program Analysis*** summarizes the analysis as required by the Alameda County Transportation Commission.
- ***Chapter 7 – Access, Circulation, and Parking*** evaluates the multimodal access and circulation, and parking for the Project.



Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Study Intersections

Figure 1

Project Site and Study Locations

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1.2 Intersection Operations Analysis Methodology

1.2.1 Study Intersections

This study analyzes existing traffic operations during typical weekday AM and PM peak hours at the following 15 intersections in the vicinity of the Project:

1. Gilman Street/Frontage Road/I-80 Southbound Ramps
2. Gilman Street/Eastshore Highway/I-80 Northbound Ramps
3. Gilman Street/Second Street
4. Gilman Street/Third Street
5. Gilman Street/Fourth Street
6. Gilman Street/Sixth Street
7. Gilman Street/San Pablo Avenue
8. Camelia Street/Second Street
9. Page Street/Eastshore Highway
10. Page Street/Second Street
11. Cedar Street/Eastshore Highway
12. Cedar Street/Second Street
13. Cedar Street/Fourth Street
14. Cedar Street/Sixth Street
15. Cedar Street/San Pablo Avenue

These intersections were selected for analysis and confirmed by City staff because they are either within or adjacent to the Project area, or they are most likely to be affected by the Project. Figure 1 shows the location of the study intersections.

1.2.2 Intersection Analysis Scenarios

For this study, the following scenarios were evaluated:

- ***Existing*** – Existing (2019) conditions based on data collected in the past five years.
- ***Near-Term No Project*** – Existing traffic, plus traffic generated by major approved and proposed development projects in the study area that are expected to be constructed and occupied in the near future. This scenario also accounts for the completion of the I-80/Gilman Street Interchange Project, which is currently under construction.
- ***Near-Term Plus Project*** – Near-Term conditions, plus traffic generated by the Project.

1.2.3 Level of Service

Intersection operations are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic operations from the vehicle driver perspective and consists of the delay experienced by the driver at the intersection. It ranges from LOS A, with no congestion and little delay, to LOS F, with excessive congestion and delays. Different methods are used to assess signalized and unsignalized intersections.

Signalized Intersections

Signalized intersection operations are evaluated using the method provided in the *Highway Capacity Manual 6th Edition* (HCM6, 2016). This method uses intersection characteristics to estimate average control delay and then assigns a LOS value. Control delay is defined as the delay associated with deceleration, stopping, moving up in the queue, and acceleration experienced by drivers at a signalized intersection.

Table 1 provides descriptions of various LOS and the corresponding ranges of delays for signalized intersections.

Unsignalized Intersections

All-way stop-controlled and side-street stop-controlled intersection operations are also analyzed using the HCM6. Delay is calculated for movements that are controlled by a stop sign or that must yield the right-of-way. This method defines operations by average control delay per vehicle (measured in seconds) for each stop-controlled movement. This incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, the movement or approach with the highest delay is reported, as well as average intersection delay. Table 1 summarizes the LOS ranges for unsignalized intersections. They are lower than the delay ranges for signalized intersections because drivers generally tolerate less delay at unsignalized intersections.

1.2.4 Analysis Tools

The Synchro 11 Software is used to estimate delay and LOS for all study intersections under Existing Conditions and all intersections except the ones along Gilman Street between the I-80 Interchange and Fourth Street under the Near-Term No Project and Near-Term Plus Project conditions. Synchro uses the equations provided in the HCM6 to calculate control delay. These equations use intersection characteristics, such as vehicle and pedestrian volumes, lane geometry, and signal phasing, as inputs to estimate control delay.

The Sidra Network software is used to estimate delay and LOS for the study intersections along Gilman Street between the I-80 Interchange and Fourth Street under the Near-Term No Project and Near-Term Plus Project conditions. The main advantage of Sidra Network is that it evaluates traffic conditions at multi-lane multi-approach roundabouts with more accuracy and better accounts for the effects of upstream and downstream bottlenecks at closely spaced intersections. The Sidra Network software was previously used for the *I-80 Gilman Street Interchange Improvement Project Traffic Operations Analysis Report* (2017).

1.2.5 Peak Hour Signal Warrant Assessment

To assess the need for signalization of stop-controlled intersections, the *California Manual on Uniform Traffic Control Devices* (MUTCD, 2014) includes eight signal warrants. Generally, meeting one or more of the signal warrants could justify signalization of an intersection. This analysis evaluates the California MUTCD peak hour vehicular volume warrant (Warrant 3B) for urban conditions to determine if the traffic added by the Project would result in the stop-controlled intersections needing to be signalized.

Table 1: Intersection Level of Service Definitions

Unsignalized Intersections		Level of Service Grade	Signalized Intersections	
Description	Average Total Vehicle Delay (Seconds)		Average Control Vehicle Delay (Seconds)	Description
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable, and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: *Highway Capacity Manual*, Transportation Research Board, 2016.

1.2.6 Thresholds for Traffic Operations

For the purposes of this analysis, the following intersection LOS thresholds are used based on the City of Berkeley's *Guidelines for Development of Traffic Impact Reports (2005)*. A substantial effect is identified if the addition of Project-generated traffic under Near-Term conditions results in[1]:

- At a signalized, roundabout, or all-way stop-controlled intersection operations degrade from LOS D to LOS E or worse and more than a two-second increase in delay; or
- At a signalized, roundabout, or all-way stop-controlled intersection, more than a three-second increase in delay at intersections operating at LOS E without and with the project; or
- At a signalized, roundabout, or all-way stop-controlled intersection, operations degrade from LOS E to LOS F and more than a three-second increase in delay; or
- At a signalized, roundabout, or all-way stop-controlled intersection operating at LOS F without the project, a change in the volume-to-capacity (v/c) ratio of more than 0.01.
- At an unsignalized intersection:
    - a movement that operates at LOS F;
    - the intersection meets peak hour traffic volume signal warrants;
    - minimum of 10 peak-hour vehicles added to the critical movement; and
    - no alternative routes are available.

[1] Since Project effects on traffic operations is not considered an environmental topic under CEQA, this report uses the terms "effect," "substantial," and "improvement," instead of "impact," "significant," and "mitigation" when discussing traffic operations and LOS results to differentiate between the CEQA and the non-CEQA analyses.

2. Existing Conditions

This chapter describes the existing transportation conditions for the Project. Conditions described in this chapter generally represent conditions as of April 2023 and may not reflect the modifications completed by the currently under construction I-80/Gilman Street Interchange Project since April 2023.

2.1 Existing Roadway Network

The regional and local roadways serving the Project area are described below.

2.1.1 Regional Roadways

Interstate 80/580 (I-80/I-580) provides access around and beyond the San Francisco Bay Area. Between Emeryville and Albany, I-80 shares the same roadway as I-580, with I-580 connecting with Marin County to the west and I-80 connecting with Sacramento to the east. Near the Project, I-80 and I-580 are oriented in a north-south direction and provide five lanes of travel, including one carpool lane, in each direction. Access between I-80/I-580 and the Project is provided primarily through the interchange at Gilman Street. I-80/I-580 had an Average Annual Daily Traffic (AADT) of 233,000 vehicles at the University Avenue interchange in 2019.[2]

San Pablo Avenue (SR 123) is a divided, four-lane, north-south major street that extends between Rodeo in the north and Downtown Oakland in the south. The divided roadway provides a center median and left-turn pockets at major intersections in Berkeley. San Pablo Avenue provides sidewalks and metered parallel parking on both sides of the street near the Project. San Pablo Avenue had an AADT of 22,100 at University Avenue in 2019.[3]

2.1.2 Local Roadways

Gilman Street is a two-lane, east-west major street that borders the north side of the Project area and extends between Golden Gate Fields in the west and Hopkins Street in the east. It provides access to I-80/580 through an interchange at the northwest corner of the Project. In the Project vicinity, Gilman Street generally provides unrestricted on-street parking and sidewalks along both sides of the street. The segment of Gilman Street between I-80/580 and San Pablo Avenue has dedicated bicycle lanes on both sides. The segment east of San Pablo Avenue is a designated bicycle route.

Cedar Street is a two-lane east-west collector that extends between Eastshore highway in the west and La Loma Avenue in the east. In the Project vicinity, it generally provides unrestricted on-street parking and sidewalks along both sides of the street, except for the block between Second Street and the railroad tracks, which does not provide a sidewalk on the south side of the street.

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[2] Caltrans volume database (https://dot.ca.gov/programs/traffic-operations/census)
[3] Caltrans volume database (https://dot.ca.gov/programs/traffic-operations/census)

Camelia Street is a two-lane east-west local street that extends between Second Street in the west and Santa Fe Avenue in the east. Within the Project area, Camelia Street provides unrestricted on-street parking and sidewalks on both sides of the street.

Page Street is a two-lane east-west local street that extends between Eastshore Highway in the west and Cornell Street in the east with a discontinuous segment between Second and Fourth Streets due to the railroad tracks. Page Street provides unrestricted on-street parking and intermittent sidewalks on both sides of the street within the Project area.

West Frontage Road is a two-lane north-south collector west and parallel to the I-80 freeway. It extends between Gilman Street in the north and the City of Emeryville in the south. In the Project vicinity, parking is prohibited along the roadway and a paved path is provided west of the roadway.

Eastshore Highway is a two-lane north-south collector east and parallel to the I-80 freeway. It extends between Buchanan Street in the north and Hearst Avenue in the south, and forms the west border of the Project area. Within the Project area, Eastshore Highway provides an intermittent sidewalk and parallel parking on the east side of the street.

Second Street is a two-lane north-south local street that extends between the Codornices Creek in the north and Addison Street in the south. The segment of Second Street between Gilman and Harrison Street is currently one-way northbound, and the segment between Cedar and Virginia Streets is closed to the public. Within the Project area, Second Street provides intermittent sidewalks and on-street parking on both sides of the street.

Fourth Street is a two-lane north-south, collector that extends between Harrison Street in the north and Dwight Way in the south. In the Project vicinity, Fourth Street provides unrestricted on-street parking and continuous sidewalks on both sides of the street.

Sixth Street is a two-lane, north-south collector that extends between the Albany University Village in the north and Dwight Way in the south. In the Project vicinity, it provides unrestricted on-street parking and continuous sidewalks on both sides of the street. Sixth Street provides dedicated bicycle lanes on both sides of the street south of Gilman Street.

2.2 Existing Intersection Operations

2.2.1 Existing Volumes

Traffic patterns and travel behavior have shifted substantially in Berkeley and throughout Bay Area because of the COVID-19 pandemic and associated shelter-in-place orders which started in March 2020. In addition, the construction of the I-80/Gilman Street Interchange Project, which started in July 2021, has also changed traffic patterns in the Project vicinity. As a result, traditional traffic counts collected under current conditions may not reflect typical traffic volumes in the Project vicinity. Thus, this analysis uses two available sources to estimate the weekday AM and PM peak hour (the hour with the highest traffic volumes during the 7:00 to 9:00 AM and 4:00 to 6:00 PM period) intersection turning movement volumes at the study intersections

under existing conditions. These time periods were selected because the trips generated by the Project during the peak periods, in combination with background traffic, are expected to represent typical worst case traffic conditions.

Traffic volumes at the Gilman Street Interchange intersections are based on data collected in November 2019 for the *Berkeley Commons Transportation Impact Analysis (January 2021)*. Since count data from the past five years was not available for the other intersections, data purchased from StreetLight Data (a big data vendor of anonymous location records from GPS devices) is used.[4] The Streetlight Data volume estimates were downloaded for midweek days (Tuesdays, Wednesdays, and Thursdays) for February 1 through March 15, April 1 through June 1, and September 1 through November 15 of 2019 and 2022 and aggregated to represent a typical mid-week day for the remaining study intersections. Since the traffic volumes in 2019 were higher than in 2022, this analysis uses the 2019 traffic volumes, and therefore may represent conservative estimates. **Appendix A** presents the detailed StreetLight volume data.

Figure 2 shows the existing AM and PM peak hour intersection vehicle volumes and the lane configurations and controls at the study intersections.

2.2.2 Intersection Operations

Based on the volumes, intersection controls, and roadway configurations presented on Figure 2, Fehr & Peers calculated the AM and PM peak hour LOS at the study intersections using the methodologies presented in Chapter 1. **Table 2** summarizes existing weekday AM and PM peak hour intersection LOS analysis results. **Appendix B** provides the detailed LOS calculation worksheets.

As shown in the table, the stop-controlled movements at the Gilman Interchange (intersections 1 and 2) operate at LOS F during both AM and PM peak hours. In addition, the side-street stop-controlled northbound movement at the Gilman Street/Second Street intersection (intersection 3) currently operates at LOS E during both AM and PM peak hours, and the side-street stop-controlled northbound movement at the Gilman Street/Fourth Street intersection (intersection 5) currently operates at LOS E during the AM peak hour, and at LOS F during the PM peak hour. All other study intersections operate at LOS D or better during both AM and PM peak hours.

[4] In 2020, Fehr & Peers conducted an independent review of StreetLight Data volume estimates by comparing the volume estimates to historical count data. The review concluded that StreetLight volume estimates are a reasonable and acceptable source of data as a replacement for traditional traffic counts. Streetlight Data volume estimates are generally more robust than traditional traffic counts since they assess travel patterns across several months, rather than a single day. For more information about the Streetlight data collection approach, including the Fehr & Peers white paper "A Transformative Data Collection Solution," visit: https://www.fehrandpeers.com/transformative-data-collection-solution/

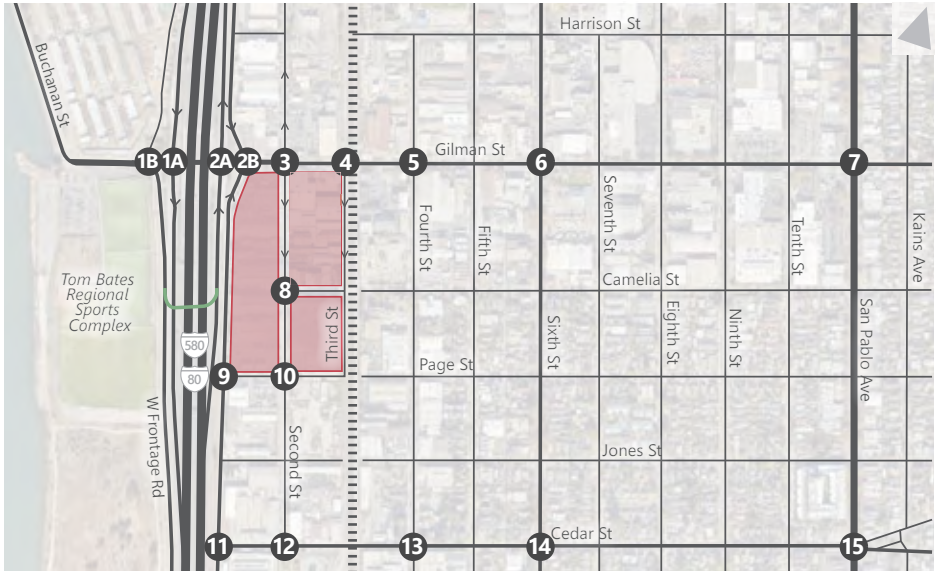
Table 2: Existing Conditions – Study Intersection LOS Summary

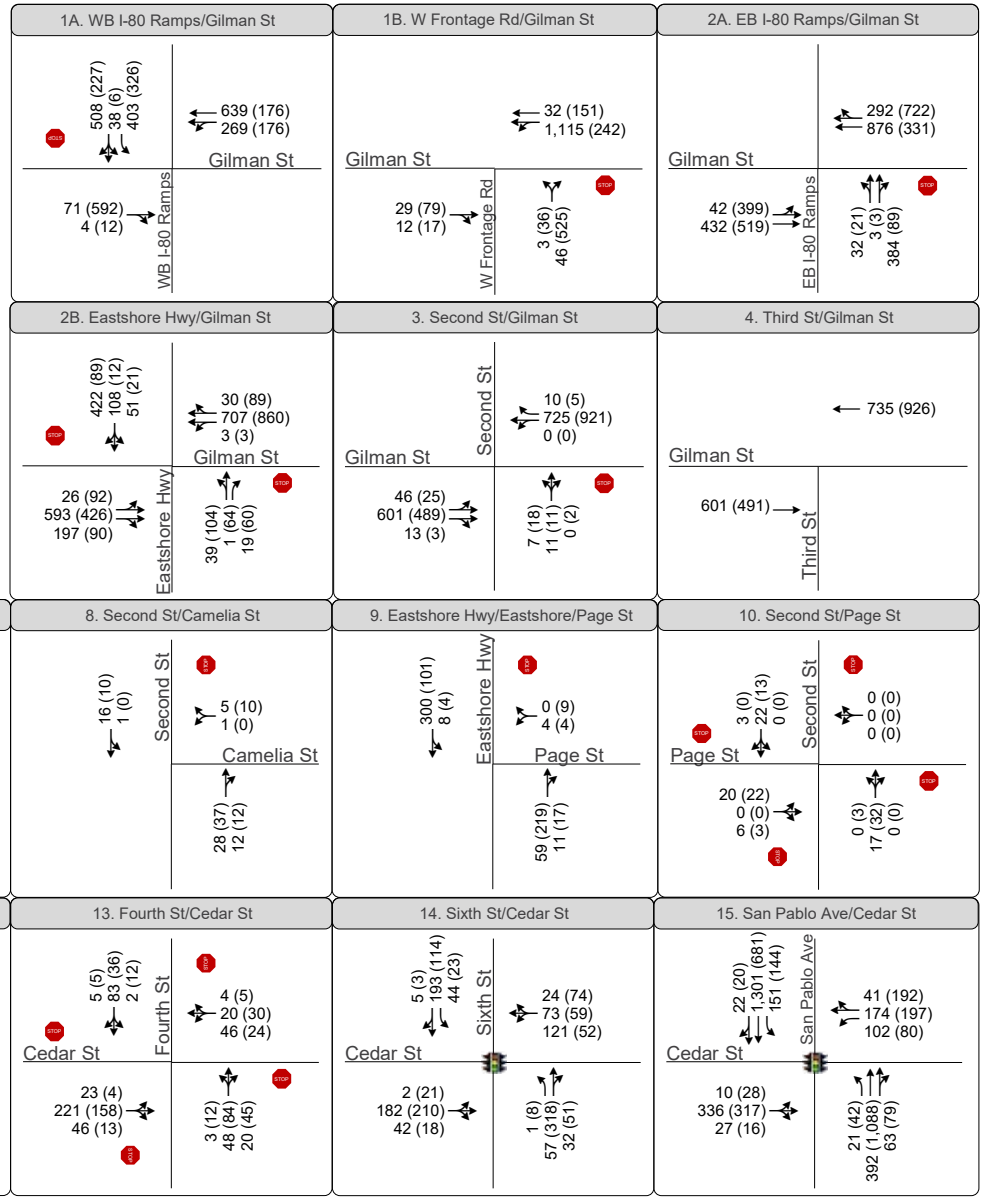
Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (Seconds)[1]	LOS[2]	Delay (Seconds)[1]	LOS[2]
1A. Gilman Street/Westbound I-80 Ramps	Side-Street Stop	**> 150** **(SB = >150)**	**F** **(F)**	39 **(SB = 102)**	E **(F)**
1B. Gilman Street/West Frontage Road	Side-Street Stop	13 **(NB = 43)**	B **(E)**	11 (NB = 17)	B (C)
2A. Gilman Street/Eastbound I-80 Ramps	Side-Street Stop	3 (NB = 15)	A (B)	13 **(NB = >150)**	B **(F)**
2B. Gilman Street/Eastshore Highway	Side-Street Stop	**138** **(SB = >150)**	**F** **(F)**	**52** **(NB = >150)**	**F** **(F)**
3. Gilman Street/Second Street	Side-Street Stop	1 (NB = 39)	A (E)	1 (NB = 40)	A (E)
4. Gilman Street/Third Street	N/A	N/A	N/A	N/A	N/A
5. Gilman Street/Fourth Street	Side-Street Stop	1 (NB = 39)	A (E)	6 **(NB = 86)**	A **(F)**
6. Gilman Street/Sixth Street	Signal	10	A	14	B
7. Gilman Street/San Pablo Avenue	Signal	25	C	26	C
8. Camelia Street/Second Street	Side-Street Stop	1 (WB = 9)	A (A)	1 (WB = 9)	A (A)
9. Page Street/Eastshore Highway	Side-Street Stop	0 (WB = 11)	A (B)	1 (WB = 10)	A (B)
10. Page Street/Second Street	All-way Stop[3]	7	A	7	A
11. Cedar Street/Eastshore Highway	Side-Street Stop	1 (WB = 11)	A (B)	2 (WB = 10)	A (B)
12. Cedar Street/Second Street	Side-Street Stop[4]	1 (SB = 10)	A (B)	1 (SB = 10)	A (A)
13. Cedar Street/Fourth Street	All-way stop	9	A	8	A
14. Cedar Street/Sixth Street	Signal	14	B	16	B
15. Cedar Street/San Pablo Avenue	Signal	21	C	26	C

Notes:
Bold indicates intersection operating at LOS E or LOS F

1. Average intersection delay and LOS based on the HCM6 method as calculated by the Synchro software. Average delay is reported for signalized and all-way stop-controlled intersections. Average intersection and worst-movement delays, respectively, are reported for side-street stop-controlled intersections.
2. Based on HCM6 delay thresholds.
3. Intersection is currently uncontrolled; analyzed as all-way stop.
4. Intersection is currently uncontrolled; analyzed as side-street stop-controlled.

Source: Fehr & Peers, 2023.





Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Recommended Study Intersections

Figure 2

Existing Peak Hour Traffic Volumes, Lane Configurations and Traffic Control

2.2.3 Peak Hour Signal Warrant Assessment

The peak hour traffic signal warrant was evaluated for the 12 unsignalized study intersections based on the volumes, intersection controls, and roadway configurations presented on Figure 2. As shown in **Table 3**, the four intersections at the Gilman Street Interchange meet the California MUTCD peak hour signal warrant under existing conditions during the AM or PM peak hours. **Appendix C** provides the signal warrant worksheets.

Table 3: Existing Conditions – Study Intersection Peak Hour Signal Warrant Summary

Intersection	Control	Meet Peak Hour Signal Warrant?[1]
1A. Gilman Street/Westbound I-80 Ramps	Side-Street Stop	**Yes**
1B. Gilman Street/West Frontage Road	Side-Street Stop	**Yes**
2A. Gilman Street/Eastbound I-80 Ramps	Side-Street Stop	**Yes**
2B. Gilman Street/Eastshore Highway	Side-Street Stop	**Yes**
3. Gilman Street/Second Street	Side-Street Stop	No
5. Gilman Street/Fourth Street	Side-Street Stop	No
8. Camelia Street/Second Street	Side-Street Stop	No
9. Page Street/Eastshore Highway	Side-Street Stop	No
10. Page Street/Second Street	All-way Stop[2]	No
11. Cedar Street/Eastshore Highway	Side-Street Stop	No
12. Cedar Street/Second Street	Side-Street Stop[3]	No
13. Cedar Street/Fourth Street	All-way stop	No

Notes:
1. Based on the application of California MUTCD Warrant 3B.
2. Intersection is currently uncontrolled; analyzed as all-way stop.
3. Intersection is currently uncontrolled; analyzed as side-street stop-controlled.

Source: Fehr & Peers, 2023.

2.3 Existing Transit Service

The Project area is served by Alameda Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), and Amtrak California. **Figure 3** shows the transit routes in the Project vicinity.

2.3.1 AC Transit

Local bus service in the Project area is provided by AC Transit, the public transportation authority for western Alameda and Contra Costa counties. As shown on Figure 3, the Project area is served by several AC Transit bus lines, connecting the Project area to other neighborhoods within Berkeley and the nearby cities of Albany, Emeryville, Oakland, and San Francisco. **Table 4** describes the AC Transit bus lines serving the Project area as of April 2023. **Table 5** describes the AC Transit bus stops near the Project.

Source: actransit.org, April 2023.

Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Bus Stop
- AC Transit Local Route
- AC Transit Transbay Route
- West Berkeley Shuttle
- BART
- Amtrak

Figure 3

Existing Transit Service

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Table 4: AC Transit Service Summary

Line	Route [1]	Nearest Stop [2]	Weekday [1]		Weekend [1]	
			Hours	Frequency	Hours	Frequency
Local Routes						
12	Northwest Berkeley to Jack London Square via Gilman Ave., Hopkins Ave., Martin Luther King Jr. Way, 51st St., Piedmont Ave., Grand Ave., and Broadway	Gilman St. west of Sixth St. (about 0.4 miles)	6:00 AM to 1:20 AM	20 to 30 minutes	6:00 AM to 11:50 PM	30 minutes
52	Albany University Village to UC Campus via University Ave., Cedar St., Sacramento St., and University Ave.	San Pablo Ave at far side of Gilman St (about 0.7 miles)	5:50 AM to 11:45 PM	15 to 20 minutes	8:15 AM to 8:20 PM	20 minutes
72	Hilltop Mall to Jack London Square via Moyers Rd., Contra Costa College, San Pablo Ave., and downtown Oakland	San Pablo Ave at far side of Gilman St (about 0.7 miles)	4:45 AM to 1:20 AM	30 to 40 minutes	5:00 AM to 2:00 AM	30 minutes
72M	Point Richmond to Jack London Square via Garrard Blvd., Macdonald Ave., San Pablo Ave., and downtown Oakland	San Pablo Ave at far side of Gilman St (about 0.7 miles)	4:45 AM to 12:30 AM	30 to 40 minutes	6:00 AM to 2:00 AM	30 to 40 minutes
72R	Contra Costa College to Jack London Square via San Pablo Ave., and downtown Oakland with limited stops	San Pablo Ave at far side of Gilman St (about 0.7 miles)	6:00 AM to 8:15 PM	12 minutes	7:00 AM to 8:00 PM	15 minutes
Night Routes						
800	Richmond BART to San Francisco via MacDonald Ave, San Pablo Ave., University Ave., and Telegraph Avenue	San Pablo Ave at far side of Gilman St (about 0.7 miles)	12:20 AM to 7:40 AM	30 minutes	12:20 AM to 7:40 AM	30 minutes
Transbay Routes						
G	El Cerrito Plaza BART to Salesforce Transit Center, San Francisco via Fairmount Ave., Colusa Ave., Solano Ave., San Pablo Ave., and University Ave.	San Pablo Ave at far side of Gilman St (about 0.7 miles)	7:00 AM to 9:45 AM (westbound) 4:10 PM to 6:50 PM (eastbound)	20 to 60 minutes	No Weekend Service	

Notes:
1. Service description as of April 2023
2. Distance shown is the walking distance between bus stop and the Camelia Street/Second Street intersection.

Source: Fehr & Peers and AC Transit, 2023.

Table 5: AC Transit Bus Stops Summary

Stop Location	Distance to Project Area[1]	Lines Served	Stop Amenities
Gilman Street at Sixth Street	0.4 miles east of the Project	12	Eastbound: no amenities Westbound: bicycle parking
University Avenue at Gilman Street	0.7 miles east of the Project	52, 72, 72M, 72R, 800, G	Both Directions: bench, shelter, trash receptacle, and lighting

Notes:
1. Distance shown is the walking distance between the bus stop and the Camelia Street/Second Street intersection.

Source: Fehr & Peers and AC Transit, 2023.

2.3.2 BART

BART provides regional commuter rail transit in Alameda, Contra Costa, San Francisco, San Mateo, and Santa Clara counties. As of April 2023, BART trains operate on weekdays from 5:00 AM to 1:00 AM, on Saturdays from 6:00 AM to 1:00 AM, and on Sundays from 7:00 AM to 1:00 AM. The nearest BART station to the Project area is the North Berkeley BART station, located about 1.2 miles east of the Project.

The North Berkeley BART stations is served by the Richmond-Berryessa/North San José (orange) and Richmond-Millbrae/SFO (red) lines. Other destinations in the BART system can be reached by transferring at stations in Oakland. As of April 2023, the North Berkeley BART station is served by a train every eight minutes during peak weekday commute periods, and every 15 minutes on Saturdays, Sundays, and holidays. In March 2023, the North Berkeley BART station had approximately 3,200 entries and exits on an average weekday.[5]

2.3.3 Amtrak

Amtrak provides regional rail transit for intercity commuters in northern and southern California, with select service to Nevada. Amtrak's Capitol Corridor route operates between San Jose and Sacramento.

The Berkeley Amtrak station is located under the University Avenue overpass, about 0.8 miles south of the Project. There are 12 daily weekday departures and arrivals and 11 daily weekend departures and arrivals per direction at the Berkeley Station.[6] In FY2021, the station served about 26,000 rail passengers.[7] The Amtrak station is served by AC Transit Line 51B, with additional bus service nearby. The station provides basic amenities, including outside seating and automobile and bicycle parking.

[5] Bay Area Rapid Transit 2019 Monthly Ridership Reports: http://www.bart.gov/about/reports/ridership
[6] Amtrak Capitol Corridor Schedule: https://www.capitolcorridor.org/trainschedule/Train_Schedules.pdf
[7] Amtrak Fact Sheet, Fiscal Year 2021: https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/CALIFORNIA21.pdf

Amtrak operates on the Union Pacific Railroad (UPRR) mainline tracks through West Berkeley. Adjacent to the east of the Project area, the tracks have at-grade crossing at Gilman and Camelia Streets. The at-grade crossing on Gilman Street provides automated gate arms and flashing warning devices for both vehicular approaches, and paved pedestrian crossings on both sides of the street. The at-grade crossing on Camelia Street provides automated gate arms and flashing warning devices for both vehicular approaches, and the pedestrian crossings do not meet ADA standards. The currently under construction I-80/Gilman Street Interchange Project will improve the Gilman Street crossing and close the Camelia Street crossing (See page 21 for more detail on the I-80/Gilman Street Interchange Project).

2.4 Existing Pedestrian Circulation

The streets within the Project area, Second, Camelia, and Page Streets and Eastshore Highway generally do not provide continuous paved sidewalks with curbs on both sides of the street. Pedestrian facilities consist of a combination of paved and unpaved sidewalks or shoulders. Gilman Street provides sidewalks on both sides of the street including under the I-80 overcrossing with marked crosswalks across the side street and a marked unprotected crosswalk across Gilman Street just east of Eastshore Highway. The under-construction Gilman Street Interchange Project will provide sidewalks with curbs and gutters on both sides of Second Street and on the east side of Eastshore Highway and improve the pedestrian facilities on both sides of Gilman Street.

The four existing signalized study intersections provide marked crosswalks across all four approaches with one curb ramp per intersection corner. Except for the Cedar Street/Sixth Street intersection, the existing signalized study intersections provide pedestrian signal heads for all crossings.

The *City of Berkeley Pedestrian Plan* (2020) does not identify any improvements within or near the Project area.

2.5 Existing Bicycle Circulation

Based on the *City of Berkeley Bicycle Plan* (2017), bicycle facilities can be classified into the following:

- ***Multi-Use Paths (Class I)*** – These facilities are located off-street and may serve both bicyclists and pedestrians. They provide complete right-of-way to cycling, walking, and other non-motorized forms of transportation.
- ***Bicycle Lanes (Class II)*** – These facilities provide a dedicated area for bicyclists within the paved street width through striping and signage.
- ***Bicycle Routes (Class III)*** – These facilities are found along streets that do not provide adequate width for dedicated bicycle lanes. The street is then designated as a bicycle route through signage informing drivers to expect bicyclists. Bicycle routes are generally along collector and arterial streets when bicycle lanes are infeasible.
- ***Cycletracks (Class IV)*** – These are separated and protected bikeways where a type of barrier, usually curbs, bollards, or parking isles, separate the bike lane from the vehicular flow of traffic. Cycletracks are also known as separated bikeways.

- ***Bicycle Boulevards*** – These facilities are mostly installed along residential streets with low traffic volumes and prioritize bicycle travel. Assignment of right-of-way to the route, traffic calming measures and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.

Figure 4 shows the existing and proposed bicycle facilities in the study area. The following bicycle facilities are currently provided in the Project vicinity:

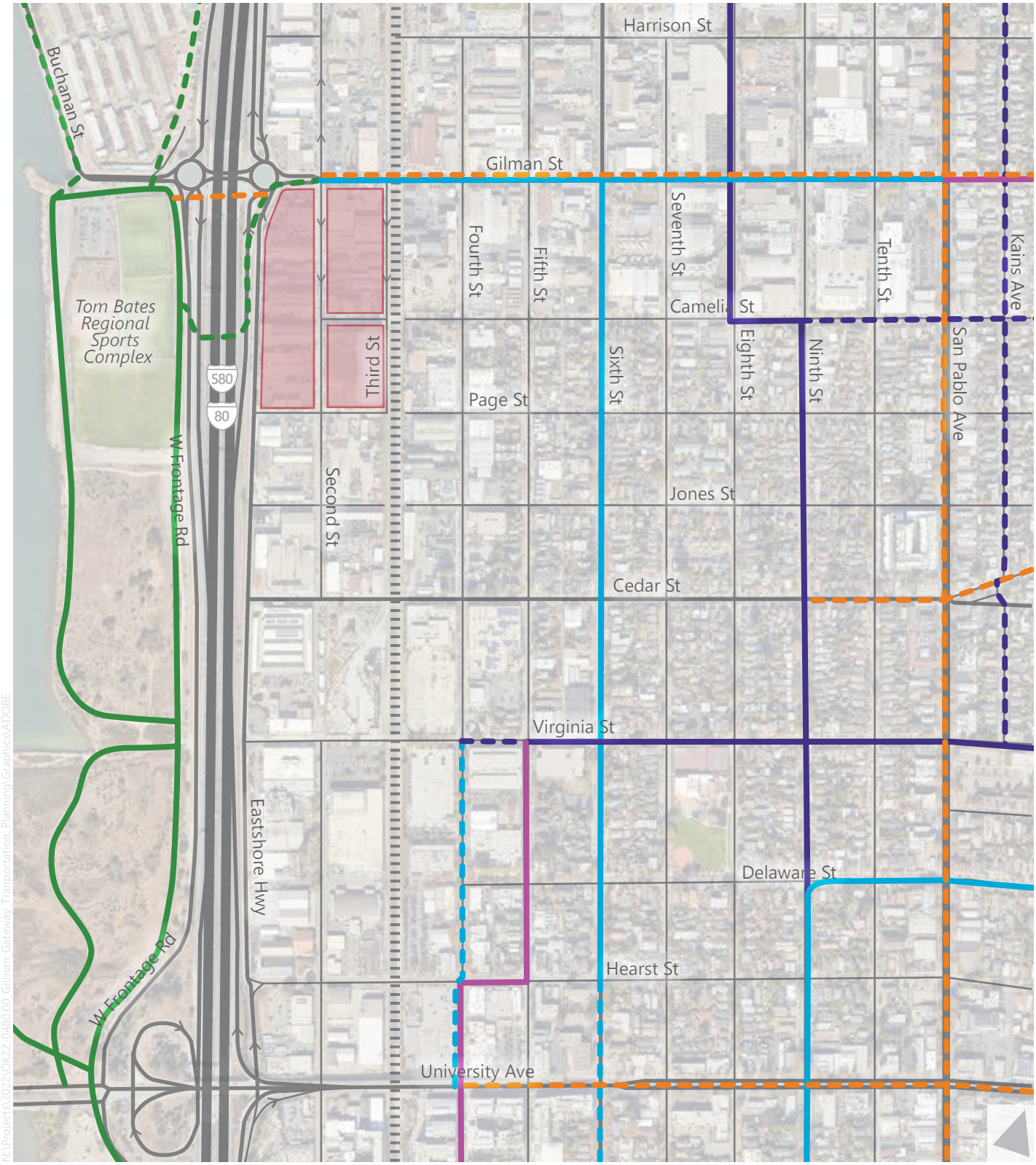
- Class I multi-use path on the west side of West Frontage Road, which is part of the Bay Trail
- Class II dedicated bicycle lanes on both sides of Gilman Street between I-80/580 and San Pablo Avenue
- Class II dedicated bicycle lanes on both sides of Sixth Street south of Gilman Street
- Bicycle boulevards (Class III bicycle routes) on Eighth Street between Albany University Village and Camelia Street, Camelia Street between Eight and Ninth Streets, and Ninth Street south of Camelia Street

The *City of Berkeley Bicycle Plan* identifies the following proposed facilities in the vicinity of the Project area:

- Gilman Street overcrossing as a Class I multi-use path over the I-80 freeway to connect the Bay Trail west of the freeway and Gilman Street east of the freeway
- Class IV cycletracks on Gilman Street and San Pablo Avenue
- Upgrades to the existing Class II bike lanes on Sixth Street, including provision of striped buffers
- Extension of the bicycle boulevard on Camelia Street east to Santa Fe Avenue, including a new pedestrian hybrid beacon at the Camelia Street/San Pablo Avenue intersection

The Gilman Street Overcrossing and the Gilman Street cycletrack between the I-80 freeway and Fourth Street are part of the under-construction Gilman Street Interchange Project.

The nearest Bay Wheels bikeshare station is on Fifth Street just north of Delaware Street, about 0.6 miles south of the Project.



Legend

Railroad

Project Site

Bicycle Network

Existing	*Under Construction/Proposed*	
		Bike Path (Class I)
		Bike Lane (Class II)
		Bike Route (Class III)
		Bicycle Boulevard
		Cycletrack/Study Cycletrack (Class IV)

Source: City of Berkeley Bicycle Plan 2017.

Figure 4

Existing and Future Bicycle Network

2.6 Changes to the Circulation System

The I-80/Gilman Street Interchange Project, currently under construction, primarily consists of installing two roundabouts at the intersections of I-80 Ramps on Gilman Street. The roundabouts will replace the existing stop-signs on the I-80 Northbound and Southbound Off-Ramps, West Frontage Road, and Eastshore Highway. The Gilman Street Interchange Project will also complete the following:

- Provide a two-way cycletrack (separated bikeway) on the south side of Gilman Street between the Interchange and Fourth Street
- Provide a non-motorized overcrossing of I-80 about 500 feet south of the Interchange which will connect to the Bay Trail west of I-80 and the Gilman Street cycletrack east of I-80 through a path between the freeway and Eastshore Highway
- Improve the at-grade railroad crossing on Gilman Street including installation of medians with bollards on both directions of Gilman Street
- Remove most on-street parking on Gilman Street between I-80 and Fourth Street
- Repave Second Street and provide sidewalk, curb, and gutter on both sides of the street
- Convert Eastshore Highway between Harrison and Gilman Streets to one-way southbound
- Convert about 150 feet of Eastshore Highway south of Gilman Street to one-way northbound
- Convert Second Street to one-way southbound between Gilman and Camelia Streets and prohibit left-turns from westbound Gilman Street onto Second Street
- Open Third Street just west of the railroad tracks to emergency vehicles only, and local access to the existing Live/Work Building at 1306 Third Street. This segment of Third Street will be designed as a one-way southbound street between Gilman and Camelia Streets with access at the Gilman Street/Third Street intersection limited to right-turns only from eastbound Gilman Street to southbound Third Street
- Signalize the Gilman Street/Fourth Street intersection and the at-grade railroad crossing with a signal interconnect to minimize the potential for queues on Gilman Street to spill back onto the railroad tracks
- Close the existing at-grade railroad crossing on Camelia Street and provide a fence west of the railroad tracks along the Project frontage between Gilman and Camelia Streets

Construction of the Gilman Street Interchange Project is expected to be completed by 2025.

As described above, the Gilman Street Interchange Project will modify vehicular access to and from the north and the east for the Project area. Vehicles would only be able to turn right from eastbound Gilman Street to Second Street to access the Project area. Thus, vehicles accessing from the east would either travel westbound on Gilman Street and navigate through the East Roundabout to access eastbound Gilman Street and turn right onto southbound Second, or use westbound Cedar Street and turn right onto northbound Second Street or Eastshore Highway. Vehicles leaving the Project area to the north would use northbound Eastshore Highway and either use the roundabouts to access the freeway ramps or travel eastbound on Gilman Street.

3. Project Transportation Characteristics

This section describes the Project and its transportation characteristics.

3.1 Project Description

The Gilman Gateway Rezone Project would consist of up to about 1,003,400 square feet of new R&D/ office uses in the area bound by Gilman Street to the north, Union Pacific railroad tracks to the east, Page Street to the south, and Eastshore Highway to the west. It would consist of the following component developments, as shown on **Figure 5**:

- Berkeley Forge Project = 890,000 square feet
- 1306 Third Street = 12,410 square feet
- 600 Gilman Street = 23,250 square feet
- 1433 Eastshore Highway = 77,700 square feet

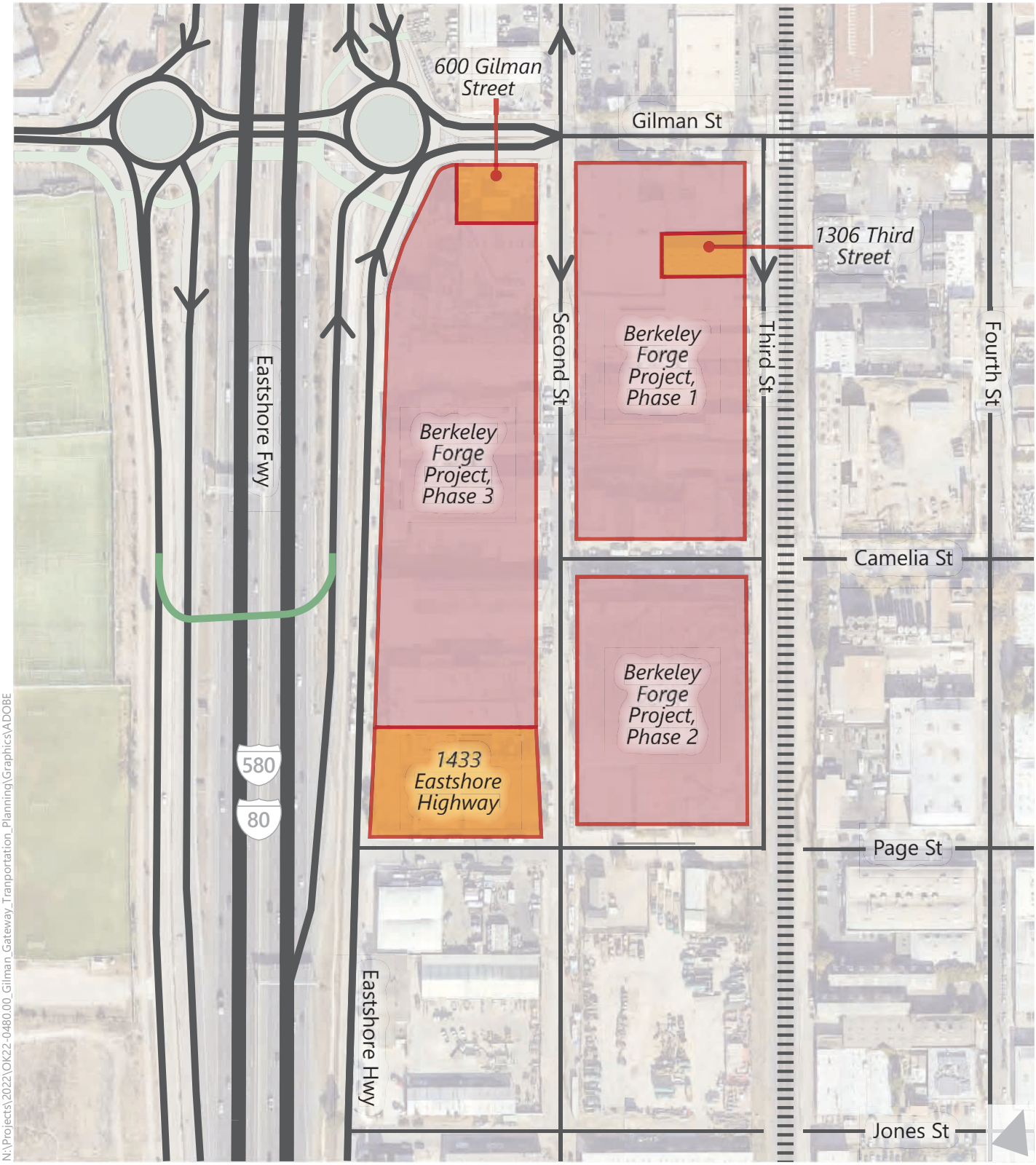
The Project would demolish the mostly currently unused buildings and structures in the Project area. Additional details are available for the Berkeley Forge Project which is provided below.

3.1.1 Berkeley Forge Project

Appendix D provides the preliminary site plan for the Berkeley Forge Project, which would consist of multiple four to six-level buildings completed in three phases. Each Project phase is described below:

- Phase 1 (Block A) would consist of the block bound by Gilman Street to the north, Union Pacific railroad tracks to the east, Camelia Street to the south and Second Street to the west. It would include three buildings (A1, A2, and A3) providing about 358,000 square feet of space.[8] Phase 1 would also include Garage A in the southeast corner of the block, which would provide 690 parking spaces and would be accessed through a full-access driveway on Camelia Street and a right-turn out only driveway on Third Street. Phase 1 does not include the existing 1306 Third Street building.

[8] The Phase 1 square footage includes about 1,200 square feet of incidental retail in Building A1, which would most likely be a coffee shop. Although open to the public, the retail component is expected to primarily serve the Project area workers considering the size and the location of the use. Since the retail use is estimated to generate minimal activity from outside the Project area, this analysis assumes the retail component as part of the primary use in the Project and does not estimate trip generation for it separately.



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Legend

- Railroad
- Proposed Ped/Bike Bridge
- Berkeley Forge Project
- Other Parcels within the Gilman Gateway Rezone Project

Figure 5

Project Area Components

- Phase 2 (Block B) would consist of the block bound by Camelia Street to the north, Union Pacific railroad tracks to the east, Page Street to the south and Second Street to the west. It would include two buildings (B1 and B2) providing about 214,000 square feet of space. Phase 2 would also include Garage B in the southeast corner of the block, which would provide 568 parking spaces and would be accessed through full-access driveways on Page and Third Streets.
- Phase 3 (Block C) would consist of the block bound by Gilman Street to the north, Second Street to the east, Page Street to the south and Eastshore Highway to the west, excluding the northmost and southmost parcels in the block. It would include three buildings (C1, C2, and the Forge Shed) providing about 318,000 square feet of space. Phase 3 would also include Garage C in the south portion of the site, which would provide 618 parking spaces and would be accessed through full-access driveways on Second Street and Eastshore Highway.

In addition, the Project proposes the following modifications to the transportation network:

- Maintain the segment of Second Street between Gilman and Camelia Streets as one-way southbound and narrow the segment from two to one automobile lane.
- Convert the segment of Second Street between Camelia and Page Streets from one-way southbound to two-way operations, consistent with current conditions, but a modification to the Gilman Street Interchange Project.
- Utilize Third Street between Gilman and Camelia Streets to allow truck and emergency vehicle access and allow passenger vehicles to turn right out of Garage A.
- Create a private street on the east side of the Project between Camelia and Page Streets and within the Project right-of-way to provide truck access for Building B1 and passenger vehicle access for Garage B.
- Complete and/or widen sidewalks along Project frontages.

Final circulation plans will be refined in coordination with the City of Berkeley and designed to meet City standards.

3.2 Automobile Trip Generation

Trip generation is the process of estimating the number of vehicles that would likely access a project on a typical day. **Table 6** summarizes the trip generation for the Gilman Gateway Rezone Project. Trip generation data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual (11th Edition)* is used to estimate the vehicle trip generation by applying the ITE trip generation equations for the entire Project area.

The Gilman Gateway Rezone Project is estimated to generate about 9,980 daily, 918 AM, and 868 PM peak hour automobile trips. This trip generation estimate is conservative in that it does not account for the existing trips generated by the current active uses in the Project area that would be demolished by the

Project, or the TDM Plan that would be implemented by the Project as described on page 33 of this report. **Table 7** presents the trip generation for the four Gilman Gateway Rezone Project components.

Table 6: Automobile Trip Generation

Land Use	Size[1]	Daily[2]	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
R&D/Office[3]	1,003.4 KSF	9,980	753	165	918	139	729	868

Notes:
1. KSF = 1,000 square feet
2. Daily trip generation rounded to nearest 10.
3. ITE Trip Generation Manual (11th Edition) land use category 760 (Research and Development Center) in general urban/suburban setting:
   Daily: T = 9.70 * X + 247.71
   AM Peak Hour: T = 0.89 * X + 24.54 (82% in, 18% out)
   PM Peak Hour: T = 0.84 * X + 25.08 (16% in, 84% out)

Source: Fehr & Peers, 2023.

Table 7: Automobile Trip Generation by Project Component

Project	Size[1]	Daily[2, 3]	AM Peak Hour[3]			PM Peak Hour[3]		
			In	Out	Total	In	Out	Total
Berkeley Forge	890.0 KSF	8,860	669	146	815	123	647	770
1306 Third Street	12.4 KSF	120	9	2	11	2	9	11
600 Gilman Street	23.3 KSF	230	17	4	21	3	17	20
1433 Eastshore Hwy	77.7 KSF	770	58	13	71	11	56	67
Total	***1,003.4 KSF***	***9,980***	***753***	***165***	***918***	***139***	***729***	***868***

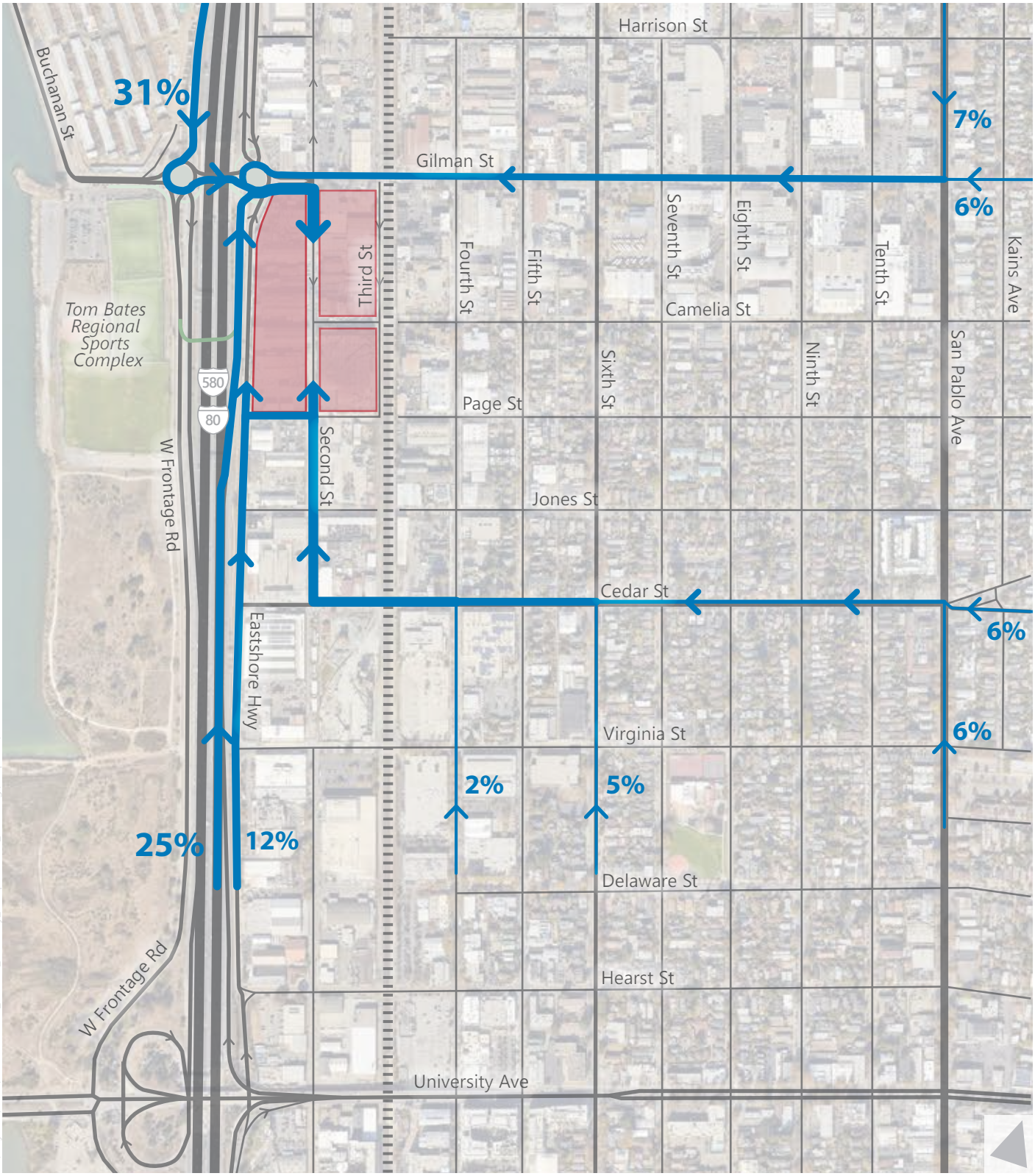
Notes:
1. KSF = 1,000 square feet
2. Daily trip generation rounded to nearest 10.
3. The trip generation for each project component is estimated by proportioning the trip generation for the Gilman Gateway Rezone Project as presented in Table 3 based on the size of each project component.

Source: Fehr & Peers, 2023.

3.3 Trip Distribution and Assignment

Trip distribution is defined as the directions of approach and departure that vehicle trips generated by the Project would use to arrive at and depart from the Project. The trip distribution for the Project is primarily based on the latest US Census data for the home location of workers in West Berkeley, location of complementary land uses, and the existing and proposed street network serving the Project area. It accounts for the Project location, current traffic patterns, and under-construction infrastructure changes in the area such as prohibition on left-turns from westbound Gilman Street onto southbound Second Street and the closure of the at-grade railroad crossing on Camelia Street. **Figure 6** shows the resulting inbound trip distribution and **Figure 7** shows the resulting outbound trip distribution.

Trips generated by the Project and summarized in Table 7 were assigned to the roadway network according to the trip distribution shown on Figure 6 and Figure 7. **Figure 8** presents the peak hour Project automobile trips generated by the Project at the study intersections.

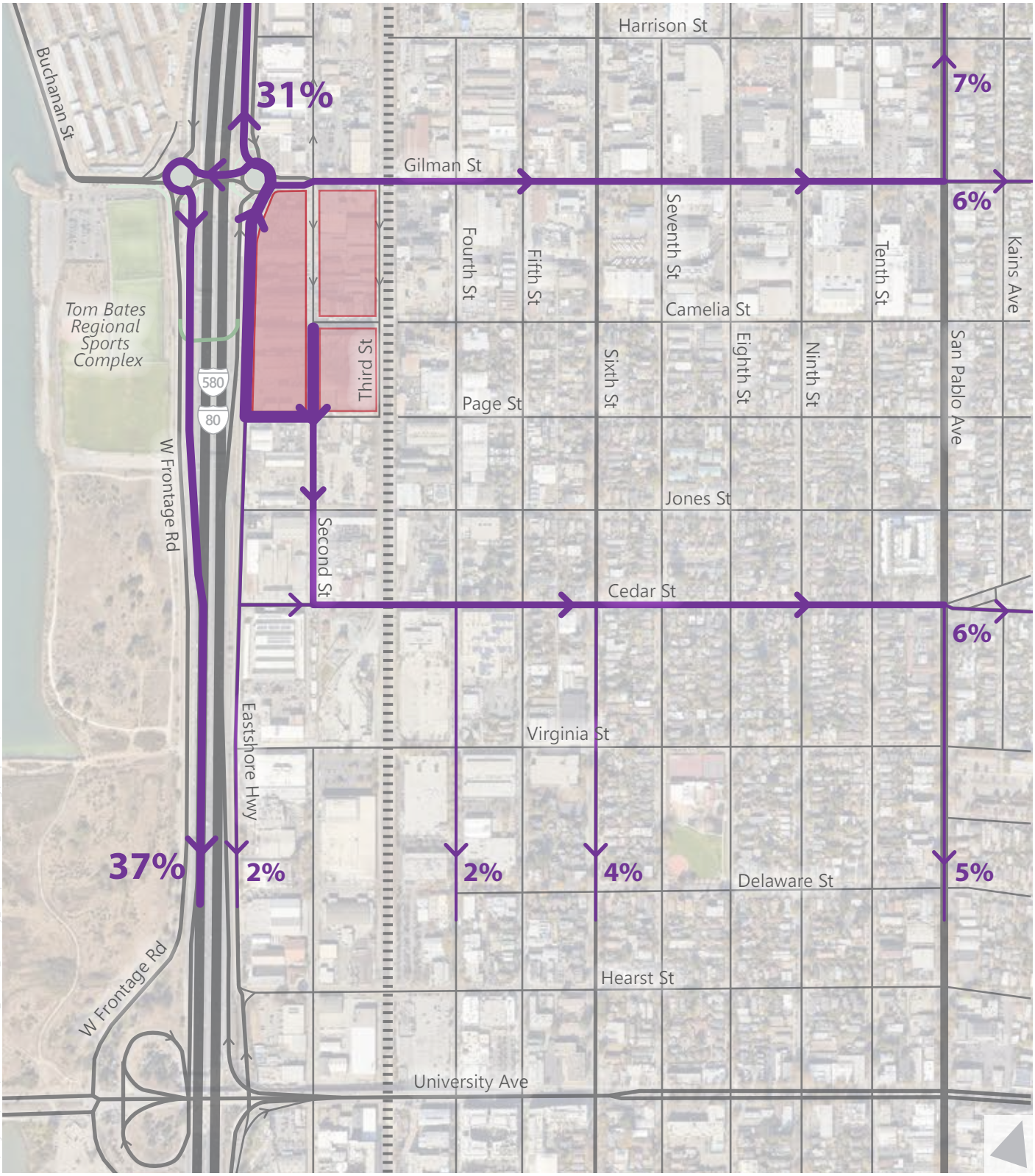


Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Inbound Trips

Figure 6

Inbound Trip Distribution



Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Outbound Trips

Figure 7

Outbound Trip Distribution

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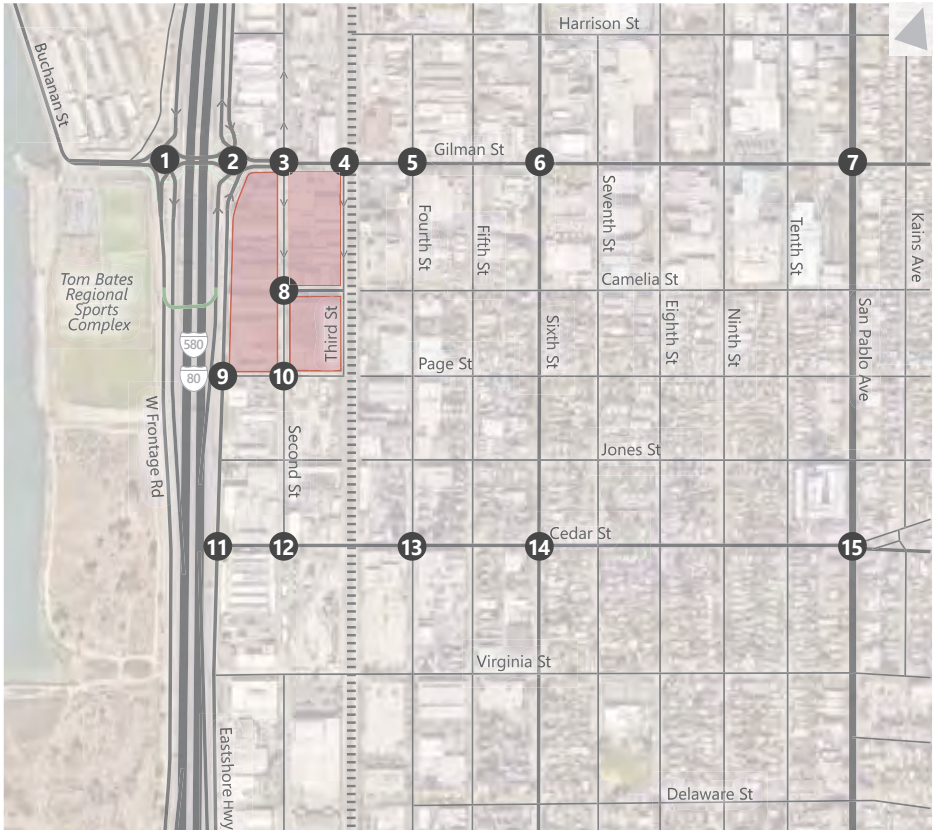
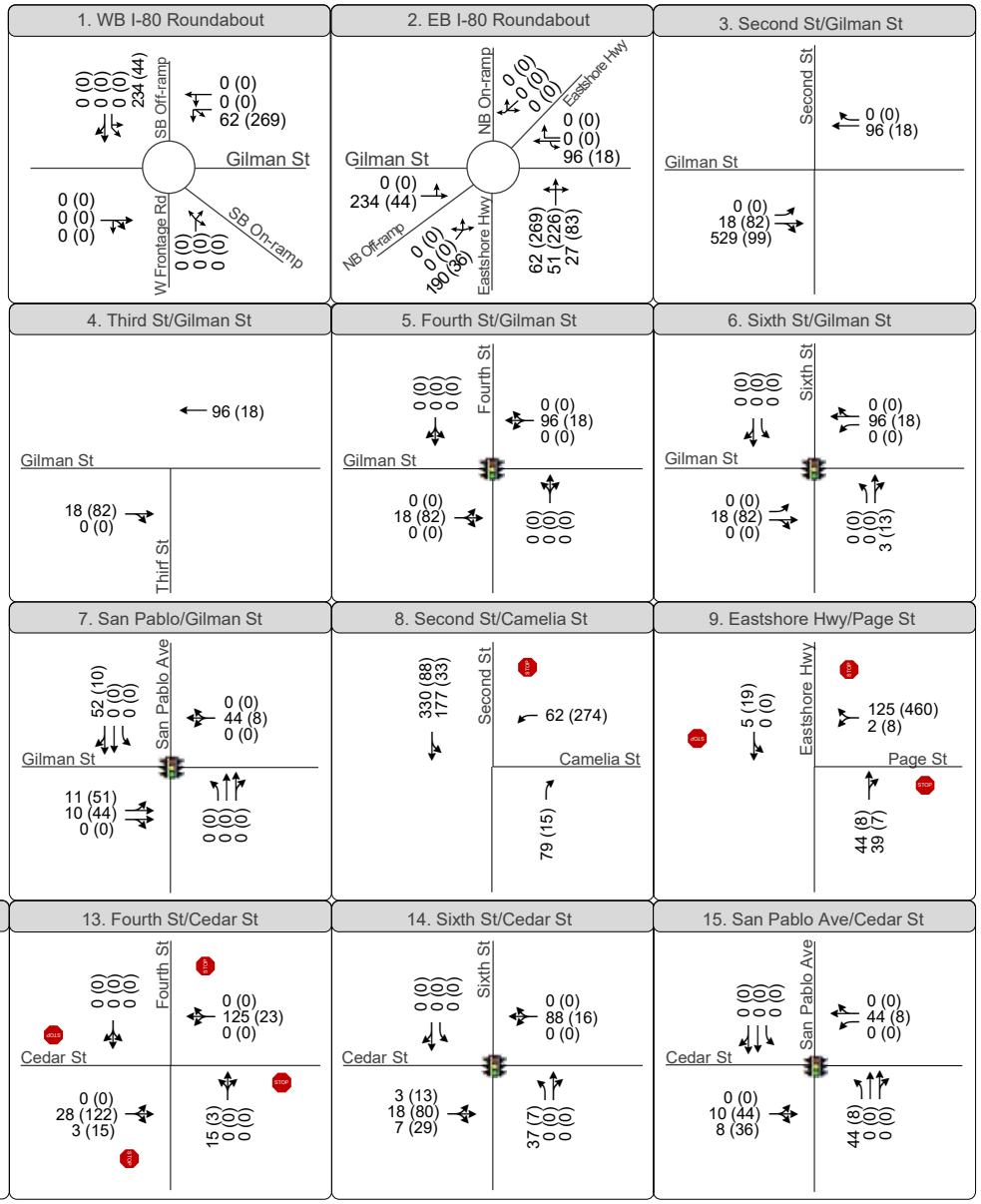




Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Study Intersections

Figure 8
Peak Hour Project Trips

4. Vehicle Miles Traveled Assessment

In November 2020, the City of Berkeley adopted guidelines, thresholds of significance, and screening criteria for evaluating vehicle miles traveled (VMT) in California Environmental Quality Act (CEQA) documents, as required by the State for all CEQA documents published after July 1, 2020. This section assesses impacts of the Project on VMT, in accordance with the adopted City guidelines. It starts by presenting the City of Berkeley's applicable threshold of significance for the Project, describes the applicability of VMT screening, and estimates the VMT metric for the Project.

4.1 City of Berkeley Thresholds of Significance

The State Office of Planning and Research's (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* recommends evaluating VMT impacts using an efficiency-based version of the metric, such as VMT per resident for residential developments or VMT per worker for office or other employment-based developments. Consistent with OPR's guidelines, City of Berkeley uses the metric of home-work VMT per worker for evaluating the impacts of employment-based uses, such as the Gilman Gateway Project. The home-work VMT per worker measures all of the worker commute VMT by a motor vehicle on a typical weekday between homes and workplaces and divides that VMT by the number of workers.

Based on the City of Berkeley's guidelines, the following significance threshold is applicable to the Project:

- An employment-generating project's VMT impact is considered less-than-significant if its home-work VMT per worker is at least 15 percent below the regionwide average home-work VMT per worker

4.2 VMT Screening Assessment

According to the OPR's Technical Advisory, screening thresholds can be used to quickly identify projects that can be expected to cause a less-than-significant impact without conducting a detailed study. The City of Berkeley guidelines include several screening criteria. The screening criteria potentially applicable to the project are the Projects in Low VMT Areas and the Transit Priority Areas, which are described below.

- **Projects in Low VMT Areas:** According to the Projects in Low VMT Areas criterion, projects that are located in low-VMT areas and that have characteristics similar to other uses already located in those areas can be presumed to generate VMT at similar rates. The low-VMT areas in Berkeley are defined based on the results of the Alameda County Transportation commission (CTC) Travel Demand Model, and are summarized in maps. Figure 9 shows the City of Berkeley's map for low-VMT areas for employment-based uses. Based on the City of Berkeley's screening map, the Project is not located in a low-VMT area and does not meet the Low VMT Areas screening criterion.

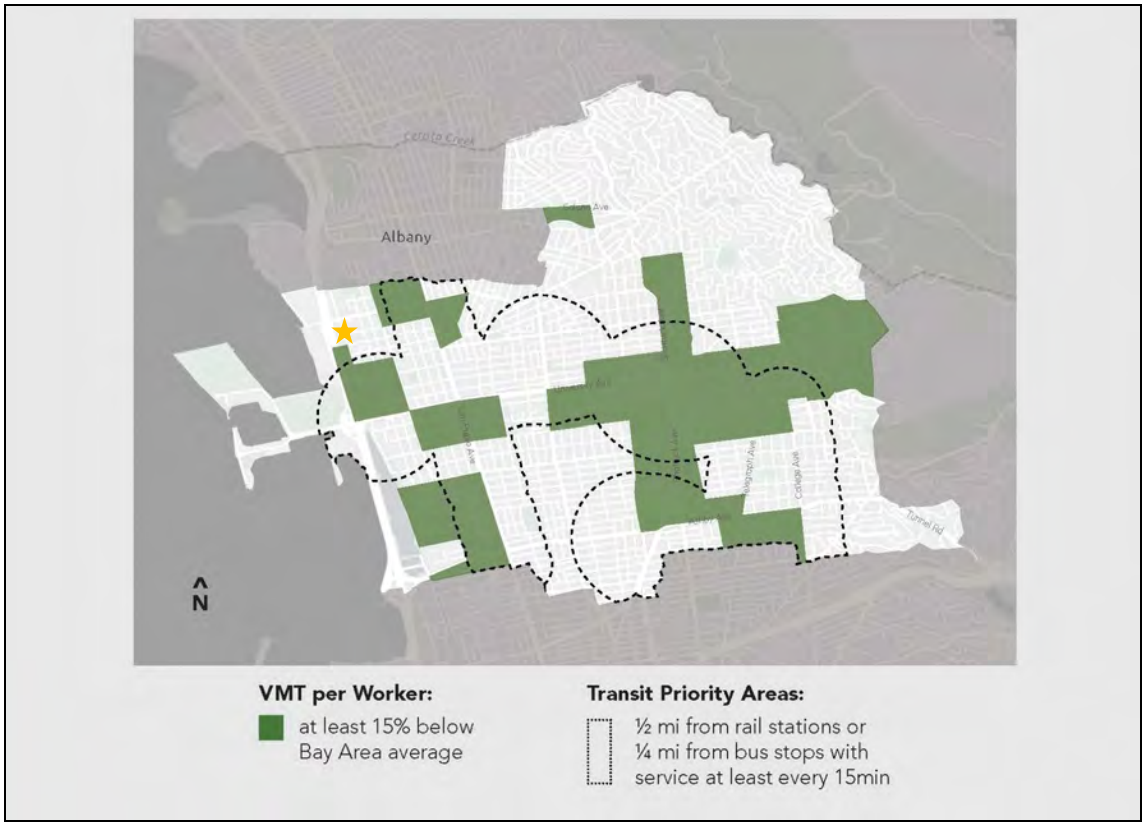


Figure 9 City of Berkeley Low VMT Areas for Workers

- **Transit Priority Areas (TPAs):** According to the TPAs criterion, projects located within a 0.5-mile walkshed of a major transit stop[9] or within a 0.25-mile walkshed of a stop along a high-quality transit corridor[10] can be presumed to have a less-than-significant impact on VMT. Figure 9 also shows the City of Berkeley's map for TPAs. Based on the City of Berkeley's screening map, the project is not located in a TPA and does not meet the TPAs screening criterion.

Since the Project does not meet either the Low VMT Areas or the TPAs screening criteria, a detailed evaluation of the VMT generated by the Project is required, which is presented in the next subsection of this memorandum.

[9] Major transit stop is defined as an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Pub. Resources Code, § 21064.3).

[10] High-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources Code, § R21155).

4.3 Project VMT Estimate

Since the Project would not meet any of the City of Berkeley's VMT screening criteria, a more detailed VMT analysis is completed. VMT is typically an output from travel demand models. This analysis uses the Alameda CTC Countywide Travel Demand Model, as recommended by the City of Berkeley guidelines, as the tool to estimate VMT for the Project.

The Alameda CTC Model, which covers the entire nine-county Bay Area, is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes, transit ridership, and VMT using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process accounts for changes in travel patterns due to future growth and expected changes in the transportation network. This analysis uses the latest version of the Alameda CTC Model, which was released in May 2019. The Model is based on the Metropolitan Transportation Commission (MTC) Plan Bay Area 2040 (i.e., Sustainable Communities Strategy) transportation network and land uses for 2020 and 2040.

As a regional planning tool, the Alameda CTC Model was developed through an extensive model validation process and is intended to replicate existing vehicular travel behavior. Therefore, it can provide a reasonable estimate of the VMT generated in various geographic areas on a typical weekday, as well as estimate future VMT that reflects planned local and regional land use and transportation system changes. The Model was used to estimate home-work VMT per worker for the Project and the entire nine-county Bay Area region under 2020 and 2040 conditions.

Table 8 summarizes the VMT estimates under 2020 and 2040 conditions as estimated by the Alameda CTC Model. The table also compares the home-work VMT per worker for the Project with the regionwide average and 15 percent below the regionwide average, which is the threshold used to determine the significance of the VMT impact.

Under both 2020 and 2040 conditions, the home-work VMT per worker for the Project is estimated to be 16.1. Note that these estimated VMT metrics are based on the Alameda CTC Model, which is a regional travel demand model and only accounts for the built environment variables to which the model is sensitive. Project characteristics, such as limited on-site parking and the transportation demand management (TDM) measures that would be implemented by the Project, may not be reflected in the VMT metrics estimated for the Project.

Both the 2020 and 2040 home-work VMT per worker for the Project would be above the threshold of significance (i.e., 15 percent below the regionwide Bay area average) by about five percent. Implementation of a TDM Plan, which is described below, could reduce the home-work VMT per worker for the Project by about six to ten percent, as described below, which would reduce the home-work VMT per worker for the Project to below the threshold of significance.

Table 8: VMT Summary

Geographic Area	Home-Work VMT per Worker (2020)	Home-Work VMT per Worker (2040)
Bay Area Regionwide Average[1]	18.1	18.2
Bay Area Regionwide Average minus 15% (i.e., threshold of significance)	15.4	15.5
Project (TAZ 79)[1]	16.1	16.1
Below Threshold without TDM?	No	No
Project with TDM[2]	14.5 to 15.1	14.5 to 15.1
Below Threshold with TDM?	Yes	Yes

Notes:
1. Based on the results of the Alameda CTC Countywide Travel Demand Model.
2. See Appendix E for TDM Plan details and effectiveness.

Source: Fehr & Peers, 2022.

4.4 Transportation Demand Management

The Project would implement a TDM Plan to reduce the VMT impact of the Project, as well as automobile trip generation and parking demand, through measures that discourage the use of automobiles and encourage the use of other travel modes.

Appendix E provides the detailed TDM Plan for the Project. The TDM Plan, which would be implemented at the time of the occupancy of the first phase of the Project, would include the following strategies:

a. Provide shuttle service between the Project area, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 AM to 10:00 AM and 3:00 PM to 7:00 PM). The Project would also explore the feasibility, and if feasible, will coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley. Shuttle service would be adjusted based on ridership.
b. Coordinate with AC Transit to explore the potential to either extend existing bus service or provide new bus service through or near the Project area (Note that since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, the potential effects of bus service expansion on reducing VMT cannot be quantified and therefore not included in the total VMT reduction of the TDM Plan).
c. Provide bike lockers, showers, personal lockers, and a repair station throughout the Project area to encourage bicycling.
d. Coordinate with the City of Berkeley and/or regional agencies to facilitate the potential installation of a BayWheels bikeshare station in the Project area.
e. Offer carpool/ride-matching services, such as ComoVee, or 511.org RideShare, to pair employees interested in forming commute carpools.

f. Provide preferential carpool parking, including free parking for carpoolers if employees are charged for on-site parking. Carpool parking spaces not occupied by 10:00 AM would be available to other vehicles.
g. Require tenants to provide full or partial transit subsidy to Project employees. Tenants may offer one of the following to employees that request it:[11]
    - A monthly commuter check (or alternatively Clipper Card, which is accepted by BART, AC Transit, and other major transit providers in the Bay Area)
    - Subsidized AC Transit bus pass
    - Subsidized Capital Corridor monthly ticket
h. Require tenants to provide pre-tax commuter benefits for employees.
i. Regularly provide Project tenants and employees information about various transportation options in the area and the TDM strategies provided by the Project. The main lobby of each major Project building shall also provide all the information on transportation options, such as a TransitScreen.
j. Provide information on the Bay Area Commuter Benefits Program to all building tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees in order to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers must select one of four Commuter Benefit options to offer their employees: a pre-tax benefit, an employer-provided subsidy, employer-provided transit, or an alternative commute benefit. (Information about Commute Benefits Program is at 511.org/employers/commuter/overview.)

Table 9 summarizes the estimated effectiveness of the TDM Plan components in reducing the Project VMT. The effectiveness of the strategies is primarily based on the Alameda CTC VMT Reduction Calculator Tool,[12] which is a tool that accounts for the particular location of a development project and quantifies the effects of various strategies in reducing VMT consistent with the research compiled in the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers* (California Air Pollution Control Officers Association [CAPCOA], December 2021). The CAPCOA publication is a resource for local agencies to quantify the benefit, in terms of reduced travel demand, of implementing various TDM strategies.

It is estimated that the TDM Plan would reduce the Project-generated VMT by between six and ten percent, which would be more than the five percent reduction needed to reduce the home-work VMT per worker for the Project to below the threshold of significance.

[11] This analysis assumes that a transit fare subsidy of about $2.50 per employee per weekday (value to rider, not cost to employer) will be available to all site employees.
[12] See https://www.alamedactc.org/planning/sb743-vmt/ for more information.

Table 9: TDM Plan VMT Reduction Estimates

TDM Strategy	Description	Estimated VMT Reduction[1]
BART Shuttle	Provide peak commute period shuttle service to BART and Amtrak	3% - 6%
Bus Service Extension	Extend AC Transit bus service into the Project area	N/A [2]
Bicycle Amenities	Provide secure bicycle parking, showers and lockers, and repair station	<1%
Bike Share	Allow and facilitate installation of a potential BayWheels bikeshare station in the Project area	
Carpool and Ride-Matching Assistance	Assist Project area employees in forming carpools and provide preferential carpool parking spaces	1%
Carshare Parking Spaces	Dedicate on-site carshare parking spaces	<1%
Transit Fare Subsidy	Require tenants to provide transit subsidies	1% - 2%[3]
Pre-Tax Commuter Benefits	Require tenants to provide pre-tax commuter benefits	
Marketing and Education	Active marketing and education of employees on various commuting options	N/A[4]
	Total Estimated VMT Reduction	**6-10%**

Notes:

1. Primarily based on the results of the Alameda CTC VMT Reduction Calculator Tool
2. Since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, effectiveness of this strategy cannot be quantified at this time.
3. Assuming a transit subsidy of about $2.50 per day per employee (value to transit user and not necessarily the cost) available to all employees.
4. The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that existing literature does not provide a robust methodology for calculating its effectiveness. In addition, many strategies are complementary to each other and isolating their specific effectiveness may not be feasible.

Source: Fehr & Peers, 2023.

5. Traffic Operations Analysis

As described in previous chapters, automobile delay, LOS, and other similar measures of vehicular capacity or traffic congestion can no longer be used to identify significant impacts under CEQA. This report evaluates the effects of the Project on local intersection operations at 15 key intersections for informational purposes. This chapter summarizes intersection operations at the study intersections under Near-Term No Project and Near-Term Plus Project conditions and identifies substantial effects based on the City of Berkeley thresholds for intersection operations.

5.1 Near-Term Intersection Operations

The Near-Term No Project conditions represent existing traffic plus traffic volumes from approved and proposed but not yet constructed and occupied developments that are expected to be operational in the near future. The projects included in the Near-Term scenarios include:

- 600 Addison Street (approved) – would consist of about 471,000 square feet of office/R&D space west of the railroad tracks between Addison Street and Bancroft Way.
- 1914 Fifth Street (proposed) - would consist of 257 multi-family residential units and about 24,600 square feet of commercial space on Fifth Street between Hearst and University Avenues.
- 1200 San Pablo Avenue (approved) – would consist of 104 multi-family residential units, and about 3,100 square feet of commercial space at the southwest corner of the San Pablo Avenue/ Harrison Street intersection.
- 1201 San Pablo Avenue (approved) – would consist of 66 multi-family residential units and about 1,700 square feet of commercial space at the southeast corner of the San Pablo Avenue/Harrison Street intersection.
- 1701 San Pablo Avenue (approved) – would consist of 110 affordable multi-family residential units at the northeast corner of the San Pablo Avenue/ Francisco Street intersection.
- 1820 San Pablo Avenue (approved) – would consist of 44 multi-family residential units, and about 6,800 square feet of commercial space on San Pablo Avenue midblock between Delaware Street and Hearst Avenue.
- 787 Bancroft/TheLAB (approved) – would consist of about 265,000 square feet of office/R&D space through renovation and repurposing of existing buildings and construction of a new building in an area approximately bound by Bancroft Way, Fifth Street, Allston Way, and the railroad tracks.

The intersection volumes under the Near-Term No Project Conditions were estimated by adding the trips generated by the development projects listed above to the existing intersection volumes. **Figure 10** shows the intersection volumes under the Near-Term No Project conditions. Project trips were added to the Near-Term No Project conditions to develop traffic volumes for the Near-Term Plus Project conditions, shown on **Figure 11**. Roadway geometries and traffic controls under Near-Term No Project conditions account for

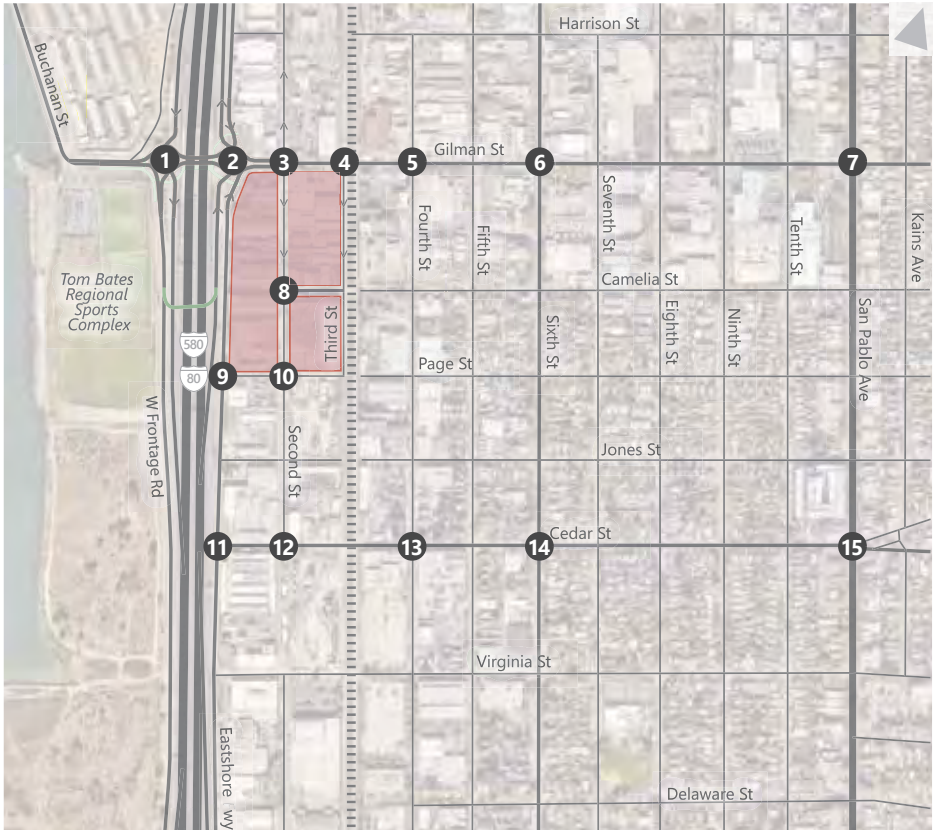
the completion of the I-80/Gilman Street Interchange Project, as described in Section 2.6 on page 21 of this report.

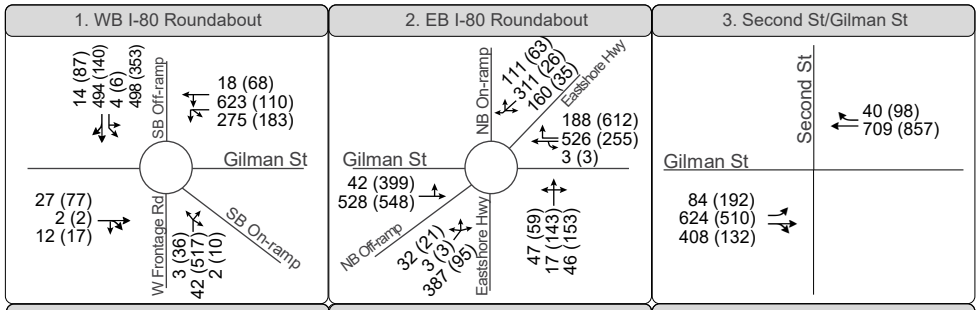
Table 10 summarizes the Near-Term No Project and Near-Term Plus Project intersection operations analysis results. Appendix B (Synchro) and Appendix F (SIDRA) provide the detailed LOS calculation worksheets. As shown in Table 10, the 15 study intersections would operate at LOS D or better under Near-Term No Project conditions during both AM and PM peak hours.

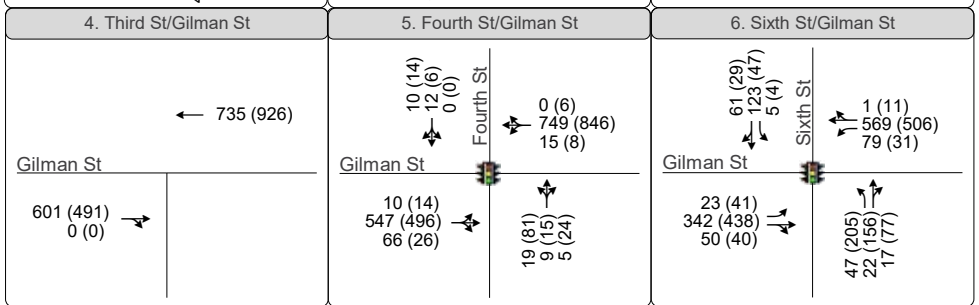
Under the Near-Term Plus Project conditions, the following intersections would operate at LOS E or LOS F:

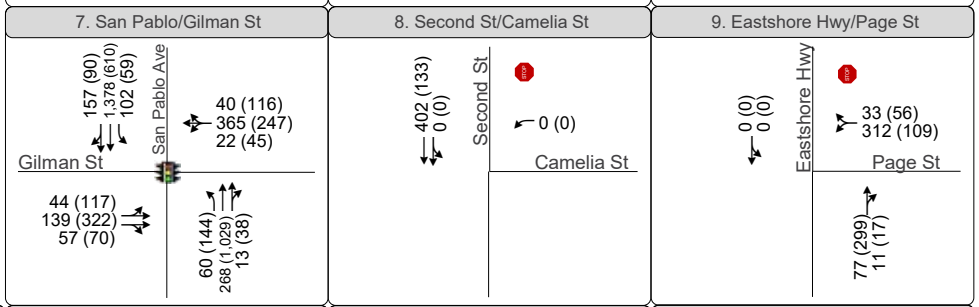
- The Gilman Street/I-80 Ramps/West Frontage Road intersection (the West Roundabout) would operate at LOS F during the AM peak hour
- The Gilman Street/I-80 Ramps/Eastshore Highway intersection (the East Roundabout) would operate at LOS F during both the AM and PM peak hours
- The all-way stop-controlled Camelia Street/Second Street intersections would operate at LOS F during the AM peak hour

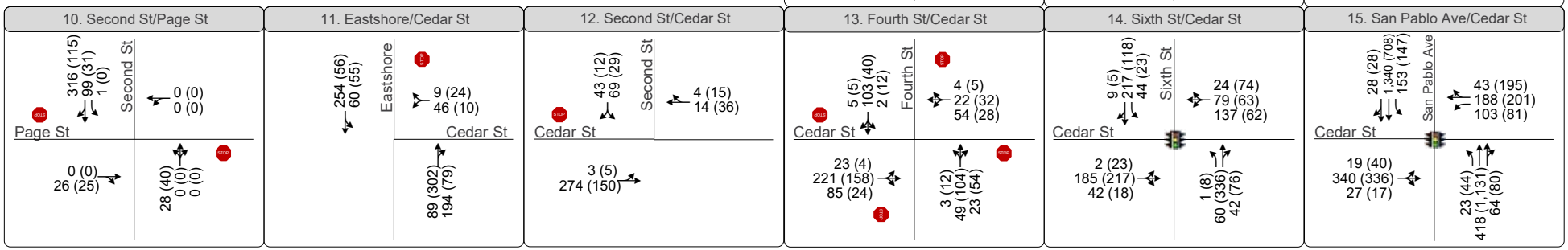
All other study intersections would operate at LOS D or better during the AM and PM peak hours under the Near-Term Plus Project conditions.







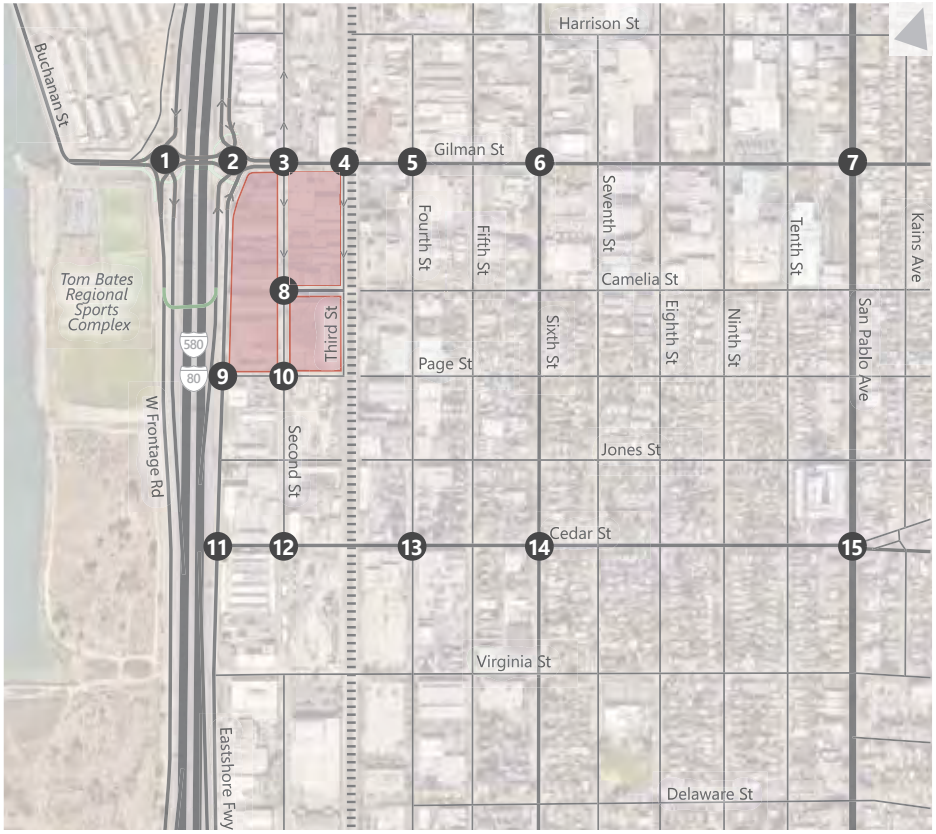


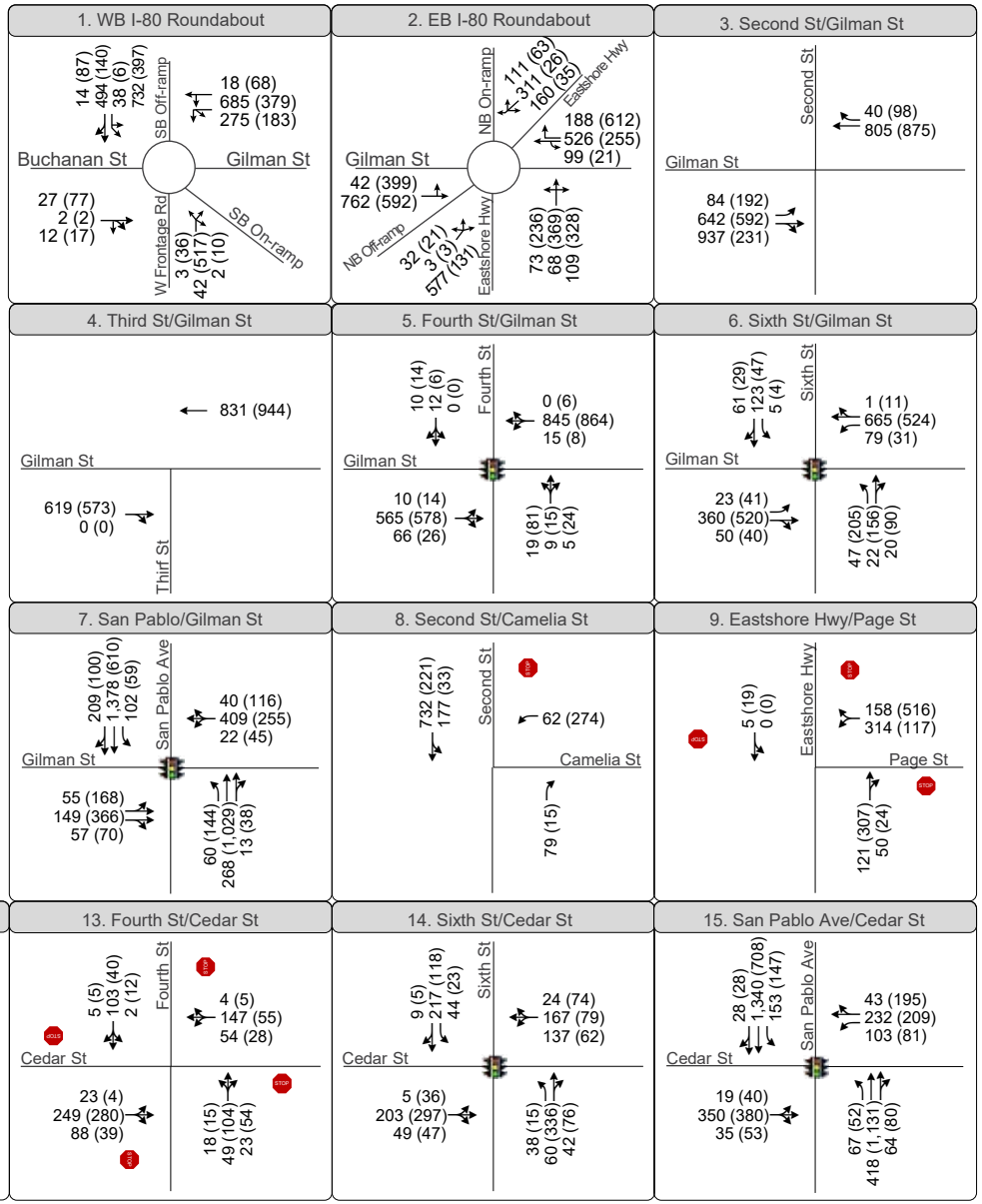


Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Study Intersections

Figure 10
Near-Term No Project Peak Hour Traffic Volumes, Lane Configurations and Traffic Control





Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Recommended Study Intersections

Figure 11
Near-Term Plus Project Peak Hour Traffic Volumes, Lane Configurations and Traffic Control

Table 10: Near-Term Conditions – Study Intersection LOS Summary

Intersection	Traffic Control	Peak Hour	Near-Term No Project		Near-Term Plus Project		Substantial Effect?
			Delay[1] (seconds)	LOS[2]	Delay[1] (seconds)	LOS[2]	
1. Gilman Street/I-80 Ramps/West Frontage Road (West)	Roundabout	AM	26	D	**73**	**F**	**Yes**
		PM	20	C	**38**	**E**	**Yes**
2. Gilman Street/I-80 Ramps/Eastshore Highway (East)	Roundabout	AM	18	C	**54**	**F**	**Yes**
		PM	17	C	**>150**	**F**	**Yes**
3. Gilman Street/ Second Street	Side-Street Stop	AM	<1 (EB Left = 5)	A (A)	<1 (EB Left = 6)	A (A)	No
		PM	1 (EB Left = 8)	A (A)	1 (EB Left = 8)	A (A)	No
4. Gilman Street/ Third Street	NA	AM	NA	NA	NA	NA	No
		PM	NA	NA	NA	NA	No
5. Gilman Street/ Fourth Street	Signal	AM	9	A	8	A	No
		PM	12	B	12	B	No
6. Gilman Street/ Sixth Street	Signal	AM	12	B	12	B	No
		PM	14	B	19	B	No
7. Gilman Street/ San Pablo Avenue	Signal	AM	29	C	35	C	No
		PM	28	C	35	D	No
8. Camelia Street/ Second Street	Side-Street Stop/All-way Stop[3]	AM	<1 (WB = <1)	A (A)	**65**	**F**	No
		PM	<1 (WB = <1)	A (A)	10	B	No
9. Page Street/ Eastshore Highway	Side-Street Stop/All-way Stop[3]	AM	9 (WB = 11)	A (B)	12	B	No
		PM	4 (WB = 12)	A (B)	19	C	No
10. Page Street/ Second Street	Side-Street Stop/All-way Stop[3]	AM	11 (NB = 13)	B (B)	18	C	No
		PM	8 (NB = 10)	A (B)	13	B	No
11. Cedar Street/ Eastshore Highway	Side-Street Stop	AM	2 (WB = 13)	A (B)	2 (WB = 14)	A (B)	No
		PM	2 (WB = 11)	A (B)	2 (WB = 12)	A (B)	No
12. Cedar Street/ Second Street	All-way Stop	AM	3 (SB = 10)	A (B)	3 (SB = 12)	A (B)	No

Table 10: Near-Term Conditions – Study Intersection LOS Summary

Intersection	Traffic Control	Peak Hour	Near-Term No Project		Near-Term Plus Project		Substantial Effect?
			Delay[1] (seconds)	LOS[2]	Delay[1] (seconds)	LOS[2]	
		PM	2 (SB = 10)	A (A)	5 (SB = 11)	A (B)	No
13. Cedar Street/ Fourth Street	All-way Stop	AM	10	A	11	B	No
		PM	9	A	10	A	No
14. Cedar Street/ Sixth Street	Signal	AM	15	B	16	B	No
		PM	16	B	17	B	No
15. Cedar Street/ San Pablo Avenue	Signal	AM	22	C	24	C	No
		PM	30	C	33	C	No

Notes:
Bold indicates intersection operating at LOS E or LOS F

1. Average intersection delay and LOS based on the HCM6 method as calculated by the SIDRA Network software for intersections 1 through 5 and Synchro software for other intersections. Average delay is reported for signalized and all-way stop-controlled intersections. Average intersection and worst-movement delays, respectively, are reported for side-street stop-controlled intersections.
2. Based on HCM6 delay thresholds.
3. Intersection is side-street stop-controlled under Near-Term No Project conditions and all-way stop-controlled under Near-Term Plus Project conditions.

Source: Fehr & Peers, 2023.

5.1.1 Signal Warrant Assessment

As described in Chapter 1, the California MUTCD includes eight signal warrants, and meeting one or more of the signal warrants could justify signalization of a stop-controlled intersection. This analysis evaluates the California MUTCD peak hour vehicular volume warrant (Warrant 3B) for urban conditions to determine if the traffic added by the Project would result in the stop-controlled intersections meeting a signal warrant.

The peak hour traffic signal warrant was evaluated for the four unsignalized study intersections under Near-Term and Near-Term Plus Project conditions based on the volumes, intersection controls, and roadway configurations presented on Figure 10 and Figure 11. As shown in **Table 11**, none of the stop-controlled intersections would meet the California MUTCD peak hour signal warrant under the Near-Term No Project and Near-Term Plus Project conditions. Appendix C provides the signal warrant worksheets.

Table 11: Near-Term Conditions –Peak Hour Signal Warrant Summary

Intersection	Control	Meet Peak Hour Signal Warrant under Near-Term No Project Conditions?[1]	Meet Peak Hour Signal Warrant under Near-Term Plus Project Conditions? [1]
3. Gilman Street/ Second Street	Side-Street Stop	No	No
8. Camelia Street/ Second Street	Side-Street Stop/All-way Stop[2]	No	No
9. Page Street/ Eastshore Highway	Side-Street Stop/ All-way Stop[2]	No	No
10. Page Street/ Second Street	Side-Street Stop/ All-way Stop[2]	No	No
11. Cedar Street/ Eastshore Highway	Side-Street Stop	No	No
12. Cedar Street/ Second Street	All-way Stop	No	No
13. Cedar Street/ Fourth Street	All-way Stop	No	No

Notes:
1. Based on the application of California MUTCD Warrant 3B.
2. Intersection is side-street stop-controlled under Near-Term No Project conditions and all-way stop-controlled under Near-Term Plus Project conditions.

Source: Fehr & Peers, 2023.

5.1.2 Queuing

Table 12 summarizes the average and 95th percentile[13] queues on the off-ramps at the Gilman Street roundabouts and on Gilman Street at the at-grade railroad crossing during AM and PM peak hours under Near-Term No Project and Near-Term Plus Project conditions. The queues were estimated using the Sidra Network software.

Under the Near-Term No Project conditions, the average and 95th percentile queues on the off-ramps would not spill back on to the freeway mainline and the average and 95th percentile queues on Gilman Street would not block the at-grade crossing under typical operating conditions.

[13] 95th percentile queue is defined as the queue length that has only a five percent probability of being exceeded during the analyzed peak hour.

Table 12: Near-Term Conditions – Queuing Summary

Location	Queue Storage Length in feet	Peak Hour	Near-Term No Project Average (95th Percentile) Queues in feet[1]	Near-Term Plus Project Average (95th Percentile) Queues in feet[1]
Southbound I-80 Off-Ramp at West Roundabout, Lane 1	1,100	AM	120 (290)	610 (**1,520**)
		PM	20 (50)	30 (80)
Southbound I-80 Off-Ramp at West Roundabout, Lane 2	600	AM	140 (360)	160 (400)
		PM	10 (30)	10 (30)
Northbound I-80 Off-Ramp at East Roundabout	1,150	AM	60 (140)	400 (1,000)
		PM	10 (30)	10 (40)
Westbound Gilman Street at Second Street	250	AM	<10 (20)	<10 (20)
		PM	<10 (20)	<10 (40)
Eastbound Gilman Street at Fourth Street	260	AM	150 (250)	130 (220)
		PM	150 (240)	160 (260)

Notes:
Bold indicates queues exceeding the available storage length.
1. Average (95th percentile) queues as calculated by the SIDRA Network Software.
Source: Fehr & Peers, 2023.

Under the Near-Term Plus Project conditions, the average queues on the off-ramps would not spill back on to the freeway mainline and the average and 95th percentile queues on Gilman Street are not expected to block the at-grade crossing under typical operating conditions. However, the 95th percentile queues on the Southbound Off-Ramp at the West Roundabout would spill back onto the southbound freeway mainline during the AM peak hour. Although the 95th percentile queues on the Southbound I-80 Off-Ramp would exceed the available storage length, the average queues would continue to be contained within the available storage area, indicating that the queue exceedance would occur occasionally during the peak hours.

According to Caltrans guidance[14], queue spillovers on freeway off-ramps are considered significant impacts only if the speed differential between the off-ramp and the mainline freeway is more than 30 miles per hour (mph). Based on Caltrans Performance Measurement System (PeMS) data, the average speed on mainline Southbound I-80 just north of Gilman Street during the weekday AM peak period was about 23 mph, which is less than 30 mph. The low speed on this segment of mainline Southbound I-80 is primarily due to the two shoulder lanes merging just south of the Gilman Street Off-Ramp. Since the speed differential between

[14] *Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance* (https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-12-22-updated-interim-ldigr-safety-review-guidance-a11y.pdf)

the off-ramp and the mainline freeway is less than 30 mph, the queue spillover on the Southbound I-80 Off-Ramp is not considered a significant impact according to the Caltrans guidance.

The analysis assumes typical signal timings at the Gilman Street/Fourth Street intersection and does not account for the queue cutter signal that was installed at the intersection by the Gilman Street Interchange Project, where the intersection signal is interconnected with the at-grade railroad crossing; when a train is approaching the crossing, all intersection approaches, except the eastbound Gilman Street approach receive a red phase while the eastbound Gilman Street approach has a green phase, which allows the queues on this approach to dissipate and minimize the potential for queues to spill back onto the railroad tracks. Thus, the queue on eastbound Gilman Street at Fourth Street may be less than reported in Table 12.

5.2 Substantial Effects and Improvement Measures

Intersection operations under Near-Term Plus Project conditions were compared to intersection operations under Near-Term No Project conditions using the criteria listed in Chapter 1. The Project would result in a substantial effect at the currently under construction Gilman Street interchange roundabouts because the Gilman Street/I-80 Ramps/West Frontage Road intersection (the west roundabout) would operate at LOS F during the AM peak hour and LOS E during the PM peak hour and the Gilman Street/I-80 Ramps/Eastshore Highway intersection (the east roundabout) would operate at LOS F during both AM and PM peak hours under Near-Term Plus Project conditions compared to LOS D or better under Near-Term No Project conditions.

It is estimated that this substantial effect would be triggered when about 65 percent of the Gilman Gateway Rezone Project (corresponding to approximately Phases 1 and 2 of the Berkeley Forge Project) is occupied.

At buildout, the Gilman Gateway Rezone Project is estimated to add about 296 AM peak hour and 313 PM peak hour trips to the Gilman Street/I-80 Ramps/West Frontage Road intersection (the west roundabout) and about 660 AM peak hour and 676 PM peak hour trips to the Gilman Street/I-80 Ramps/Eastshore Highway intersection (the east roundabout).

The all-way stop-controlled Camelia Street/Second Street intersections would operate at LOS F during the AM peak hour under Near-Term Plus Project conditions, compared to LOS A conditions under Near-Term No Project conditions. However, the increase in delay is not considered a substantial effect because the intersection would not meet the California MUTCD peak hour signal warrant under the Near-Term Plus Project conditions, as described in the previous section.

5.2.1 Improvement Measures

The substantial effect at the roundabouts can be improved through the TDM Plan that the Project would be required to implement to mitigate the significant impact on VMT to a less-than-significant level. As described on page 35 of this report, the Project TDM Plan is required to reduce VMT by at least five percent and estimated to reduce the VMT by about six to ten percent. **Table 13** summarizes the LOS at the two roundabouts accounting for the implementation of the TDM Plan assuming a five percent reduction in the Project trip generation. Although the implementation of the TDM Plan would reduce the average delay at

the roundabouts, the TDM Plan would not improve the LOS at the intersections to LOS D or better. Thus, the substantial effect would remain.

Similarly, the TDM Plan would reduce the 95th percentile queue on the Southbound I-80 Off-Ramp at West Roundabout during the AM peak hour from 1,520 to 1,450 feet, which would continue to exceed the available storage length and spill back onto the southbound freeway mainline.

Table 13: Improvement Measure Effectiveness – Study Intersection LOS Summary

Intersection	Traffic Control	Peak Hour	Near-Term Plus Project		Near-Term Plus Project and TDM		Substantial Effect?
			Delay[1] (seconds)	LOS[2]	Delay[1] (seconds)	LOS[2]	
1. Gilman Street/I-80 Ramps/West Frontage Road (West)	Roundabout	AM	**73**	**F**	**66**	**F**	**Yes**
		PM	**38**	**E**	**38**	**E**	**Yes**
2. Gilman Street/I-80 Ramps/Eastshore Highway (East)	Roundabout	AM	**54**	**F**	**39**	**F**	**Yes**
		PM	**>150**	**F**	**>150**	**F**	**Yes**

Notes:
Bold indicates intersection operating at LOS E or LOS F
1. Average intersection delay and LOS based on the HCM6 method as calculated by the SIDRA Network software. Average delay is reported.
2. Based on HCM6 delay thresholds.

Source: Fehr & Peers, 2023.

5.2.2 Other Considerations

The adverse conditions at the two roundabouts may be further improved through implementation of one or more the following:

- Widening the roundabouts and/or one or more of the roundabout approaches to provide additional lanes such as two continuous lanes in each roundabout, two through lanes on each direction of Gilman Street between the two roundabouts, and/or a bypass lane from northbound Eastshore Highway to eastbound Gilman Street. However, these potential roadway widenings are not feasible due to the limited availability of right-of-way and potential adverse impacts on pedestrians and bicyclists.
- Installing upstream metering signals, which would limit the number of vehicles that could enter the roundabouts. Metering signals could not be installed on the freeway off-ramps due to potential queue spillbacks onto the mainline freeway, nor on westbound Gilman Street due to potential queue spillbacks onto the railroad tracks. However, installing upstream metering signals on northbound West Frontage Road, northbound and/or southbound Eastshore Highway upstream of the roundabouts may be feasible and would reduce the traffic volumes and the associated congestion in the roundabouts.

- Implement a more rigorous TDM Plan to reduce the Project trip generation by at least 30 percent. Based on the location of the Project and type of uses, a TDM Plan that would reduce the Project trip generation by 30 percent would not be feasible.

Since the feasibility of the above measures is not known at this time, their effectiveness cannot be estimated.

5.2.3 Analysis Limitations

The analysis presented in this section is somewhat conservative for the following reasons:

- The Existing traffic volumes used in this analysis are based on pre-pandemic 2019 conditions as described on page 10. The analysis conservatively assumes that the long-term traffic patterns would be similar to the pre-pandemic 2019 conditions and does not account for the prevalence of remote work, online shopping, and other behaviors that have changed travel patterns in the last few years, and have generally reduced traffic volumes, especially during peak periods.
- The analysis does not account for traffic diverting to other routes if the roundabouts become congested. For example, the Existing Conditions volumes include a large number of vehicles (about 400 vehicles in the peak direction during each peak hour) that use West Frontage Road to bypass the congestion on I-80 freeway. It is possible that with the increased congestion at the roundabouts, many of these vehicles would not use West Frontage Road and the Gilman Street Interchange and instead would remain on the freeway, use other routes, and/or shift their trip to other times.
- The analysis does not account for upstream bottlenecks that could constrain the number of vehicles that could reach the roundabouts during the peak congestion periods, and assumes that all vehicles who wish to travel during the peak hours would be able to do so. It is possible that congestion in both directions of the I-80 freeway, especially if traffic patterns return to the pre-pandemic conditions as described above, could limit the number of vehicles that could reach the off-ramps and use the roundabouts during the AM and PM peak hours.

The Near-Term Plus Project conditions at the roundabouts presented above is similar with the findings of the *I-80 Gilman Street Interchange Improvement Project Traffic Operations Analysis Report* (TOAR, 2017)[15], which evaluated the effects of the currently under-construction improvements at the Gilman Street Interchange and was used to inform the final design of the roundabouts. According to the TOAR, the West Roundabout would operate at LOS F during the AM peak hour and LOS E during the PM peak hour and the East Roundabout would operate at LOS B or better during both AM and PM peak hours, under 2040 conditions. In addition, the TOAR estimates that the 95th percentile queue on the Southbound I-80 Off-Ramp would spill back onto the mainline freeway during the AM peak hours under 2040 conditions, similar to the findings of this analysis. The TOAR also recommended the installation of an upstream metering signal on northbound West Frontage Road, as described above.

[15] The report is at: https://www.alamedactc.org/wp-content/uploads/2019/08/I-80_Gilman_Traffic_Ops_Analysis_Rpt_Jun2017.pdf

Recommendation 1: Coordinate with Caltrans and the City of Berkeley to evaluate the feasibility of upstream metering signals on northbound West Frontage Road, northbound and/or southbound Eastshore Highway upstream of the roundabouts. If approved, the Berkeley Forge Project shall provide fair share contributions to the design and implementation of the improvements as part of the entitlement process for the Project.

6. Congestion Management Program Analysis

The Alameda CTC as part of the Alameda County Congestion Management Program (CMP) Land Use Analysis Program, requires the assessment of development-driven impacts on the Metropolitan Transportation System (MTS) roadways. Since the Project would generate more than 100 net new PM peak hour trips over existing conditions, the Alameda CTC requires the use of the Countywide Travel Demand Model to assess the impacts on nearby regional roadways. Based on the Notice of Preparation (NOP) comment letter by the Alameda CTC dated February 27, 2023, the potential impacts of the Project on the following roadways are evaluated:

- I-80/I-580
- San Pablo Avenue (SR 123)
- Ashby Avenue (SR 13)
- Gilman Street
- Buchannan Street
- Marin Avenue

Since California State law (California Public Resources Code, § 21099(b)(2)) prohibits the use of automobile delay or similar measures of congestion in identifying project impacts in environmental documents, this CMP analysis is prepared outside of the CEQA process and presented as a separate document to fulfill the requirements of the 2019 CMP.

The Alameda CTC Model used in this study is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process accounts for changes in travel patterns due to future growth and balances trip productions and attractions. This analysis uses the Alameda CTC Model version released in May 2019, which incorporates land use data and transportation network improvements consistent with *Plan Bay Area 2040* (i.e., the Sustainable Communities Strategy) for the years 2020 and 2040. For the purposes of this CMP analysis, the Project is assumed to not be included in the Alameda CTC Model to present a more conservative analysis. The segment traffic forecasts for the 2020 and 2040 scenarios were extracted from the Alameda CTC Model for the MTS roadway segments from that Model and used as the "No Project" forecasts. The Project generated trips were then added, as described in Chapter 3 of this report were then added to the "No Project" volumes to estimate the "Plus Project" traffic volumes.

This analysis uses volume-to-capacity (V/C) ratios to assess the impact of vehicle volumes on roadway segments. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) is used, consistent with the latest CMP documents. For surface streets, a per-lane capacity of 800 vph is used. Roadway segments with a V/C ratio greater than 1.00 signify LOS F.

The Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. Consistent with other recent environmental documents, this analysis uses the following performance standards to determine if the Project would result in a substantial effect[16] on the CMP roadway segments:

- A segment operating at LOS E or better to deteriorate to LOS F, or
- A segment operating at LOS F to continue to operate at LOS F with an increase in the V/C ratio of 0.03 or more.

Appendix G presents the PM peak hour segment volumes and the corresponding V/C ratio and LOS for the study CMP segments for the "No Project" and "Plus Project" conditions in 2020 and 2040, respectively.

As shown in Appendix G, the Project would not result in a substantial effect on the analyzed CMP roadway segments because it would not result in any of the analyzed CMP segments to deteriorate from LOS E to LOS F or increase the V/C ratio by 0.03 or more on segments that operate at LOS F regardless of the Project.

[16] Since this analysis is prepared outside of the CEQA process, "performance standards" is used instead of "significance criteria" and "substantial effect" is used instead of "significant impact."

7. Site Access, Circulation, and Parking

Fehr & Peers reviewed the preliminary site plan for the Berkeley Forge Project dated December 13, 2023 and shown in Appendix D, and the street network within and near the Project area to evaluate access, and circulation for all travel modes accessing the Project. This chapter provides the findings of this assessment. Note that the final circulation plans for the Project will be refined in coordination with the City of Berkeley and designed to meet City standards. Since the other Project components do not have a site plan at this time, their access and circulation cannot be evaluated.

7.1 Automobile Access and Circulation

The Berkeley Forge Project would generally maintain the street network serving the Project area. The main modifications proposed by the Project include:

- Narrow Second Street between Gilman and Camelia Streets from two to one southbound lane.
- Convert the segment of Second Street between Camelia and Page Streets from one-way southbound to two-way operations to allow access to Camelia Street from the south.
- Utilize Third Street between Gilman and Camelia Street to allow truck access from Gilman Street and allow passenger vehicles to exit right out of Garage A.
- Create a private street on the east side of the Project between Camelia and Page Streets and within the Project right-of-way to provide truck access for Building B1 and passenger vehicle access for Garage B.

Final circulation plans will be refined in coordination with the City of Berkeley and designed to meet City standards.

The traffic operations analysis presented in Chapter 5 evaluated traffic operations at the intersections within the Project area. Informed by this analysis, appropriate controls at these internal intersections were identified and are listed below.

Recommendation 2: Implement the following intersection controls at the intersections in the Project area:

- Camelia Street/Second Street – Stop signs on all approaches
- Camelia Street/Third Street – Stop signs on all approaches
- Page Street/Third Street – Stop signs on all approaches
- Page Street/Eastshore Highway – Stop signs on all approaches
- Page Street/Second Street – Stop signs on all approaches

- Garage Driveways: stop signs on the garage approaches

Access for the parking garages in the Project area, the on-street parking areas, and loading docks are discussed below.

7.1.1 Parking Garages

The Berkeley Forge Project would include the following three garages:

- Garage A would provide 690 parking spaces and be located on the northwest corner of the Camelia Street/Third Street intersection. Access would be provided through a full-access driveway on Camelia Street and a right-turn out only driveway on Third Street.
- Garage B would provide 568 parking spaces and be located at the northwest corner of the Page Street/Third Street intersection. Access would be provided through full access driveways on Page and Third Streets.
- Garage C would provide 618 parking spaces and be located at the south side of Block C. Access would be provided through full access driveways on Second Street and Eastshore Highway about 130 feet north of Page Street.

As described above, the garage driveways, except one, would allow all movements in and out of the driveways. The Garage A driveway on Third Street would be limited to right-turns out only to southbound Third Street. However, based on the current site plan, vehicles exiting the driveway would be able to turn left onto northbound Third Street. Additional design features should be provided to discourage left-turns out of the Garage A driveway on Third Street.

> **Recommendation 3:** Ensure all vehicles exiting the Garage A driveway on Third Street would turn right only by angling the driveway to the south and/or providing physical features, such as bulb-outs, to prohibit left-turns out of the driveway. Ensure that Third Street adjacent to Garage A would continue to provide at least 26 feet width to accommodate fire apparatus.

The current site plan does not show any controls at the garage driveways. If gates are installed at the garage driveways, the vehicle queues waiting to enter the garage may spill back onto the street and block the adjacent sidewalk and automobile lanes.

> **Recommendation 4:** If gates are provided at the garage driveways, ensure that entering vehicle queues for typical operating conditions can be accommodated within the garage with minimal queue spillbacks onto the adjacent sidewalks, bicycle facilities, or streets.

Based on the Project site plan, the driveways for the three parking garages would provide adequate sight distance between exiting motorists and pedestrians on the adjacent sidewalk. Adequate sight distance is defined as a clear line-of-sight between a motorist ten feet back from the sidewalk and a pedestrian ten feet away on each side of the driveway. No on-street parking would be provided adjacent to the garage driveways. Thus, the garage driveways would provide adequate sight distance between exiting motorists and cyclists or motorists on the adjacent street.

The driveways for the three Project garages are in the periphery of the Project area, in locations with less pedestrian activity after completion of the Project, which would minimize potential conflicts between vehicles turning into and out of the driveways and pedestrians on the adjacent sidewalks.

Each of the three garages would provide internal circulation through a single two-way drive aisle with parking spaces on both sides. The drive aisles would be generally 24 feet wide, providing adequate space for vehicles to circulate through the garage and maneuver into and out of parking spaces.

7.1.2 Truck Access

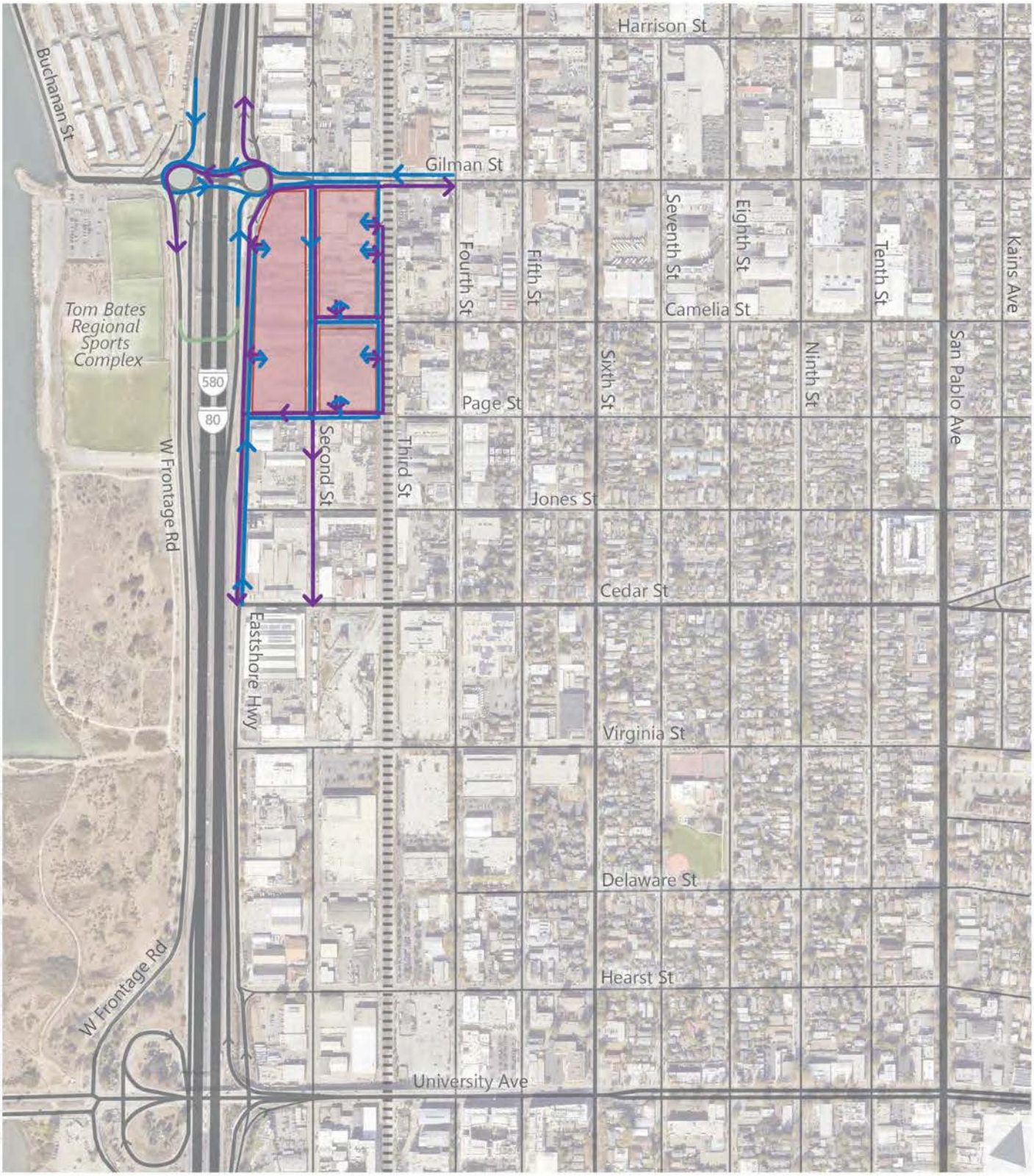
Each Berkeley Forge Project building would provide its own off-street loading area. Buildings A1, A2, and B1 would have a loading dock on Third Street, Building A3 on Camelia Street, Building B2 on Page Street and Buildings C1 and C2 on Eastshore Highway.

Figure 12 shows the preferred truck routes to and from the Project area. Considering the roadway network serving the Project area, most trucks are expected to approach the Project area from the I-80 freeway, exit at the Gilman Street interchange and use eastbound Gilman Street. Most trucks leaving the Project area would navigate through the Project area and use northbound Eastshore Highway to leave the site. Trucks can also use Second Street or Eastshore Highway to approach or leave the Project area from and to the south. However, trucks larger than three tons are prohibited on Cedar Street east of Sixth Street.

Trucks would either directly back into the loading dock spaces from the adjacent street (Buildings A1, A2, and B1 on Third Street, Building A3 on Camelia Street, and Building B2 on Page Street) or use an off-street area to back into the loading docks (Buildings C1 and C2 on Eastshore Highway). Thus, all Berkeley Forge Project buildings would provide adequate sight distance between trucks maneuvering into and out of the loading docks and through traffic on the adjacent streets, as well as pedestrians on the adjacent sidewalks, where sidewalks would be provided.

Second Street, which would serve as main pedestrian corridor in the Project area, would not provide direct access to any loading docks, minimizing the potential conflicts between trucks maneuvering in and out of loading docks and other vehicles, cyclists, or pedestrians along Second Street.

> **Recommendation 5:** Review final Project site plan to ensure that trucks can navigate through the site and access the loading docks for each Project building.



Legend

- Railroad
- Proposed Ped/Bike Bridge
- Project Site
- Inbound Truck Routes
- Outbound Truck Routes

Figure 12

Preferred Truck Routes

7.1.3 On-Street Parking and Passenger Loading

Currently, all Project area streets provide intermittent parallel on-street parking that is generally unregulated. The Berkeley Forge Project proposes to accommodate on-street passenger loading intermittently through bulb-ins on the west side of Second Street. The Project also proposes limited on-street parking on the south side of Camelia Street, and on the north side of Page Street. On-street parking would not be provided on Eastshore Highway or on the north side of Camelia Street.

Considering the limited on-street parking in the area and the expected need for passenger and commercial loading, all the parking spaces along Second Street should be designated for passenger (white curb) or commercial (yellow curb) loading and the parking spaces on Camelia and Page Streets should be designated for short-term (30 minute) visitor parking and controlled by parking meters.

> **Recommendation 6:** Designate all on-street spaces along the west side of Second Street between Gilman and Page Streets as either passenger (white curb) or commercial (yellow curb) loading spaces. Designate the on-street parking spaces on Camelia and Page Streets for short-term (30 minute) visitor parking and controlled by parking meters.

7.2 At-Grade Railroad Crossings

Active railroad tracks are adjacent to the east side of the Project area with one at-grade crossings on Gilman Street. The currently under construction Gilman Street Interchange Project improved the Gilman Street crossing and closed the Camelia Street crossing.

The Project would increase the amount of vehicular traffic and traffic congestion on Gilman Street. Based on the traffic operations analysis completed for the Project and summarized in Chapter 5 of this report, the 95th percentile downstream queues on both directions of Gilman Street would not spill back onto the railroad tracks. As described on page 42 and although not reflected in the traffic operations analysis, the signals at the Gilman Street/Fourth Street intersection and the at-grade railroad crossing installed by the Gilman Street Interchange Project include queue cutter signals which are interconnected with the at-grade railroad crossing equipment to further minimize the potential for queue spillovers. Thus, no additional improvements are recommended at the Gilman Street crossing.

7.3 Bicycle Access and Circulation

The I-80 freeway on the west side of the Project area and the railroad tracks on the east side of the Project area limit bicycle access for the Project area. Bicycles can access the Project area from either the north or south. From the north, bicycles would use the two-way cycletrack on the south side of Gilman Street that would be completed by the under-construction Gilman Street Interchange Project which would connect to the Bay Trail in the west through the under-construction Gilman Street Overcrossing and the rest of the City of Berkeley in the east, including existing and proposed bicycle facilities on Sixth Street, Ninth Street, San Pablo Avenue and Kains Avenue, which connect to the existing bicycle lanes on Gilman Street. From the south, bicycles would primarily use Second Street to access the Project area. Second Street is not currently

a designated bicycle facility, and the *City of Berkeley Bicycle Plan* does not propose future bicycle facilities on Second Street.

The Berkeley Forge Project sponsor is coordinating with the City of Berkeley on a multimodal design for Second Street, which could include bicycle facilities on the street between Gilman and Page Streets, and connect with the two-way cycletrack on the south side of Gilman Street.

The long-term and short-term bicycle parking for all Berkeley Forge Project buildings would be accessed from Second Street. The long-term bicycle parking for each building is in a secure room on the ground level with direct access to both outside and inside of the building. Short-term bicycle parking would be provided in the form of bike racks within 50 feet of the main entrance of each building. The adequacy of the long-term and short-term bicycle parking supplies for each Project building is discussed starting on page 59.

> **Recommendation 7:** Coordinate the final design of Second Street with the City of Berkeley's Public Works and Fire Departments.

7.4 Pedestrian Access and Circulation

Under current conditions, the streets in the Project area provide intermittent discontinuous sidewalks. The Gilman Street Interchange Project would upgrade the sidewalks along both sides of Second Street, east side of Eastshore Highway, and north side of Page Street to provide continuous 10-foot sidewalks with curb and gutters. The Gilman Street Interchange Project would also provide marked crosswalks with directional curb ramps across the north, east, and south approaches of the Gilman Street/Second Street intersection.

The Berkeley Forge Project would improve the streets within the Project area and provide sidewalks with or without landscaping along the Project frontages.

All Project buildings would have their main lobby oriented on Second Street. Thus, Second Street frontage would be the focus of pedestrian activity in the area and the wide sidewalks on both sides of the street and the frequent pedestrian crossings would accommodate pedestrian travel between the different buildings, parking garages, and open spaces and other amenities in the Project area. Second Street within the Project area does not provide direct access to any loading docks and only one garage driveway (Garage C on the south side of the Berkeley Forge Project area) is provided, minimizing potential conflicts between pedestrians and turning vehicles.

Sidewalks around each Project block and walkways within each Project block provide pedestrian connectivity within each block and allow pedestrians to walk between the buildings and the garage in each block without crossing any driveways or loading docks.

Currently, the existing 1306 Third Street building can be accessed on Third Street. The under-construction Gilman Street Interchange Project would limit Third Street to emergency vehicle access which would prohibit vehicular access for the 1306 Third Street building. The Berkeley Forge Project would also use this segment of Third Street to provide truck access for Buildings A1 and A2. Third Street would continue to serve as the primary pedestrian access for the 1306 Third Street building.

Recommendation 8: Ensure pedestrian access for the existing 1306 Third Street building by designating an ADA-compliant pedestrian walkway along Third Street between Gilman Street and the 1306 Third Street building adjacent to Building A1 ensuring adequate sight distance between trucks using the Building A1 loading docks and pedestrian along the walkway.

The Project proposes an uncontrolled midblock marked crosswalk On Second Street midblock between Gilman and Camelia Streets. Consistent with Federal Highway Administration (FHWA) guidelines[17] for two-lane streets with average daily traffic (ADT) of less than 9,000 and vehicle speeds of 30 miles per hour or less, it is recommended that the midblock crosswalk provide high-visibility crosswalk markings, nighttime pedestrian-scale lighting, advanced "Yield Here to Pedestrians" signs and yield lines at the crosswalk, and a potential raised crosswalk if approved by City of Berkeley. Devices, such as Rectangular Rapid Flashing Beacons (RRFBs) are not recommended for these midblock crosswalks because the FHWA guidance does not identify RRFBs as a candidate safety treatment for two-lane streets with relatively low traffic and vehicle speeds.

Recommendation 9: At the midblock crosswalk on Second Street (between Gilman and Camelia Streets) provide high-visibility crosswalk markings, nighttime pedestrian-scale lighting, advanced "Yield Here to Pedestrians" signs and yield lines at the crosswalk, and a potential raised crosswalk if approved by City of Berkeley.

7.5 Transit Access

As described on page 14, transit service providers in the Project vicinity include Alameda Contra Costa Transit District (AC Transit), Amtrak, and Bay Area Rapid Transit (BART). The nearest bus stop to the Project area is on Gilman Street at Sixth Street, about 0.4 miles east of the Project area. The Berkeley Amtrak Station is about 0.8 miles south of, and the North Berkeley BART Station is about 1.2 miles east of the Project area.

Based on the current proximity of various transit services to the Project area, minimal transit ridership is expected. However, the TDM Plan required for the Project (Appendix E) includes the provision of a shuttle service to connect the Project area to BART and/or Amtrak, and coordination with AC Transit to potentially extend bus service closer to or through the Project area. The Project area streets would accommodate shuttles and/or buses and potential stops with amenities.

7.6 Emergency Vehicle Access

Emergency vehicles would access the Project area through Gilman Street, Second Street, Eastshore Highway and/or Third Street. The Project would not modify the existing roadway network. Appendix D shows the emergency vehicle access for the Berkeley Forge Project. The streets in the Project area would all accommodate fire apparatus. Although left-turns from westbound Gilman Street to Second and Third Streets and Eastshore Highway would be prohibited for passenger vehicles and trucks, emergency vehicles

[17] FHWA's *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (2018):* *https://transportation.wv.gov/highways/training/TrainingDocuments/Guide-for-Improving-Pedestrian-Safety-at-Uncontrolled-Crossing-Locations.pdf*

would be able to make the left-turn from westbound Gilman Street onto southbound Second and Third Streets. In addition, the under-construction Gilman Street Interchange Project recently closed the at-grade Camelia Street railroad crossing to all traffic, including emergency vehicles.

> **Recommendation 10:** Coordinate with UPRR to explore allowing emergency vehicle access only at the recently closed at-grade railroad crossing on Camelia Street.

As shown in Appendix D, emergency vehicles would be able to access all Berkeley Forge Project buildings from at least two directions. Since all Project buildings would be 30 feet or higher, they require aerial fire apparatus access, which requires an access roadway with at least 26 feet of clear width within between 15 to 30 feet from the building. All Project buildings would meet the minimum access for aerial fire apparatus on at least two sides of the building.

The nearest fire station to the Project area is Berkeley Fire Station #6 at 999 Cedar Street, about 0.7 miles southeast of the Project area. Although general traffic congestion may delay emergency vehicle response during peak commute times, typical response times are expected to remain less than five minutes.

7.7 Parking and Loading

Parking requirements for automobiles and bicycles and truck loading requirements are described below.

7.7.1 Automobile Parking

City of Berkeley Municipal Code (Section 23.322.030), as proposed to be amended by the City Planning Commission on March 1, 2023, would require at least one automobile parking space per 1,000 square feet of R&D space in the proposed M-RD zoning district. **Table 14** summarizes the off-street automobile parking requirements for the Berkeley Forge Project by development block and compares them to the proposed parking supply. Each block by itself and the total Project would exceed the proposed minimum required parking.

Accessible Parking

The California Building Code requires accessible parking spaces to be provided when parking is provided for new buildings. The three Berkeley Forge Project garages would provide the following accessible parking spaces:

- Garage A, which would provide 690 parking spaces, would include 15 accessible parking spaces, consisting of 12 car accessible spaces and three van accessible spaces, exceeding the minimum 14 required parking spaces (12 car accessible and two van accessible).[18]
- Garage B, which would provide 568 parking spaces, would include 13 accessible parking spaces, consisting of 10 car accessible spaces and three van accessible spaces, exceeding the minimum 12 required parking spaces (ten car accessible and two van accessible)

[18] Parking facilities providing between 500 and 1,000 parking spaces are required to have at least two percent of their parking spaces be accessible and at least one of every six accessible spaces be van accessible.

- Garage C, which would provide 618 parking spaces, would include 13 accessible parking spaces, consisting of 11 car accessible spaces and two van accessible spaces, exceeding the minimum 12 required parking spaces (ten car accessible and two van accessible)

Table 14: Automobile Parking Requirements

Block/Building	Size[1]	Required Parking Spaces[2]	Proposed Parking Supply[3]
Block A			
Building A1	103.2 KSF	103	
Building A2	147.2 KSF	147	
Building A3	107.2 KSF	107	
	Block A Total	***357***	***690***
Block A Automobile Parking Requirements Met?			**Yes**
Block B			
Building B1	116.0 KSF	116	
Building B2	98.2 KSF	98	
	Block B Total	***215***	***568***
Block B Automobile Parking Requirements Met?			**Yes**
Block C			
Building C1	216.7 KSF	217	
Building C2	92.2 KSF	92	
Shed	9.6 KSF	10	
	Block C Total	***319***	***618***
Block C Automobile Parking Requirements Met?			**Yes**
Blocks A, B and C Combined Total		***891***	***1,876***
Blocks A, B and C Combined Automobile Parking Requirements Met?			**Yes**

Notes:
1. KSF = 1,000 square feet
2. City of Berkeley Municipal Code (Section 23.322.030) requirement of one parking space per 1,000 square feet of R&D space in the M-RD zoning district.
3. Per Berkeley Forge Project site plan dated April 7, 2023.

Source: Fehr & Peers, 2023.

All accessible parking spaces would be on the ground level of the garages and located on the shortest accessible route to an accessible entrance and are arranged so that people with disabilities are not forced to wheel or walk behind parked vehicles other than their own.

Electric Vehicle Parking

The City of Berkeley Municipal Code (Section 19.37.040) requires non-residential developments to provide 20 percent of the parking spaces with electric vehicle (EV) capable stations and ten percent of the parking

spaces with EV charging stations. The Berkeley Forge Project garages would provide the following EV equipment:

- Garage A, which would provide 690 parking spaces, would include 138 EV capable parking spaces, which would meet the City requirement, and 35 EV charging stations, which would not meet the 69 required EV charging stations.
- Garage B, which would provide 568 parking spaces, would include 114 EV capable parking spaces, which would meet the City requirement, and 29 EV charging stations, which would not meet the 57 required EV charging stations.
- Garage C, which would provide 618 parking spaces, would include 125 EV capable parking spaces, which would meet the City requirement, and 32 EV charging stations, which would not meet the 62 required EV charging stations.

Recommendation 11: Ensure all Project parking facilities would meet the City's requirements for EV capable stations and EV charging stations.

7.7.2 Bicycle Parking

Table 15 presents the bicycle parking and amenities provided for each Berkeley Forge Project building. Each building would provide long-term bicycle parking in a secure room on the ground level with direct access to both outside and inside of the building. Each bicycle room would also include a repair station. Each building would also provide shower facilities adjacent to the bicycle room. Short-term bicycle parking would be provided in the form of bike racks within 50 feet of the main entrance of each building.

The City of Berkeley Municipal Code Section 23.322.090 requires one bicycle parking space per 2,000 square feet of new floor area for non-residential buildings. Although the bicycle parking required by the City Code can be either long-term or short-term, the long-term parking in each building by itself would meet the City Code requirement.

The *City of Berkeley Bicycle Plan* provides recommendations on the amount of long-term and short-term bicycle parking for development projects. For office uses, the *Bicycle Plan* recommends one long-term bicycle parking space per 2,500 square feet of space and one short-term bicycle space per 10,000 square feet of space. All Berkeley Forge Project buildings would exceed the recommended long-term bicycle parking spaces; however, two buildings (A2 and C2) would not meet the recommended number of short-term bicycle parking spaces. In addition, neither the City Code nor the *Bicycle Plan* provide for shower facilities, which each building would provide.

Recommendation 12: Ensure all Project buildings would meet the minimum short-term bicycle parking recommended by the *City of Berkeley Bicycle Plan*.

Table 15: Bicycle Parking and Amenities Summary

Block/Building	Size[1]	Required Bicycle Parking Spaces[2]	Recommended Short-Term Bicycle Parking Spaces[3]	Proposed Long-Term Bicycle Parking Spaces[4]	Proposed Short-Term Bicycle Parking Spaces[4]	Proposed Showers[4]
Block A						
Building A1	103.2 KSF	52	10	60	12	4
Building A2	147.2 KSF	74	15	76	**12**	4
Building A3	107.2 KSF	54	11	60	12	4
Block A Subtotal		*178*	*36*	*196*	*36*	*12*
Block B						
Building B1	116.0 KSF	58	12	64	12	4
Building B2	98.2 KSF	49	10	64	10	4
Block B Subtotal		*107*	*22*	*128*	*22*	*8*
Block C						
Building C1	216.7 KSF	108	22	112	**20**	5
Building C2	92.2 KSF	46	9	68	12	6
Shed	9.6 KSF	5	2	Provided in Building C2		
Block C Subtotal		*159*	*33*	*180*	***32***	*11*
Project Total		**444**	**91**	**504**	**90**	**31**

Notes:
1. **Bold** indicated locations that do not meet the required or recommended quantities.
2. KSF = 1,000 square feet
3. City of Berkeley Municipal Code (Section 23.322.090) requirement of one bicycle parking space per 2,000 square feet of lab space
4. City of Berkeley Bicycle Plan Appendix F recommendation of one short-term bicycle parking space per 10,000 square feet of office space
5. Per Berkeley Forge Project site plan dated April 7, 2023.

Source: Fehr & Peers, 2023.

7.7.3 Loading Requirement

City of Berkeley Municipal Code (Section 23.322.100) requires one off-street loading space for the first 10,000 square feet of new commercial or manufacturing floor area, and one space for each additional 25,000 square feet of floor area. Off-street loading spaces are required to have minimum dimensions of 12 feet wide and 25 feet long, with a minimum vertical clearance of 14 feet. **Table 16** summarizes the proposed number of loading spaces for each Berkeley Forge Project building and compares it to the City Code requirements.

Table 16: Loading Requirements

Building	Size (KSF)[1]	Proposed Loading Spaces [1]	Required Loading Spaces[2]
A1	103.2	2	5
A2	147.2	2	6
A3	107.3	2	5
B1	116.0	2	5
B2	98.2	2	5
C1	216.7	3	9
C2	92.2	2	4
Shed	9.58	0	0
Total	**873.2**	**15**	**39**

Notes:
1. Per Project site plan dated April 7, 2023.
2. Berkeley Municipal Code Section 23.322.100 requires one loading space for the first 10,000 square feet in manufacturing districts, with one additional loading space for each additional 25,000 square feet.

Source: Fehr & Peers, 2023.

The Berkeley Forge Project proposes two or three loading spaces per building with each loading space at least 60 feet long. The City Code requires between four and nine loading spaces per building. Since the Berkeley Forge Project buildings propose fewer on-site truck loading spaces than required by City Code, the Project is seeking a Conditional Use Permit, unless the proposed M-RD district identifies reduced loading standards. Fehr & Peers evaluated the truck loading needs of the Project uses and summarized the findings in a memorandum provided as **Appendix H**. A review of truck loading requirements for similar specific uses (R&D/office) in nearby jurisdictions indicates that the proposed loadings spaces and their dimensions could meet the loading needs of the Project buildings.

7.8 Summary of Recommendations

The following improvements are recommended to improve access and circulation in the Project area. The final circulation plans for the Project will be refined in coordination with the City of Berkeley and designed to meet City standards:

- **Recommendation 1:** Coordinate with Caltrans and the City of Berkeley to evaluate the feasibility of upstream metering signals on northbound West Frontage Road, northbound and/or southbound Eastshore Highway upstream of the roundabouts. If approved, the Berkeley Forge Project shall provide fair share contributions to the design and implementation of the improvements as part of the entitlement process for the Project.
- **Recommendation 2:** Implement the following intersection controls at the intersections in the Project area:

- Camelia Street/Second Street – Stop signs on all approaches
- Camelia Street/Third Street – Stop signs on all approaches
- Page Street/Third Street – Stop signs on all approaches
- Page Street/Eastshore Highway – Stop signs on all approaches
- Page Street/Second Street – Stop signs on all approaches
- Garage Driveways: stop signs on the garage approaches

- **Recommendation 3:** Ensure all vehicles exiting the Garage A driveway on Third Street would turn right only by angling the driveway to the south and/or providing physical features, such as bulb-outs, to prohibit left-turns out of the driveway. Ensure that Third Street adjacent to Garage A would continue to provide at least 26 feet width to accommodate fire apparatus.
- **Recommendation 4:** If gates are provided at the garage driveways, ensure that entering vehicle queues for typical operating conditions can be accommodated within the garage with minimal queue spillbacks onto the adjacent sidewalks, bicycle facilities, or streets.
- **Recommendation 5:** Review final Project site plan to ensure that trucks can navigate through the site and access the loading docks for each Project building.
- **Recommendation 6:** Designate all on-street spaces along the west side of Second Street between Gilman and Page Streets as either passenger (white curb) or commercial (yellow curb) loading spaces. Designate the on-street parking spaces on Camelia and Page Streets for short-term (30 minute) visitor parking and controlled by parking meters.
- **Recommendation 7:** Coordinate the final design of the Second Street with the City of Berkeley's Public Works and Fire Departments.
- **Recommendation 8:** Ensure pedestrian access for the existing 1306 Third Street building by designating an ADA-compliant pedestrian walkway along Third Street between Gilman Street and the 1306 Third Street building adjacent to Building A1 ensuring adequate sight distance between trucks using the Building A1 loading docks and pedestrian along the walkway.
- **Recommendation 9:** At the midblock crosswalks on Second Street (between Gilman and Camelia Streets) provide high-visibility crosswalk markings, nighttime pedestrian-scale lighting, advanced "Yield Here to Pedestrians" signs and yield lines at the crosswalk, and a potential raised crosswalk if approved by City of Berkeley.
- **Recommendation 10:** Coordinate with UPRR to explore allowing emergency vehicle access only at the recently closed at-grade railroad crossing on Camelia Street.
- **Recommendation 11:** Ensure all Project parking facilities would meet the City's requirements for EV capable stations and EV charging stations.
- **Recommendation 12:** Ensure all Project buildings would meet the minimum short-term bicycle parking recommended by the *City of Berkeley Bicycle Plan*.

Appendix A
Streetlight Data Intersection Volumes

Gilman & Second															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	1	2	0	24	57	1	0	0	0	0	0	37	0	122
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	2	0	8	59	1	0	0	0	0	0	59	0	129
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	2	0	4	74	0	0	0	0	0	0	69	0	149
1: Weekday (Tu-Th)	03: 6:45am-7:00am	1	1	0	6	76	1	0	0	0	0	0	70	0	155
1: Weekday (Tu-Th)	04: 7:00am-7:15am	1	1	0	4	96	2	0	0	0	0	0	113	0	217
1: Weekday (Tu-Th)	05: 7:15am-7:30am	1	2	0	3	97	2	0	0	0	0	0	107	0	212
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	3	0	3	133	2	0	0	0	0	0	109	1	251
1: Weekday (Tu-Th)	07: 7:45am-8:00am	1	3	1	5	97	3	0	0	0	0	0	137	1	248
1: Weekday (Tu-Th)	08: 8:00am-8:15am	2	3	0	7	104	3	0	0	0	0	0	135	1	255
1: Weekday (Tu-Th)	09: 8:15am-8:30am	2	2	0	10	92	4	0	0	0	0	0	154	2	266
1: Weekday (Tu-Th)	10: 8:30am-8:45am	1	2	0	17	107	3	0	0	0	0	0	153	3	286
1: Weekday (Tu-Th)	11: 8:45am-9:00am	2	3	0	11	125	3	0	0	0	0	0	128	3	275
1: Weekday (Tu-Th)	12: 9:00am-9:15am	2	4	0	8	117	3	0	0	0	0	0	120	2	256
1: Weekday (Tu-Th)	13: 9:15am-9:30am	1	3	1	10	115	2	0	0	0	0	0	112	2	246
1: Weekday (Tu-Th)	14: 9:30am-9:45am	3	3	0	10	104	2	0	0	0	0	0	113	1	236
1: Weekday (Tu-Th)	15: 9:45am-10:00am	3	3	0	8	111	2	0	0	0	0	0	109	1	237
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	3	4	0	8	102	1	0	0	0	0	0	140	3	261
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	4	6	1	7	89	1	0	0	0	0	0	135	3	246
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	5	5	1	7	100	0	0	0	0	0	0	157	3	278
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	4	3	0	7	121	0	0	0	0	0	0	160	2	297
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	4	2	0	6	91	0	0	0	0	0	0	174	2	279
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	3	3	1	6	89	1	0	0	0	0	0	150	2	255
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	4	4	0	7	110	0	0	0	0	0	0	155	2	282
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	6	4	0	9	105	1	0	0	0	0	0	184	2	311
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	4	3	1	6	118	1	0	0	0	0	0	192	1	326
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	4	2	1	4	134	0	0	0	0	0	0	208	1	354
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	4	2	0	6	132	1	0	0	0	0	0	177	1	323
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	4	3	0	4	119	0	0	0	0	0	0	175	0	305
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	4	4	0	2	112	0	0	0	0	0	0	193	0	315
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	4	4	0	2	134	0	0	0	0	0	0	167	0	311
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	3	4	0	3	113	0	0	0	0	0	0	147	0	270
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	3	4	0	3	113	0	0	0	0	0	0	148	0	271
Peak Hour AM	8:15am-9:15am	7	11	-	46	441	13	-	-	-	-	-	555	10	1,083
Peak Hour PM	4:45pm-5:45pm	18	11	2	25	489	3	-	-	-	-	-	761	5	1,314

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Gilman & Fourth															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	3	0	0	1	35	19	0	1	1	0	0	34	0	94
1: Weekday (Tu-Th)	01: 6:15am-6:30am	6	0	0	1	49	11	0	1	1	0	0	53	0	122
1: Weekday (Tu-Th)	02: 6:30am-6:45am	9	0	0	1	65	7	0	2	1	0	0	59	0	144
1: Weekday (Tu-Th)	03: 6:45am-7:00am	6	0	0	1	63	10	0	2	0	0	0	63	0	145
1: Weekday (Tu-Th)	04: 7:00am-7:15am	3	1	0	0	80	21	0	2	1	1	0	112	0	221
1: Weekday (Tu-Th)	05: 7:15am-7:30am	3	1	0	1	80	17	0	2	1	2	0	107	0	214
1: Weekday (Tu-Th)	06: 7:30am-7:45am	4	1	0	1	114	20	0	4	2	3	0	103	0	252
1: Weekday (Tu-Th)	07: 7:45am-8:00am	4	2	1	1	89	13	0	3	2	4	0	137	0	256
1: Weekday (Tu-Th)	08: 8:00am-8:15am	4	3	1	2	92	11	0	3	2	3	0	136	0	257
1: Weekday (Tu-Th)	09: 8:15am-8:30am	5	3	1	3	84	11	0	3	2	2	0	154	0	268
1: Weekday (Tu-Th)	10: 8:30am-8:45am	4	2	1	3	96	13	0	3	3	2	0	149	0	276
1: Weekday (Tu-Th)	11: 8:45am-9:00am	6	1	1	2	106	17	0	3	3	2	0	126	0	267
1: Weekday (Tu-Th)	12: 9:00am-9:15am	5	1	1	2	102	15	0	2	4	2	0	115	0	249
1: Weekday (Tu-Th)	13: 9:15am-9:30am	6	1	2	2	96	14	0	2	5	2	0	109	0	239
1: Weekday (Tu-Th)	14: 9:30am-9:45am	4	2	1	2	95	13	0	1	3	2	0	106	0	229
1: Weekday (Tu-Th)	15: 9:45am-10:00am	2	1	1	1	98	15	0	0	2	2	0	108	0	230
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	12	2	3	3	97	6	0	1	5	3	0	134	0	266
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	14	2	3	3	87	5	0	1	5	3	0	120	0	243
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	18	2	3	3	92	7	0	1	5	2	0	141	1	275
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	14	2	4	2	113	6	0	1	5	1	0	153	0	301
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	18	2	4	2	89	6	0	1	4	1	0	158	0	285
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	14	2	4	2	84	5	0	1	4	1	0	133	0	250
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	13	2	3	2	107	5	0	1	5	1	0	143	0	282
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	13	3	3	2	104	7	0	1	3	2	0	180	1	319
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	18	4	4	3	117	6	0	1	3	2	0	183	1	342
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	14	4	5	5	123	6	0	1	4	1	0	187	1	351
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	13	3	5	4	121	7	0	2	4	1	0	166	2	328
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	21	4	5	2	118	5	0	2	3	2	0	156	2	320
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	21	3	4	2	111	4	0	1	2	1	0	172	1	322
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	19	3	3	2	125	6	0	1	2	1	0	149	0	311
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	12	2	3	3	111	4	0	0	3	2	0	134	0	274
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	10	2	2	3	110	3	0	0	5	1	0	137	0	273
Peak Hour AM	8:00am-9:00am	19	9	4	10	378	52	-	12	10	9	-	565	-	1,068
Peak Hour PM	5:00pm-6:00pm	66	15	19	14	479	24	-	6	14	6	-	692	6	1,341

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Gilman & Sixth															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	1	0	0	2	28	3	0	2	4	1	0	27	0	68
1: Weekday (Tu-Th)	01: 6:15am-6:30am	1	1	1	4	34	4	0	4	4	1	0	44	0	98
1: Weekday (Tu-Th)	02: 6:30am-6:45am	1	1	1	3	41	7	0	5	4	1	0	54	0	118
1: Weekday (Tu-Th)	03: 6:45am-7:00am	3	1	1	3	46	8	0	5	4	1	0	60	0	132
1: Weekday (Tu-Th)	04: 7:00am-7:15am	5	0	1	1	70	6	0	10	8	3	0	102	0	206
1: Weekday (Tu-Th)	05: 7:15am-7:30am	4	0	1	2	70	8	0	25	16	5	0	94	0	225
1: Weekday (Tu-Th)	06: 7:30am-7:45am	4	1	2	2	96	15	0	28	19	6	0	86	0	259
1: Weekday (Tu-Th)	07: 7:45am-8:00am	5	3	2	3	74	12	0	24	28	8	0	115	0	274
1: Weekday (Tu-Th)	08: 8:00am-8:15am	8	6	3	4	75	12	1	47	19	10	0	120	0	305
1: Weekday (Tu-Th)	09: 8:15am-8:30am	16	7	4	6	62	12	1	29	12	12	0	135	0	296
1: Weekday (Tu-Th)	10: 8:30am-8:45am	12	5	4	7	64	12	1	26	15	13	0	132	0	291
1: Weekday (Tu-Th)	11: 8:45am-9:00am	11	4	3	6	81	14	2	21	15	16	0	112	1	286
1: Weekday (Tu-Th)	12: 9:00am-9:15am	11	5	4	7	75	11	1	18	13	10	0	91	1	247
1: Weekday (Tu-Th)	13: 9:15am-9:30am	9	4	4	5	77	10	1	18	13	6	0	87	1	235
1: Weekday (Tu-Th)	14: 9:30am-9:45am	9	6	3	5	77	11	1	20	13	4	0	83	1	233
1: Weekday (Tu-Th)	15: 9:45am-10:00am	9	6	3	5	73	11	0	14	11	4	0	86	1	223
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	24	12	7	7	83	8	2	6	9	6	0	87	1	252
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	27	18	8	8	79	7	1	5	7	5	0	82	1	248
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	36	17	9	7	76	8	1	7	8	4	0	100	1	274
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	41	20	9	9	105	7	1	8	9	4	0	101	1	315
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	37	22	9	10	82	7	0	7	9	3	0	109	2	297
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	39	26	9	9	71	7	1	9	8	3	0	81	2	265
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	37	29	10	8	88	8	1	7	10	4	0	95	3	300
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	43	26	12	7	92	9	1	9	9	5	0	117	2	332
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	53	33	13	8	99	9	1	12	9	6	0	113	3	359
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	47	34	16	10	110	10	1	11	8	7	0	120	3	377
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	56	42	14	11	101	11	1	12	6	6	0	92	3	355
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	49	47	14	12	106	10	1	12	6	6	0	95	2	360
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	49	35	16	12	94	8	2	10	7	6	0	104	3	346
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	34	29	10	12	110	8	1	9	7	6	0	93	2	321
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	28	29	9	12	100	9	0	9	8	5	0	93	2	304
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	29	17	8	10	91	10	2	8	8	4	0	93	1	281
Peak Hour AM	8:00am-9:00am	47	22	14	23	282	50	5	123	61	51	-	499	1	1,178
Peak Hour PM	5:00pm-6:00pm	205	156	57	41	416	40	4	47	29	25	-	420	11	1,451

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Gilman & San Pablo															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	5	17	1	4	4	6	3	78	10	1	0	17	0	146
1: Weekday (Tu-Th)	01: 6:15am-6:30am	3	24	1	4	7	10	6	143	13	1	0	31	1	244
1: Weekday (Tu-Th)	02: 6:30am-6:45am	2	27	1	3	9	15	11	182	27	2	0	32	1	312
1: Weekday (Tu-Th)	03: 6:45am-7:00am	2	23	0	7	9	14	11	165	37	4	0	28	1	301
1: Weekday (Tu-Th)	04: 7:00am-7:15am	3	24	0	9	14	14	13	263	33	4	0	73	3	453
1: Weekday (Tu-Th)	05: 7:15am-7:30am	6	30	0	8	25	14	23	315	45	4	0	56	5	531
1: Weekday (Tu-Th)	06: 7:30am-7:45am	10	38	2	9	59	15	25	373	43	5	0	52	8	639
1: Weekday (Tu-Th)	07: 7:45am-8:00am	12	55	4	11	30	11	26	329	41	5	0	75	9	608
1: Weekday (Tu-Th)	08: 8:00am-8:15am	14	71	2	9	21	12	24	330	30	4	0	99	9	625
1: Weekday (Tu-Th)	09: 8:15am-8:30am	17	78	1	8	27	15	24	306	27	5	0	114	12	634
1: Weekday (Tu-Th)	10: 8:30am-8:45am	31	95	2	9	26	18	17	295	28	9	0	76	19	625
1: Weekday (Tu-Th)	11: 8:45am-9:00am	22	71	3	16	34	16	14	281	27	12	0	87	15	598
1: Weekday (Tu-Th)	12: 9:00am-9:15am	17	76	2	17	29	18	13	238	24	9	0	59	9	511
1: Weekday (Tu-Th)	13: 9:15am-9:30am	19	72	2	14	24	20	12	226	23	7	0	49	7	475
1: Weekday (Tu-Th)	14: 9:30am-9:45am	15	80	1	14	27	24	10	206	24	6	0	57	5	469
1: Weekday (Tu-Th)	15: 9:45am-10:00am	16	69	2	12	17	18	11	179	22	5	0	59	6	416
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	20	168	5	19	42	16	11	132	18	9	0	46	19	505
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	22	182	5	25	35	17	12	151	20	7	0	47	24	547
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	23	220	4	20	32	24	13	146	18	6	0	57	32	595
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	24	233	7	17	53	17	17	138	16	6	0	64	39	631
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	31	225	7	22	49	18	12	139	17	6	0	60	42	628
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	28	238	7	18	41	15	16	143	18	5	0	43	28	600
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	27	236	7	24	51	16	10	152	17	6	0	57	29	632
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	48	221	6	23	54	16	10	161	21	6	0	54	30	650
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	36	223	7	22	80	19	13	159	23	8	0	52	23	665
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	33	249	7	28	72	15	15	149	24	15	0	77	34	718
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	38	256	7	23	65	15	16	141	18	10	0	56	31	676
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	30	258	9	28	86	14	12	135	14	7	0	58	27	678
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	36	235	11	22	75	17	11	151	18	7	0	53	24	660
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	31	224	10	20	69	18	10	150	18	10	0	47	27	634
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	19	215	8	24	71	18	11	129	20	9	0	40	20	584
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	24	176	6	24	55	17	13	117	20	5	0	56	17	530
Peak Hour AM	7:30am-8:30am	53	242	9	37	137	53	99	1,338	141	19	-	340	38	2,506
Peak Hour PM	5:00pm-6:00pm	137	986	30	101	303	63	56	584	79	40	-	243	115	2,737

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Camelia & Second															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	4	0	0	0	0	0	3	0	0	0	0	0	7
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	2	0	0	0	0	0	3	0	0	0	0	0	5
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	3	1	0	0	0	0	2	0	0	0	0	0	6
1: Weekday (Tu-Th)	03: 6:45am-7:00am	0	4	2	0	0	0	1	3	0	0	0	0	0	10
1: Weekday (Tu-Th)	04: 7:00am-7:15am	0	4	3	0	0	0	1	4	0	0	0	0	0	12
1: Weekday (Tu-Th)	05: 7:15am-7:30am	0	3	3	0	0	0	0	5	0	0	0	0	0	11
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	3	2	0	0	0	0	6	0	0	0	0	0	11
1: Weekday (Tu-Th)	07: 7:45am-8:00am	0	6	1	0	0	0	0	6	0	0	0	0	0	13
1: Weekday (Tu-Th)	08: 8:00am-8:15am	0	6	2	0	0	0	0	6	0	0	0	0	0	14
1: Weekday (Tu-Th)	09: 8:15am-8:30am	0	5	3	0	0	0	0	6	0	0	0	0	0	14
1: Weekday (Tu-Th)	10: 8:30am-8:45am	0	5	2	0	0	0	1	5	0	0	0	0	1	14
1: Weekday (Tu-Th)	11: 8:45am-9:00am	0	6	2	0	0	0	0	4	0	0	0	0	1	13
1: Weekday (Tu-Th)	12: 9:00am-9:15am	0	7	3	0	0	0	1	4	0	0	0	0	2	17
1: Weekday (Tu-Th)	13: 9:15am-9:30am	0	7	4	0	0	0	0	4	0	0	0	0	1	16
1: Weekday (Tu-Th)	14: 9:30am-9:45am	0	7	3	0	0	0	0	4	0	0	0	0	1	15
1: Weekday (Tu-Th)	15: 9:45am-10:00am	0	7	2	0	0	0	0	4	0	1	0	0	1	15
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	0	10	2	0	0	0	0	4	0	0	0	0	1	17
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	0	9	1	0	0	0	0	3	0	0	0	0	2	15
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	0	9	3	0	0	0	0	3	0	0	0	0	3	18
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	0	10	4	0	0	0	0	2	0	0	0	0	2	18
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	0	9	4	0	0	0	0	2	0	0	0	0	3	18
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	0	7	2	0	0	0	0	3	0	1	0	0	2	15
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	0	8	2	0	0	0	0	3	0	2	0	0	3	18
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	0	11	2	0	0	0	0	2	0	0	0	0	2	17
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	0	9	2	0	0	0	0	3	0	0	0	0	1	15
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	0	8	3	0	0	0	0	4	0	0	0	0	1	16
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	0	7	2	0	0	0	0	3	0	1	0	0	2	15
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	0	7	2	0	0	0	0	2	0	0	0	0	2	13
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	0	5	1	0	0	0	0	2	0	0	0	0	2	10
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	0	6	0	0	0	0	0	3	0	0	0	0	2	11
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	0	6	0	0	0	0	0	2	0	0	0	0	1	9
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	0	6	1	0	0	0	0	2	0	0	0	0	1	10
Peak Hour AM	9:00am-0:00am	-	28	12	-	-	-	1	16	-	1	-	-	5	63
Peak Hour PM	3:15pm-4:15pm	-	37	12	-	-	-	-	10	-	-	-	-	10	69

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Page & Eastshore															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	46	2	0	0	0	0	89	0	0	0	0	0	137
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	41	1	0	0	0	0	71	0	0	0	0	0	113
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	49	1	0	0	0	0	75	0	0	0	0	0	125
1: Weekday (Tu-Th)	03: 6:45am-7:00am	0	52	2	0	0	0	0	86	0	0	0	0	0	140
1: Weekday (Tu-Th)	04: 7:00am-7:15am	0	62	4	0	0	0	0	98	0	0	0	0	0	164
1: Weekday (Tu-Th)	05: 7:15am-7:30am	0	58	4	0	0	0	1	101	0	0	0	0	0	164
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	77	2	0	0	0	2	100	0	0	0	0	0	181
1: Weekday (Tu-Th)	07: 7:45am-8:00am	0	59	1	0	0	0	1	136	0	0	0	0	0	197
1: Weekday (Tu-Th)	08: 8:00am-8:15am	0	68	1	0	0	0	1	127	0	1	0	0	0	198
1: Weekday (Tu-Th)	09: 8:15am-8:30am	0	72	2	0	0	0	1	133	0	1	0	0	0	209
1: Weekday (Tu-Th)	10: 8:30am-8:45am	0	72	3	0	0	0	2	121	0	1	0	0	0	199
1: Weekday (Tu-Th)	11: 8:45am-9:00am	0	77	3	0	0	0	2	114	0	1	0	0	0	197
1: Weekday (Tu-Th)	12: 9:00am-9:15am	0	80	3	0	0	0	3	117	0	1	0	0	0	204
1: Weekday (Tu-Th)	13: 9:15am-9:30am	0	65	4	0	0	0	2	115	0	0	0	0	0	186
1: Weekday (Tu-Th)	14: 9:30am-9:45am	0	74	4	0	0	0	0	105	0	0	0	0	0	183
1: Weekday (Tu-Th)	15: 9:45am-10:00am	0	73	4	0	0	0	0	107	0	0	0	0	0	184
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	0	152	6	0	0	0	2	66	0	0	0	0	1	227
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	0	128	4	0	0	0	1	74	0	0	0	0	1	208
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	0	133	4	0	0	0	0	87	0	0	0	0	1	225
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	0	152	5	0	0	0	0	71	0	0	0	0	1	229
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	0	136	3	0	0	0	0	66	0	0	0	0	0	205
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	0	149	2	0	0	0	1	68	0	0	0	0	1	221
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	0	162	4	0	0	0	1	77	0	0	0	0	2	246
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	0	169	5	0	0	0	2	89	0	0	0	0	3	268
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	0	158	4	0	0	0	1	82	0	0	0	0	2	247
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	0	163	4	0	0	0	0	84	0	0	0	0	2	253
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	0	144	4	0	0	0	0	75	0	0	0	0	2	225
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	0	148	3	0	0	0	0	66	0	0	0	0	1	218
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	0	148	2	0	0	0	0	69	0	0	0	0	0	219
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	0	159	2	0	0	0	0	69	0	0	0	0	0	230
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	0	132	2	0	0	0	0	63	0	0	0	0	0	197
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	0	123	3	0	0	0	0	52	0	0	0	0	0	178
Peak Hour AM	8:15am-9:15am	-	301	11	-	-	-	8	485	-	4	-	-	-	809
Peak Hour PM	4:30pm-5:30pm	-	652	17	-	-	-	4	332	-	-	-	-	9	1,014

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Page & Second															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	1	0	2	0	0	0	2	0	0	0	0	0	5
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	2	0	1	0	0	0	2	0	0	0	0	0	5
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	3	0	1	0	0	0	2	0	0	0	0	0	6
1: Weekday (Tu-Th)	03: 6:45am-7:00am	0	2	0	3	0	0	0	3	0	0	0	0	0	8
1: Weekday (Tu-Th)	04: 7:00am-7:15am	0	2	0	4	0	0	0	5	1	0	0	0	0	12
1: Weekday (Tu-Th)	05: 7:15am-7:30am	0	1	0	4	0	1	0	5	0	0	0	0	0	11
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	2	0	2	0	1	0	6	0	0	0	0	0	11
1: Weekday (Tu-Th)	07: 7:45am-8:00am	0	5	0	1	0	1	0	7	0	0	0	0	0	14
1: Weekday (Tu-Th)	08: 8:00am-8:15am	0	6	0	1	0	1	0	6	1	0	0	0	0	15
1: Weekday (Tu-Th)	09: 8:15am-8:30am	0	4	0	4	0	1	0	5	2	0	0	0	0	16
1: Weekday (Tu-Th)	10: 8:30am-8:45am	0	3	0	4	0	1	0	5	1	0	0	0	0	14
1: Weekday (Tu-Th)	11: 8:45am-9:00am	0	5	0	5	0	1	0	5	1	0	0	0	0	17
1: Weekday (Tu-Th)	12: 9:00am-9:15am	0	4	0	4	0	2	0	7	1	0	0	0	0	18
1: Weekday (Tu-Th)	13: 9:15am-9:30am	0	4	0	6	0	2	0	5	0	0	0	0	0	17
1: Weekday (Tu-Th)	14: 9:30am-9:45am	0	4	0	5	0	1	0	5	1	0	0	0	0	16
1: Weekday (Tu-Th)	15: 9:45am-10:00am	0	4	0	4	0	0	0	4	1	0	0	0	0	13
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	1	9	0	7	0	1	0	4	0	0	0	0	0	22
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	1	8	0	5	0	1	0	3	0	0	0	0	0	18
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	1	7	0	5	0	1	0	3	0	0	0	0	0	17
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	0	8	0	5	0	0	0	3	0	0	0	0	0	16
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	0	5	0	5	0	0	0	4	0	0	0	0	0	14
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	0	4	0	4	0	0	0	4	0	0	0	0	0	12
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	1	4	0	6	0	0	0	5	0	0	0	0	0	16
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	2	5	0	8	0	1	0	3	1	0	0	0	0	20
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	1	5	0	6	0	1	0	2	1	0	0	0	0	16
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	1	5	0	5	0	1	0	4	1	0	0	0	0	17
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	0	6	0	5	0	0	0	4	1	0	0	0	0	16
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	0	6	0	4	0	0	0	3	1	0	0	0	0	14
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	0	5	0	3	0	0	0	3	0	0	0	0	0	11
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	0	5	0	2	0	0	0	2	0	0	0	0	0	9
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	0	4	0	3	0	0	0	2	0	0	0	0	0	9
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	0	3	0	4	0	0	0	2	0	0	0	0	0	9
Peak Hour AM	8:45am-9:45am	-	17	-	20	-	6	-	22	3	-	-	-	-	68
Peak Hour PM	3:00pm-4:00pm	3	32	-	22	-	3	-	13	-	-	-	-	-	73

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Cedar & Eastshore															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	45	15	0	0	0	6	63	0	0	0	0	0	129
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	40	17	0	0	0	5	58	0	0	0	0	1	121
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	47	14	0	0	0	3	72	0	0	0	0	1	137
1: Weekday (Tu-Th)	03: 6:45am-7:00am	0	53	14	0	0	0	4	77	0	0	0	0	1	149
1: Weekday (Tu-Th)	04: 7:00am-7:15am	0	62	31	0	0	0	6	82	0	0	0	0	1	182
1: Weekday (Tu-Th)	05: 7:15am-7:30am	0	61	30	0	0	0	8	78	0	0	0	0	1	178
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	80	63	0	0	0	11	82	0	0	0	0	1	237
1: Weekday (Tu-Th)	07: 7:45am-8:00am	0	63	56	0	0	0	14	119	0	0	0	0	2	254
1: Weekday (Tu-Th)	08: 8:00am-8:15am	0	65	35	0	0	0	21	103	0	0	0	0	3	227
1: Weekday (Tu-Th)	09: 8:15am-8:30am	0	73	40	0	0	0	14	115	0	0	0	0	3	245
1: Weekday (Tu-Th)	10: 8:30am-8:45am	0	68	42	0	0	0	15	103	0	0	0	0	3	231
1: Weekday (Tu-Th)	11: 8:45am-9:00am	0	78	39	0	0	0	14	102	0	0	0	0	3	236
1: Weekday (Tu-Th)	12: 9:00am-9:15am	0	79	30	0	0	0	13	99	0	1	0	0	2	224
1: Weekday (Tu-Th)	13: 9:15am-9:30am	0	70	25	0	0	0	14	98	0	1	0	0	2	210
1: Weekday (Tu-Th)	14: 9:30am-9:45am	0	73	29	0	0	0	10	91	0	0	0	0	3	206
1: Weekday (Tu-Th)	15: 9:45am-10:00am	0	78	24	0	0	0	9	92	0	0	0	0	3	206
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	0	149	18	0	0	0	7	57	0	0	0	0	6	237
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	0	125	19	0	0	0	8	61	0	0	0	0	7	220
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	0	127	24	0	0	0	9	74	0	1	0	0	8	243
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	0	144	23	0	0	0	7	65	0	1	0	0	8	248
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	0	133	13	0	0	0	6	56	0	0	0	0	7	215
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	0	143	22	0	0	0	6	64	0	0	0	0	6	241
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	0	153	21	0	0	0	10	65	0	1	0	0	6	256
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	0	174	21	0	0	0	21	66	0	0	0	0	6	288
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	0	150	19	0	0	0	14	71	0	0	0	0	6	260
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	0	155	18	0	0	0	10	74	0	0	0	0	6	263
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	0	145	20	0	0	0	7	67	0	0	0	0	5	244
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	0	139	22	0	0	0	5	61	0	0	0	0	5	232
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	0	140	21	0	0	0	5	63	0	0	0	0	7	236
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	0	148	21	0	0	0	5	61	0	0	0	0	8	243
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	0	126	24	0	0	0	5	57	0	1	0	0	7	220
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	0	118	29	0	0	0	5	48	0	0	0	0	5	205
Peak Hour AM	7:30am-8:30am	-	281	194	-	-	-	60	419	-	-	-	-	9	963
Peak Hour PM	4:30pm-5:30pm	-	632	79	-	-	-	55	276	-	1	-	-	24	1,067

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Cedar & Second															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	0	0	0	24	0	1	0	0	0	0	1	0	26
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	0	0	0	26	0	1	0	0	0	0	1	0	28
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	0	0	0	17	0	1	0	0	0	0	1	0	19
1: Weekday (Tu-Th)	03: 6:45am-7:00am	0	0	0	0	22	0	0	0	0	0	0	2	0	24
1: Weekday (Tu-Th)	04: 7:00am-7:15am	0	0	0	1	39	0	1	0	0	0	0	2	1	44
1: Weekday (Tu-Th)	05: 7:15am-7:30am	0	0	0	1	42	0	3	0	0	0	0	1	2	49
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	0	0	1	83	0	4	0	0	0	0	2	1	91
1: Weekday (Tu-Th)	07: 7:45am-8:00am	0	0	0	1	75	0	7	0	0	0	0	3	1	87
1: Weekday (Tu-Th)	08: 8:00am-8:15am	0	0	0	1	63	0	10	0	0	0	0	3	1	78
1: Weekday (Tu-Th)	09: 8:15am-8:30am	0	0	0	0	53	0	9	0	0	0	0	4	1	67
1: Weekday (Tu-Th)	10: 8:30am-8:45am	0	0	0	0	60	0	6	0	0	0	0	6	1	73
1: Weekday (Tu-Th)	11: 8:45am-9:00am	0	0	0	0	55	0	6	0	0	0	0	6	2	69
1: Weekday (Tu-Th)	12: 9:00am-9:15am	0	0	0	0	44	0	6	0	0	0	0	4	1	55
1: Weekday (Tu-Th)	13: 9:15am-9:30am	0	0	0	0	40	0	6	0	0	0	0	5	2	53
1: Weekday (Tu-Th)	14: 9:30am-9:45am	0	0	0	1	44	0	6	0	0	0	0	6	1	58
1: Weekday (Tu-Th)	15: 9:45am-10:00am	0	0	0	0	38	0	5	0	0	0	0	5	1	49
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	0	0	0	0	28	0	3	0	0	0	0	8	3	42
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	0	0	0	0	32	0	4	0	0	0	0	8	4	48
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	0	0	0	1	36	0	5	0	0	0	0	10	4	56
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	0	0	0	1	31	0	4	0	0	0	0	12	3	51
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	0	0	0	1	20	0	3	0	0	0	0	10	3	37
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	0	0	0	0	31	0	4	0	0	0	0	9	3	47
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	0	0	0	0	35	0	5	0	0	0	0	8	4	52
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	0	0	0	0	48	0	5	0	0	0	0	9	4	66
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	0	0	0	0	36	0	4	0	0	0	0	8	4	52
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	0	0	0	0	32	0	3	0	0	0	0	8	3	46
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	0	0	0	0	28	0	3	0	0	0	0	7	3	41
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	0	0	0	0	29	0	3	0	0	0	0	6	2	40
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	0	0	0	0	35	0	1	0	0	0	0	7	2	45
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	0	0	0	0	35	0	1	0	0	0	0	9	2	47
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	0	0	0	0	33	0	2	0	0	0	0	9	1	45
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	0	0	0	0	38	0	1	0	0	0	0	6	1	46
Peak Hour AM	7:30am-8:30am	-	-	-	3	274	-	30	-	-	-	-	12	4	323
Peak Hour PM	4:15pm-5:15pm	-	-	-	-	150	-	18	-	-	-	-	34	15	217

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Cedar & Fourth															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	1	0	2	8	8	0	3	0	1	0	1	0	24
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	1	0	3	10	9	0	3	0	1	0	1	0	28
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	1	0	3	11	6	0	6	0	2	0	1	0	30
1: Weekday (Tu-Th)	03: 6:45am-7:00am	1	2	1	4	15	5	0	9	0	3	0	1	0	41
1: Weekday (Tu-Th)	04: 7:00am-7:15am	0	2	2	7	25	5	0	10	0	3	0	2	1	57
1: Weekday (Tu-Th)	05: 7:15am-7:30am	0	4	2	6	34	4	0	14	0	2	0	3	1	70
1: Weekday (Tu-Th)	06: 7:30am-7:45am	0	4	3	4	75	7	0	16	0	4	0	3	0	116
1: Weekday (Tu-Th)	07: 7:45am-8:00am	1	5	4	3	71	10	0	25	0	8	0	4	0	131
1: Weekday (Tu-Th)	08: 8:00am-8:15am	1	10	3	5	60	11	0	19	0	10	0	4	1	124
1: Weekday (Tu-Th)	09: 8:15am-8:30am	1	21	6	8	45	13	1	23	0	17	0	5	1	141
1: Weekday (Tu-Th)	10: 8:30am-8:45am	0	12	7	7	45	12	1	16	0	11	0	7	2	120
1: Weekday (Tu-Th)	11: 8:45am-9:00am	1	9	5	5	43	10	2	17	0	9	0	6	2	109
1: Weekday (Tu-Th)	12: 9:00am-9:15am	1	7	5	3	37	11	1	17	0	6	0	5	1	94
1: Weekday (Tu-Th)	13: 9:15am-9:30am	1	8	5	4	29	12	2	14	0	6	0	7	1	89
1: Weekday (Tu-Th)	14: 9:30am-9:45am	1	6	4	3	33	11	1	13	0	8	0	6	1	87
1: Weekday (Tu-Th)	15: 9:45am-10:00am	0	6	4	4	24	9	1	13	0	9	0	6	1	77
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	4	19	7	2	22	3	1	11	0	7	0	9	1	86
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	4	14	7	3	33	4	2	11	0	7	0	7	2	94
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	4	13	8	4	32	4	2	11	0	6	0	9	2	95
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	4	14	8	3	28	3	2	10	0	5	0	10	2	89
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	3	13	6	3	23	2	2	8	0	6	0	10	2	78
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	2	13	5	3	32	3	2	8	0	7	0	9	2	86
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	3	13	9	2	35	4	3	8	0	6	0	11	2	96
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	3	16	12	1	54	3	4	8	0	7	0	9	1	118
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	4	24	12	1	38	3	3	8	0	7	0	7	2	109
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	3	23	9	1	32	4	3	9	0	5	0	7	1	97
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	2	21	12	1	34	3	2	11	0	5	0	7	1	99
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	2	25	11	1	31	2	2	10	0	6	0	7	1	98
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	2	17	9	2	36	2	1	7	0	5	0	7	1	89
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	2	15	8	2	37	2	2	8	0	5	0	9	1	91
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	2	12	5	2	33	2	2	7	0	5	0	7	0	77
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	1	11	4	1	41	1	1	6	0	4	0	4	0	74
Peak Hour AM	7:45am-8:45am	3	48	20	23	221	46	2	83	-	46	-	20	4	516
Peak Hour PM	4:45pm-5:45pm	12	84	45	4	158	13	12	36	-	24	-	30	5	423

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Cedar & Sixth															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	0	1	0	0	4	1	0	5	0	5	0	2	0	18
1: Weekday (Tu-Th)	01: 6:15am-6:30am	0	1	0	0	7	2	2	8	0	9	0	2	0	31
1: Weekday (Tu-Th)	02: 6:30am-6:45am	0	1	0	0	9	1	4	10	0	5	0	3	0	33
1: Weekday (Tu-Th)	03: 6:45am-7:00am	1	2	1	0	13	1	4	12	1	4	0	4	0	43
1: Weekday (Tu-Th)	04: 7:00am-7:15am	1	4	3	0	21	2	6	14	1	7	0	6	0	65
1: Weekday (Tu-Th)	05: 7:15am-7:30am	2	5	4	0	30	3	17	22	1	19	0	6	1	110
1: Weekday (Tu-Th)	06: 7:30am-7:45am	1	6	6	0	63	4	13	49	2	24	0	8	3	179
1: Weekday (Tu-Th)	07: 7:45am-8:00am	0	8	6	1	56	8	10	42	2	34	0	13	3	183
1: Weekday (Tu-Th)	08: 8:00am-8:15am	0	13	7	0	38	18	11	61	1	32	0	17	4	202
1: Weekday (Tu-Th)	09: 8:15am-8:30am	0	19	9	0	39	10	12	46	1	30	0	26	7	199
1: Weekday (Tu-Th)	10: 8:30am-8:45am	1	17	10	1	49	6	11	44	1	25	0	17	10	192
1: Weekday (Tu-Th)	11: 8:45am-9:00am	1	16	8	2	40	4	7	46	1	22	0	23	8	178
1: Weekday (Tu-Th)	12: 9:00am-9:15am	1	17	6	1	30	4	5	33	1	16	0	14	7	135
1: Weekday (Tu-Th)	13: 9:15am-9:30am	2	16	5	0	29	3	4	26	1	18	0	16	7	127
1: Weekday (Tu-Th)	14: 9:30am-9:45am	1	16	4	0	28	2	5	31	2	19	0	20	5	133
1: Weekday (Tu-Th)	15: 9:45am-10:00am	2	18	6	0	29	2	4	32	1	18	0	22	5	139
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	1	32	8	2	28	3	4	22	0	17	0	18	7	142
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	0	38	7	2	38	3	5	18	1	16	0	17	9	154
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	1	58	8	2	39	3	6	21	1	11	0	21	11	182
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	1	54	9	3	37	4	6	24	0	10	0	17	12	177
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	2	54	10	3	30	4	5	20	0	12	0	16	13	169
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	2	60	10	4	34	5	5	17	0	13	0	20	13	183
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	2	67	9	6	41	5	5	19	1	12	0	18	11	196
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	3	65	11	6	69	4	6	23	2	11	0	16	14	230
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	2	73	17	5	55	3	5	29	1	15	0	18	18	241
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	1	84	13	4	43	5	5	31	0	14	0	13	19	232
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	2	96	10	6	43	6	7	31	0	12	0	12	23	248
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	2	90	10	5	40	4	6	28	0	11	0	16	16	228
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	3	91	10	4	44	4	5	25	0	9	0	14	15	224
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	2	65	10	4	45	5	5	17	0	9	0	13	13	188
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	1	58	8	3	33	5	5	17	0	10	0	12	11	163
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	1	42	7	2	43	5	5	15	0	19	0	9	12	160
Peak Hour AM	7:45am-8:45am	1	57	32	2	182	42	44	193	5	121	-	73	24	776
Peak Hour PM	4:45pm-5:45pm	8	318	51	21	210	18	23	114	3	52	-	59	74	951

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

San Pablo & Cedar															
Day Type	Time	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND				Total
		NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBL2	WBT	WBR	
1: Weekday (Tu-Th)	00: 6:00am-6:15am	1	19	1	0	3	1	5	83	0	2	0	3	1	119
1: Weekday (Tu-Th)	01: 6:15am-6:30am	2	33	2	0	5	1	10	134	1	2	0	4	1	195
1: Weekday (Tu-Th)	02: 6:30am-6:45am	1	34	2	0	7	1	11	194	2	3	0	4	0	259
1: Weekday (Tu-Th)	03: 6:45am-7:00am	1	29	3	0	15	2	16	186	2	4	0	8	1	267
1: Weekday (Tu-Th)	04: 7:00am-7:15am	1	27	4	0	27	2	38	241	3	6	0	8	1	358
1: Weekday (Tu-Th)	05: 7:15am-7:30am	1	38	8	2	49	3	22	318	3	10	0	12	2	468
1: Weekday (Tu-Th)	06: 7:30am-7:45am	2	55	18	3	100	4	22	372	4	10	0	17	3	610
1: Weekday (Tu-Th)	07: 7:45am-8:00am	3	82	23	3	88	4	36	337	4	18	0	29	5	632
1: Weekday (Tu-Th)	08: 8:00am-8:15am	3	88	13	3	72	6	40	372	6	29	0	39	8	679
1: Weekday (Tu-Th)	09: 8:15am-8:30am	6	95	11	2	67	8	37	273	6	41	0	78	21	645
1: Weekday (Tu-Th)	10: 8:30am-8:45am	9	127	16	2	109	9	38	319	6	14	0	28	7	684
1: Weekday (Tu-Th)	11: 8:45am-9:00am	8	102	11	2	49	9	44	308	5	10	0	28	7	583
1: Weekday (Tu-Th)	12: 9:00am-9:15am	7	97	9	2	42	8	40	241	6	13	0	19	7	491
1: Weekday (Tu-Th)	13: 9:15am-9:30am	6	106	8	1	50	5	38	246	8	10	0	19	6	503
1: Weekday (Tu-Th)	14: 9:30am-9:45am	5	88	10	1	47	5	34	220	7	25	0	48	16	506
1: Weekday (Tu-Th)	15: 9:45am-10:00am	4	82	10	1	38	5	26	185	6	24	0	43	15	439
1: Weekday (Tu-Th)	16: 3:00pm-3:15pm	6	177	20	5	39	6	23	147	5	20	0	49	24	521
1: Weekday (Tu-Th)	17: 3:15pm-3:30pm	8	210	22	6	52	5	29	169	6	24	0	58	29	618
1: Weekday (Tu-Th)	18: 3:30pm-3:45pm	7	240	25	5	59	5	28	170	6	38	0	61	36	680
1: Weekday (Tu-Th)	19: 3:45pm-4:00pm	9	267	22	7	57	4	28	165	5	12	0	22	17	615
1: Weekday (Tu-Th)	20: 4:00pm-4:15pm	8	248	19	6	46	4	25	160	4	27	0	49	51	647
1: Weekday (Tu-Th)	21: 4:15pm-4:30pm	9	247	19	5	45	4	28	157	3	16	0	49	39	621
1: Weekday (Tu-Th)	22: 4:30pm-4:45pm	10	264	23	5	53	4	24	165	5	19	0	48	37	657
1: Weekday (Tu-Th)	23: 4:45pm-5:00pm	11	263	26	6	92	4	43	161	5	26	0	54	56	747
1: Weekday (Tu-Th)	24: 5:00pm-5:15pm	10	253	17	6	88	4	30	177	6	23	0	56	58	728
1: Weekday (Tu-Th)	25: 5:15pm-5:30pm	10	271	16	7	71	4	33	176	5	19	0	62	55	729
1: Weekday (Tu-Th)	26: 5:30pm-5:45pm	11	301	20	9	66	4	38	167	4	12	0	25	23	680
1: Weekday (Tu-Th)	27: 5:45pm-6:00pm	10	292	31	8	70	5	25	159	4	11	0	21	19	655
1: Weekday (Tu-Th)	28: 6:00pm-6:15pm	9	279	32	7	75	5	31	178	3	31	0	48	41	739
1: Weekday (Tu-Th)	29: 6:15pm-6:30pm	9	256	17	7	60	5	28	164	4	27	0	43	42	662
1: Weekday (Tu-Th)	30: 6:30pm-6:45pm	7	236	18	5	57	5	22	161	4	7	0	14	17	553
1: Weekday (Tu-Th)	31: 6:45pm-7:00pm	5	207	20	6	58	7	22	146	3	8	0	21	13	516
Peak Hour AM	7:45am-8:45am	21	392	63	10	336	27	151	1,301	22	102	-	174	41	2,640
Peak Hour PM	4:45pm-5:45pm	42	1,088	79	28	317	16	144	681	20	80	-	197	192	2,884

Note: Data collected by Streetlight for February 1st-March 15th, April 1st-June 1st and September 1st-November 15th, 2019. AM and PM peak hours are highlighted in green.

Appendix B
Level of Service Calculation Sheets (Synchro)

Intersection	
Int Delay, s/veh	219.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	71	4	269	639	0	0	0	0	403	38	508
Future Vol, veh/h	0	71	4	269	639	0	0	0	0	403	38	508
Conflicting Peds, #/hr	4	0	0	0	0	4	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	71	4	269	639	0	0	0	0	403	38	508

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	75	0	0	1250	1252	320
Stage 1	-	-	-	-	-	-	1177	1177	-
Stage 2	-	-	-	-	-	-	73	75	-
Critical Hdwy	-	-	-	4.145	-	-	6.645	6.545	6.945
Critical Hdwy Stg 1	-	-	-	-	-	-	5.845	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.445	5.545	-
Follow-up Hdwy	-	-	-	2.2285	-	-	3.5285	4.0285	3.3285
Pot Cap-1 Maneuver	0	-	-	1516	-	0	~ 176	171	674
Stage 1	0	-	-	-	-	0	~ 254	262	-
Stage 2	0	-	-	-	-	0	947	830	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1516	-	-	~ 128	0	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 128	0	-
Stage 1	-	-	-	-	-	-	~ 254	0	-
Stage 2	-	-	-	-	-	-	687	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.8	$ 444.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1516	-	128	379
HCM Lane V/C Ratio	-	-	0.177	-	2.099	1.795
HCM Control Delay (s)	-	-	7.9	0.6	$ 576.5	$ 392.6
HCM Lane LOS	-	-	A	A	F	F
HCM 95th %tile Q(veh)	-	-	0.6	-	22.1	43.5

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	432	0	0	876	292	32	3	384	0	0	0
Future Vol, veh/h	42	432	0	0	876	292	32	3	384	0	0	0
Conflicting Peds, #/hr	5	0	4	4	0	5	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	40	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	42	432	0	0	876	292	32	3	384	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1173	0	-	-	-	0	955	1689	216
Stage 1	-	-	-	-	-	-	516	516	-
Stage 2	-	-	-	-	-	-	439	1173	-
Critical Hdwy	4.16	-	-	-	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	-	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	586	-	0	0	-	-	255	92	786
Stage 1	-	-	0	0	-	-	561	530	-
Stage 2	-	-	0	0	-	-	614	262	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	586	-	-	-	-	-	231	0	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	0	-
Stage 1	-	-	-	-	-	-	508	0	-
Stage 2	-	-	-	-	-	-	613	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	231	786	586	-	-	-
HCM Lane V/C Ratio	0.145	0.49	0.072	-	-	-
HCM Control Delay (s)	23.2	13.9	11.6	0.5	-	-
HCM Lane LOS	C	B	B	A	-	-
HCM 95th %tile Q(veh)	0.5	2.7	0.2	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	601	13	0	725	10	7	11	0	0	0	0
Future Vol, veh/h	46	601	13	0	725	10	7	11	0	0	0	0
Conflicting Peds, #/hr	3	0	2	0	0	1	2	0	3	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	80	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	46	601	13	0	725	10	7	11	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	738	0	0	616	0	0	1434	1440	312
Stage 1	-	-	-	-	-	-	702	702	-
Stage 2	-	-	-	-	-	-	732	738	-
Critical Hdwy	4.145	-	-	4.145	-	-	6.645	6.545	6.945
Critical Hdwy Stg 1	-	-	-	-	-	-	5.845	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.445	5.545	-
Follow-up Hdwy	2.2285	-	-	2.2285	-	-	3.5285	4.0285	3.3285
Pot Cap-1 Maneuver	860	-	-	956	-	-	135	131	682
Stage 1	-	-	-	-	-	-	451	438	-
Stage 2	-	-	-	-	-	-	473	421	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	860	-	-	954	-	-	124	0	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	0	-
Stage 1	-	-	-	-	-	-	414	0	-
Stage 2	-	-	-	-	-	-	472	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.9	0	38.9
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	124	860	-	-	954	-	-
HCM Lane V/C Ratio	0.145	0.053	-	-	-	-	-
HCM Control Delay (s)	38.9	9.4	0.3	-	0	-	-
HCM Lane LOS	E	A	A	-	A	-	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	538	52	9	735	0	19	9	4	0	12	10
Future Vol, veh/h	10	538	52	9	735	0	19	9	4	0	12	10
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	8	8	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	70	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	538	52	9	735	0	19	9	4	0	12	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	740	0	0	595	0	0	1332	1321	551	1357	1373	745
Stage 1	-	-	-	-	-	-	563	563	-	758	758	-
Stage 2	-	-	-	-	-	-	769	758	-	599	615	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	862	-	-	976	-	-	131	156	532	126	145	412
Stage 1	-	-	-	-	-	-	509	507	-	398	414	-
Stage 2	-	-	-	-	-	-	392	414	-	487	481	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	858	-	-	971	-	-	115	149	525	115	139	408
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	149	-	115	139	-
Stage 1	-	-	-	-	-	-	498	496	-	389	405	-
Stage 2	-	-	-	-	-	-	363	405	-	463	470	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	39.1	25.4
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	137	858	-	-	971	-	-	198
HCM Lane V/C Ratio	0.234	0.012	-	-	0.009	-	-	0.111
HCM Control Delay (s)	39.1	9.2	0	-	8.7	0	-	25.4
HCM Lane LOS	E	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.9	0	-	-	0	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	332	50	51	549	1	47	22	14	5	123	61
Future Volume (veh/h)	23	332	50	51	549	1	47	22	14	5	123	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	23	332	50	51	549	1	47	22	14	5	123	61
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	637	1159	175	764	1372	2	153	151	96	273	166	82
Arrive On Green	0.74	0.74	0.74	0.74	0.74	0.74	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	846	1564	236	985	1851	3	1180	1046	666	1349	1148	570
Grp Volume(v), veh/h	23	0	382	51	0	550	47	0	36	5	0	184
Grp Sat Flow(s),veh/h/ln	846	0	1799	985	0	1855	1180	0	1712	1349	0	1718
Q Serve(g_s), s	0.7	0.0	4.9	1.3	0.0	7.6	2.8	0.0	1.3	0.2	0.0	7.2
Cycle Q Clear(g_c), s	8.4	0.0	4.9	6.1	0.0	7.6	10.0	0.0	1.3	1.5	0.0	7.2
Prop In Lane	1.00		0.13	1.00		0.00	1.00		0.39	1.00		0.33
Lane Grp Cap(c), veh/h	637	0	1333	764	0	1374	153	0	248	273	0	249
V/C Ratio(X)	0.04	0.00	0.29	0.07	0.00	0.40	0.31	0.00	0.15	0.02	0.00	0.74
Avail Cap(c_a), veh/h	637	0	1333	764	0	1374	302	0	465	444	0	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.56	0.00	0.56	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	0.0	3.0	4.0	0.0	3.3	33.4	0.0	26.1	26.8	0.0	28.7
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.1	0.0	0.5	1.1	0.0	0.3	0.0	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.3	0.2	0.0	1.9	0.8	0.0	0.5	0.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.0	0.0	3.5	4.1	0.0	3.8	34.6	0.0	26.4	26.8	0.0	33.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		405			601			83			189	
Approach Delay, s/veh		3.6			3.8			31.0			32.8	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.9		14.1		55.9		14.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		43.0		19.0		43.0		19.0				
Max Q Clear Time (g_c+I1), s		10.4		9.2		9.6		12.0				
Green Ext Time (p_c), s		2.8		0.7		4.3		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	137	53	19	340	38	53	242	9	99	1338	141
Future Volume (veh/h)	37	137	53	19	340	38	53	242	9	99	1338	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	37	137	53	19	340	38	53	242	9	99	1338	141
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	147	504	199	59	439	48	67	1643	61	127	1629	171
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.04	0.48	0.48	0.07	0.51	0.51
Sat Flow, veh/h	316	1809	715	41	1579	171	1767	3460	128	1767	3203	335
Grp Volume(v), veh/h	114	0	113	397	0	0	53	123	128	99	732	747
Grp Sat Flow(s),veh/h/ln	1320	0	1520	1791	0	0	1767	1763	1825	1767	1763	1776
Q Serve(g_s), s	0.0	0.0	4.6	4.8	0.0	0.0	2.4	3.1	3.2	4.4	27.9	28.5
Cycle Q Clear(g_c), s	3.8	0.0	4.6	16.3	0.0	0.0	2.4	3.1	3.2	4.4	27.9	28.5
Prop In Lane	0.32		0.47	0.05		0.10	1.00		0.07	1.00		0.19
Lane Grp Cap(c), veh/h	427	0	423	546	0	0	67	837	867	127	897	903
V/C Ratio(X)	0.27	0.00	0.27	0.73	0.00	0.00	0.79	0.15	0.15	0.78	0.82	0.83
Avail Cap(c_a), veh/h	522	0	523	661	0	0	243	837	867	243	897	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	22.5	26.7	0.0	0.0	38.2	11.8	11.9	36.5	16.5	16.7
Incr Delay (d2), s/veh	0.1	0.0	0.1	2.3	0.0	0.0	7.4	0.4	0.4	3.9	8.1	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.6	7.2	0.0	0.0	1.2	1.3	1.3	2.0	12.4	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.0	22.6	29.0	0.0	0.0	45.6	12.2	12.2	40.4	24.7	25.2
LnGrp LOS	C	A	C	C	A	A	D	B	B	D	C	C
Approach Vol, veh/h		227			397			304			1578	
Approach Delay, s/veh		22.5			29.0			18.0			25.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	45.2		27.3	10.2	42.5		27.3
Change Period (Y+Rc), s	4.5	4.5		5.0	4.5	4.5		5.0
Max Green Setting (Gmax), s	11.0	27.5		27.5	11.0	27.5		27.5
Max Q Clear Time (g_c+I1), s	14.4	30.5		18.3	6.4	5.2		6.6
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	2.0		0.9

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	5	28	12	1	16
Future Vol, veh/h	1	5	28	12	1	16
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	1	5	28	12	1	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	62	44	0	0	45	0
Stage 1	39	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	944	1026	-	-	1557	-
Stage 1	983	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	934	1016	-	-	1550	-
Mov Cap-2 Maneuver	934	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1001	1550	-
HCM Lane V/C Ratio	-	-	0.006	0.001	-
HCM Control Delay (s)	-	-	8.6	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	59	11	8	300
Future Vol, veh/h	4	0	59	11	8	300
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	4	0	59	11	8	300

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	391	75	0	0	75	0
Stage 1	70	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	613	986	-	-	1518	-
Stage 1	953	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	603	977	-	-	1511	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	603	1511	-
HCM Lane V/C Ratio	-	-	0.007	0.005	-
HCM Control Delay (s)	-	-	11	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	6	0	0	0	0	17	0	0	22	3
Future Vol, veh/h	20	0	6	0	0	0	0	17	0	0	22	3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	0	6	0	0	0	0	17	0	0	22	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	0	7.1	7
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	77%	0%	0%
Vol Thru, %	100%	0%	100%	88%
Vol Right, %	0%	23%	0%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	26	0	25
LT Vol	0	20	0	0
Through Vol	17	0	0	22
RT Vol	0	6	0	3
Lane Flow Rate	17	26	0	25
Geometry Grp	1	1	1	1
Degree of Util (X)	0.019	0.029	0	0.027
Departure Headway (Hd)	3.998	4.021	4.026	3.92
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	897	892	0	915
Service Time	2.014	2.039	2.049	1.935
HCM Lane V/C Ratio	0.019	0.029	0	0.027
HCM Control Delay	7.1	7.2	7	7
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.1	0.1	0	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	9	71	194	60	254
Future Vol, veh/h	6	9	71	194	60	254
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	6	9	71	194	60	254

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	552	178	0	0	270	0
Stage 1	173	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	495	865	-	-	1288	-
Stage 1	857	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	464	857	-	-	1282	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	640	1282	-
HCM Lane V/C Ratio	-	-	0.023	0.047	-
HCM Control Delay (s)	-	-	10.8	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	274	12	4	30	5
Future Vol, veh/h	3	274	12	4	30	5
Conflicting Peds, #/hr	5	0	0	5	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	274	12	4	30	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	304	24
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	688	1052
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1587	-	-	-	680	1042
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1587	-	-	-	716
HCM Lane V/C Ratio	0.002	-	-	-	0.049
HCM Control Delay (s)	7.3	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	221	46	46	20	4	3	48	20	2	83	5
Future Vol, veh/h	23	221	46	46	20	4	3	48	20	2	83	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	221	46	46	20	4	3	48	20	2	83	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.3	8.2	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	8%	66%	2%
Vol Thru, %	68%	76%	29%	92%
Vol Right, %	28%	16%	6%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	290	70	90
LT Vol	3	23	46	2
Through Vol	48	221	20	83
RT Vol	20	46	4	5
Lane Flow Rate	71	290	70	90
Geometry Grp	1	1	1	1
Degree of Util (X)	0.093	0.349	0.092	0.12
Departure Headway (Hd)	4.705	4.327	4.737	4.81
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	832	756	744
Service Time	2.741	2.35	2.769	2.846
HCM Lane V/C Ratio	0.093	0.349	0.093	0.121
HCM Control Delay	8.2	9.7	8.3	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.6	0.3	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	182	42	121	73	24	1	57	32	44	193	5
Future Volume (veh/h)	2	182	42	121	73	24	1	57	32	44	193	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	182	42	121	73	24	1	57	32	44	193	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	485	111	338	191	54	505	441	248	593	725	19
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	3	1456	333	735	574	162	1171	1103	619	1288	1812	47
Grp Volume(v), veh/h	226	0	0	218	0	0	1	0	89	44	0	198
Grp Sat Flow(s),veh/h/ln	1793	0	0	1470	0	0	1171	0	1722	1288	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.3	0.0	4.3
Cycle Q Clear(g_c), s	5.8	0.0	0.0	5.7	0.0	0.0	4.3	0.0	2.0	3.3	0.0	4.3
Prop In Lane	0.01		0.19	0.56		0.11	1.00		0.36	1.00		0.03
Lane Grp Cap(c), veh/h	658	0	0	583	0	0	505	0	689	593	0	744
V/C Ratio(X)	0.34	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.13	0.07	0.00	0.27
Avail Cap(c_a), veh/h	896	0	0	765	0	0	505	0	689	593	0	744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.91	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	0.0	15.2	0.0	0.0	13.5	0.0	11.4	12.4	0.0	12.1
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.7	0.4	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	0.0	15.6	0.0	0.0	13.5	0.0	11.8	12.5	0.0	12.3
LnGrp LOS	B	A	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		226			218			90			242	
Approach Delay, s/veh		15.6			15.6			11.8			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	28.0	24.0	28.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	28.0	24.0	28.0	24.0
Max Q Clear Time (g_c+I1), s	7.7	6.3	7.8	6.3
Green Ext Time (p_c), s	1.3	1.1	1.2	0.4

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	336	27	102	174	41	21	392	63	151	1301	22
Future Volume (veh/h)	10	336	27	102	174	41	21	392	63	151	1301	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	336	27	102	174	41	21	392	63	151	1301	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	435	34	248	376	89	42	1424	226	186	1960	33
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.02	0.47	0.47	0.10	0.55	0.55
Sat Flow, veh/h	18	1678	132	1010	1451	342	1781	3046	485	1781	3573	60
Grp Volume(v), veh/h	373	0	0	102	0	215	21	227	228	151	647	676
Grp Sat Flow(s),veh/h/ln	1829	0	0	1010	0	1793	1781	1777	1754	1781	1777	1856
Q Serve(g_s), s	2.3	0.0	0.0	0.7	0.0	8.1	0.9	6.2	6.4	6.6	20.7	20.7
Cycle Q Clear(g_c), s	15.1	0.0	0.0	15.8	0.0	8.1	0.9	6.2	6.4	6.6	20.7	20.7
Prop In Lane	0.03		0.07	1.00		0.19	1.00		0.28	1.00		0.03
Lane Grp Cap(c), veh/h	520	0	0	248	0	465	42	830	820	186	975	1018
V/C Ratio(X)	0.72	0.00	0.00	0.41	0.00	0.46	0.51	0.27	0.28	0.81	0.66	0.66
Avail Cap(c_a), veh/h	854	0	0	434	0	795	278	830	820	234	975	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	28.1	0.0	24.9	38.6	13.0	13.0	35.0	12.8	12.8
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.4	0.0	0.3	3.5	0.8	0.8	12.5	3.6	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	1.8	0.0	3.4	0.4	2.6	2.6	3.5	8.5	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	0.0	0.0	28.5	0.0	25.2	42.1	13.8	13.9	47.6	16.4	16.2
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		373			317			476			1474	
Approach Delay, s/veh		28.2			26.3			15.1			19.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	48.4		25.2	12.9	41.9		25.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	18.5		35.5	10.5	20.5		35.5
Max Q Clear Time (g_c+I1), s	12.9	22.7		17.8	8.6	8.4		17.1
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	3.0		1.5

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	13.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	29	12	1115	32	3	46
Future Vol, veh/h	29	12	1115	32	3	46
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	29	12	1115	32	3	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	42	0	2282	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	2246	-
Critical Hdwy	-	-	4.145	-	6.645	6.245
Critical Hdwy Stg 1	-	-	-	-	5.445	-
Critical Hdwy Stg 2	-	-	-	-	5.845	-
Follow-up Hdwy	-	-	2.2285	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1559	-	38	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	66	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1558	-	10	1032
Mov Cap-2 Maneuver	-	-	-	-	10	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	18	-

Approach	EB	WB	NB
HCM Control Delay, s	0	12.5	43.2
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	142	-	-	1558	-
HCM Lane V/C Ratio	0.345	-	-	0.716	-
HCM Control Delay (s)	43.2	-	-	12.9	0.1
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	1.4	-	-	6.7	-

Intersection	
Int Delay, s/veh	138.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	593	197	3	707	30	39	1	19	51	108	422
Future Vol, veh/h	26	593	197	3	707	30	39	1	19	51	108	422
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	40	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	26	593	197	3	707	30	39	1	19	51	108	422

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	738	0	0	792	0	0	1160	1490	397	1078	1573	370
Stage 1	-	-	-	-	-	-	746	746	-	729	729	-
Stage 2	-	-	-	-	-	-	414	744	-	349	844	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	857	-	-	818	-	-	149	122	600	172	108	624
Stage 1	-	-	-	-	-	-	369	416	-	378	424	-
Stage 2	-	-	-	-	-	-	584	417	-	638	375	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	816	-	-	-	114	599	158	~ 101	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	114	-	158	~ 101	-
Stage 1	-	-	-	-	-	-	348	392	-	356	421	-
Stage 2	-	-	-	-	-	-	139	414	-	582	353	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0		$ 521.9
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	599	856	-	-	816	-	-	281
HCM Lane V/C Ratio	-	0.032	0.03	-	-	0.004	-	-	2.068
HCM Control Delay (s)	-	11.2	9.3	0.2	-	9.4	0	-	$ 521.9
HCM Lane LOS	-	B	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	-	0.1	0.1	-	-	0	-	-	42.6

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	38.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	592	12	176	176	0	0	0	0	326	6	227
Future Vol, veh/h	0	592	12	176	176	0	0	0	0	326	6	227
Conflicting Peds, #/hr	9	0	1	1	0	9	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	592	12	176	176	0	0	0	0	326	6	227

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	605	0	0	1126	1133	88
Stage 1	-	-	-	-	-	-	528	528	-
Stage 2	-	-	-	-	-	-	598	605	-
Critical Hdwy	-	-	-	4.145	-	-	6.645	6.545	6.945
Critical Hdwy Stg 1	-	-	-	-	-	-	5.845	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.445	5.545	-
Follow-up Hdwy	-	-	-	2.2285	-	-	3.5285	4.0285	3.3285
Pot Cap-1 Maneuver	0	-	-	965	-	0	~ 211	201	950
Stage 1	0	-	-	-	-	0	555	525	-
Stage 2	0	-	-	-	-	0	546	484	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	965	-	-	~ 168	0	950
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 168	0	-
Stage 1	-	-	-	-	-	-	555	0	-
Stage 2	-	-	-	-	-	-	436	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.9	101.8
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	965	-	168	510
HCM Lane V/C Ratio	-	-	0.182	-	1.294	0.67
HCM Control Delay (s)	-	-	9.6	0.3	222.3	25.2
HCM Lane LOS	-	-	A	A	F	D
HCM 95th %tile Q(veh)	-	-	0.7	-	12.6	4.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	13.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	399	519	0	0	331	722	21	3	89	0	0	0
Future Vol, veh/h	399	519	0	0	331	722	21	3	89	0	0	0
Conflicting Peds, #/hr	6	0	3	3	0	6	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	40	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	399	519	0	0	331	722	21	3	89	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1059	0	-	-	-	0	1483	2376	261
Stage 1	-	-	-	-	-	-	1317	1317	-
Stage 2	-	-	-	-	-	-	166	1059	-
Critical Hdwy	4.16	-	-	-	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	-	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	647	-	0	0	-	-	115	34	735
Stage 1	-	-	0	0	-	-	213	223	-
Stage 2	-	-	0	0	-	-	843	297	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	647	-	-	-	-	-	~ 15	0	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 15	0	-
Stage 1	-	-	-	-	-	-	28	0	-
Stage 2	-	-	-	-	-	-	843	0	-

Approach	EB	WB	NB
HCM Control Delay, s	10.2	0	162.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	15	734	647	-	-	-
HCM Lane V/C Ratio	1.5	0.123	0.617	-	-	-
HCM Control Delay (s)	$ 775.4	10.6	19.1	3.3	-	-
HCM Lane LOS	F	B	C	A	-	-
HCM 95th %tile Q(veh)	3.4	0.4	4.2	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	489	3	0	921	5	18	11	2	0	0	0
Future Vol, veh/h	25	489	3	0	921	5	18	11	2	0	0	0
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	80	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	25	489	3	0	921	5	18	11	2	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	928	0	0	494	0	0	1467	1471	248
Stage 1	-	-	-	-	-	-	543	543	-
Stage 2	-	-	-	-	-	-	924	928	-
Critical Hdwy	4.145	-	-	4.145	-	-	6.645	6.545	6.945
Critical Hdwy Stg 1	-	-	-	-	-	-	5.845	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.445	5.545	-
Follow-up Hdwy	2.2285	-	-	2.2285	-	-	3.5285	4.0285	3.3285
Pot Cap-1 Maneuver	730	-	-	1062	-	-	128	126	750
Stage 1	-	-	-	-	-	-	545	517	-
Stage 2	-	-	-	-	-	-	383	344	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	730	-	-	1060	-	-	122	0	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	0	-
Stage 1	-	-	-	-	-	-	518	0	-
Stage 2	-	-	-	-	-	-	383	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	40.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	133	730	-	-	1060	-	-
HCM Lane V/C Ratio	0.233	0.034	-	-	-	-	-
HCM Control Delay (s)	40.1	10.1	0.2	-	0	-	-
HCM Lane LOS	E	B	A	-	A	-	-
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	479	24	6	832	6	66	15	19	0	6	14
Future Vol, veh/h	14	479	24	6	832	6	66	15	19	0	6	14
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	70	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	14	479	24	6	832	6	66	15	19	0	6	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	843	0	0	508	0	0	1374	1367	489	1390	1385	842
Stage 1	-	-	-	-	-	-	512	512	-	849	849	-
Stage 2	-	-	-	-	-	-	862	855	-	541	536	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	789	-	-	1052	-	-	122	146	577	119	143	363
Stage 1	-	-	-	-	-	-	543	535	-	354	376	-
Stage 2	-	-	-	-	-	-	348	373	-	523	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	785	-	-	1047	-	-	109	139	572	102	137	360
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	139	-	102	137	-
Stage 1	-	-	-	-	-	-	527	519	-	343	370	-
Stage 2	-	-	-	-	-	-	324	367	-	476	506	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	85.6	21.2
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	134	785	-	-	1047	-	-	242
HCM Lane V/C Ratio	0.746	0.018	-	-	0.006	-	-	0.083
HCM Control Delay (s)	85.6	9.7	0	-	8.5	0	-	21.2
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	4.4	0.1	-	-	0	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	416	40	25	490	11	205	156	57	4	47	29
Future Volume (veh/h)	41	416	40	25	490	11	205	156	57	4	47	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.95	0.99		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	41	416	40	25	490	11	205	156	57	4	47	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	571	1106	106	602	1204	27	347	300	110	237	246	152
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	886	1658	159	922	1805	41	1301	1287	470	1155	1056	652
Grp Volume(v), veh/h	41	0	456	25	0	501	205	0	213	4	0	76
Grp Sat Flow(s),veh/h/ln	886	0	1817	922	0	1846	1301	0	1758	1155	0	1708
Q Serve(g_s), s	1.8	0.0	8.9	1.0	0.0	9.9	12.0	0.0	8.5	0.2	0.0	2.9
Cycle Q Clear(g_c), s	11.7	0.0	8.9	9.9	0.0	9.9	14.9	0.0	8.5	8.7	0.0	2.9
Prop In Lane	1.00		0.09	1.00		0.02	1.00		0.27	1.00		0.38
Lane Grp Cap(c), veh/h	571	0	1212	602	0	1231	347	0	409	237	0	398
V/C Ratio(X)	0.07	0.00	0.38	0.04	0.00	0.41	0.59	0.00	0.52	0.02	0.00	0.19
Avail Cap(c_a), veh/h	571	0	1212	602	0	1231	580	0	725	444	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.52	0.00	0.52	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	5.9	8.1	0.0	6.1	30.6	0.0	26.8	30.6	0.0	24.6
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.1	0.0	0.5	1.6	0.0	1.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.0	0.2	0.0	3.3	3.8	0.0	3.5	0.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	0.0	6.8	8.2	0.0	6.6	32.2	0.0	27.8	30.6	0.0	24.9
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		497			526			418			80	
Approach Delay, s/veh		7.0			6.7			30.0			25.2	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	57.4	22.6	57.4	22.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	39.0	33.0	39.0	33.0
Max Q Clear Time (g_c+I1), s	13.7	10.7	11.9	16.9
Green Ext Time (p_c), s	3.3	0.3	3.6	1.7

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	303	63	40	243	115	137	986	30	56	584	79
Future Volume (veh/h)	101	303	63	40	243	115	137	986	30	56	584	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	101	303	63	40	243	115	137	986	30	56	584	79
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	173	494	105	69	285	126	172	1720	52	73	1355	183
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.10	0.49	0.49	0.04	0.44	0.44
Sat Flow, veh/h	351	1594	340	80	919	406	1767	3487	106	1767	3099	418
Grp Volume(v), veh/h	169	0	298	398	0	0	137	498	518	56	331	332
Grp Sat Flow(s),veh/h/ln	676	0	1610	1405	0	0	1767	1763	1830	1767	1763	1754
Q Serve(g_s), s	0.0	0.0	14.1	11.0	0.0	0.0	6.8	18.0	18.0	2.8	11.7	11.8
Cycle Q Clear(g_c), s	23.2	0.0	14.1	25.1	0.0	0.0	6.8	18.0	18.0	2.8	11.7	11.8
Prop In Lane	0.60		0.21	0.10		0.29	1.00		0.06	1.00		0.24
Lane Grp Cap(c), veh/h	273	0	499	479	0	0	172	869	903	73	771	767
V/C Ratio(X)	0.62	0.00	0.60	0.83	0.00	0.00	0.80	0.57	0.57	0.77	0.43	0.43
Avail Cap(c_a), veh/h	323	0	564	544	0	0	275	869	903	334	771	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.00	0.94	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	26.3	29.9	0.0	0.0	39.8	16.1	16.1	42.7	17.5	17.6
Incr Delay (d2), s/veh	1.2	0.0	0.7	8.4	0.0	0.0	11.3	2.7	2.6	20.8	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	5.4	9.4	0.0	0.0	3.5	7.6	7.9	1.7	5.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	0.0	27.0	38.3	0.0	0.0	51.0	18.9	18.8	63.5	19.3	19.3
LnGrp LOS	C	A	C	D	A	A	D	B	B	E	B	B
Approach Vol, veh/h		467			398			1153			719	
Approach Delay, s/veh		27.9			38.3			22.6			22.8	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.3	43.9		32.9	8.2	48.9		32.9
Change Period (Y+Rc), s	4.5	4.5		5.0	4.5	4.5		5.0
Max Green Setting (Gmax), s	14.0	30.5		31.5	17.0	27.5		31.5
Max Q Clear Time (g_c+I1), s	8.8	13.8		27.1	4.8	20.0		25.2
Green Ext Time (p_c), s	0.2	5.4		0.8	0.1	4.8		1.2

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	37	12	0	10
Future Vol, veh/h	0	10	37	12	0	10
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	0	10	37	12	0	10

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	63	53	0	0	54	0
Stage 1	48	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	943	1014	-	-	1545	-
Stage 1	974	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	934	1004	-	-	1538	-
Mov Cap-2 Maneuver	934	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1004	1538	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	9	219	17	4	101
Future Vol, veh/h	4	9	219	17	4	101
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	4	9	219	17	4	101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	347	238	0	0	241	0
Stage 1	233	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	650	801	-	-	1320	-
Stage 1	806	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	642	793	-	-	1314	-
Mov Cap-2 Maneuver	642	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	739	1314	-
HCM Lane V/C Ratio	-	-	0.018	0.003	-
HCM Control Delay (s)	-	-	10	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	0	3	0	0	0	3	32	0	0	13	0
Future Vol, veh/h	22	0	3	0	0	0	3	32	0	0	13	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	0	3	0	0	0	3	32	0	0	13	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	0	7.2	7.1
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	88%	0%	0%
Vol Thru, %	91%	0%	100%	100%
Vol Right, %	0%	12%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	25	0	13
LT Vol	3	22	0	0
Through Vol	32	0	0	13
RT Vol	0	3	0	0
Lane Flow Rate	35	25	0	13
Geometry Grp	1	1	1	1
Degree of Util (X)	0.039	0.029	0	0.014
Departure Headway (Hd)	4.005	4.122	4.037	4.004
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	896	870	0	895
Service Time	2.02	2.141	2.062	2.024
HCM Lane V/C Ratio	0.039	0.029	0	0.015
HCM Control Delay	7.2	7.3	7.1	7.1
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.1	0.1	0	0

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	24	222	79	55	56
Future Vol, veh/h	1	24	222	79	55	56
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	24	222	79	55	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	438	272	0	0	306	0
Stage 1	267	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	576	767	-	-	1255	-
Stage 1	778	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	544	760	-	-	1249	-
Mov Cap-2 Maneuver	544	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	748	1249	-
HCM Lane V/C Ratio	-	-	0.033	0.044	-
HCM Control Delay (s)	-	-	10	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	150	34	15	18	5
Future Vol, veh/h	5	150	34	15	18	5
Conflicting Peds, #/hr	5	0	0	5	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	150	34	15	18	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	54	0	-	0	212	52
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1551	-	-	-	776	1016
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	765	1006
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1544	-	-	-	807
HCM Lane V/C Ratio	0.003	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	158	13	24	30	5	12	84	45	12	36	5
Future Vol, veh/h	4	158	13	24	30	5	12	84	45	12	36	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	158	13	24	30	5	12	84	45	12	36	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	8	8.3	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	2%	41%	23%
Vol Thru, %	60%	90%	51%	68%
Vol Right, %	32%	7%	8%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	175	59	53
LT Vol	12	4	24	12
Through Vol	84	158	30	36
RT Vol	45	13	5	5
Lane Flow Rate	141	175	59	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.171	0.214	0.075	0.068
Departure Headway (Hd)	4.362	4.406	4.604	4.623
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	823	816	779	776
Service Time	2.38	2.425	2.628	2.645
HCM Lane V/C Ratio	0.171	0.214	0.076	0.068
HCM Control Delay	8.3	8.6	8	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.8	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	210	18	52	59	74	8	318	51	23	114	3
Future Volume (veh/h)	21	210	18	52	59	74	8	318	51	23	114	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.95	0.99		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	210	18	52	59	74	8	318	51	23	114	3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	493	40	170	190	192	626	697	112	418	808	21
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	70	1602	130	321	617	625	1259	1561	250	1008	1811	48
Grp Volume(v), veh/h	249	0	0	185	0	0	8	0	369	23	0	117
Grp Sat Flow(s),veh/h/ln	1803	0	0	1563	0	0	1259	0	1811	1008	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	9.2	1.1	0.0	2.4
Cycle Q Clear(g_c), s	7.1	0.0	0.0	5.4	0.0	0.0	2.7	0.0	9.2	10.3	0.0	2.4
Prop In Lane	0.08		0.07	0.28		0.40	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	615	0	0	552	0	0	626	0	808	418	0	829
V/C Ratio(X)	0.41	0.00	0.00	0.34	0.00	0.00	0.01	0.00	0.46	0.06	0.00	0.14
Avail Cap(c_a), veh/h	832	0	0	732	0	0	626	0	808	418	0	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.59	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	0.0	17.5	0.0	0.0	11.4	0.0	12.5	16.1	0.0	10.6
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.9	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.0	0.0	0.0	0.1	0.0	3.7	0.2	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	0.0	0.0	17.7	0.0	0.0	11.5	0.0	14.4	16.1	0.0	10.7
LnGrp LOS	B	A	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		249			185			377			140	
Approach Delay, s/veh		18.5			17.7			14.3			11.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	33.0	24.0	33.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	28.0	29.0
Max Q Clear Time (g_c+I1), s	9.1	12.3	7.4	11.2
Green Ext Time (p_c), s	1.3	0.6	1.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	317	16	80	197	192	42	1088	79	144	681	20
Future Volume (veh/h)	28	317	16	80	197	192	42	1088	79	144	681	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	317	16	80	197	192	42	1088	79	144	681	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	379	18	211	260	254	64	1491	108	177	1791	53
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.04	0.45	0.45	0.10	0.51	0.51
Sat Flow, veh/h	42	1242	60	1047	853	832	1781	3346	243	1781	3519	103
Grp Volume(v), veh/h	361	0	0	80	0	389	42	577	590	144	344	357
Grp Sat Flow(s),veh/h/ln	1345	0	0	1047	0	1685	1781	1777	1812	1781	1777	1846
Q Serve(g_s), s	5.5	0.0	0.0	0.0	0.0	18.8	2.1	24.0	24.1	7.1	10.6	10.6
Cycle Q Clear(g_c), s	24.2	0.0	0.0	18.8	0.0	18.8	2.1	24.0	24.1	7.1	10.6	10.6
Prop In Lane	0.08		0.04	1.00		0.49	1.00		0.13	1.00		0.06
Lane Grp Cap(c), veh/h	453	0	0	211	0	514	64	792	807	177	904	939
V/C Ratio(X)	0.80	0.00	0.00	0.38	0.00	0.76	0.65	0.73	0.73	0.81	0.38	0.38
Avail Cap(c_a), veh/h	647	0	0	328	0	702	287	792	807	247	904	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	0.0	28.3	0.0	28.3	42.8	20.5	20.5	39.7	13.5	13.5
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.4	0.0	1.9	4.1	5.8	5.8	9.3	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	0.0	1.6	0.0	7.7	1.0	10.9	11.1	3.6	4.4	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	0.0	0.0	28.7	0.0	30.2	46.9	26.3	26.2	49.0	14.7	14.6
LnGrp LOS	C	A	A	C	A	C	D	C	C	D	B	B
Approach Vol, veh/h		361			469			1209			845	
Approach Delay, s/veh		31.3			29.9			27.0			20.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	50.3		31.9	13.4	44.6		31.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	14.5	24.5		37.5	12.5	26.5		37.5
Max Q Clear Time (g_c+I1), s	14.1	12.6		20.8	9.1	26.1		26.2
Green Ext Time (p_c), s	0.0	4.7		1.9	0.1	0.4		1.2

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	11

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	79	17	242	151	36	525
Future Vol, veh/h	79	17	242	151	36	525
Conflicting Peds, #/hr	0	9	9	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	79	17	242	151	36	525

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	659	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	562	-
Critical Hdwy	-	-	4.145	-	6.645	6.245
Critical Hdwy Stg 1	-	-	-	-	5.445	-
Critical Hdwy Stg 2	-	-	-	-	5.845	-
Follow-up Hdwy	-	-	2.2285	-	3.5285	3.3285
Pot Cap-1 Maneuver	-	-	1479	-	410	956
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	533	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	333	948
Mov Cap-2 Maneuver	-	-	-	-	333	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	436	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	848	-	-	1466	-
HCM Lane V/C Ratio	0.662	-	-	0.165	-
HCM Control Delay (s)	17.1	-	-	7.9	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	5.1	-	-	0.6	-

Intersection	
Int Delay, s/veh	52.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	426	90	3	860	89	104	64	60	21	12	89
Future Vol, veh/h	92	426	90	3	860	89	104	64	60	21	12	89
Conflicting Peds, #/hr	6	0	4	4	0	6	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	40	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	92	426	90	3	860	89	104	64	60	21	12	89

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	955	0	0	520	0	0	1101	1620	263	1347	1621	481
Stage 1	-	-	-	-	-	-	659	659	-	917	917	-
Stage 2	-	-	-	-	-	-	442	961	-	430	704	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	709	-	-	1035	-	-	165	101	732	109	101	528
Stage 1	-	-	-	-	-	-	417	456	-	291	347	-
Stage 2	-	-	-	-	-	-	562	331	-	571	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	705	-	-	1031	-	-	104	81	729	30	81	525
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	81	-	30	81	-
Stage 1	-	-	-	-	-	-	338	370	-	235	343	-
Stage 2	-	-	-	-	-	-	448	327	-	352	353	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	0	$ 348.9	156
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	94	729	705	-	-	1031	-	-	120
HCM Lane V/C Ratio	1.787	0.082	0.13	-	-	0.003	-	-	1.017
HCM Control Delay (s)	$ 469.8	10.4	10.9	0.7	-	8.5	0	-	156
HCM Lane LOS	F	B	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	13.8	0.3	0.4	-	-	0	-	-	6.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	342	50	79	569	1	47	22	17	5	123	61
Future Volume (veh/h)	23	342	50	79	569	1	47	22	17	5	123	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	23	342	50	79	569	1	47	22	17	5	123	61
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	621	1161	170	654	1369	2	155	140	108	273	168	83
Arrive On Green	0.24	0.24	0.24	0.74	0.74	0.74	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	831	1571	230	981	1852	3	1180	957	739	1345	1149	570
Grp Volume(v), veh/h	23	0	392	79	0	570	47	0	39	5	0	184
Grp Sat Flow(s),veh/h/ln	831	0	1801	981	0	1855	1180	0	1696	1345	0	1718
Q Serve(g_s), s	1.6	0.0	12.4	2.7	0.0	8.1	2.8	0.0	1.4	0.2	0.0	7.2
Cycle Q Clear(g_c), s	9.7	0.0	12.4	15.1	0.0	8.1	9.9	0.0	1.4	1.6	0.0	7.2
Prop In Lane	1.00		0.13	1.00		0.00	1.00		0.44	1.00		0.33
Lane Grp Cap(c), veh/h	621	0	1331	654	0	1371	155	0	248	273	0	252
V/C Ratio(X)	0.04	0.00	0.29	0.12	0.00	0.42	0.30	0.00	0.16	0.02	0.00	0.73
Avail Cap(c_a), veh/h	621	0	1331	654	0	1371	302	0	460	441	0	466
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.00	0.86	0.52	0.00	0.52	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	11.6	7.3	0.0	3.4	33.3	0.0	26.1	26.8	0.0	28.6
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.2	0.0	0.5	1.1	0.0	0.3	0.0	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.0	0.5	0.0	2.0	0.8	0.0	0.6	0.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.0	12.1	7.5	0.0	3.9	34.4	0.0	26.4	26.8	0.0	32.6
LnGrp LOS	B	A	B	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		415			649			86			189	
Approach Delay, s/veh		12.2			4.4			30.8			32.5	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.7	14.3	55.7	14.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	43.0	19.0	43.0	19.0
Max Q Clear Time (g_c+I1), s	14.4	9.2	17.1	11.9
Green Ext Time (p_c), s	2.8	0.7	4.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	139	57	22	365	40	60	268	13	102	1378	157
Future Volume (veh/h)	44	139	57	22	365	40	60	268	13	102	1378	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	44	139	57	22	365	40	60	268	13	102	1378	157
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	159	474	203	61	456	48	77	1577	76	130	1563	177
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.04	0.46	0.46	0.07	0.49	0.49
Sat Flow, veh/h	337	1639	703	46	1575	168	1767	3414	165	1767	3174	359
Grp Volume(v), veh/h	116	0	124	427	0	0	60	138	143	102	760	775
Grp Sat Flow(s),veh/h/ln	1154	0	1524	1789	0	0	1767	1763	1816	1767	1763	1770
Q Serve(g_s), s	0.0	0.0	5.0	6.4	0.0	0.0	2.7	3.6	3.7	4.5	30.8	31.6
Cycle Q Clear(g_c), s	4.4	0.0	5.0	17.7	0.0	0.0	2.7	3.6	3.7	4.5	30.8	31.6
Prop In Lane	0.38		0.46	0.05		0.09	1.00		0.09	1.00		0.20
Lane Grp Cap(c), veh/h	396	0	441	565	0	0	77	814	839	130	868	871
V/C Ratio(X)	0.29	0.00	0.28	0.76	0.00	0.00	0.78	0.17	0.17	0.78	0.88	0.89
Avail Cap(c_a), veh/h	471	0	524	661	0	0	243	814	839	243	868	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	22.0	26.4	0.0	0.0	37.9	12.6	12.6	36.4	18.1	18.3
Incr Delay (d2), s/veh	0.1	0.0	0.1	3.3	0.0	0.0	6.4	0.4	0.4	3.8	12.0	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.8	7.9	0.0	0.0	1.3	1.5	1.5	2.1	14.4	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	0.0	22.1	29.8	0.0	0.0	44.2	13.0	13.0	40.3	30.1	31.5
LnGrp LOS	C	A	C	C	A	A	D	B	B	D	C	C
Approach Vol, veh/h		240			427			341			1637	
Approach Delay, s/veh		21.9			29.8			18.5			31.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	43.9		28.1	10.4	41.5		28.1
Change Period (Y+Rc), s	4.5	4.5		5.0	4.5	4.5		5.0
Max Green Setting (Gmax), s	11.0	27.5		27.5	11.0	27.5		27.5
Max Q Clear Time (g_c+I1), s	14.7	33.6		19.7	6.5	5.7		7.0
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	2.3		1.0

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	402
Future Vol, veh/h	0	0	0	0	0	402
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	0	0	0	0	0	402

Major/Minor	Minor1		Major2	
Conflicting Flow All	211	-	5	0
Stage 1	5	-	-	-
Stage 2	206	-	-	-
Critical Hdwy	6.84	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	-	2.23	-
Pot Cap-1 Maneuver	758	0	1608	-
Stage 1	-	0	-	-
Stage 2	808	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	754	-	1600	-
Mov Cap-2 Maneuver	754	-	-	-
Stage 1	-	-	-	-
Stage 2	808	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	-	1600	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	0	-
HCM Lane LOS	A	A	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	9.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	312	33	77	11	0	0
Future Vol, veh/h	312	33	77	11	0	0
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	312	33	77	11	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	94	93	0	0	93	0
Stage 1	88	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	906	964	-	-	1495	-
Stage 1	935	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	897	955	-	-	1488	-
Mov Cap-2 Maneuver	897	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	902	1488	-
HCM Lane V/C Ratio	-	-	0.382	-	-
HCM Control Delay (s)	-	-	11.4	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0	-

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	26	0	0	0	28	0	0	1	99	316
Future Vol, veh/h	0	0	26	0	0	0	28	0	0	1	99	316
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	26	0	0	0	28	0	0	1	99	316

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	31	0	0	232	19	23	19	32	6
Stage 1	-	-	-	-	-	-	18	18	-	1	1	-
Stage 2	-	-	-	-	-	-	214	1	-	18	31	-
Critical Hdwy	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1582	-	0	723	875	1054	995	861	1077
Stage 1	0	-	-	-	-	0	1001	880	-	1022	895	-
Stage 2	0	-	-	-	-	0	788	895	-	1001	869	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1574	-	-	461	871	1044	990	857	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	461	871	-	990	857	-
Stage 1	-	-	-	-	-	-	1001	876	-	1022	895	-
Stage 2	-	-	-	-	-	-	492	895	-	996	865	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13.3	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	461	-	-	1574	-	990	1011
HCM Lane V/C Ratio	0.061	-	-	-	-	0.001	0.41
HCM Control Delay (s)	13.3	-	-	0	-	8.6	11
HCM Lane LOS	B	-	-	A	-	A	B
HCM 95th %tile Q(veh)	0.2	-	-	0	-	0	2

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	9	89	194	60	254
Future Vol, veh/h	46	9	89	194	60	254
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	9	89	194	60	254

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	570	196	0	0	288	0
Stage 1	191	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	483	845	-	-	1274	-
Stage 1	841	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	452	837	-	-	1268	-
Mov Cap-2 Maneuver	452	-	-	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	1268	-
HCM Lane V/C Ratio	-	-	0.112	0.047	-
HCM Control Delay (s)	-	-	13.3	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	274	14	4	69	43
Future Vol, veh/h	3	274	14	4	69	43
Conflicting Peds, #/hr	5	0	0	5	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	274	14	4	69	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	306	26
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	686	1050
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	678	1040
Mov Cap-2 Maneuver	-	-	-	-	678	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	783
HCM Lane V/C Ratio	0.002	-	-	-	0.143
HCM Control Delay (s)	7.3	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	221	85	54	22	4	3	49	23	2	103	5
Future Vol, veh/h	23	221	85	54	22	4	3	49	23	2	103	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	221	85	54	22	4	3	49	23	2	103	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	8.5	8.4	8.9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	7%	68%	2%
Vol Thru, %	65%	67%	27%	94%
Vol Right, %	31%	26%	5%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	329	80	110
LT Vol	3	23	54	2
Through Vol	49	221	22	103
RT Vol	23	85	4	5
Lane Flow Rate	75	329	80	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.397	0.108	0.151
Departure Headway (Hd)	4.835	4.347	4.86	4.937
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	826	735	725
Service Time	2.882	2.379	2.904	2.981
HCM Lane V/C Ratio	0.101	0.398	0.109	0.152
HCM Control Delay	8.4	10.2	8.5	8.9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	1.9	0.4	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	185	42	137	79	24	1	60	42	44	217	9
Future Volume (veh/h)	2	185	42	137	79	24	1	60	42	44	217	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.99		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	185	42	137	79	24	1	60	42	44	217	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	449	101	312	168	44	533	448	313	635	794	33
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	3	1458	328	732	546	142	1144	1003	702	1276	1779	74
Grp Volume(v), veh/h	229	0	0	240	0	0	1	0	102	44	0	226
Grp Sat Flow(s),veh/h/ln	1790	0	0	1420	0	0	1144	0	1705	1276	0	1853
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	2.3	1.4	0.0	5.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	8.4	0.0	0.0	5.0	0.0	2.3	3.7	0.0	5.0
Prop In Lane	0.01		0.18	0.57		0.10	1.00		0.41	1.00		0.04
Lane Grp Cap(c), veh/h	606	0	0	524	0	0	533	0	761	635	0	827
V/C Ratio(X)	0.38	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.13	0.07	0.00	0.27
Avail Cap(c_a), veh/h	826	0	0	689	0	0	533	0	761	635	0	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.92	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	18.3	0.0	0.0	12.9	0.0	10.6	11.7	0.0	11.4
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.8	0.4	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	0.0	18.9	0.0	0.0	12.9	0.0	11.0	11.7	0.0	11.5
LnGrp LOS	B	A	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		229			240			103			270	
Approach Delay, s/veh		18.3			18.9			11.0			11.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	33.0	24.0	33.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	28.0	29.0
Max Q Clear Time (g_c+I1), s	8.6	7.0	10.4	7.0
Green Ext Time (p_c), s	1.2	1.4	1.4	0.5

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	340	27	103	188	43	23	418	64	153	1340	28
Future Volume (veh/h)	19	340	27	103	188	43	23	418	64	153	1340	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	340	27	103	188	43	23	418	64	153	1340	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	442	34	254	392	90	45	1401	213	189	1911	40
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.03	0.46	0.46	0.11	0.54	0.54
Sat Flow, veh/h	43	1644	127	1006	1461	334	1781	3069	466	1781	3555	74
Grp Volume(v), veh/h	386	0	0	103	0	231	23	240	242	153	669	699
Grp Sat Flow(s),veh/h/ln	1814	0	0	1006	0	1795	1781	1777	1758	1781	1777	1853
Q Serve(g_s), s	4.7	0.0	0.0	0.4	0.0	8.6	1.0	6.8	6.9	6.7	22.3	22.4
Cycle Q Clear(g_c), s	15.7	0.0	0.0	16.1	0.0	8.6	1.0	6.8	6.9	6.7	22.3	22.4
Prop In Lane	0.05		0.07	1.00		0.19	1.00		0.26	1.00		0.04
Lane Grp Cap(c), veh/h	535	0	0	254	0	482	45	811	802	189	955	996
V/C Ratio(X)	0.72	0.00	0.00	0.41	0.00	0.48	0.52	0.30	0.30	0.81	0.70	0.70
Avail Cap(c_a), veh/h	847	0	0	430	0	796	278	811	802	234	955	996
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	0.0	27.5	0.0	24.6	38.5	13.7	13.7	35.0	13.7	13.7
Incr Delay (d2), s/veh	1.8	0.0	0.0	1.0	0.0	0.7	8.9	0.9	1.0	15.6	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	0.0	1.9	0.0	3.7	0.6	2.8	2.9	3.7	9.3	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	0.0	0.0	28.6	0.0	25.3	47.5	14.6	14.7	50.6	18.0	17.9
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		386			334			505			1521	
Approach Delay, s/veh		28.9			26.3			16.1			21.2	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	47.5		26.0	13.0	41.0		26.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	18.5		35.5	10.5	20.5		35.5
Max Q Clear Time (g_c+I1), s	13.0	24.4		18.1	8.7	8.9		17.7
Green Ext Time (p_c), s	0.0	0.0		1.8	0.1	2.3		2.4

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	438	40	31	506	11	205	156	77	4	47	29
Future Volume (veh/h)	41	438	40	31	506	11	205	156	77	4	47	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.95	0.99		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	41	438	40	31	506	11	205	156	77	4	47	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	558	1110	101	584	1203	26	348	272	134	221	247	153
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	873	1666	152	904	1807	39	1301	1163	574	1134	1056	652
Grp Volume(v), veh/h	41	0	478	31	0	517	205	0	233	4	0	76
Grp Sat Flow(s),veh/h/ln	873	0	1819	904	0	1846	1301	0	1736	1134	0	1708
Q Serve(g_s), s	1.8	0.0	9.5	1.3	0.0	10.4	12.0	0.0	9.5	0.3	0.0	2.9
Cycle Q Clear(g_c), s	12.2	0.0	9.5	10.8	0.0	10.4	14.8	0.0	9.5	9.7	0.0	2.9
Prop In Lane	1.00		0.08	1.00		0.02	1.00		0.33	1.00		0.38
Lane Grp Cap(c), veh/h	558	0	1211	584	0	1229	348	0	407	221	0	400
V/C Ratio(X)	0.07	0.00	0.39	0.05	0.00	0.42	0.59	0.00	0.57	0.02	0.00	0.19
Avail Cap(c_a), veh/h	558	0	1211	584	0	1229	580	0	716	423	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	0.46	0.00	0.46	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	6.1	8.5	0.0	6.2	30.5	0.0	27.1	31.4	0.0	24.6
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	0.0	0.5	1.6	0.0	1.3	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.0	0.2	0.0	3.4	3.8	0.0	3.9	0.1	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	0.0	6.1	8.6	0.0	6.7	32.1	0.0	28.4	31.4	0.0	24.8
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		519			548			438			80	
Approach Delay, s/veh		6.4			6.8			30.1			25.1	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	57.3	22.7	57.3	22.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	39.0	33.0	39.0	33.0
Max Q Clear Time (g_c+I1), s	14.2	11.7	12.8	16.8
Green Ext Time (p_c), s	3.5	0.3	3.8	1.9

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	322	70	45	247	116	144	1029	38	59	610	90
Future Volume (veh/h)	117	322	70	45	247	116	144	1029	38	59	610	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	117	322	70	45	247	116	144	1029	38	59	610	90
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	187	497	110	72	287	125	180	1614	60	77	1249	184
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.10	0.47	0.47	0.04	0.41	0.41
Sat Flow, veh/h	355	1488	330	82	859	374	1767	3460	128	1767	3058	450
Grp Volume(v), veh/h	167	0	342	408	0	0	144	524	543	59	351	349
Grp Sat Flow(s),veh/h/ln	560	0	1613	1314	0	0	1767	1763	1825	1767	1763	1745
Q Serve(g_s), s	0.6	0.0	16.1	11.6	0.0	0.0	7.2	20.3	20.3	3.0	13.2	13.3
Cycle Q Clear(g_c), s	28.3	0.0	16.1	27.7	0.0	0.0	7.2	20.3	20.3	3.0	13.2	13.3
Prop In Lane	0.70		0.20	0.11		0.28	1.00		0.07	1.00		0.26
Lane Grp Cap(c), veh/h	255	0	539	484	0	0	180	822	851	77	720	713
V/C Ratio(X)	0.65	0.00	0.63	0.84	0.00	0.00	0.80	0.64	0.64	0.76	0.49	0.49
Avail Cap(c_a), veh/h	255	0	539	509	0	0	275	822	851	334	720	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.00	0.93	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	25.3	29.0	0.0	0.0	39.5	18.2	18.2	42.6	19.7	19.7
Incr Delay (d2), s/veh	4.4	0.0	1.7	11.0	0.0	0.0	12.2	3.8	3.6	19.7	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	6.3	10.0	0.0	0.0	3.7	8.8	9.1	1.7	5.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	27.1	40.1	0.0	0.0	51.7	22.0	21.9	62.2	22.0	22.1
LnGrp LOS	C	A	C	D	A	A	D	C	C	E	C	C
Approach Vol, veh/h		509			408			1211			759	
Approach Delay, s/veh		29.0			40.1			25.5			25.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	41.3		35.1	8.4	46.5		35.1
Change Period (Y+Rc), s	4.5	4.5		5.0	4.5	4.5		5.0
Max Green Setting (Gmax), s	14.0	30.5		31.5	17.0	27.5		27.5
Max Q Clear Time (g_c+I1), s	9.2	15.3		29.7	5.0	22.3		30.3
Green Ext Time (p_c), s	0.2	5.5		0.4	0.1	3.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	133
Future Vol, veh/h	0	0	0	0	0	133
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	0	0	0	0	0	133

Major/Minor	Minor1		Major2	
Conflicting Flow All	77	-	5	0
Stage 1	5	-	-	-
Stage 2	72	-	-	-
Critical Hdwy	6.84	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	-	2.23	-
Pot Cap-1 Maneuver	917	0	1608	-
Stage 1	-	0	-	-
Stage 2	942	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	912	-	1600	-
Mov Cap-2 Maneuver	912	-	-	-
Stage 1	-	-	-	-
Stage 2	942	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	-	1600	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	0	-
HCM Lane LOS	A	A	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	56	299	17	0	0
Future Vol, veh/h	109	56	299	17	0	0
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	109	56	299	17	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	319	318	0	0	321	0
Stage 1	313	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	674	723	-	-	1233	-
Stage 1	741	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	667	716	-	-	1227	-
Mov Cap-2 Maneuver	667	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1227	-
HCM Lane V/C Ratio	-	-	0.242	-	-
HCM Control Delay (s)	-	-	11.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	25	0	0	0	40	0	0	0	31	115
Future Vol, veh/h	0	0	25	0	0	0	40	0	0	0	31	115
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	25	0	0	0	40	0	0	0	31	115

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	30	0	0	97	19	23	19	31	6
Stage 1	-	-	-	-	-	-	18	18	-	1	1	-
Stage 2	-	-	-	-	-	-	79	1	-	18	30	-
Critical Hdwy	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1583	-	0	885	875	1054	995	862	1077
Stage 1	0	-	-	-	-	0	1001	880	-	1022	895	-
Stage 2	0	-	-	-	-	0	930	895	-	1001	870	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1575	-	-	761	871	1044	990	858	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	761	871	-	990	858	-
Stage 1	-	-	-	-	-	-	1001	876	-	1022	895	-
Stage 2	-	-	-	-	-	-	798	895	-	996	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	761	-	-	1575	-	-	1018
HCM Lane V/C Ratio	0.053	-	-	-	-	-	0.143
HCM Control Delay (s)	10	-	-	0	-	0	9.1
HCM Lane LOS	B	-	-	A	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	24	302	79	55	56
Future Vol, veh/h	10	24	302	79	55	56
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	24	302	79	55	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	518	352	0	0	386	0
Stage 1	347	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	518	692	-	-	1172	-
Stage 1	716	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	488	685	-	-	1166	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	612	1166	-
HCM Lane V/C Ratio	-	-	0.056	0.047	-
HCM Control Delay (s)	-	-	11.2	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	150	36	15	29	12
Future Vol, veh/h	5	150	36	15	29	12
Conflicting Peds, #/hr	5	0	0	5	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	150	36	15	29	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	56	0	-	0	214	54
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1549	-	-	-	774	1013
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1542	-	-	-	763	1003
Mov Cap-2 Maneuver	-	-	-	-	763	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1542	-	-	-	820
HCM Lane V/C Ratio	0.003	-	-	-	0.05
HCM Control Delay (s)	7.3	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	158	24	28	32	5	12	104	54	12	40	5
Future Vol, veh/h	4	158	24	28	32	5	12	104	54	12	40	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	158	24	28	32	5	12	104	54	12	40	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	8.2	8.6	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	2%	43%	21%
Vol Thru, %	61%	85%	49%	70%
Vol Right, %	32%	13%	8%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	186	65	57
LT Vol	12	4	28	12
Through Vol	104	158	32	40
RT Vol	54	24	5	5
Lane Flow Rate	170	186	65	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.208	0.23	0.085	0.074
Departure Headway (Hd)	4.41	4.461	4.71	4.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	805	760	762
Service Time	2.434	2.485	2.74	2.733
HCM Lane V/C Ratio	0.209	0.231	0.086	0.075
HCM Control Delay	8.6	8.8	8.2	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.9	0.3	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	217	18	62	63	74	8	336	76	23	118	5
Future Volume (veh/h)	23	217	18	62	63	74	8	336	76	23	118	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.95	0.99		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	217	18	62	63	74	8	336	76	23	118	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	491	39	187	188	179	620	652	148	383	793	34
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	77	1598	126	372	610	581	1253	1462	331	970	1777	75
Grp Volume(v), veh/h	258	0	0	199	0	0	8	0	412	23	0	123
Grp Sat Flow(s),veh/h/ln	1800	0	0	1563	0	0	1253	0	1793	970	0	1853
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	10.7	1.1	0.0	2.6
Cycle Q Clear(g_c), s	7.3	0.0	0.0	5.8	0.0	0.0	2.8	0.0	10.7	11.9	0.0	2.6
Prop In Lane	0.09		0.07	0.31		0.37	1.00		0.18	1.00		0.04
Lane Grp Cap(c), veh/h	614	0	0	553	0	0	620	0	800	383	0	827
V/C Ratio(X)	0.42	0.00	0.00	0.36	0.00	0.00	0.01	0.00	0.52	0.06	0.00	0.15
Avail Cap(c_a), veh/h	831	0	0	731	0	0	620	0	800	383	0	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.65	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	17.6	0.0	0.0	11.5	0.0	12.9	17.2	0.0	10.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.4	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	0.0	2.2	0.0	0.0	0.1	0.0	4.3	0.2	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	0.0	0.0	17.9	0.0	0.0	11.5	0.0	15.3	17.3	0.0	10.8
LnGrp LOS	B	A	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		258			199			420			146	
Approach Delay, s/veh		18.6			17.9			15.2			11.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	33.0	24.0	33.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	28.0	29.0
Max Q Clear Time (g_c+I1), s	9.3	13.9	7.8	12.7
Green Ext Time (p_c), s	1.4	0.6	1.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	336	17	81	201	195	44	1131	80	147	708	28
Future Volume (veh/h)	40	336	17	81	201	195	44	1131	80	147	708	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	336	17	81	201	195	44	1131	80	147	708	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	384	18	208	281	272	66	1409	100	181	1686	67
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.04	0.42	0.42	0.10	0.48	0.48
Sat Flow, veh/h	64	1170	56	1028	856	831	1781	3352	237	1781	3477	137
Grp Volume(v), veh/h	393	0	0	81	0	396	44	599	612	147	362	374
Grp Sat Flow(s),veh/h/ln	1290	0	0	1028	0	1687	1781	1777	1812	1781	1777	1838
Q Serve(g_s), s	8.9	0.0	0.0	0.0	0.0	18.5	2.2	26.5	26.6	7.3	11.8	11.9
Cycle Q Clear(g_c), s	27.5	0.0	0.0	18.9	0.0	18.5	2.2	26.5	26.6	7.3	11.8	11.9
Prop In Lane	0.10		0.04	1.00		0.49	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	467	0	0	208	0	553	66	747	762	181	862	891
V/C Ratio(X)	0.84	0.00	0.00	0.39	0.00	0.72	0.67	0.80	0.80	0.81	0.42	0.42
Avail Cap(c_a), veh/h	470	0	0	299	0	703	287	747	762	247	862	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	0.0	0.0	26.7	0.0	26.6	42.8	22.8	22.8	39.6	15.0	15.0
Incr Delay (d2), s/veh	11.7	0.0	0.0	1.2	0.0	2.5	11.0	8.9	8.8	13.5	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.0	0.0	1.6	0.0	7.7	1.2	12.5	12.8	3.9	5.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	0.0	0.0	27.9	0.0	29.1	53.8	31.7	31.6	53.1	16.5	16.4
LnGrp LOS	D	A	A	C	A	C	D	C	C	D	B	B
Approach Vol, veh/h		393			477			1255			883	
Approach Delay, s/veh		40.6			28.9			32.4			22.6	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	48.1		34.0	13.6	42.3		34.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	4.5	24.5		37.5	12.5	26.5		29.7
Max Q Clear Time (g_c+I1), s	4.2	13.9		20.9	9.3	28.6		29.5
Green Ext Time (p_c), s	0.0	3.6		2.9	0.1	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	360	50	79	665	1	47	22	20	5	123	61
Future Volume (veh/h)	23	360	50	79	665	1	47	22	20	5	123	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	23	360	50	79	665	1	47	22	20	5	123	61
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	553	1168	162	635	1366	2	157	131	119	272	170	84
Arrive On Green	0.24	0.24	0.24	0.74	0.74	0.74	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	761	1583	220	965	1852	3	1180	881	801	1342	1149	570
Grp Volume(v), veh/h	23	0	410	79	0	666	47	0	42	5	0	184
Grp Sat Flow(s),veh/h/ln	761	0	1803	965	0	1855	1180	0	1683	1342	0	1718
Q Serve(g_s), s	1.7	0.0	13.0	2.8	0.0	10.3	2.8	0.0	1.5	0.2	0.0	7.2
Cycle Q Clear(g_c), s	12.0	0.0	13.0	15.8	0.0	10.3	9.9	0.0	1.5	1.8	0.0	7.2
Prop In Lane	1.00		0.12	1.00		0.00	1.00		0.48	1.00		0.33
Lane Grp Cap(c), veh/h	553	0	1330	635	0	1368	157	0	249	272	0	255
V/C Ratio(X)	0.04	0.00	0.31	0.12	0.00	0.49	0.30	0.00	0.17	0.02	0.00	0.72
Avail Cap(c_a), veh/h	553	0	1330	635	0	1368	303	0	457	438	0	466
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.00	0.91	0.47	0.00	0.47	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	11.9	7.7	0.0	3.8	33.2	0.0	26.0	26.8	0.0	28.4
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.2	0.0	0.6	1.1	0.0	0.3	0.0	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	6.3	0.5	0.0	2.5	0.8	0.0	0.6	0.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	12.4	7.9	0.0	4.3	34.2	0.0	26.4	26.8	0.0	32.3
LnGrp LOS	B	A	B	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		433			745			89			189	
Approach Delay, s/veh		12.6			4.7			30.5			32.2	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.6	14.4	55.6	14.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	43.0	19.0	43.0	19.0
Max Q Clear Time (g_c+I1), s	15.0	9.2	17.8	11.9
Green Ext Time (p_c), s	2.9	0.7	5.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	149	57	22	409	40	60	268	13	102	1378	209
Future Volume (veh/h)	55	149	57	22	409	40	60	268	13	102	1378	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	55	149	57	22	409	40	60	268	13	102	1378	209
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	173	457	187	60	487	46	77	1525	74	130	1457	218
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.04	0.45	0.45	0.07	0.48	0.48
Sat Flow, veh/h	351	1503	614	42	1601	152	1767	3414	165	1767	3052	457
Grp Volume(v), veh/h	117	0	144	471	0	0	60	138	143	102	788	799
Grp Sat Flow(s),veh/h/ln	921	0	1546	1795	0	0	1767	1763	1816	1767	1763	1746
Q Serve(g_s), s	0.0	0.0	5.7	7.6	0.0	0.0	2.7	3.7	3.8	4.5	33.8	35.3
Cycle Q Clear(g_c), s	6.7	0.0	5.7	19.7	0.0	0.0	2.7	3.7	3.8	4.5	33.8	35.3
Prop In Lane	0.47		0.40	0.05		0.08	1.00		0.09	1.00		0.26
Lane Grp Cap(c), veh/h	346	0	471	593	0	0	77	788	811	130	841	833
V/C Ratio(X)	0.34	0.00	0.31	0.79	0.00	0.00	0.78	0.17	0.18	0.78	0.94	0.96
Avail Cap(c_a), veh/h	396	0	532	663	0	0	243	788	811	243	841	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	21.3	26.2	0.0	0.0	37.9	13.3	13.3	36.4	19.8	20.2
Incr Delay (d2), s/veh	0.2	0.0	0.1	5.2	0.0	0.0	6.4	0.5	0.5	3.8	19.0	22.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	2.0	9.0	0.0	0.0	1.3	1.5	1.6	2.1	17.2	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	0.0	21.5	31.3	0.0	0.0	44.2	13.8	13.8	40.3	38.7	42.8
LnGrp LOS	C	A	C	C	A	A	D	B	B	D	D	D
Approach Vol, veh/h		261			471			341			1689	
Approach Delay, s/veh		21.4			31.3			19.1			40.8	
Approach LOS		C			C			B			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	42.7		29.4	10.4	40.2		29.4
Change Period (Y+Rc), s	4.5	4.5		5.0	4.5	4.5		5.0
Max Green Setting (Gmax), s	11.0	27.5		27.5	11.0	27.5		27.5
Max Q Clear Time (g_c+I1), s	4.7	37.3		21.7	6.5	5.8		8.7
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	2.3		1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	0	0	79	177	732
Future Vol, veh/h	62	0	0	79	177	732
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	62	0	0	79	177	732

Major/Minor	Minor1		Major2	
Conflicting Flow All	1096	-	5	0
Stage 1	5	-	-	-
Stage 2	1091	-	-	-
Critical Hdwy	6.42	-	4.13	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	2.227	-
Pot Cap-1 Maneuver	236	0	1610	-
Stage 1	-	0	-	-
Stage 2	322	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	191	-	1602	-
Mov Cap-2 Maneuver	191	-	-	-
Stage 1	-	-	-	-
Stage 2	262	-	-	-

Approach	WB	SB
HCM Control Delay, s	32.7	1.5
HCM LOS	D	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	191	1602	-
HCM Lane V/C Ratio	0.325	0.11	-
HCM Control Delay (s)	32.7	7.5	0
HCM Lane LOS	D	A	A
HCM 95th %tile Q(veh)	1.3	0.4	-

Intersection	
Int Delay, s/veh	10.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	314	158	121	50	0	5
Future Vol, veh/h	314	158	121	50	0	5
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	314	158	121	50	0	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	156	0	0	176	0
Stage 1	151	-	-	-	-	-
Stage 2	10	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	830	890	-	-	1394	-
Stage 1	877	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	822	882	-	-	1387	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	1008	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	841	1387	-
HCM Lane V/C Ratio	-	-	0.561	-	-
HCM Control Delay (s)	-	-	14.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	3.6	0	-

Intersection	
Intersection Delay, s/veh	17.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	13	29	4	35	0	37	89	51	143	120	437
Future Vol, veh/h	18	13	29	4	35	0	37	89	51	143	120	437
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	13	29	4	35	0	37	89	51	143	120	437
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.4	9.3	20.9
HCM LOS	A	A	A	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	30%	10%	20%
Vol Thru, %	50%	22%	90%	17%
Vol Right, %	29%	48%	0%	62%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	60	39	700
LT Vol	37	18	4	143
Through Vol	89	13	35	120
RT Vol	51	29	0	437
Lane Flow Rate	177	60	39	700
Geometry Grp	1	1	1	1
Degree of Util (X)	0.234	0.093	0.064	0.794
Departure Headway (Hd)	4.769	5.593	5.888	4.082
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	749	635	603	882
Service Time	2.825	3.68	3.978	2.115
HCM Lane V/C Ratio	0.236	0.094	0.065	0.794
HCM Control Delay	9.3	9.3	9.4	20.9
HCM Lane LOS	A	A	A	C
HCM 95th-tile Q	0.9	0.3	0.2	8.4

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	32	149	225	64	256
Future Vol, veh/h	47	32	149	225	64	256
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	32	149	225	64	256

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	656	272	0	0	379	0
Stage 1	267	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	430	767	-	-	1179	-
Stage 1	778	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	399	760	-	-	1173	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	1.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	494	1173	-
HCM Lane V/C Ratio	-	-	0.16	0.055	-
HCM Control Delay (s)	-	-	13.7	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	278	37	121	96	44
Future Vol, veh/h	34	278	37	121	96	44
Conflicting Peds, #/hr	5	0	0	5	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	278	37	121	96	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	163	0	-	0	454	108
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	351	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1416	-	-	-	564	946
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	542	937
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1409	-	-	-	625
HCM Lane V/C Ratio	0.024	-	-	-	0.224
HCM Control Delay (s)	7.6	0	-	-	12.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	249	88	54	147	4	18	49	23	2	103	5
Future Vol, veh/h	23	249	88	54	147	4	18	49	23	2	103	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	249	88	54	147	4	18	49	23	2	103	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.5	9.9	9.2	9.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	6%	26%	2%
Vol Thru, %	54%	69%	72%	94%
Vol Right, %	26%	24%	2%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	360	205	110
LT Vol	18	23	54	2
Through Vol	49	249	147	103
RT Vol	23	88	4	5
Lane Flow Rate	90	360	205	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.132	0.458	0.28	0.163
Departure Headway (Hd)	5.289	4.577	4.916	5.344
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	781	724	663
Service Time	3.386	2.638	2.989	3.437
HCM Lane V/C Ratio	0.134	0.461	0.283	0.166
HCM Control Delay	9.2	11.5	9.9	9.5
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.5	2.4	1.1	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	203	49	137	167	24	38	60	42	44	217	9
Future Volume (veh/h)	5	203	49	137	167	24	38	60	42	44	217	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.99		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	203	49	137	167	24	38	60	42	44	217	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	441	105	246	266	34	533	448	313	635	794	33
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	9	1433	340	544	865	111	1144	1003	702	1276	1779	74
Grp Volume(v), veh/h	257	0	0	328	0	0	38	0	102	44	0	226
Grp Sat Flow(s),veh/h/ln	1783	0	0	1520	0	0	1144	0	1705	1276	0	1853
Q Serve(g_s), s	0.0	0.0	0.0	4.3	0.0	0.0	1.4	0.0	2.3	1.4	0.0	5.0
Cycle Q Clear(g_c), s	7.6	0.0	0.0	11.8	0.0	0.0	6.4	0.0	2.3	3.7	0.0	5.0
Prop In Lane	0.02		0.19	0.42		0.07	1.00		0.41	1.00		0.04
Lane Grp Cap(c), veh/h	605	0	0	546	0	0	533	0	761	635	0	827
V/C Ratio(X)	0.42	0.00	0.00	0.60	0.00	0.00	0.07	0.00	0.13	0.07	0.00	0.27
Avail Cap(c_a), veh/h	823	0	0	723	0	0	533	0	761	635	0	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.88	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	19.4	0.0	0.0	13.4	0.0	10.6	11.7	0.0	11.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	0.0	4.1	0.0	0.0	0.4	0.0	0.8	0.4	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	0.0	0.0	20.4	0.0	0.0	13.6	0.0	11.0	11.7	0.0	11.5
LnGrp LOS	B	A	A	C	A	A	B	A	B	B	A	B
Approach Vol, veh/h		257			328			140			270	
Approach Delay, s/veh		18.7			20.4			11.7			11.6	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	33.0	24.0	33.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	28.0	29.0
Max Q Clear Time (g_c+I1), s	9.6	7.0	13.8	8.4
Green Ext Time (p_c), s	1.4	1.4	1.8	0.6

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	350	35	103	232	43	67	418	64	153	1340	28
Future Volume (veh/h)	19	350	35	103	232	43	67	418	64	153	1340	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	350	35	103	232	43	67	418	64	153	1340	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	444	43	250	421	78	87	1378	209	189	1800	38
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.05	0.45	0.45	0.11	0.51	0.51
Sat Flow, veh/h	40	1609	156	996	1524	282	1781	3069	466	1781	3555	74
Grp Volume(v), veh/h	404	0	0	103	0	275	67	240	242	153	669	699
Grp Sat Flow(s),veh/h/ln	1806	0	0	996	0	1807	1781	1777	1758	1781	1777	1853
Q Serve(g_s), s	5.2	0.0	0.0	0.4	0.0	10.4	3.0	6.9	7.0	6.7	23.9	23.9
Cycle Q Clear(g_c), s	16.6	0.0	0.0	17.0	0.0	10.4	3.0	6.9	7.0	6.7	23.9	23.9
Prop In Lane	0.05		0.09	1.00		0.16	1.00		0.26	1.00		0.04
Lane Grp Cap(c), veh/h	546	0	0	250	0	499	87	798	789	189	900	938
V/C Ratio(X)	0.74	0.00	0.00	0.41	0.00	0.55	0.77	0.30	0.31	0.81	0.74	0.74
Avail Cap(c_a), veh/h	844	0	0	417	0	802	278	798	789	234	900	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	0.0	0.0	27.3	0.0	24.7	37.6	14.0	14.1	35.0	15.6	15.6
Incr Delay (d2), s/veh	1.9	0.0	0.0	1.1	0.0	1.0	13.3	1.0	1.0	15.6	5.5	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.0	1.9	0.0	4.5	1.6	2.9	2.9	3.7	10.3	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	0.0	28.4	0.0	25.7	51.0	15.0	15.1	50.6	21.2	21.0
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	C	C
Approach Vol, veh/h		404			378			549			1521	
Approach Delay, s/veh		28.8			26.4			19.4			24.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.4	45.0		26.6	13.0	40.4		26.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	18.5		35.5	10.5	20.5		35.5
Max Q Clear Time (g_c+I1), s	5.0	25.9		19.0	8.7	9.0		18.6
Green Ext Time (p_c), s	0.1	0.0		2.0	0.1	2.3		2.5

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	520	40	31	524	11	205	156	90	4	47	29
Future Volume (veh/h)	41	520	40	31	524	11	205	156	90	4	47	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	0.99		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	41	520	40	31	524	11	205	156	90	4	47	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	544	1126	87	426	1202	25	350	257	148	211	248	153
Arrive On Green	0.22	0.22	0.22	0.66	0.66	0.66	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	859	1694	130	843	1808	38	1301	1094	631	1121	1056	652
Grp Volume(v), veh/h	41	0	560	31	0	535	205	0	246	4	0	76
Grp Sat Flow(s),veh/h/ln	859	0	1824	843	0	1846	1301	0	1725	1121	0	1708
Q Serve(g_s), s	3.2	0.0	21.3	1.8	0.0	10.9	12.0	0.0	10.2	0.3	0.0	2.9
Cycle Q Clear(g_c), s	14.1	0.0	21.3	23.2	0.0	10.9	14.8	0.0	10.2	10.4	0.0	2.9
Prop In Lane	1.00		0.07	1.00		0.02	1.00		0.37	1.00		0.38
Lane Grp Cap(c), veh/h	544	0	1213	426	0	1228	350	0	405	211	0	401
V/C Ratio(X)	0.08	0.00	0.46	0.07	0.00	0.44	0.59	0.00	0.61	0.02	0.00	0.19
Avail Cap(c_a), veh/h	544	0	1213	426	0	1228	580	0	711	410	0	704
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.00	0.90	0.45	0.00	0.45	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	18.8	15.0	0.0	6.3	30.4	0.0	27.3	32.0	0.0	24.5
Incr Delay (d2), s/veh	0.2	0.0	1.1	0.1	0.0	0.5	1.6	0.0	1.5	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	10.6	0.4	0.0	3.6	3.8	0.0	4.2	0.1	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	19.9	15.2	0.0	6.8	32.0	0.0	28.8	32.0	0.0	24.7
LnGrp LOS	C	A	B	B	A	A	C	A	C	C	A	C
Approach Vol, veh/h		601			566			451			80	
Approach Delay, s/veh		20.0			7.3			30.2			25.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	57.2	22.8	57.2	22.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	39.0	33.0	39.0	33.0
Max Q Clear Time (g_c+I1), s	23.3	12.4	25.2	16.8
Green Ext Time (p_c), s	3.6	0.3	3.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	366	70	45	255	116	144	1029	38	59	610	100
Future Volume (veh/h)	168	366	70	45	255	116	144	1029	38	59	610	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	168	366	70	45	255	116	144	1029	38	59	610	100
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	191	479	92	64	256	107	180	1560	58	77	1181	193
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.10	0.45	0.45	0.04	0.39	0.39
Sat Flow, veh/h	317	1368	262	55	732	304	1767	3460	128	1767	3005	491
Grp Volume(v), veh/h	168	0	436	416	0	0	144	524	543	59	357	353
Grp Sat Flow(s),veh/h/ln	317	0	1629	1091	0	0	1767	1763	1825	1767	1763	1734
Q Serve(g_s), s	0.0	0.0	21.4	10.1	0.0	0.0	7.2	20.9	20.9	3.0	13.9	14.0
Cycle Q Clear(g_c), s	31.5	0.0	21.4	31.5	0.0	0.0	7.2	20.9	20.9	3.0	13.9	14.0
Prop In Lane	1.00		0.16	0.11		0.28	1.00		0.07	1.00		0.28
Lane Grp Cap(c), veh/h	191	0	570	426	0	0	180	795	822	77	693	681
V/C Ratio(X)	0.88	0.00	0.76	0.98	0.00	0.00	0.80	0.66	0.66	0.76	0.52	0.52
Avail Cap(c_a), veh/h	191	0	570	426	0	0	275	795	822	334	693	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.00	0.89	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	26.0	30.0	0.0	0.0	39.5	19.3	19.3	42.6	20.8	20.8
Incr Delay (d2), s/veh	30.5	0.0	4.9	37.0	0.0	0.0	12.2	4.3	4.1	19.7	2.7	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	8.9	13.6	0.0	0.0	3.7	9.2	9.5	1.7	6.1	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	0.0	30.9	67.0	0.0	0.0	51.7	23.6	23.5	62.2	23.5	23.6
LnGrp LOS	E	A	C	E	A	A	D	C	C	E	C	C
Approach Vol, veh/h		604			416			1211			769	
Approach Delay, s/veh		40.4			67.0			26.9			26.5	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	39.9		36.5	8.4	45.1		36.5
Change Period (Y+Rc), s	4.5	4.5		5.0	4.5	4.5		5.0
Max Green Setting (Gmax), s	14.0	30.5		31.5	17.0	27.5		31.5
Max Q Clear Time (g_c+I1), s	9.2	16.0		33.5	5.0	22.9		33.5
Green Ext Time (p_c), s	0.2	5.4		0.0	0.1	3.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	7.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	274	0	0	15	33	221
Future Vol, veh/h	274	0	0	15	33	221
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	274	0	0	15	33	221

Major/Minor	Minor1		Major2	
Conflicting Flow All	297	-	5	0
Stage 1	5	-	-	-
Stage 2	292	-	-	-
Critical Hdwy	6.42	-	4.13	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	2.227	-
Pot Cap-1 Maneuver	694	0	1610	-
Stage 1	-	0	-	-
Stage 2	758	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	675	-	1602	-
Mov Cap-2 Maneuver	675	-	-	-
Stage 1	-	-	-	-
Stage 2	741	-	-	-

Approach	WB	SB
HCM Control Delay, s	13.9	0.9
HCM LOS	B	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	675	1602	-
HCM Lane V/C Ratio	0.406	0.021	-
HCM Control Delay (s)	13.9	7.3	0
HCM Lane LOS	B	A	A
HCM 95th %tile Q(veh)	2	0.1	-

Intersection	
Int Delay, s/veh	26.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	117	516	307	24	0	19
Future Vol, veh/h	117	516	307	24	0	19
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	117	516	307	24	0	19

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	348	329	0	0	336	0
Stage 1	324	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	649	712	-	-	1218	-
Stage 1	733	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	643	705	-	-	1212	-
Mov Cap-2 Maneuver	643	-	-	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	40.9	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	693	1212	-
HCM Lane V/C Ratio	-	-	0.913	-	-
HCM Control Delay (s)	-	-	40.9	0	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	12.1	0	-

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	3	34	17	157	0	43	17	10	27	130	387
Future Vol, veh/h	4	3	34	17	157	0	43	17	10	27	130	387
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	34	17	157	0	43	17	10	27	130	387
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	10.3	8.8	14.2
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	61%	10%	10%	5%
Vol Thru, %	24%	7%	90%	24%
Vol Right, %	14%	83%	0%	71%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	41	174	544
LT Vol	43	4	17	27
Through Vol	17	3	157	130
RT Vol	10	34	0	387
Lane Flow Rate	70	41	174	544
Geometry Grp	1	1	1	1
Degree of Util (X)	0.1	0.058	0.258	0.631
Departure Headway (Hd)	5.126	5.051	5.329	4.179
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	699	668	860
Service Time	3.203	3.151	3.414	2.222
HCM Lane V/C Ratio	0.101	0.059	0.26	0.633
HCM Control Delay	8.8	8.5	10.3	14.2
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.3	0.2	1	4.6

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	27	314	85	72	66
Future Vol, veh/h	15	27	314	85	72	66
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	27	314	85	72	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	577	367	0	0	404	0
Stage 1	362	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	478	678	-	-	1155	-
Stage 1	704	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	443	672	-	-	1150	-
Mov Cap-2 Maneuver	443	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	4.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	567	1150	-
HCM Lane V/C Ratio	-	-	0.074	0.063	-
HCM Control Delay (s)	-	-	11.9	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	167	39	38	149	17
Future Vol, veh/h	11	167	39	38	149	17
Conflicting Peds, #/hr	5	0	0	5	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	167	39	38	149	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	82	0	-	0	257	68
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1515	-	-	-	732	995
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1508	-	-	-	719	986
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1508	-	-	-	740
HCM Lane V/C Ratio	0.007	-	-	-	0.224
HCM Control Delay (s)	7.4	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	280	39	28	55	5	15	104	54	12	40	5
Future Vol, veh/h	4	280	39	28	55	5	15	104	54	12	40	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	280	39	28	55	5	15	104	54	12	40	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	8.6	9.3	8.6
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	1%	32%	21%
Vol Thru, %	60%	87%	62%	70%
Vol Right, %	31%	12%	6%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	173	323	88	57
LT Vol	15	4	28	12
Through Vol	104	280	55	40
RT Vol	54	39	5	5
Lane Flow Rate	173	323	88	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.231	0.407	0.12	0.081
Departure Headway (Hd)	4.799	4.537	4.907	5.115
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	791	727	696
Service Time	2.852	2.581	2.964	3.179
HCM Lane V/C Ratio	0.233	0.408	0.121	0.082
HCM Control Delay	9.3	10.7	8.6	8.6
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.9	2	0.4	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	297	47	62	79	74	15	336	76	23	118	5
Future Volume (veh/h)	36	297	47	62	79	74	15	336	76	23	118	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.95	0.99		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	297	47	62	79	74	15	336	76	23	118	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	447	67	169	207	160	620	652	148	383	793	34
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	95	1453	218	316	673	519	1253	1462	331	970	1777	75
Grp Volume(v), veh/h	380	0	0	215	0	0	15	0	412	23	0	123
Grp Sat Flow(s),veh/h/ln	1766	0	0	1509	0	0	1253	0	1793	970	0	1853
Q Serve(g_s), s	3.8	0.0	0.0	0.0	0.0	0.0	0.5	0.0	10.7	1.1	0.0	2.6
Cycle Q Clear(g_c), s	12.1	0.0	0.0	6.7	0.0	0.0	3.0	0.0	10.7	11.9	0.0	2.6
Prop In Lane	0.09		0.12	0.29		0.34	1.00		0.18	1.00		0.04
Lane Grp Cap(c), veh/h	604	0	0	536	0	0	620	0	800	383	0	827
V/C Ratio(X)	0.63	0.00	0.00	0.40	0.00	0.00	0.02	0.00	0.52	0.06	0.00	0.15
Avail Cap(c_a), veh/h	817	0	0	710	0	0	620	0	800	383	0	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.74	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	0.0	17.8	0.0	0.0	11.6	0.0	12.9	17.2	0.0	10.7
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.4	0.0	0.0	0.1	0.0	2.4	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	2.4	0.0	0.0	0.1	0.0	4.3	0.2	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	0.0	18.2	0.0	0.0	11.6	0.0	15.3	17.3	0.0	10.8
LnGrp LOS	C	A	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		380			215			427			146	
Approach Delay, s/veh		20.8			18.2			15.2			11.8	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	33.0	24.0	33.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	28.0	29.0
Max Q Clear Time (g_c+I1), s	14.1	13.9	8.7	12.7
Green Ext Time (p_c), s	2.0	0.6	1.3	2.4

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	380	53	81	209	195	52	1131	80	147	708	28
Future Volume (veh/h)	40	380	53	81	209	195	52	1131	80	147	708	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	380	53	81	209	195	52	1131	80	147	708	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	441	59	220	320	298	72	1285	91	181	1545	61
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.04	0.38	0.38	0.10	0.44	0.44
Sat Flow, veh/h	65	1208	161	955	876	817	1781	3351	237	1781	3476	137
Grp Volume(v), veh/h	473	0	0	81	0	404	52	599	612	147	362	374
Grp Sat Flow(s),veh/h/ln	1434	0	0	955	0	1692	1781	1777	1811	1781	1777	1837
Q Serve(g_s), s	11.2	0.0	0.0	0.0	0.0	17.9	2.6	28.2	28.3	7.3	12.8	12.8
Cycle Q Clear(g_c), s	29.2	0.0	0.0	20.3	0.0	17.9	2.6	28.2	28.3	7.3	12.8	12.8
Prop In Lane	0.08		0.11	1.00		0.48	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	567	0	0	220	0	618	72	681	694	181	790	817
V/C Ratio(X)	0.83	0.00	0.00	0.37	0.00	0.65	0.72	0.88	0.88	0.81	0.46	0.46
Avail Cap(c_a), veh/h	654	0	0	269	0	705	287	681	694	247	790	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	24.6	0.0	23.8	42.7	25.8	25.8	39.6	17.4	17.4
Incr Delay (d2), s/veh	6.3	0.0	0.0	1.0	0.0	1.8	12.8	15.1	15.0	13.5	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	0.0	0.0	1.5	0.0	7.3	1.4	14.4	14.7	3.9	5.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	0.0	0.0	25.6	0.0	25.6	55.4	40.9	40.9	53.1	19.3	19.3
LnGrp LOS	C	A	A	C	A	C	E	D	D	D	B	B
Approach Vol, veh/h		473			485			1263			883	
Approach Delay, s/veh		33.3			25.6			41.5			24.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	44.5		37.4	13.6	39.0		37.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	4.5	24.5		37.5	12.5	26.5		37.5
Max Q Clear Time (g_c+I1), s	4.6	14.8		22.3	9.3	30.3		31.2
Green Ext Time (p_c), s	0.1	3.4		2.9	0.1	0.0		1.7

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Appendix C
Signal Warrant Calculation Sheets

FEHR PEERS

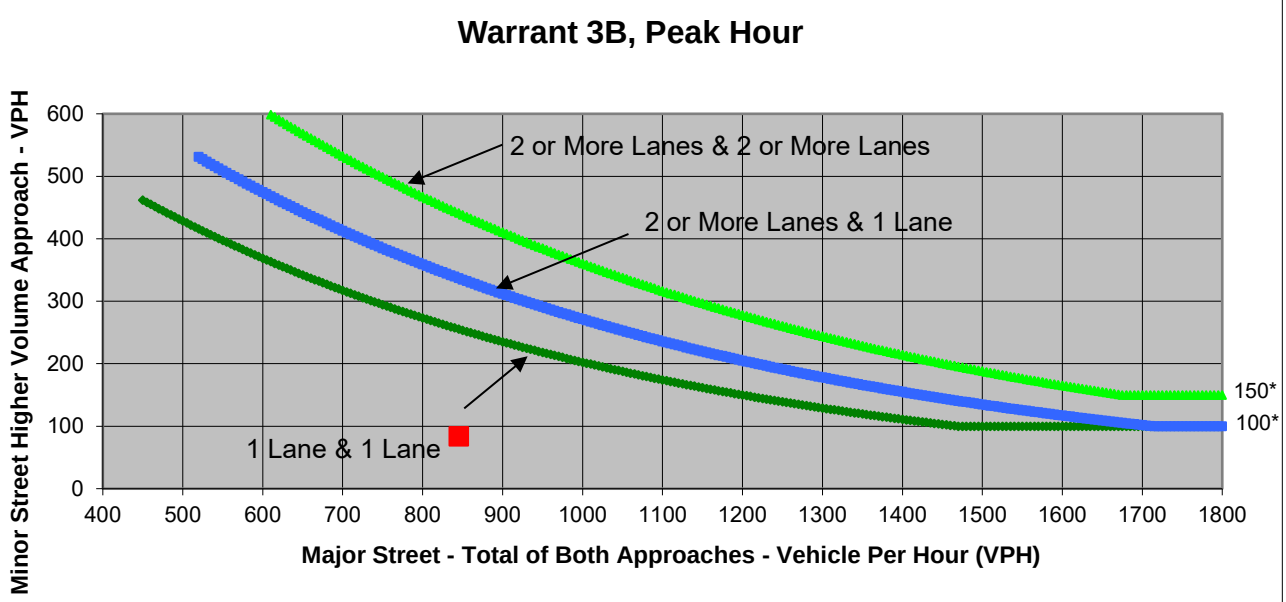
Major Street	Gilman WB at Second	Project	Gilman Gateway
Minor Street	Gilman EB LT	Scenario	Near-Term Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	84	0
Through	0	805	0	0
Right	0	40	0	0
Total	0	845	84	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Gilman WB at Second	Gilman EB LT	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**845**	**84**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

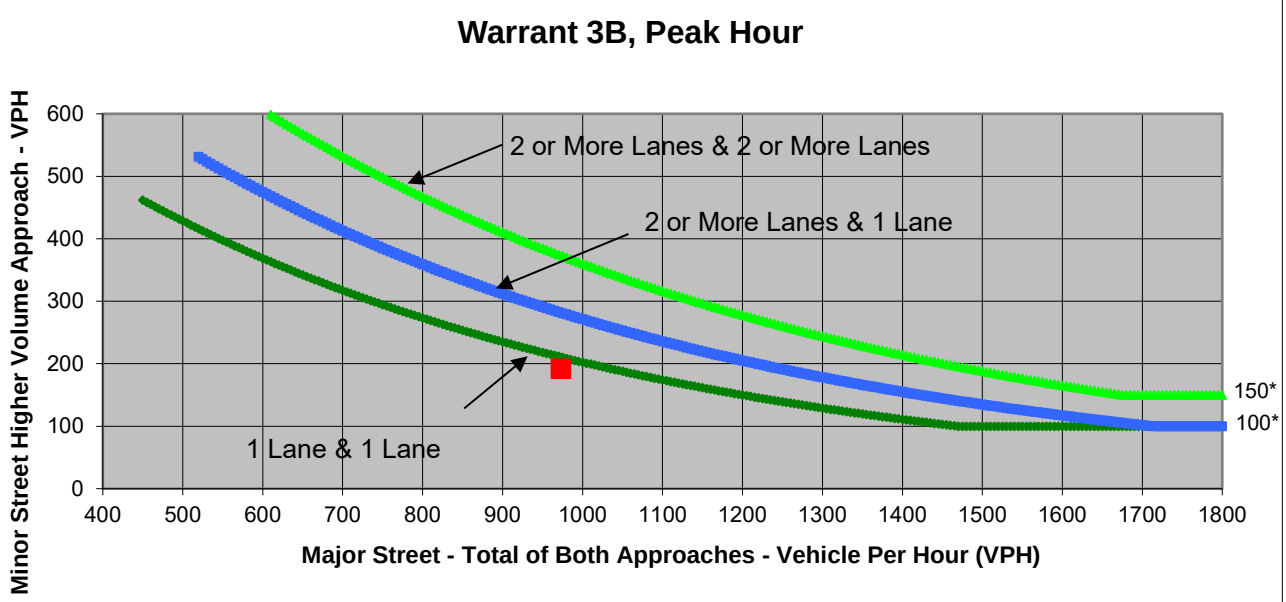
Major Street	Gilman WB at Second	Project	Gilman Gateway
Minor Street	Gilman EB LT	Scenario	Near-Term Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	192	0
Through	0	875	0	0
Right	0	98	0	0
Total	0	973	192	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Gilman WB at Second	Gilman EB LT	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**973**	**192**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

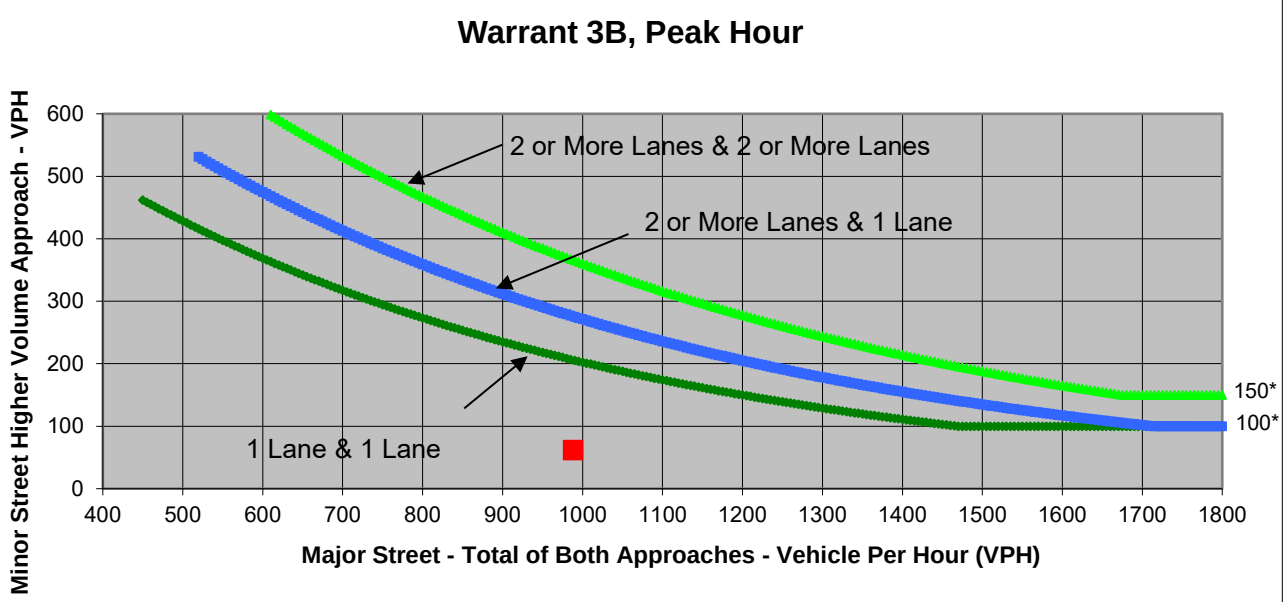
Major Street	Second Street	Project	Gilman Gateway
Minor Street	Camelia Street	Scenario	Near-Term Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	177	0	62
Through	0	732	0	0
Right	79	0	0	0
Total	79	909	0	62

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Second Street	Camelia Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**988**	**62**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

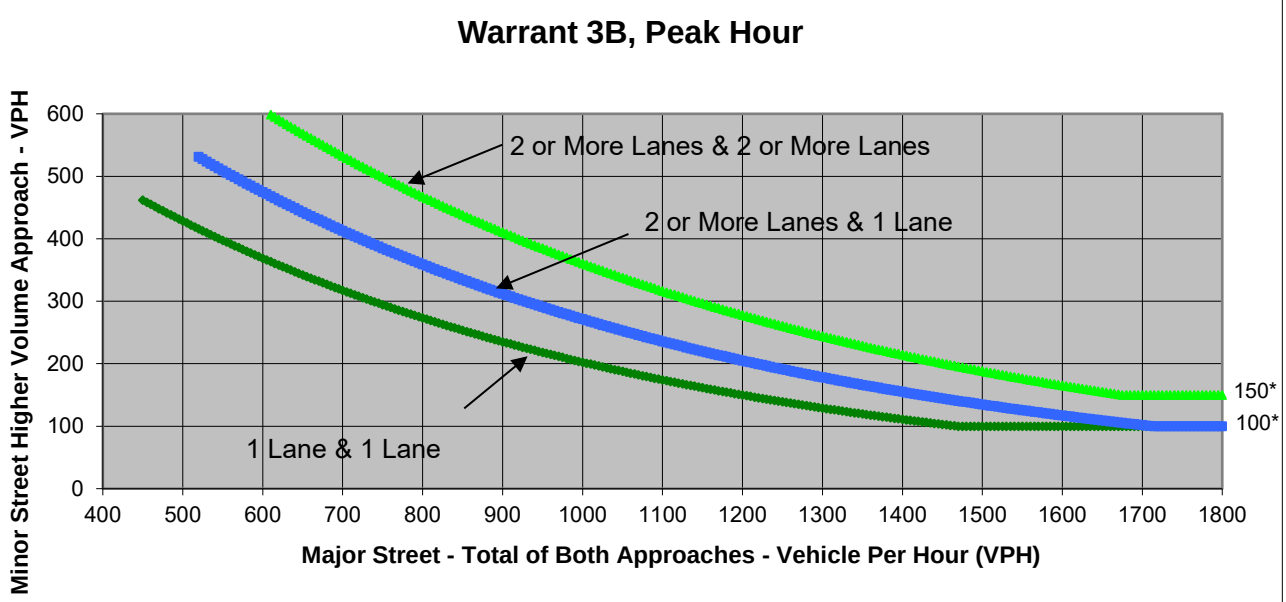
Major Street	Second Street	Project	Gilman Gateway
Minor Street	Camelia Street	Scenario	Near-Term Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	33	0	274
Through	0	221	0	0
Right	15	0	0	0
Total	15	254	0	274

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Second Street	Camelia Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**269**	**274**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

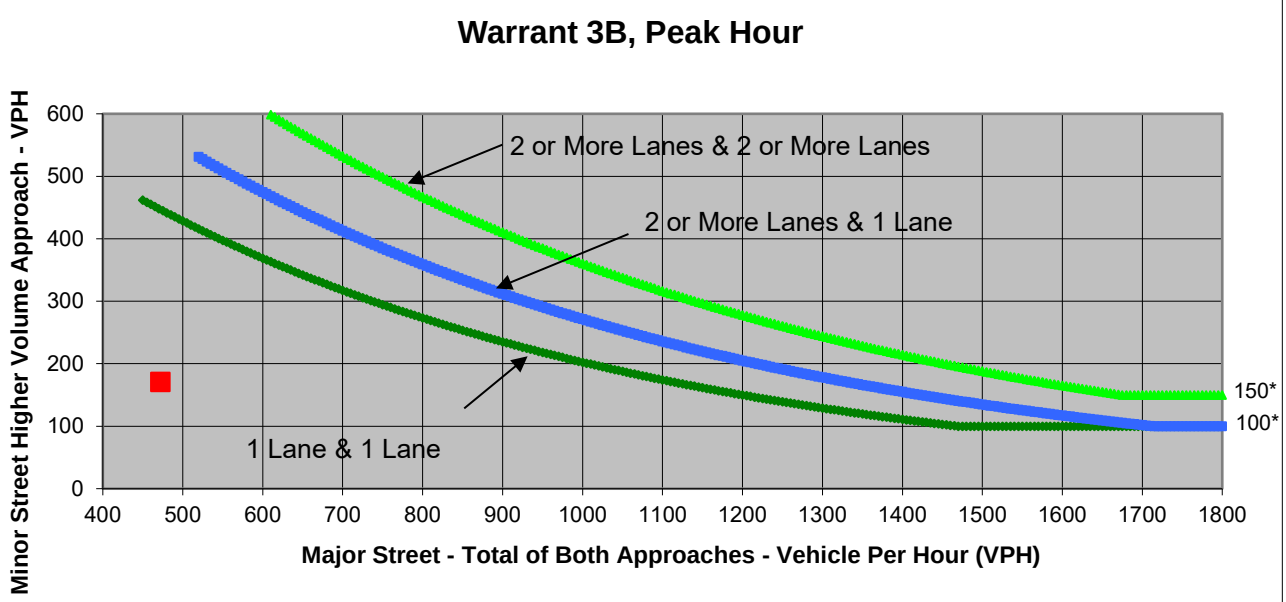
Major Street	Page St	Project	Gilman Gateway
Minor Street	Eastshore Hwy	Scenario	Near-Term Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		0		158
Through	121	5		
Right	50			314
Total	171	5	0	472

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Page St	Eastshore Hwy	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**472**	**171**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

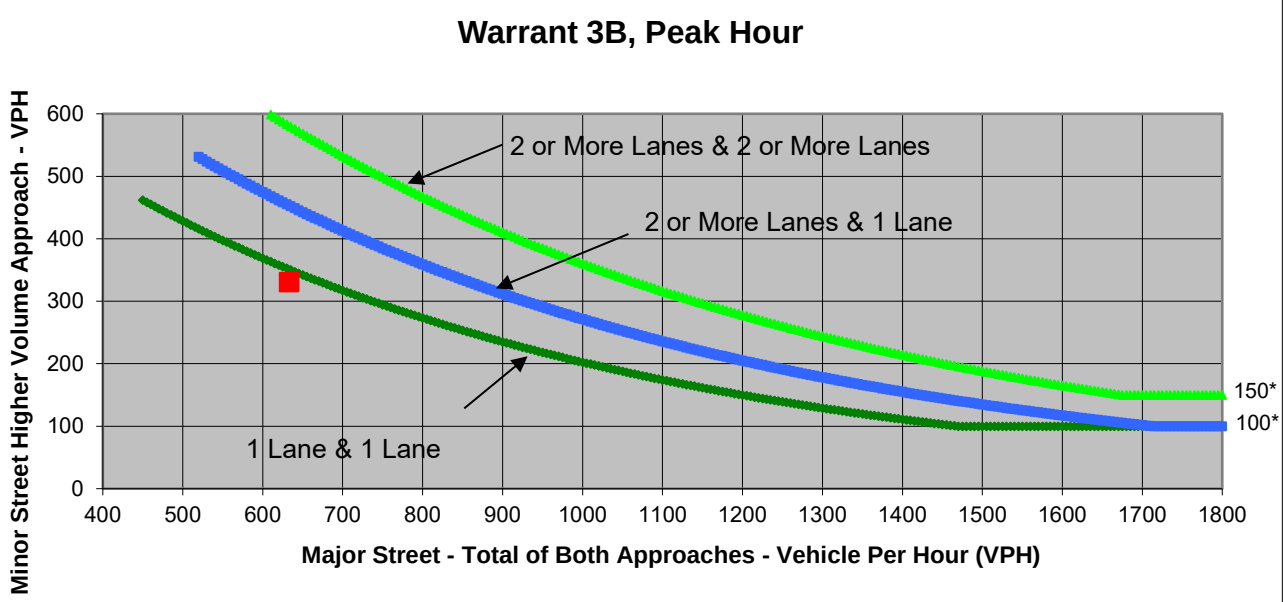
Major Street	Page St	Project	Gilman Gateway
Minor Street	Eastshore Hwy	Scenario	Near-Term Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		0		117
Through	307	19		
Right	24			516
Total	331	19	0	633

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Page St	Eastshore Hwy	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**633**	**331**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

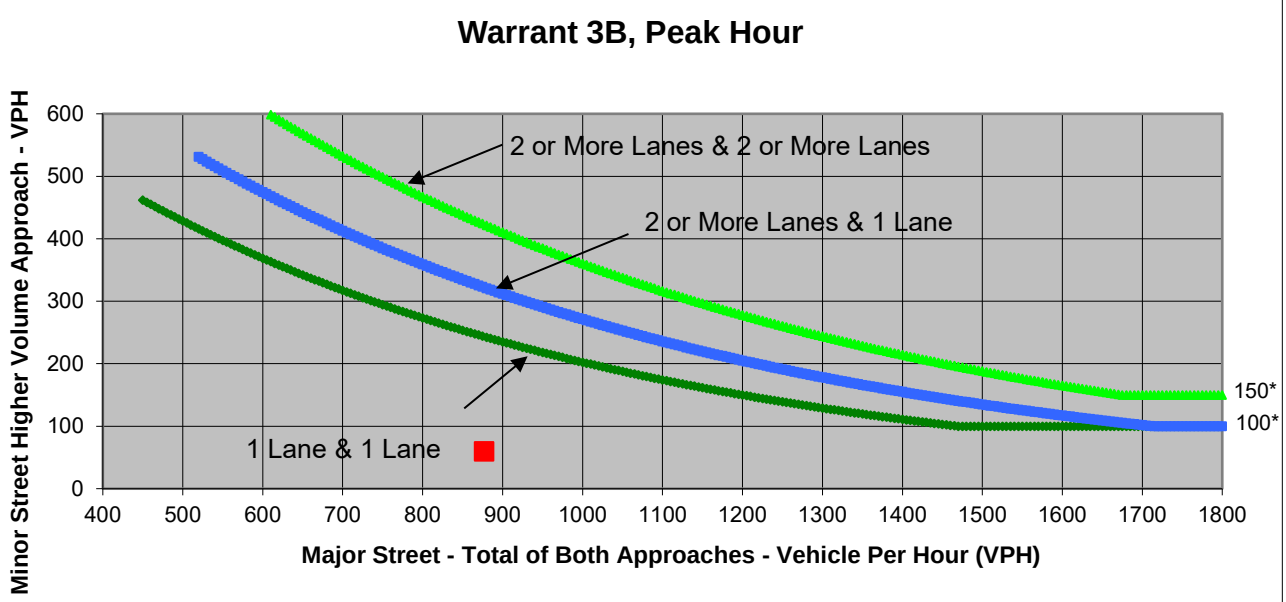
Major Street	Second Street	Project	Gilman Gateway
Minor Street	Page St	Scenario	Near-Term Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	37	143	18	0
Through	89	120	13	35
Right	51	437	29	4
Total	177	700	60	39

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Second Street	Page St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**877**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

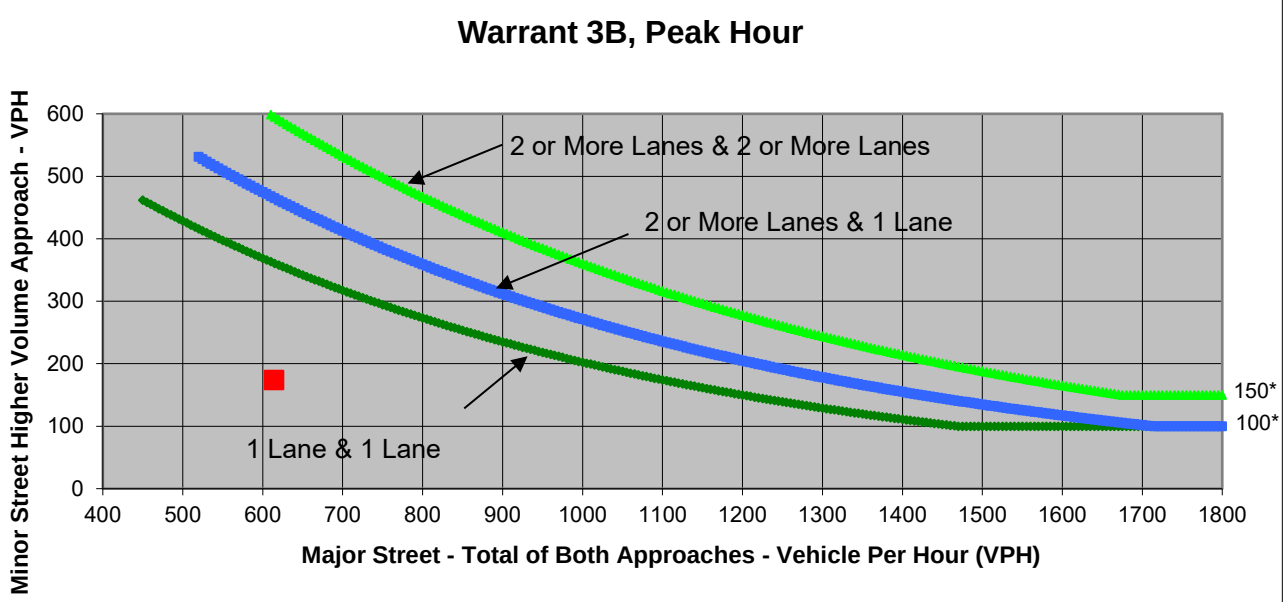
		Project	Gilman Gateway
Major Street	Second Street	Scenario	Near-Term Plus Project
Minor Street	Page St	Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	43	27	4	17
Through	17	130	3	157
Right	10	387	34	0
Total	70	544	41	174

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Second Street	Page St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**614**	**174**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

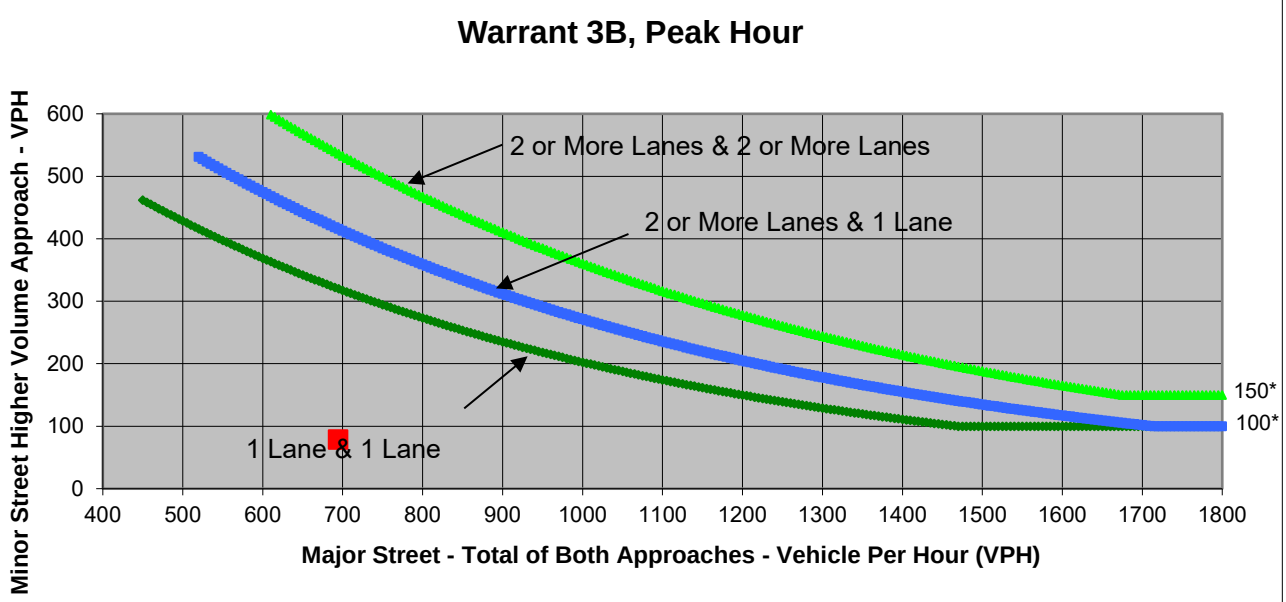
		Project	Gilman Gateway
Major Street	Eastshore Hwy	Scenario	Near-Term Plus Project
Minor Street	Cedar Street	Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		64		32
Through	149	256		0
Right	225	0		47
Total	374	320	0	79

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Eastshore Hwy	Cedar Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**694**	**79**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

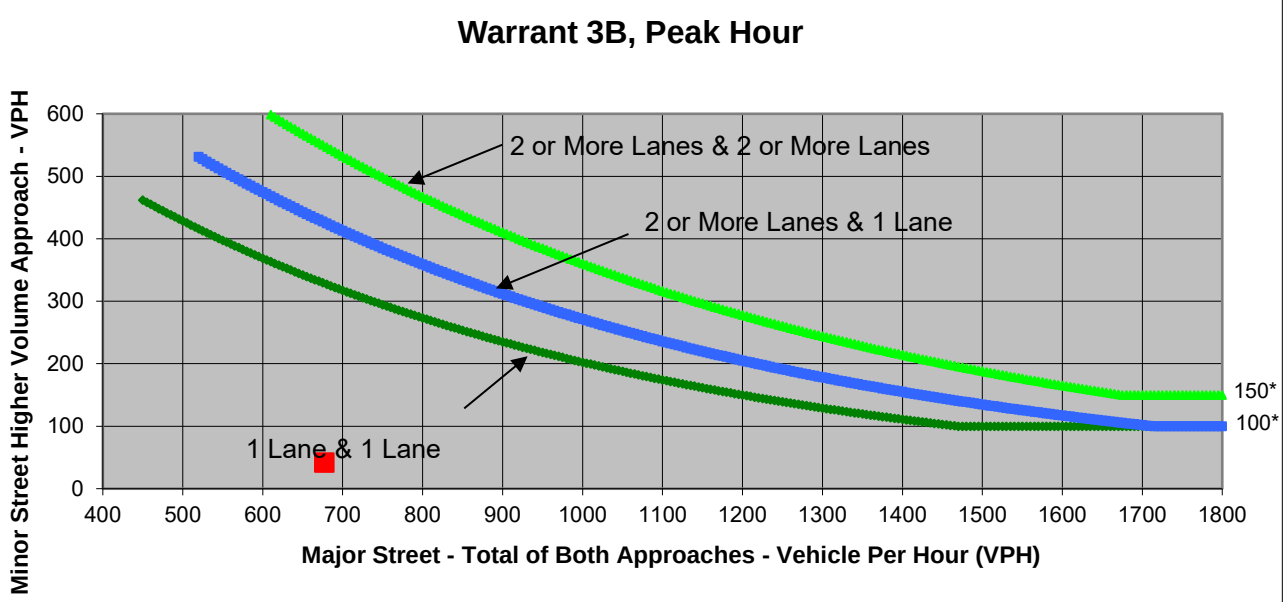
		Project	Gilman Gateway
Major Street	Eastshore Hwy	Scenario	Near-Term Plus Project
Minor Street	Cedar Street	Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		72		27
Through	314	66		0
Right	225	0		15
Total	539	138	0	42

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Eastshore Hwy	Cedar Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**677**	**42**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

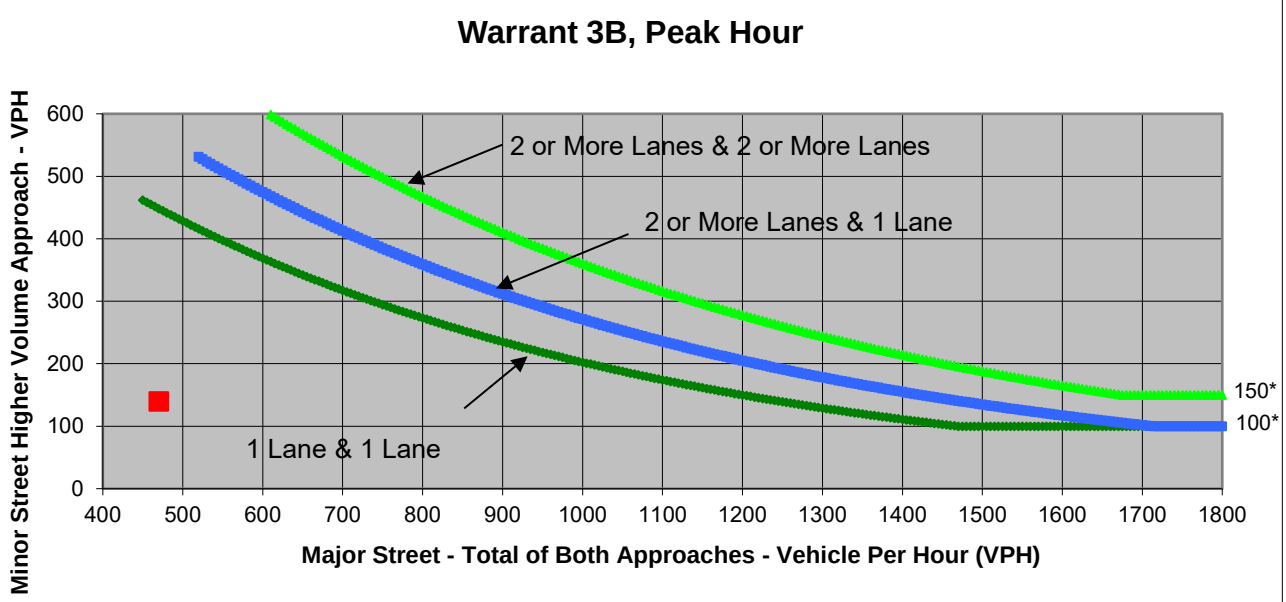
Major Street	Cedar Street	Project	Gilman Gateway
Minor Street	Second Street	Scenario	Near-Term Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		44	34	
Through		0	278	37
Right		96	0	121
Total	0	140	312	158

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Cedar Street	Second Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**470**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

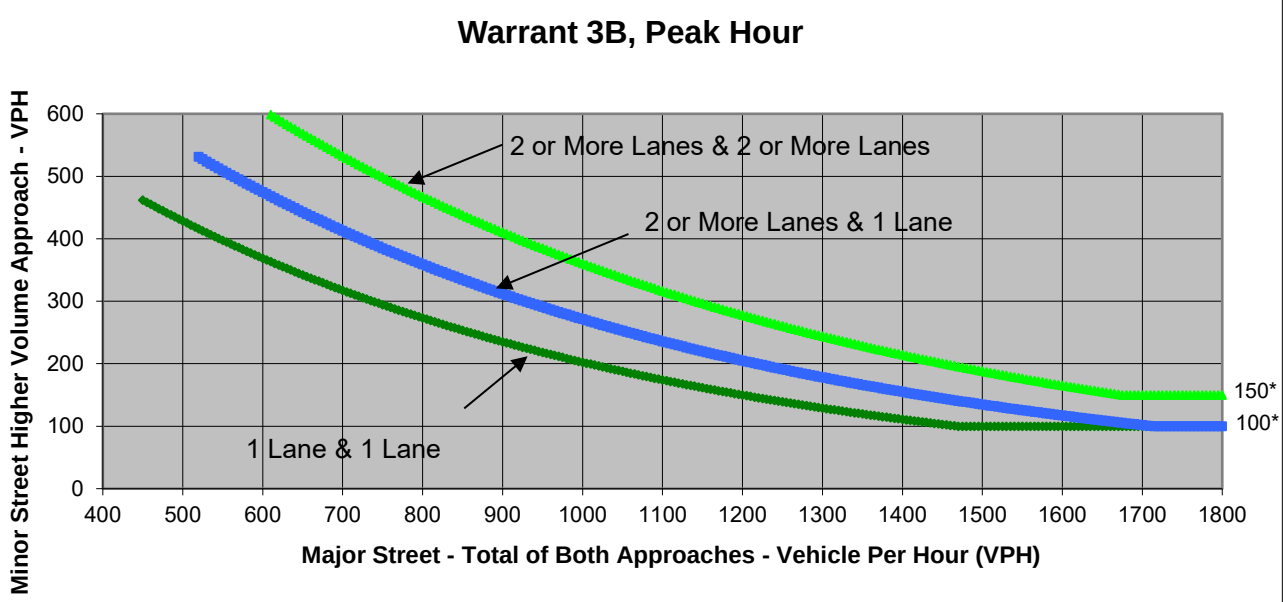
Major Street	Cedar Street	Project	Gilman Gateway
Minor Street	Second Street	Scenario	Near-Term Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		149	11	0
Through		0	167	39
Right		17	0	38
Total	0	166	178	77

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Cedar Street	Second Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**255**	**166**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

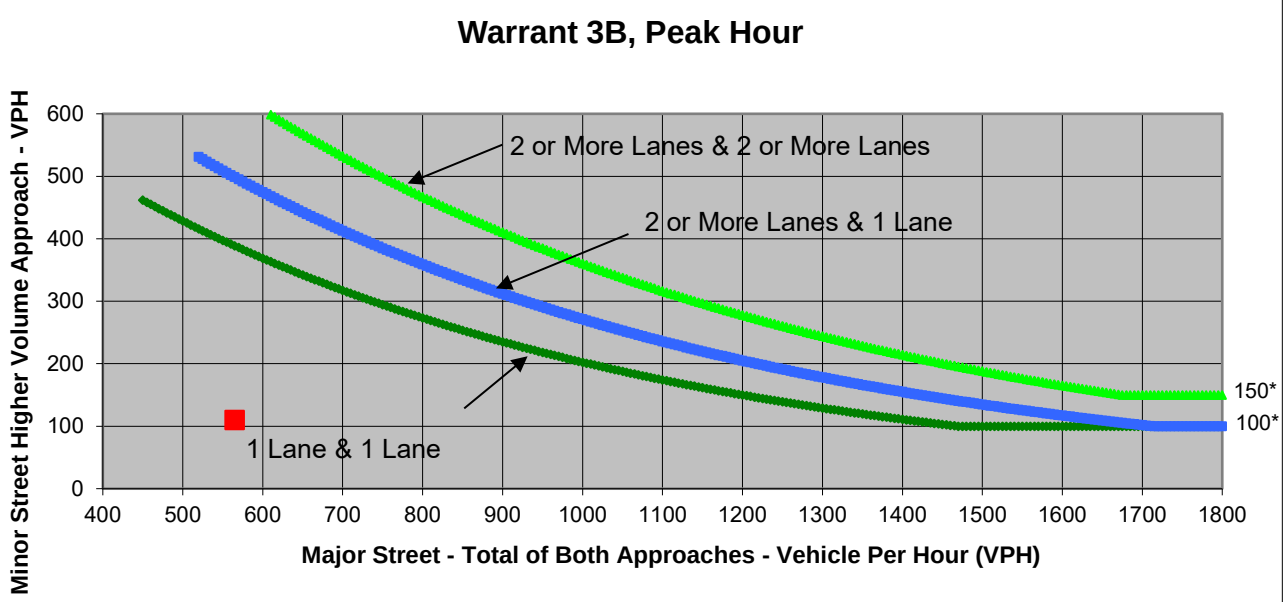
Major Street	Cedar Street	Project	Gilman Gateway
Minor Street	Fourth Street	Scenario	Near-Term Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	2	23	54
Through	49	103	249	147
Right	23	5	88	4
Total	90	110	360	205

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Cedar Street	Fourth Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**565**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

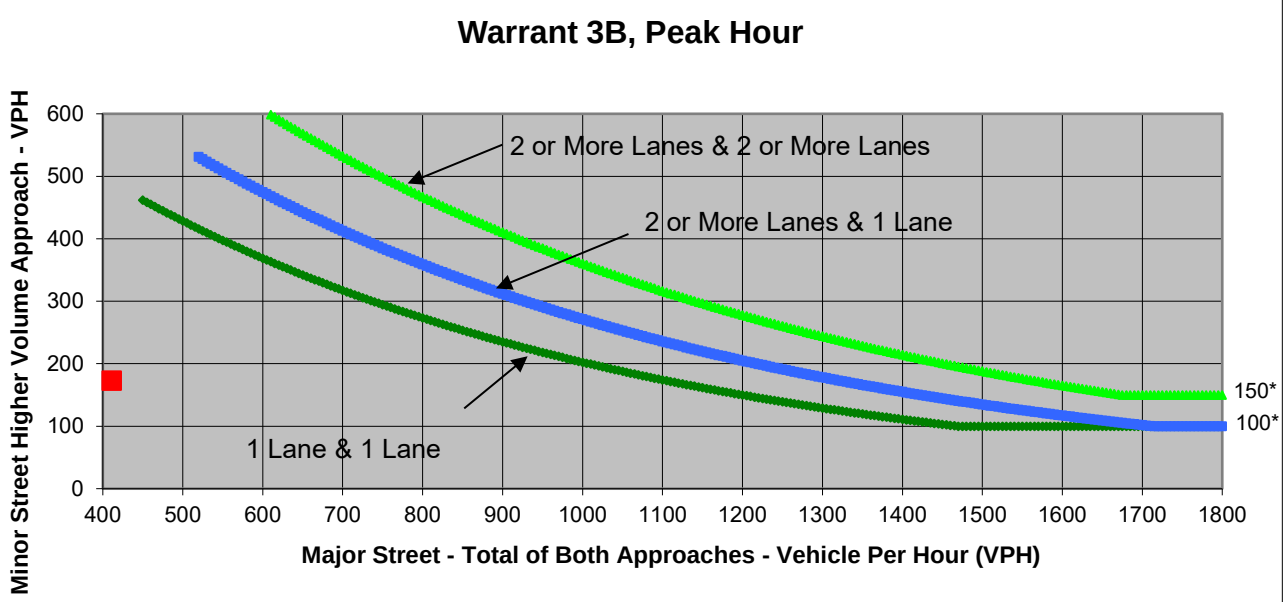
Major Street	Cedar Street	Project	Gilman Gateway
Minor Street	Fourth Street	Scenario	Near-Term Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	15	12	4	28
Through	104	40	280	55
Right	54	5	39	5
Total	173	57	323	88

Major Street Direction

	North/South
x	East/West



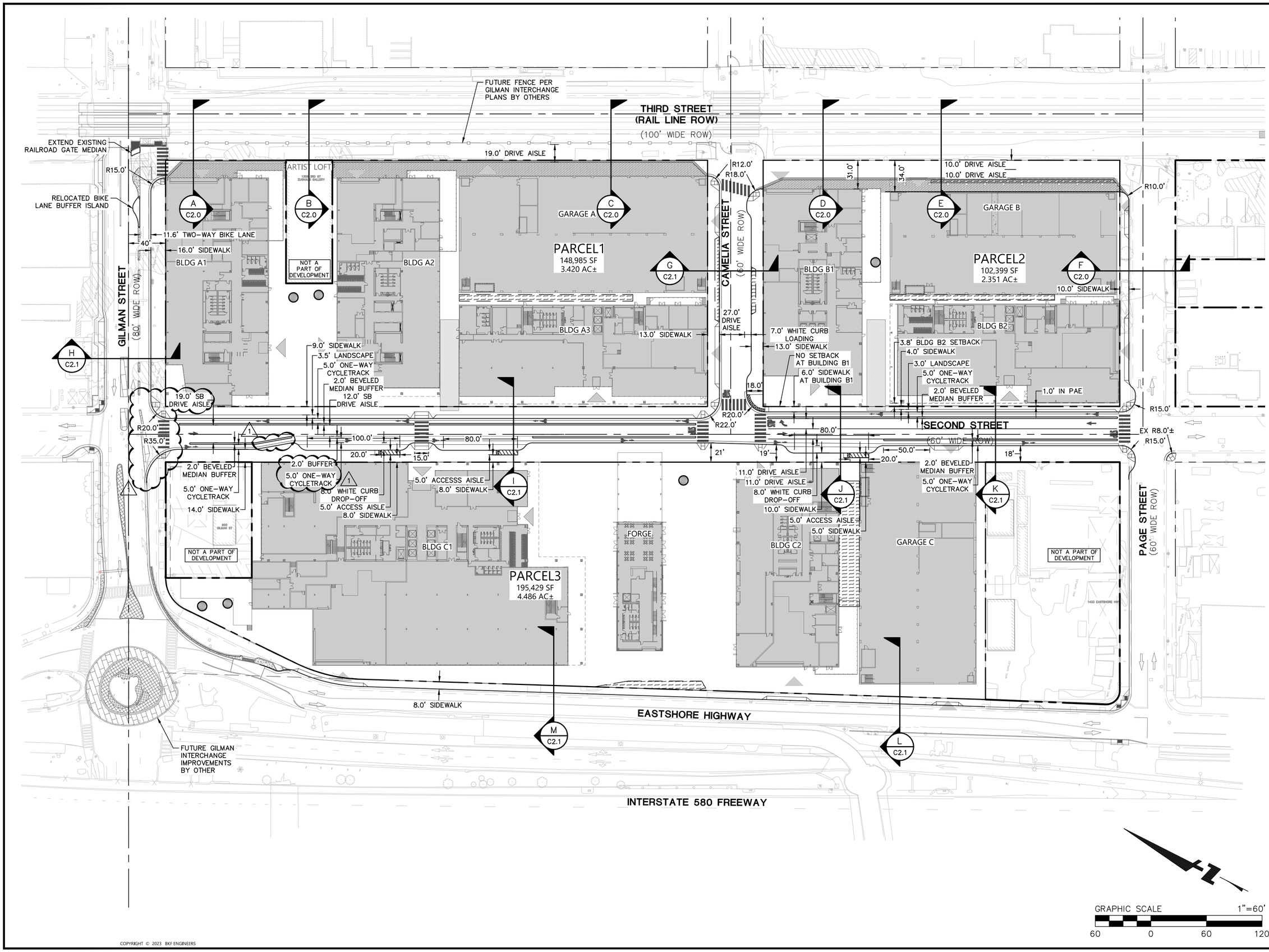
* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Cedar Street	Fourth Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**411**	**173**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

Appendix D
Berkeley Forge Project Site Plan



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No. 85762
CIVIL
STATE OF CALIFORNIA

PE 85762

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 12/13/2023
JANINE C. LAPP

BKF ENGINEERS
150 CALIFORNIA STREET
SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
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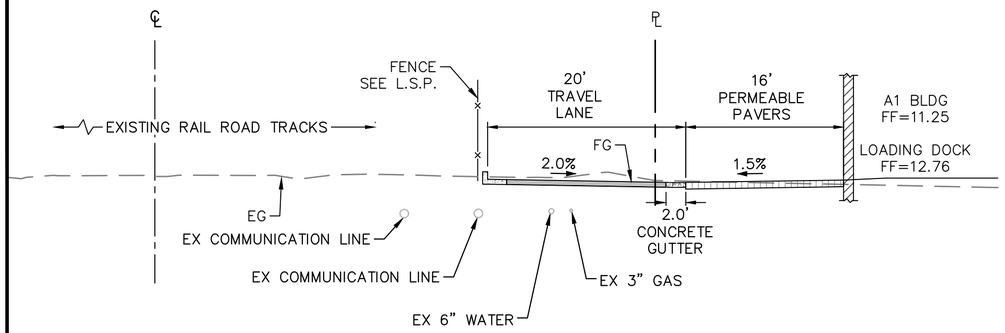
SITE PLAN

No.	Revisions

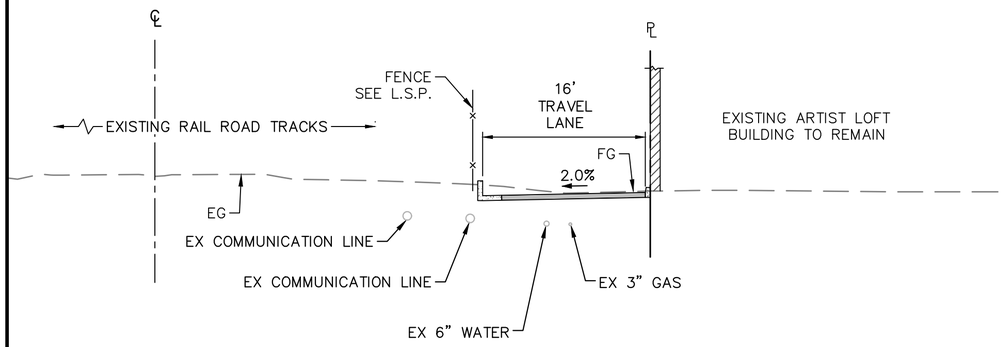
Date: 12/13/2023
Scale: 1" = 60'
Design: JCL
Drawn: RAB
Approved: MAO
Job No: 20221157

Drawing Number:
C1.00



SECTION A – THIRD STREET

SCALE: 1" = 10'



SECTION B – THIRD STREET

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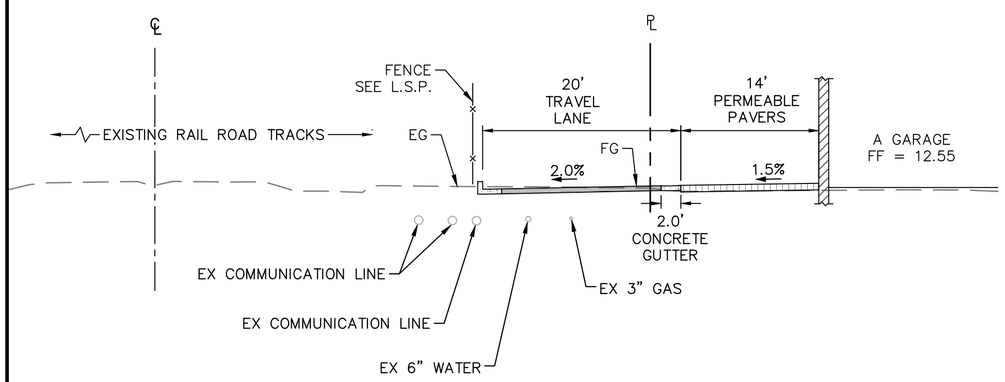

SECTION C – THIRD STREET

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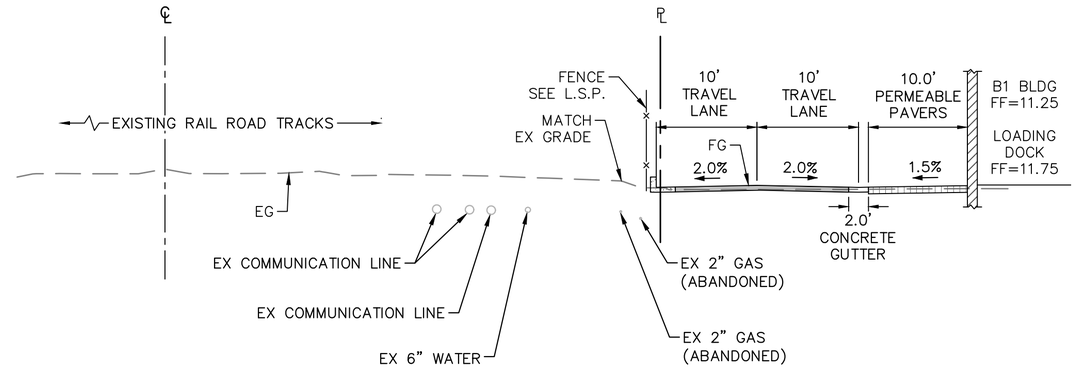
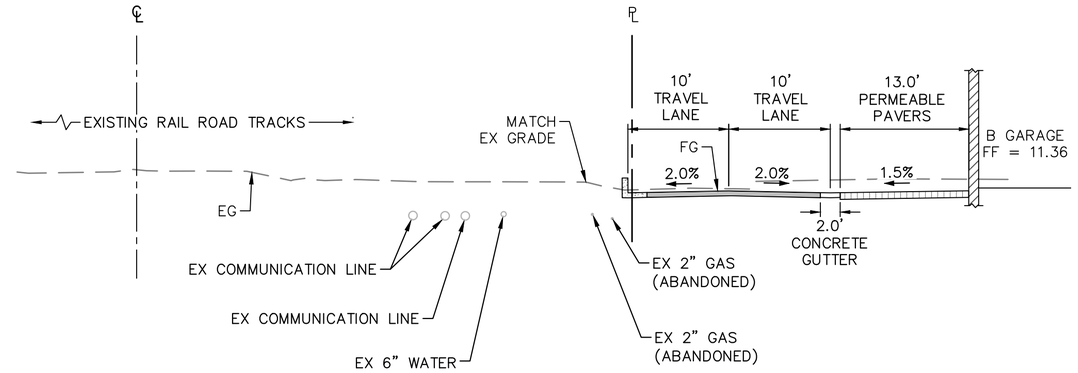


SECTION D – THIRD STREET

SCALE: 1" = 10'



SECTION E – THIRD STREET

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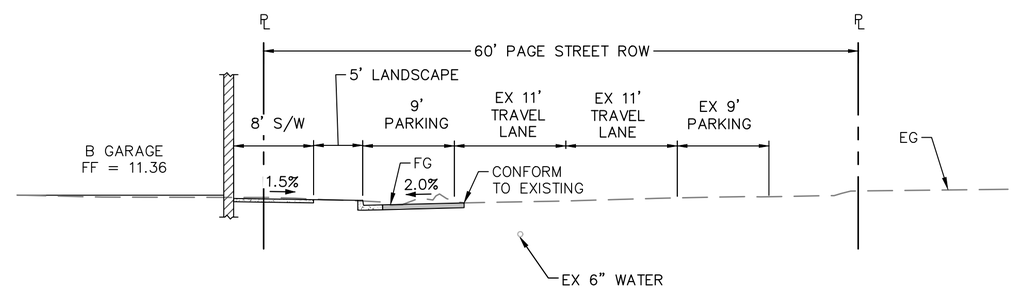
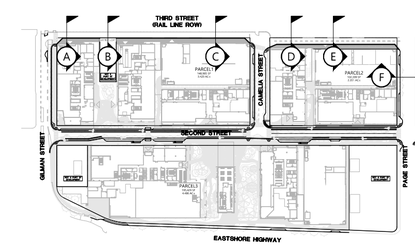


SECTION F – PAGE STREET

SCALE: 1" = 10'



KEY MAP
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No. 85762
CIVIL
STATE OF CALIFORNIA

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 12/13/2023
JANINE C. LAPP
PE 85762

BKF ENGINEERS
150 CALIFORNIA STREET
SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
www.bkf.com

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SITE SECTIONS

No.	Revisions

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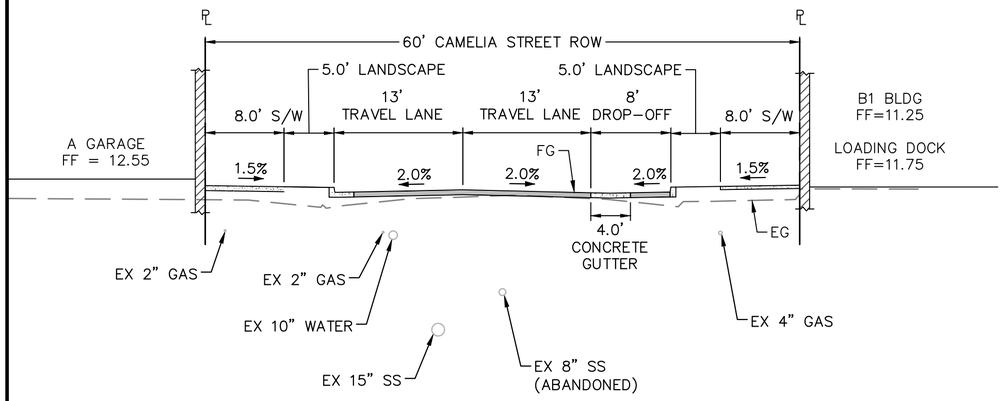
Scale: 1" = 10'
Design: JCL
Drawn: RAB
Approved: MAO
Job No: 20221157

Drawing Number:
C2.00



SECTION G – CAMELIA STREET

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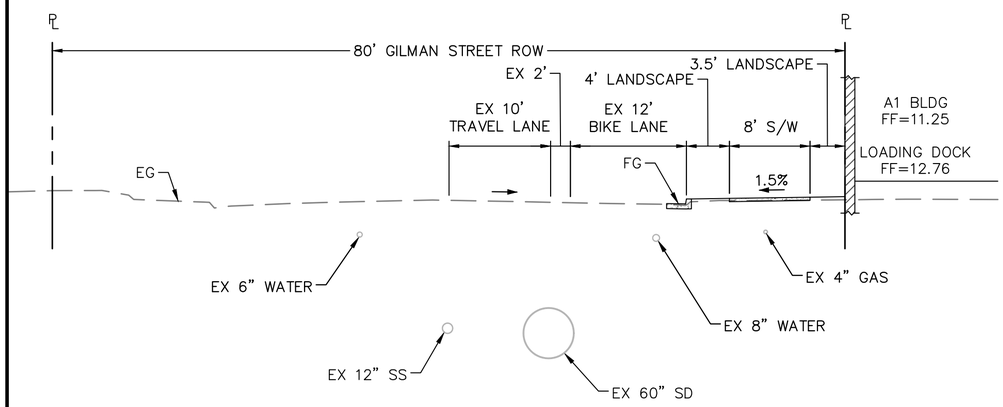

SECTION H – GILMAN STREET

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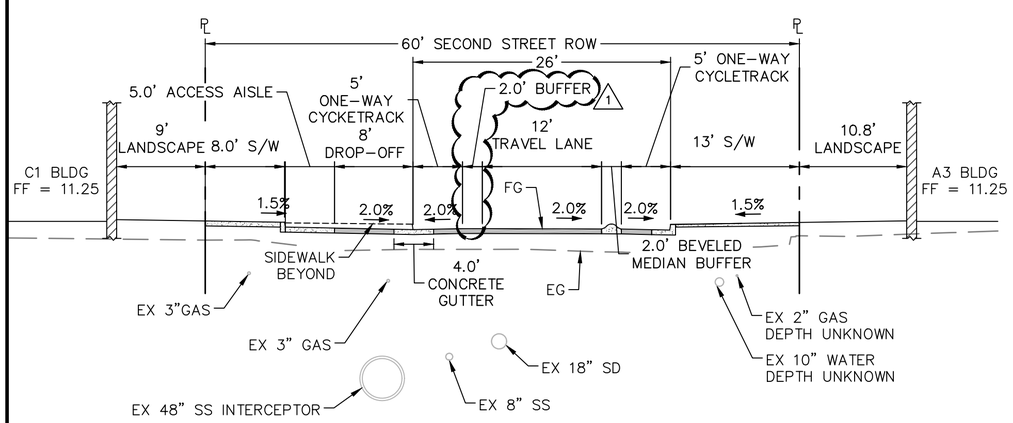

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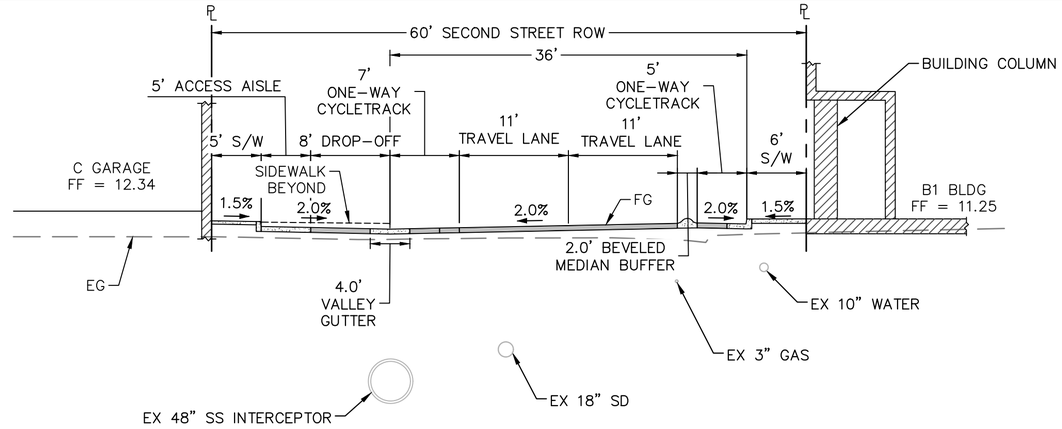

SECTION J – SECOND STREET

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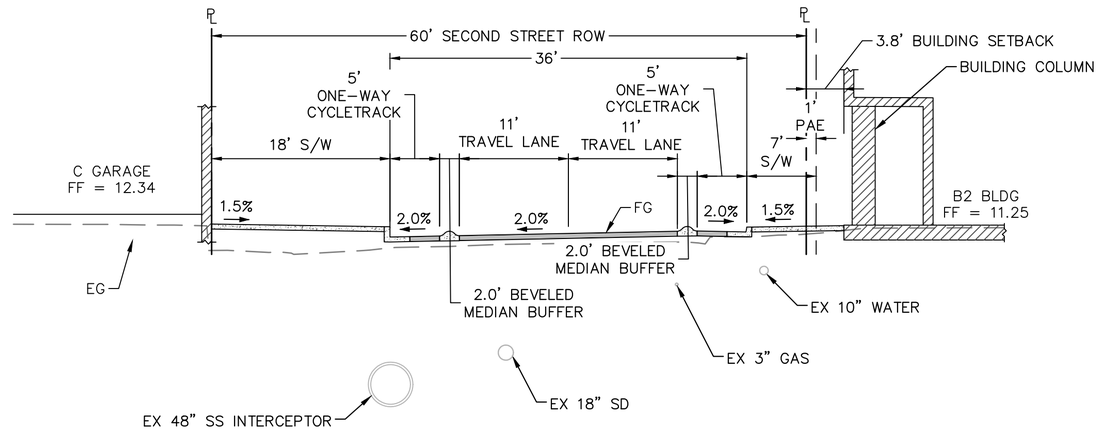

SECTION K – SECOND STREET

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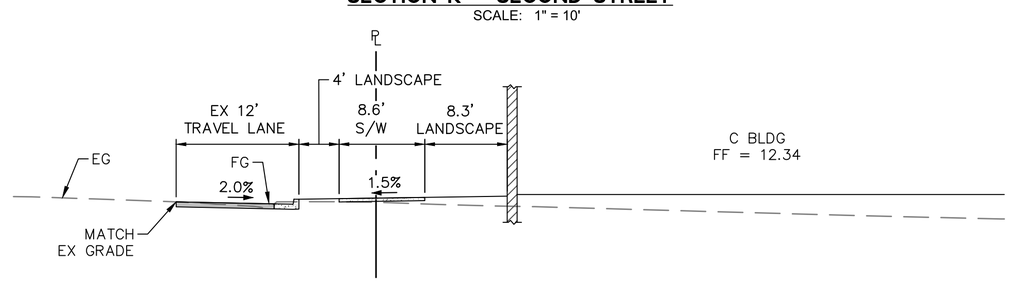
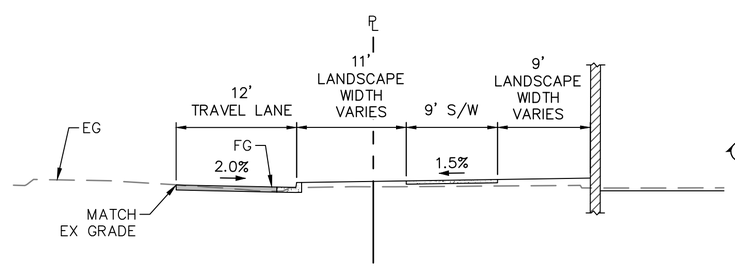


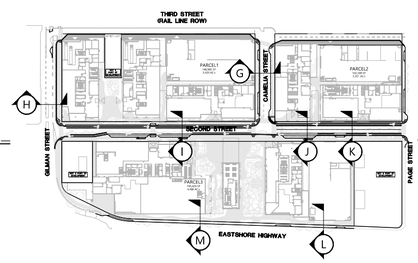
SECTION L – EASTSHORE HWY

SCALE: 1" = 10'



SECTION M – EASTSHORE HWY

SCALE: 1" = 10'



KEY MAP
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PE 85762

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150 CALIFORNIA STREET
SUITE 600
SAN FRANCISCO, CA 94111
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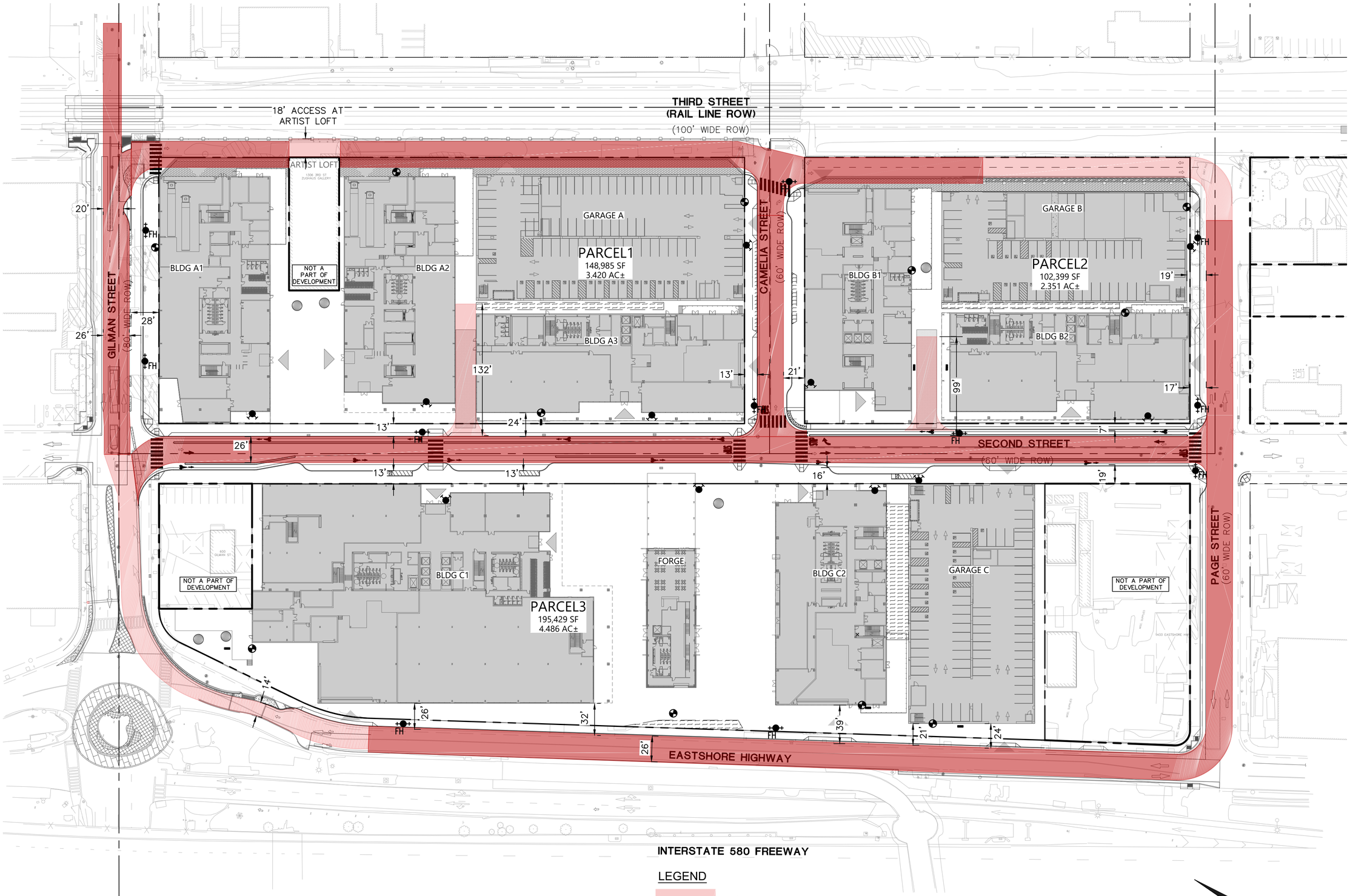
Revisions	No.

Date: 12/13/2023
Scale: 1" = 10'
Design: JCL
Drawn: RAB
Approved: MAO
Job No: 20221157

Drawing Number:
C2.01



LEGEND

20' WIDE FIRE ACCESS ROAD

26' WIDE AERIAL FIRE APPARATUS ACCESS LOCATED 15'–30' FROM THE BUILDING FACE

GRAPHIC SCALE 1"=60'

60 0 60 120

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SUITE 600
SAN FRANCISCO, CA 94111
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FIRE ACCESS

No.	Revisions

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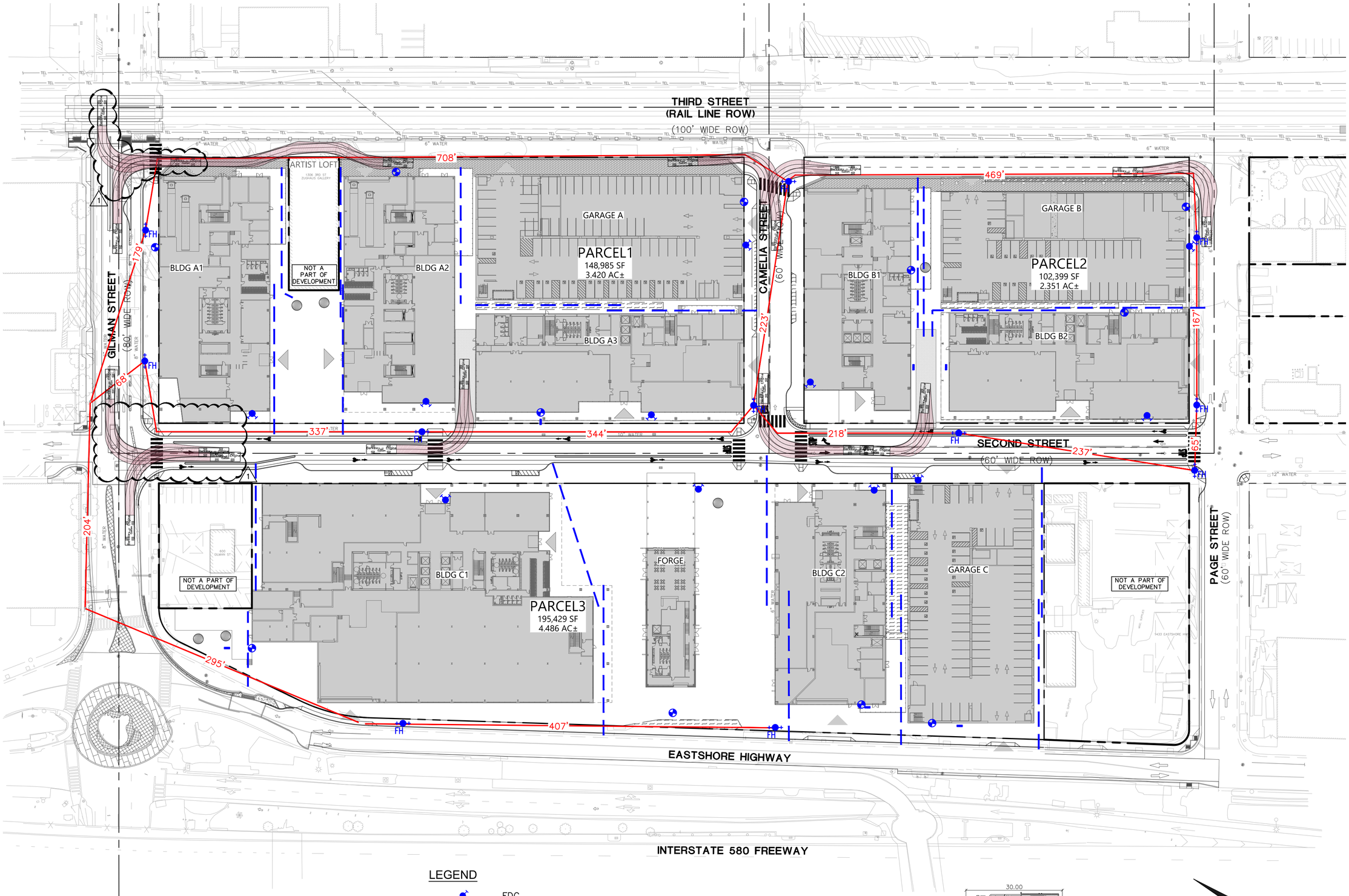
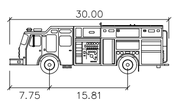
Approved: MAO
Job No: 20221157

Drawing Number:
C3.00



LEGEND

- FDC
- FIRE HYDRANT
- EXISTING WATER LINE
- PROPOSED WATER LINE
- DISTANCE BETWEEN FIRE HYDRANTS
- 150' MAX. HOSE PULL DISTANCE FROM FIRE ACCESS ROAD



Berkeley – Engine

	feet
Width	: 9.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.9

GRAPHIC SCALE 1"=60'

60 0 60 120

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SUITE 600
SAN FRANCISCO, CA 94111
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FIRE TRUCK TURNING

No.	Revisions

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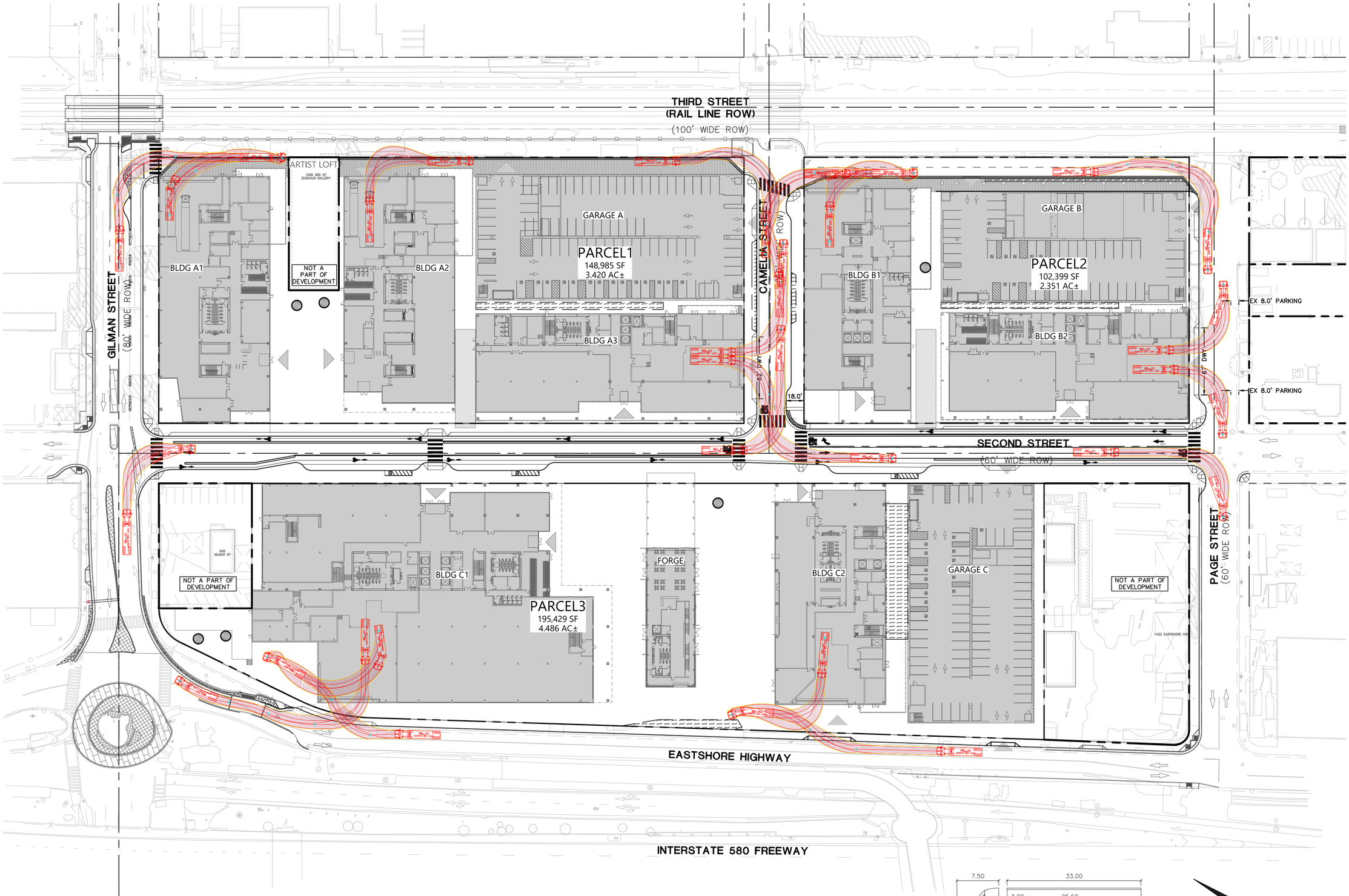
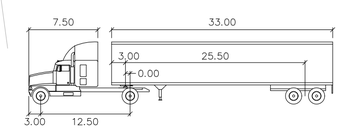
Scale: 1" = 60'
Design: JCL
Drawn: RAB
Approved: MAO
Job No: 20221157

Drawing Number:
C3.01





WB–40

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.00	Steering Angle	: 20.3
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.00		

GRAPHIC SCALE 1"=60'

60 0 60 120

REGISTERED PROFESSIONAL ENGINEER
JANINE C. LAPP
No. 85762
CIVIL
STATE OF CALIFORNIA

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 12/13/2023
JANINE C. LAPP
PE 85762

BKF ENGINEERS
150 CALIFORNIA STREET
SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
www.bkf.com

BERKELEY FORGE
PLANNING SUBMISSION
VARIOUS APNS
BERKELEY CALIFORNIA, ALAMEDA COUNTY

WB-40 ACCESS

No.	Revisions

Date: 12/13/2023
Scale: 1" = 60'
Design: JCL
Drawn: RAB
Approved: MAO
Job No: 20221157

Drawing Number:
C4.00

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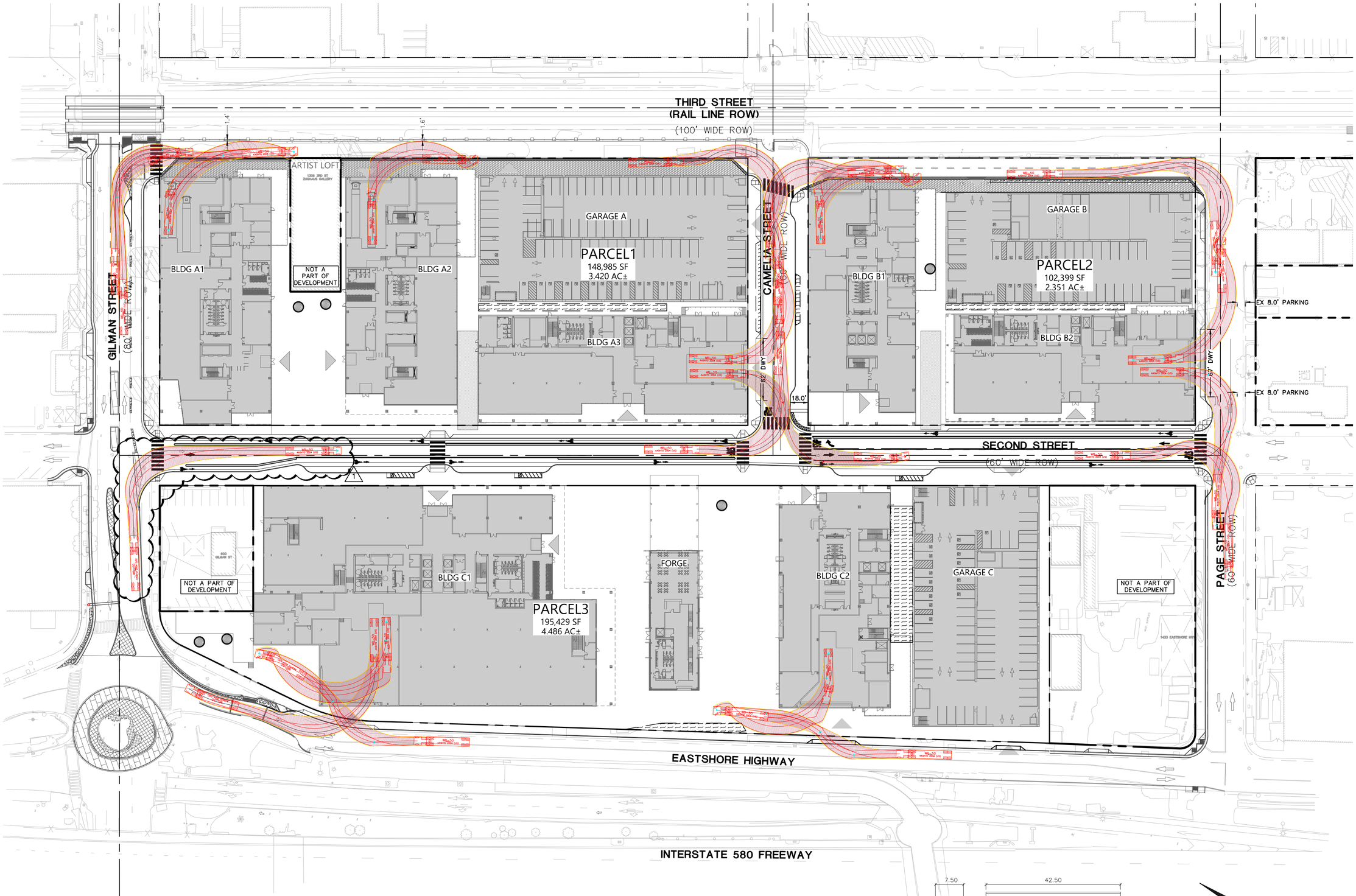
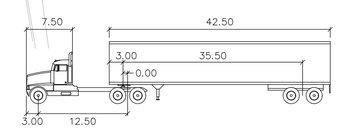
DRAWING NAME: K:\2022\221157_Spur_Gilman_Berkeley\ENG-L\Exhibits\23_0821 Site Plan Exhibit_DWG\C4.00 DELIVERY VEH ACCESS_EXHIBIT.dwg
PLOT DATE: 12-13-23 PLOTTED BY: stow





WB-50

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

GRAPHIC SCALE 1"=60'

60 0 60 120

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Date: 12/13/2023
Scale: 1" = 60'
Design: JCL
Drawn: RAB
Approved: MAO
Job No: 20221157

Drawing Number:
C4.01
7 OF 7

DRAWING NAME: K:\2022\221157_Spur_Gilman_Berkeley\ENG\1Exhibits\23_0821 Site Plan Exhibit_DWG\C4.00 DELIVERY VEH ACCESS_EXHIBIT.dwg
PLOT DATE: 12-13-23 PLOTTED BY: stow

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Appendix E
TDM Plan

FEHR PEERS

Memorandum

Date: October 23, 2023

To: Gilman Gateway Rezone Project Team

From: Sam Tabibnia, Fehr & Peers

Subject: Gilman Gateway Rezone Project – Transportation Demand Management Plan

OK21-0480

This memorandum details the Transportation Demand Management (TDM) plan for the proposed Gilman Gateway Rezone Project in West Berkeley. The implementation of this TDM Plan would ensure that the Project would have a less-than-significant impact on vehicle miles traveled (VMT). In addition to reducing the VMT, the TDM Plan would also reduce the automobile trip generation and parking demand through measures that discourage the use of single-occupant automobiles and encourage the use of other travel modes.

This memorandum briefly describes the Project, lists the mandatory TDM strategies that the Project shall implement, estimates the effectiveness of the TDM Plan for reducing VMT, and describes the monitoring and evaluation requirements of the TDM Plan.

Project Description

The proposed Gilman Gateway Rezone Project would result in a maximum of just over 1,000,000 square feet of new R&D/office uses in the area bound by Gilman Street to the north, Union Pacific railroad tracks to the east, Page Street to the south, and Eastshore Highway to the west.

The Berkeley Forge Project is the primary component of the Gilman Gateway Rezone Project, which would consist of about 890,000 square feet of new R&D/office uses in multiple buildings. The Berkeley Forge Project would also provide about 1,876 parking spaces in three garages in the Project area. Each Berkeley Forge Project would also provide long-term bicycle parking within the building and short-term bicycle parking near the main entrance of the building. The Project would provide sidewalks along Project frontages and walkways within each Project block to connect the various buildings, garages, and open spaces in the Project area.

Mandatory TDM Strategies

This section describes the strategies that would be implemented in the Project area, as well as Project features that would reduce the automobile trips and associated VMT generated by the Project. Some of these strategies would be directly implemented by the Project and others would be implemented by individual tenants. The TDM strategies include both one-time physical infrastructure improvements and on-going operational strategies. Physical improvements would be implemented as part of the Project and thus are anticipated to have a one-time capital cost. Some level of ongoing maintenance cost may also be required for certain measures. Operational strategies provide on-going incentives and support for the use of non-auto transportation modes. These TDM measures have monthly or annual costs and would require on-going management.

The TDM Plan, which would be implemented at the time of the occupancy of the first phase of the Project, would include the following strategies:

A. *BART Shuttle* - Provide shuttle service between the Project area, the North Berkeley BART station, and the Berkeley Amtrak station during weekday peak commute periods (6:00 AM to 10:00 AM and 3:00 PM to 7:00 PM). The Project would also explore the feasibility, and if feasible, will coordinate the shuttle service with existing shuttle services, and/or other employers in West Berkeley. Shuttle service would be adjusted based on ridership.

B. *Bus Service Extension* - Coordinate with AC Transit to explore the potential to either extend existing bus service or provide new bus service through or near the Project area (Note that since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, the potential effects of bus service expansion on reducing VMT cannot be quantified and therefore not included in the total VMT reduction of the TDM Plan).

C. *Bicycle Amenities and Monitoring* - Provide bike lockers, showers, personal lockers, and a repair station throughout the Project area to encourage bicycling. The Project shall monitor the usage of these facilities and provide additional bicycle parking, if necessary.

D. *Bike Share Station* - Coordinate with City of Berkeley, and/or other regional agencies to facilitate the potential installation of a BayWheels bikeshare in the Project area.

E. *Carpool and Rideshare Matching Assistance* - Offer carpool/ride-matching services, such as ComoVee, or 511.org RideShare, to air employees interested in forming commute carpools.

F. *Preferential Parking for Carpoolers* - Provide preferential carpool parking, including free parking for carpoolers if employees are charged for on-site parking. Carpool parking spaces not occupied by 10:00 AM would be available to other vehicles.

G. *Transit Fare Subsidy* - Require tenants to provide full or partial transit subsidy to Project employees. Tenants may offer one of the following to employees that request it:[1]
   - A monthly commuter check (or alternatively Clipper Card, which is accepted by BART, AC Transit, and other major transit providers in the Bay Area)
   - Subsidized AC Transit bus pass
   - Subsidized Capital Corridor monthly ticket

H. *Pre-Tax Commuter Benefits* - Require tenants to provide pre-tax commuter benefits, such as WageWorks, for Project employees. This strategy allows employees to deduct monthly transit passes or other amount using up to $300 pre-tax dollars.[2] This can help to lower payroll taxes and allows employees to save on transit.

I. *TDM Marketing and Education* – Regularly provide Project tenants and employees information about various transportation options in the area and the TDM strategies provided by the Project. The main lobby of each major Project building shall provide all the information on transportation options including:
   - *Transit Routes* – Promote the use of transit by providing user-focused maps. These maps provide employees with wayfinding to nearby transit stops and transit-accessible destinations.
   - *Real-time Transit Information System* – Consider installing real-time transit information, such as TransitScreen, in a visible location in the main lobby of each major building to provide employees and visitors with up-to-date shuttle and transit arrival and departure times.
   - *Transit Fare Discounts* – Provide information about local discounted fare options offered by BART, AC Transit, and Capital Corridor, including discounts for youth, elderly, persons with disabilities, and Medicare cardholders.
   - *Car Sharing* – Promote accessible car sharing programs, such as Zipcar, and Getaround by informing employees of nearby car sharing locations and applicable membership information.
   - *Ridesharing* – Provide employees with phone numbers and contact information for ride sharing options including Uber, Lyft, and local taxicab services.
   - *Carpooling* – Provide employees with phone numbers and contact information for carpool matching services such as the Metropolitan Transportation Commission's 511 RideMatching.

     Walking and Biking Events – Provide information about local biking and walking events as events are planned.

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[1] This analysis assumes that a transit fare subsidy of about $2.50 per employee per weekday (value to rider, not cost to employer) will be available to all site employees.

[2] Department of the Treasury Internal Revenue Service, Publication 15-B, *Employer's Tax Guide to Fringe Benefits 2023*, page 20 (https://www.irs.gov/pub/irs-pdf/p15b.pdf)

- *Bikeshare/Scooters* – Educate employees about nearby bike sharing station locations and membership information.
- *Bay Area Commuter Benefits Program* - Provide information on the Bay Area Commuter Benefits Program to all building tenants. As of September 30, 2014, Bay Area employers with 50 or more full-time employees within the Bay Area Air Quality Management District (Air District) geographic boundaries are required to register and offer commuter benefits to their employees in order to comply with Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program. Employers must select one of four Commuter Benefit options to offer their employees: a pre-tax benefit, an employer-provided subsidy, employer-provided transit, or an alternative commute benefit. (Information about Commute Benefits Program is at 511.org/employers/commuter/overview.)

Operational TDM strategies are most effective for people who commute to and from a site on a regular basis, especially during weekday peak commute periods when transit service peaks and is most conveniently available. Thus, these strategies are generally targeted at office workers. Visitors are not directly targeted because they would visit the Project too infrequently to be aware of the TDM benefits or to make them cost-effective. However, some of the strategies, especially the ones that would improve the infrastructure, would also benefit the site visitors.

VMT Reduction Estimates

Table 1 summarizes the estimated effectiveness of the TDM Plan components in reducing the Project VMT. The effectiveness of the strategies is primarily based on the Alameda CTC VMT Reduction Calculator Tool,[3] which is a tool that accounts for the particular location of a development project and quantifies the effects of various strategies in reducing VMT consistent with the research compiled in the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designed for Local Governments, Communities, and Project Developers* (California Air Pollution Control Officers Association [CAPCOA], December 2021). The CAPCOA publication is a resource for local agencies to quantify the benefit, in terms of reduced travel demand, of implementing various TDM strategies.

As described in the Project Transportation Impact Analysis report, the Home-Work VMT per Worker generated by the Project without a TDM Plan is about five percent over the threshold of significance. As shown in Table 1, this TDM Plan is estimated to reduce the Project-generated VMT by between six and ten percent, which would be more than the five percent reduction needed to reduce the home-work VMT per worker for the Project to below the threshold of significance. Thus, with the implementation of the TDM Plan, the Project impact on VMT would be less-than-significant level.

[3] See https://www.alamedactc.org/planning/sb743-vmt/ for more information.

Table 1: TDM Plan VMT Reduction Estimates

TDM Strategy	Description	Estimated VMT Reduction[1]
BART Shuttle	Provide peak commute period shuttle service to BART and Amtrak	3% - 6%
Bus Service Extension	Extend AC Transit bus service into the Project area	N/A[2]
Bicycle Amenities	Provide secure bicycle parking, showers and lockers, and repair station	<1%
Bike Share	Allow and facilitate installation of a potential BayWheels bikeshare station in the Project area	
Carpool and Ride-Matching Assistance	Assist Project area employees in forming carpools and provide preferential carpool parking spaces	1%
Transit Fare Subsidy	Require tenants to provide a monthly transit subsidy to employees	1% - 2%[3]
Pre-Tax Commuter Benefits	Require tenants to provide pre-tax commuter benefits to employees	
Marketing and Education	Active marketing and education of employees on various commuting options	N/A[4]
	Total Estimated Vehicle Trip Generation	**6% – 10%**

Notes:
1. Primarily based on the results of the Alameda CTC VMT Reduction Calculator Tool
2. Since the characteristics of a potential bus service extension, such as service frequency and/or destinations served, cannot be known at this time, effectiveness of this strategy cannot be quantified at this time.
3. Assuming a transit subsidy of about $2.50 per day per employee (value to transit user and not necessarily the cost) available to all employees.
4. The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that existing literature does not provide a robust methodology for calculating its effectiveness. In addition, many strategies are complementary to each other and isolating their specific effectiveness may not be feasible.

Source: Fehr & Peers, 2023.

Monitoring and Evaluation

This TDM program shall include regular periodic evaluation of the program to assess the effectiveness of the various strategies implemented. The Project shall submit an annual compliance report after the completion of the first phase of the Berkeley Forge Project for review and approval by the City.

The annual report shall consist of the following:

1. A description of the TDM measures and services provided in the Project area, to the extent feasible the level of use or participation for each measure, such as shuttle ridership, and compliance with the required measures in the TDM plan.
2. Results of an annual employee survey that quantify the mode split for Project area employees, the perception of the TDM plan by the Project area employees. The survey results should focus on the weekday daytime employees only.
3. Summary of weekday daily and AM and PM peak period traffic counts conducted at the Project parking garages.
4. Estimated VMT reduction achieved by the Project based on the collected data.

If the TDM Plan does not meet the required VMT reduction goal, then the annual report shall also outline the additional measures that would be implemented in the coming year to meet the required VMT reduction goal.

If timely reports are not submitted and/or the annual reports indicate that the Project has failed to implement the TDM Plan, the Project will be considered in violation of the Conditions of Approval. The Project shall not be considered in violation if the TDM Plan is implemented but the estimated reduction goals are not achieved. If in three successive years the Project is found to meet the stated TDM goal, additional surveys and monitoring shall be suspended until the next phase of the Project is occupied or such a time as the City deems they are needed.

Please contact Sam Tabibnia (stabibnia@fehrandpeers.com or 510-834-3200) with questions or comments.

Appendix F
Level of Service Calculation Sheets (SIDRA)

SIDRA Calculations
Near-Term No Project Conditions

FEHR PEERS

LANE SUMMARY

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: W Frontage Rd															
Lane 1 d	50	2.0	50	2.0	552	0.091	100	7.6	LOS A	0.1	3.4	Full	1600	0.0	0.0
Approach	50	2.0	50	2.0		0.091		7.6	LOS A	0.1	3.4				
East: Gilman St															
Lane 1	275	3.0	275	3.0	1376	0.200	100	3.7	LOS A	0.4	9.6	Short	60	0.0	NA
Lane 2 d	641	3.0	641	3.0	1376	0.466	100	5.2	LOS A	1.3	33.6	Full	200	0.0	0.0
Approach	916	3.0	916	3.0		0.466		4.7	LOS A	1.3	33.6				
North: I-80 off-ramp															
Lane 1 d	536	2.0	536	2.0	602	0.890	100	39.5	LOS E	4.6	116.2	Full	1600	0.0	0.0
Lane 2	508	2.0	508	2.0	540	0.941	100	51.3	LOS F	5.6	141.7	Full	1600	0.0	0.0
Approach	1044	2.0	1044	2.0		0.941		45.2	LOS E	5.6	141.7				
West: Gilman St															
Lane 1 d	41	3.0	41	3.0	222	0.185	100	20.7	LOS C	0.2	4.9	Full	200	0.0	0.0
Approach	41	3.0	41	3.0		0.185		20.7	LOS C	0.2	4.9				
All Vehicles	2051	2.5	2051	2.5		0.941		25.7	LOS D	5.6	141.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: W Frontage Rd

Mov. From S To Exit:	L2 W	R2 E	R3 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	45	2	50	2.0	552	0.091	100	NA	NA
Approach	3	45	2	50	2.0		0.091			

East: Gilman St

Mov. From E To Exit:	L3 SE	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	275	-	-	275	3.0	1376	0.200	100	0.0	2
Lane 2	-	623	18	641	3.0	1376	0.466	100	NA	NA

Approach	275	623	18	916	3.0			0.466			
North: I-80 off-ramp											
Mov. From N To Exit:	L2 E	L1 SE	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	498	38	-	-	536	2.0	602	0.890	100	NA	NA
Lane 2	-	-	494	14	508	2.0	540	0.941	100	NA	NA
Approach	498	38	494	14	1044	2.0		0.941			
West: Gilman St											
Mov. From W To Exit:	T1 E	R1 SE	R2 S	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	27	2	12	41	3.0		222	0.185	100	NA	NA
Approach	27	2	12	41	3.0			0.185			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2051	2.5	0.941

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: W Frontage Rd				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: I-80 off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eastshore Highway															
Lane 1 d	110	2.0	110	2.0	393	0.280	100	14.0	LOS B	0.4	10.7	Full	1600	0.0	0.0
Approach	110	2.0	110	2.0		0.280		14.0	LOS B	0.4	10.7				
East: Gilman St															
Lane 1 d	529	3.0	529	3.0	1213	0.436	100	7.3	LOS A	1.0	25.1	Full	200	0.0	0.0
Lane 2	188	3.0	188	3.0	1146	0.164	100	4.5	LOS A	0.3	7.0	Short	80	0.0	NA
Approach	717	3.0	717	3.0		0.436		6.6	LOS A	1.0	25.1				
NorthEast: Eastshore Highway															
Lane 1 d	582	2.0	582	2.0	638	0.913	100	41.5	LOS E	5.3	135.2	Full	1600	0.0	0.0
Approach	582	2.0	582	2.0		0.913		41.5	LOS E	5.3	135.2				
West: Gilman St															
Lane 1 d	570	3.0	570	3.0	1127	0.506	100	8.8	LOS A	1.4	36.0	Full	200	0.0	0.0
Approach	570	3.0	570	3.0		0.506		8.8	LOS A	1.4	36.0				
SouthWest: I-80 Off-ramp															
Lane 1 d	422	2.0	422	2.0	617	0.684	100	20.6	LOS C	2.3	57.8	Full	1600	0.0	0.0
Approach	422	2.0	422	2.0		0.684		20.6	LOS C	2.3	57.8				
All Vehicles	2401	2.5	2401	2.5		0.913		18.4	LOS C	5.3	135.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eastshore Highway

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	17	46	110	2.0	393	0.280	100	NA	NA
Approach	47	17	46	110	2.0		0.280			

East: Gilman St

Mov. From E To Exit:	U E	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	3	526	-	529	3.0	1213	0.436	100	NA	NA
Lane 2	-	-	188	188	3.0	1146	0.164	100	0.0	1
Approach	3	526	188	717	3.0		0.436			

NorthEast: Eastshore Highway

Mov. From NE To Exit:	L3 E	R1 W	R3 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	160	311	111	582	2.0	638	0.913	100	NA	NA
Approach	160	311	111	582	2.0		0.913			

West: Gilman St

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	528	570	3.0	1127	0.506	100	NA	NA
Approach	42	528	570	3.0		0.506			

SouthWest: I-80 Off-ramp

Mov. From SW To Exit:	L3 W	L1 N	R1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	3	387	422	2.0	617	0.684	100	NA	NA
Approach	32	3	387	422	2.0		0.684			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2401	2.5	0.913

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Eastshore Highway				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
NorthEast: Eastshore Highway				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
SouthWest: I-80 Off-ramp				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	749	3.0	749	3.0	1900	0.394	100	0.0	LOS A	0.0	0.0	Full	200	0.0	0.0
Approach	749	3.0	749	3.0		0.394		0.0	NA	0.0	0.0				
West: Gilman St															
Lane 1	84	3.0	84	3.0	849	0.099	100	5.2	LOS A	0.2	4.0	Short	100	0.0	NA
Lane 2	1032	3.0	1032	3.0	1722	0.599	100	0.0	LOS A	0.0	0.0	Full	200	0.0	0.0
Approach	1116	3.0	1116	3.0		0.599		0.4	NA	0.2	4.0				
All Vehicles	1865	3.0	1865	3.0		0.599		0.3	NA	0.2	4.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	709	40	749	3.0	1900	0.394	100	NA	NA
Approach	709	40	749	3.0		0.394			

West: Gilman St

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	84	-	-	84	3.0	849	0.099	100	0.0	2
Lane 2	-	624	408	1032	3.0	1722	0.599	100	NA	NA
Approach	84	624	408	1116	3.0		0.599			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1865	3.0	0.599

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

	Opposing Flow Rate	Critical Gap	Follow-up Headway	Capacity	Deg. Satn	Min. Delay	Merge Delay

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	veh/h	pcu/h	sec	sec	Lane Flow Rate veh/h	veh/h	v/c	sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	735	3.0	735	3.0	1918	0.383	100	0.1	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	735	3.0	735	3.0		0.383		0.1	NA	0.0	0.0				
West: Gilman St															
Lane 1	601	3.0	601	3.0	1845	0.326	100	0.1	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	601	3.0	601	3.0		0.326		0.1	NA	0.0	0.0				
All Vehicles	1336	3.0	1336	3.0		0.383		0.1	NA	0.0	0.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	735	735	3.0	1918	0.383	100	NA	NA
Approach	735	735	3.0		0.383			

West: Gilman St

Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	601	601	3.0	1845	0.326	100	NA	NA
Approach	601	601	3.0		0.326			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1336	3.0	0.383

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 50 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Fourth St															
Lane 1	36	3.0	36	3.0	322	0.112	100	12.3	LOS B	0.4	9.0	Full	1600	0.0	0.0
Approach	36	3.0	36	3.0		0.112		12.3	LOS B	0.4	9.0				
East: Gilman St															
Lane 1	704	3.0	704	3.0	1000	0.705	100	11.4	LOS B	8.4	214.0	Full	1600	0.0	0.0
Approach	704	3.0	704	3.0		0.705		11.4	LOS B	8.4	214.0				
North: Fourth St															
Lane 1	24	3.0	24	3.0	378	0.063	100	9.2	LOS A	0.2	4.9	Full	1600	0.0	0.0
Approach	24	3.0	24	3.0		0.063		9.2	LOS A	0.2	4.9				
West: Gilman St															
Lane 1	677	3.0	677	3.0	1215	0.557	100	6.8	LOS A	6.0	153.5	Full	1600	0.0	0.0
Approach	677	3.0	677	3.0		0.557		6.8	LOS A	6.0	153.5				
All Vehicles	1441	3.0	1441	3.0		0.705		9.2	LOS A	8.4	214.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

South: Fourth St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	10	5	36	3.0	322	0.112	100	NA	NA
Approach	21	10	5	36	3.0		0.112			

East: Gilman St

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	86	618	704	3.0	1000	0.705	100	NA	NA
Approach	86	618	704	3.0		0.705			

North: Fourth St

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	13	11	24	3.0	378	0.063	100	NA	NA

Approach	13	11	24	3.0			0.063			
West: Gilman St										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	595	72	677	3.0	1215	0.557	100	NA	NA
Approach	11	595	72	677	3.0		0.557			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1441	3.0	0.705

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
North: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

QUEUE ANALYSIS

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		0.091	1.000	0.0	3.4	8.4	3.3	8.1	2.7	4.9	0.00	0.01	0.0	NA	NA
Approach		0.091			3.4	8.4	3.3	8.1	2.7	4.9	0.00	0.01			
East: Gilman St															
Lane 1		0.200	1.000	0.0	9.6	23.9	7.7	19.2	7.2	13.1	0.16	0.40	NA	0.0	2
Lane 2		0.466	1.000	0.0	33.6	83.4	18.0	44.6	23.7	42.9	0.17	0.42	0.0	NA	NA
Approach		0.466			33.6	83.4	18.0	44.6	23.7	42.9	0.17	0.42			
North: I-80 off-ramp															
Lane 1		0.890	1.000	63.3	116.2	288.8	91.7	227.9	149.4	271.0	0.07	0.18	0.0	NA	NA
Lane 2		0.941	1.000	85.5	141.7	352.1	116.2	288.7	183.8	333.4	0.09	0.22	0.0	NA	NA
Approach		0.941			141.7	352.1	116.2	288.7	183.8	333.4	0.09	0.22			
West: Gilman St															
Lane 1		0.185	1.000	0.0	4.9	12.2	4.7	11.8	6.0	11.0	0.02	0.06	0.0	NA	NA
Approach		0.185			4.9	12.2	4.7	11.8	6.0	11.0	0.02	0.06			
Intersection		0.941			141.7	352.1	116.2	288.7	183.8	333.4	0.17	0.42			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		0.091	1.000	0.0	0.1	0.3	0.1	0.3	0.1	0.2	0.00	0.01	0.0	NA	NA
Approach		0.091			0.1	0.3	0.1	0.3	0.1	0.2	0.00	0.01			
East: Gilman St															
Lane 1		0.200	1.000	0.0	0.4	0.9	0.3	0.7	0.3	0.5	0.16	0.40	NA	0.0	2
Lane 2		0.466	1.000	0.0	1.3	3.3	0.7	1.7	0.9	1.7	0.17	0.42	0.0	NA	NA
Approach		0.466			1.3	3.3	0.7	1.7	0.9	1.7	0.17	0.42			
North: I-80 off-ramp															
Lane 1		0.890	1.000	2.5	4.6	11.4	3.6	9.0	5.9	10.7	0.07	0.18	0.0	NA	NA
Lane 2		0.941	1.000	3.4	5.6	13.9	4.6	11.4	7.2	13.1	0.09	0.22	0.0	NA	NA
Approach		0.941			5.6	13.9	4.6	11.4	7.2	13.1	0.09	0.22			
West: Gilman St															
Lane 1		0.185	1.000	0.0	0.2	0.5	0.2	0.5	0.2	0.4	0.02	0.06	0.0	NA	NA
Approach		0.185			0.2	0.5	0.2	0.5	0.2	0.4	0.02	0.06			

Intersection	0.941		5.6	13.9	4.6	11.4	7.2	13.1	0.17	0.42			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		0.280	1.000	0.6	10.7	26.6	10.1	25.2	10.9	19.7	0.01	0.02	0.0	NA	NA
Approach		0.280			10.7	26.6	10.1	25.2	10.9	19.7	0.01	0.02			
East: Gilman St															
Lane 1		0.436	1.000	0.0	25.1	62.5	15.4	38.4	27.4	49.7	0.13	0.31	0.0	NA	NA
Lane 2		0.164	1.000	0.0	7.0	17.4	6.0	14.9	6.1	11.0	0.09	0.22	NA	0.0	1
Approach		0.436			25.1	62.5	15.4	38.4	27.4	49.7	0.13	0.31			
NorthEast: Eastshore Highway															
Lane 1		0.913	1.000	74.2	135.2	335.9	103.7	257.7	170.4	309.2	0.08	0.21	0.0	NA	NA
Approach		0.913			135.2	335.9	103.7	257.7	170.4	309.2	0.08	0.21			
West: Gilman St															
Lane 1		0.506	1.000	0.0	36.0	89.5	20.6	51.3	35.5	64.4	0.18	0.45	0.0	NA	NA
Approach		0.506			36.0	89.5	20.6	51.3	35.5	64.4	0.18	0.45			
SouthWest: I-80 Off-ramp															
Lane 1		0.684	1.000	19.6	57.8	143.5	44.7	111.1	61.4	111.4	0.04	0.09	0.0	NA	NA
Approach		0.684			57.8	143.5	44.7	111.1	61.4	111.4	0.04	0.09			
Intersection		0.913			135.2	335.9	103.7	257.7	170.4	309.2	0.18	0.45			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		0.280	1.000	0.0	0.4	1.0	0.4	1.0	0.4	0.8	0.01	0.02	0.0	NA	NA
Approach		0.280			0.4	1.0	0.4	1.0	0.4	0.8	0.01	0.02			
East: Gilman St															
Lane 1		0.436	1.000	0.0	1.0	2.4	0.6	1.5	1.1	1.9	0.13	0.31	0.0	NA	NA
Lane 2		0.164	1.000	0.0	0.3	0.7	0.2	0.6	0.2	0.4	0.09	0.22	NA	0.0	1
Approach		0.436			1.0	2.4	0.6	1.5	1.1	1.9	0.13	0.31			
NorthEast: Eastshore Highway															
Lane 1		0.913	1.000	2.9	5.3	13.2	4.1	10.1	6.7	12.2	0.08	0.21	0.0	NA	NA
Approach		0.913			5.3	13.2	4.1	10.1	6.7	12.2	0.08	0.21			
West: Gilman St															
Lane 1		0.506	1.000	0.0	1.4	3.5	0.8	2.0	1.4	2.5	0.18	0.45	0.0	NA	NA

Approach	0.506			1.4	3.5	0.8	2.0	1.4	2.5	0.18	0.45			
SouthWest: I-80 Off-ramp														
Lane 1	0.684	1.000	0.8	2.3	5.7	1.8	4.4	2.4	4.4	0.04	0.09	0.0	NA	NA
Approach	0.684			2.3	5.7	1.8	4.4	2.4	4.4	0.04	0.09			
Intersection	0.913			5.3	13.2	4.1	10.1	6.7	12.2	0.18	0.45			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.394	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.394			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.099	1.000	0.0	4.0	10.0	3.8	9.5	3.1	5.6	0.04	0.10	NA	0.0	2
Lane 2	Y	0.599	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.599			4.0	10.0	3.8	9.5	3.1	5.6	0.00	0.00			
Intersection		0.599			4.0	10.0	3.8	9.5	3.1	5.6	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.394	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.394			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.099	1.000	0.0	0.2	0.4	0.1	0.4	0.1	0.2	0.04	0.10	NA	0.0	2
Lane 2	Y	0.599	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.599			0.2	0.4	0.1	0.4	0.1	0.2	0.00	0.00			
Intersection		0.599			0.2	0.4	0.1	0.4	0.1	0.2	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.394	39.8	0.0	4.81	280.7	17.6	0.42	4.39	6.3	8.8	18.8	19.3	LOS C
West: Gilman St													
Lane 2	0.599	39.6	0.0	3.49	202.4	17.6	0.42	3.06	8.7	12.1	26.1	26.7	LOS D

Midblock Effective Detection Zone Length = 7 ft

QUEUE ANALYSIS

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.383	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.383			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.326	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.326			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.383			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.383	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.383			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.326	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.326			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.383			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.383	39.8	0.1	4.90	286.1	17.6	0.42	4.48	6.1	8.6	18.5	18.9	LOS C
West: Gilman St													
Lane 1	0.326	39.9	0.1	5.99	350.2	17.6	0.42	5.57	5.0	7.0	15.1	15.4	LOS B

Midblock Effective Detection Zone Length = 7 ft

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QUEUE ANALYSIS

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 50 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Green (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.112	1.000	0.8	9.0	14.7	8.9	14.5	3.1	6.6	0.01	0.01	0.0	NA	NA
Approach		0.112			9.0	14.7	8.9	14.5	3.1	6.6	0.01	0.01			
East: Gilman St															
Lane 1		0.705	1.000	28.4	214.0	349.3	132.9	216.9	57.1	119.2	0.13	0.22	0.0	NA	NA
Approach		0.705			214.0	349.3	132.9	216.9	57.1	119.2	0.13	0.22			
North: Fourth St															
Lane 1		0.063	1.000	0.5	4.9	8.0	4.9	7.9	1.6	3.3	0.00	0.01	0.0	NA	NA
Approach		0.063			4.9	8.0	4.9	7.9	1.6	3.3	0.00	0.01			
West: Gilman St															
Lane 1		0.557	1.000	17.2	153.5	250.5	103.0	168.2	33.0	68.9	0.10	0.16	0.0	NA	NA
Approach		0.557			153.5	250.5	103.0	168.2	33.0	68.9	0.10	0.16			
Intersection		0.705			214.0	349.3	132.9	216.9	57.1	119.2	0.13	0.22			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Green (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.112	1.000	0.0	0.4	0.6	0.3	0.6	0.1	0.3	0.01	0.01	0.0	NA	NA
Approach		0.112			0.4	0.6	0.3	0.6	0.1	0.3	0.01	0.01			
East: Gilman St															
Lane 1		0.705	1.000	1.1	8.4	13.6	5.2	8.5	2.2	4.7	0.13	0.22	0.0	NA	NA
Approach		0.705			8.4	13.6	5.2	8.5	2.2	4.7	0.13	0.22			
North: Fourth St															
Lane 1		0.063	1.000	0.0	0.2	0.3	0.2	0.3	0.1	0.1	0.00	0.01	0.0	NA	NA
Approach		0.063			0.2	0.3	0.2	0.3	0.1	0.1	0.00	0.01			
West: Gilman St															
Lane 1		0.557	1.000	0.7	6.0	9.8	4.0	6.6	1.3	2.7	0.10	0.16	0.0	NA	NA
Approach		0.557			6.0	9.8	4.0	6.6	1.3	2.7	0.10	0.16			
Intersection		0.705			8.4	13.6	5.2	8.5	2.2	4.7	0.13	0.22			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.

Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	

There are no Continuous Lanes at this Site.

Pedestrian Queues

Mov ID	Description	Dem. Flow ped/h	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft
South: Fourth St				
2P	Full	30	0.0	0.1
East: Gilman St				
8P	Full	10	0.0	0.0
North: Fourth St				
6P	Full	20	0.0	0.1
West: Gilman St				
4P	Full	10	0.0	0.0
All Pedestrians		70	0.0	0.1

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LANE SUMMARY

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: W Frontage Rd															
Lane 1 d	563	2.0	563	2.0	610	0.923	100	43.6	LOS E	5.9	149.7	Full	1600	-12.4 N3	0.0
Approach	563	2.0	563	2.0		0.923		43.6	LOS E	5.9	149.7				
East: Gilman St															
Lane 1 d	183	3.0	183	3.0	1333	0.137	100	3.7	LOS A	0.2	6.1	Short	60	0.0	NA
Lane 2	178	3.0	178	3.0	1333	0.134	100	3.7	LOS A	0.2	5.9	Full	200	0.0	0.0
Approach	361	3.0	361	3.0		0.137		3.7	LOS A	0.2	6.1				
North: I-80 off-ramp															
Lane 1 d	359	2.0	359	2.0	845	0.425	100	8.9	LOS A	0.8	20.9	Short	600	-13.1 N3	NA
Lane 2	227	2.0	227	2.0	902	0.252	100	6.6	LOS A	0.4	10.8	Full	1600	0.0	0.0
Approach	586	2.0	586	2.0		0.425		8.0	LOS A	0.8	20.9				
West: Gilman St															
Lane 1 d	96	3.0	96	3.0	591	0.162	100	7.4	LOS A	0.2	5.1	Full	200	-11.0 N3	0.0
Approach	96	3.0	96	3.0		0.162		7.4	LOS A	0.2	5.1				
All Vehicles	1606	2.3	1606	2.3		0.923		19.5	LOS C	5.9	149.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: W Frontage Rd

Mov. From S To Exit:	L2 W	R2 E	R3 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	517	10	563	2.0	610	0.923	100	NA	NA
Approach	36	517	10	563	2.0		0.923			

East: Gilman St

Mov. From E To Exit:	L3 SE	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	183	-	-	183	3.0	1333	0.137	100	0.0	2
Lane 2	-	110	68	178	3.0	1333	0.134	100	NA	NA

Approach	183	110	68	361	3.0			0.137			
North: I-80 off-ramp											
Mov. From N To Exit:	L2 E	L1 SE	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	353	6	-	-	359	2.0	845	0.425	100	0.0	2
Lane 2	-	-	140	87	227	2.0	902	0.252	100	NA	NA
Approach	353	6	140	87	586	2.0		0.425			
West: Gilman St											
Mov. From W To Exit:	T1 E	R1 SE	R2 S	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	77	2	17	96	3.0		591	0.162	100	NA	NA
Approach	77	2	17	96	3.0			0.162			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1606	2.3	0.923

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: W Frontage Rd				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: I-80 off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eastshore Highway															
Lane 1 d	355	2.0	355	2.0	413	0.859	100	46.2	LOS E	3.0	75.5	Full	1600	0.0	0.0
Approach	355	2.0	355	2.0		0.859		46.2	LOS E	3.0	75.5				
East: Gilman St															
Lane 1	258	3.0	258	3.0	711	0.363	100	9.7	LOS A	0.7	16.9	Full	200	0.0	11.6 8
Lane 2 d	612	3.0	612	3.0	776	0.789	100	23.1	LOS C	3.9	99.2	Short	80	0.0	NA
Approach	870	3.0	870	3.0		0.789		19.1	LOS C	3.9	99.2				
NorthEast: Eastshore Highway															
Lane 1 d	124	2.0	124	2.0	352	0.352	100	17.3	LOS C	0.5	12.3	Full	1600	0.0	0.0
Approach	124	2.0	124	2.0		0.352		17.3	LOS C	0.5	12.3				
West: Gilman St															
Lane 1 d	947	3.0	947	3.0	1289	0.735	100	11.4	LOS B	4.1	104.5	Full	200	0.0	13.3
Approach	947	3.0	947	3.0		0.735		11.4	LOS B	4.1	104.5				
SouthWest: I-80 Off-ramp															
Lane 1 d	119	2.0	119	2.0	470	0.253	100	11.5	LOS B	0.4	9.7	Full	1600	0.0	0.0
Approach	119	2.0	119	2.0		0.253		11.5	LOS B	0.4	9.7				
All Vehicles	2415	2.8	2415	2.8		0.859		19.6	LOS C	4.1	104.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eastshore Highway

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	59	143	153	355	2.0	413	0.859	100	NA	NA
Approach	59	143	153	355	2.0		0.859			

East: Gilman St

Mov.	U	T1	R2	Total	%HV

From E To Exit:	E	W	N			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	255	-	258	3.0	711	0.363	100	NA	NA
Lane 2	-	-	612	612	3.0	776	0.789	100	100.0	1
Approach	3	255	612	870	3.0		0.789			

NorthEast: Eastshore Highway

Mov. From NE To Exit:	L3 E	R1 W	R3 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	35	26	63	124	2.0	352	0.352	100	NA	NA
Approach	35	26	63	124	2.0		0.352			

West: Gilman St

Mov. From W To Exit:	L2 N	T1 E	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	399	548	947	3.0		1289	0.735	100	NA	NA
Approach	399	548	947	3.0			0.735			

SouthWest: I-80 Off-ramp

Mov. From SW To Exit:	L3 W	L1 N	R1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	3	95	119	2.0	470	0.253	100	NA	NA
Approach	21	3	95	119	2.0		0.253			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2415	2.8	0.859

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Eastshore Highway				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
NorthEast: Eastshore Highway				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
SouthWest: I-80 Off-ramp				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	955	3.0	955	3.0	1686	0.566	100	0.0	LOS A	0.0	0.0	Full	200	-10.5 N3	0.0
Approach	955	3.0	955	3.0		0.566		0.0	NA	0.0	0.0				
West: Gilman St															
Lane 1	192	3.0	192	3.0	708	0.271	100	8.3	LOS A	0.5	13.0	Short	100	0.0	NA
Lane 2	642	3.0	642	3.0	1779	0.361	100	0.0	LOS A	0.0	0.0	Full	200	0.0	0.0
Approach	834	3.0	834	3.0		0.361		1.9	NA	0.5	13.0				
All Vehicles	1789	3.0	1789	3.0		0.566		0.9	NA	0.5	13.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	857	98	955	3.0	1686	0.566	100	NA	NA
Approach	857	98	955	3.0		0.566			

West: Gilman St

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	192	-	-	192	3.0	708	0.271	100	0.0	2
Lane 2	-	510	132	642	3.0	1779	0.361	100	NA	NA
Approach	192	510	132	834	3.0		0.361			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1789	3.0	0.566

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	926	3.0	926	3.0	1918	0.483	100	0.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	926	3.0	926	3.0		0.483		0.2	NA	0.0	0.0				
West: Gilman St															
Lane 1	491	3.0	491	3.0	1845	0.266	100	0.1	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	491	3.0	491	3.0		0.266		0.1	NA	0.0	0.0				
All Vehicles	1417	3.0	1417	3.0		0.483		0.1	NA	0.0	0.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	926	926	3.0	1918	0.483	100	NA	NA
Approach	926	926	3.0		0.483			

West: Gilman St

Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	491	491	3.0	1845	0.266	100	NA	NA
Approach	491	491	3.0		0.266			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1417	3.0	0.483

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 50 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Fourth St															
Lane 1	130	3.0	130	3.0	354	0.368	100	19.0	LOS B	1.6	41.9	Full	1600	0.0	0.0
Approach	130	3.0	130	3.0		0.368		19.0	LOS B	1.6	41.9				
East: Gilman St															
Lane 1	935	3.0	935	3.0	1165	0.803	100	13.3	LOS B	12.5	319.5	Full	1600	0.0	0.0
Approach	935	3.0	935	3.0		0.803		13.3	LOS B	12.5	319.5				
North: Fourth St															
Lane 1	22	3.0	22	3.0	466	0.047	100	6.9	LOS A	0.2	4.2	Full	1600	0.0	0.0
Approach	22	3.0	22	3.0		0.047		6.9	LOS A	0.2	4.2				
West: Gilman St															
Lane 1	583	3.0	583	3.0	1111	0.524	100	8.4	LOS A	5.6	144.4	Full	1600	0.0	0.0
Approach	583	3.0	583	3.0		0.524		8.4	LOS A	5.6	144.4				
All Vehicles	1670	3.0	1670	3.0		0.803		12.0	LOS B	12.5	319.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

South: Fourth St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	88	16	26	130	3.0	354	0.368	100	NA	NA
Approach	88	16	26	130	3.0		0.368			

East: Gilman St

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	920	7	935	3.0	1165	0.803	100	NA	NA
Approach	9	920	7	935	3.0		0.803			

North: Fourth St

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	15	22	3.0	466	0.047	100	NA	NA

Approach	7	15	22	3.0			0.047			
West: Gilman St										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	15	539	28	583	3.0	1111	0.524	100	NA	NA
Approach	15	539	28	583	3.0		0.524			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1670	3.0	0.803

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.										

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
North: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

QUEUE ANALYSIS

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		0.923	1.000	77.1	149.7	372.1	107.4	266.9	173.3	314.4	0.09	0.23	0.0	NA	NA
Approach		0.923			149.7	372.1	107.4	266.9	173.3	314.4	0.09	0.23			
East: Gilman St															
Lane 1		0.137	1.000	0.0	6.1	15.1	5.3	13.1	4.8	8.8	0.10	0.25	NA	0.0	2
Lane 2		0.134	1.000	0.0	5.9	14.6	5.1	12.7	4.7	8.4	0.03	0.07	0.0	NA	NA
Approach		0.137			6.1	15.1	5.3	13.1	4.8	8.8	0.03	0.07			
North: I-80 off-ramp															
Lane 1		0.425	1.000	2.3	20.9	51.8	15.0	37.2	22.5	40.8	0.03	0.09	NA	0.0	2
Lane 2		0.252	1.000	0.0	10.8	26.7	8.9	22.1	10.5	19.0	0.01	0.02	0.0	NA	NA
Approach		0.425			20.9	51.8	15.0	37.2	22.5	40.8	0.01	0.02			
West: Gilman St															
Lane 1		0.162	1.000	0.0	5.1	12.6	4.6	11.5	5.0	9.2	0.03	0.06	0.0	NA	NA
Approach		0.162			5.1	12.6	4.6	11.5	5.0	9.2	0.03	0.06			
Intersection		0.923			149.7	372.1	107.4	266.9	173.3	314.4	0.09	0.23			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		0.923	1.000	3.0	5.9	14.6	4.2	10.5	6.8	12.4	0.09	0.23	0.0	NA	NA
Approach		0.923			5.9	14.6	4.2	10.5	6.8	12.4	0.09	0.23			
East: Gilman St															
Lane 1		0.137	1.000	0.0	0.2	0.6	0.2	0.5	0.2	0.3	0.10	0.25	NA	0.0	2
Lane 2		0.134	1.000	0.0	0.2	0.6	0.2	0.5	0.2	0.3	0.03	0.07	0.0	NA	NA
Approach		0.137			0.2	0.6	0.2	0.5	0.2	0.3	0.03	0.07			
North: I-80 off-ramp															
Lane 1		0.425	1.000	0.1	0.8	2.0	0.6	1.5	0.9	1.6	0.03	0.09	NA	0.0	2
Lane 2		0.252	1.000	0.0	0.4	1.1	0.4	0.9	0.4	0.7	0.01	0.02	0.0	NA	NA
Approach		0.425			0.8	2.0	0.6	1.5	0.9	1.6	0.01	0.02			
West: Gilman St															
Lane 1		0.162	1.000	0.0	0.2	0.5	0.2	0.5	0.2	0.4	0.03	0.06	0.0	NA	NA
Approach		0.162			0.2	0.5	0.2	0.5	0.2	0.4	0.03	0.06			

Intersection	0.923		5.9	14.6	4.2	10.5	6.8	12.4	0.09	0.23

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		0.859	1.000	37.9	75.5	187.6	67.3	167.3	115.7	209.8	0.05	0.12	0.0	NA	NA
Approach		0.859			75.5	187.6	67.3	167.3	115.7	209.8	0.05	0.12			
East: Gilman St															
Lane 1		0.363	1.000	1.6	16.9	42.0	13.9	34.6	17.8	32.2	0.08	0.21	11.6	NA	NA
Lane 2		0.789	1.000	40.7	99.2	246.6	66.8	166.0	100.6	182.5	1.24	3.08	NA	100.0	1
Approach		0.789			99.2	246.6	66.8	166.0	100.6	182.5	0.08	0.21			
NorthEast: Eastshore Highway															
Lane 1		0.352	1.000	1.7	12.3	30.5	11.9	29.6	15.2	27.5	0.01	0.02	0.0	NA	NA
Approach		0.352			12.3	30.5	11.9	29.6	15.2	27.5	0.01	0.02			
West: Gilman St															
Lane 1		0.735	1.000	0.0	104.5	259.8	30.7	76.3	76.5	138.7	0.52	1.30	13.3	NA	NA
Approach		0.735			104.5	259.8	30.7	76.3	76.5	138.7	0.52	1.30			
SouthWest: I-80 Off-ramp															
Lane 1		0.253	1.000	0.0	9.7	24.2	8.9	22.0	9.6	17.5	0.01	0.02	0.0	NA	NA
Approach		0.253			9.7	24.2	8.9	22.0	9.6	17.5	0.01	0.02			
Intersection		0.859			104.5	259.8	67.3	167.3	115.7	209.8	0.52	1.30			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		0.859	1.000	1.5	3.0	7.4	2.6	6.6	4.6	8.3	0.05	0.12	0.0	NA	NA
Approach		0.859			3.0	7.4	2.6	6.6	4.6	8.3	0.05	0.12			
East: Gilman St															
Lane 1		0.363	1.000	0.1	0.7	1.6	0.5	1.4	0.7	1.3	0.08	0.21	11.6	NA	NA
Lane 2		0.789	1.000	1.6	3.9	9.6	2.6	6.5	3.9	7.1	1.24	3.08	NA	100.0	1
Approach		0.789			3.9	9.6	2.6	6.5	3.9	7.1	0.08	0.21			
NorthEast: Eastshore Highway															
Lane 1		0.352	1.000	0.1	0.5	1.2	0.5	1.2	0.6	1.1	0.01	0.02	0.0	NA	NA
Approach		0.352			0.5	1.2	0.5	1.2	0.6	1.1	0.01	0.02			
West: Gilman St															
Lane 1		0.735	1.000	0.0	4.1	10.1	1.2	3.0	3.0	5.4	0.52	1.30	13.3	NA	NA

Approach	0.735			4.1	10.1	1.2	3.0	3.0	5.4	0.52	1.30			
SouthWest: I-80 Off-ramp														
Lane 1	0.253	1.000	0.0	0.4	1.0	0.3	0.9	0.4	0.7	0.01	0.02	0.0	NA	NA
Approach	0.253			0.4	1.0	0.3	0.9	0.4	0.7	0.01	0.02			
Intersection	0.859			4.1	10.1	2.6	6.6	4.6	8.3	0.52	1.30			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.566	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.566			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.271	1.000	1.4	13.0	32.2	11.6	28.7	11.3	20.5	0.13	0.32	NA	0.0	2
Lane 2	Y	0.361	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.361			13.0	32.2	11.6	28.7	11.3	20.5	0.00	0.00			
Intersection		0.566			13.0	32.2	11.6	28.7	11.3	20.5	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.566	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.566			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.271	1.000	0.1	0.5	1.3	0.5	1.1	0.4	0.8	0.13	0.32	NA	0.0	2
Lane 2	Y	0.361	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.361			0.5	1.3	0.5	1.1	0.4	0.8	0.00	0.00			
Intersection		0.566			0.5	1.3	0.5	1.1	0.4	0.8	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.566	39.6	0.0	3.77	218.9	17.6	0.42	3.35	8.0	11.2	24.1	24.7	LOS C
West: Gilman St													
Lane 2	0.361	39.8	0.0	5.61	327.6	17.6	0.42	5.19	5.4	7.5	16.1	16.5	LOS B

Midblock Effective Detection Zone Length = 7 ft

QUEUE ANALYSIS

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.483	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.483			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.266	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.266			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.483			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.483	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.483			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.266	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.266			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.483			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.483	39.7	0.2	3.89	226.6	17.6	0.42	3.47	7.8	10.8	23.3	23.9	LOS C
West: Gilman St													
Lane 1	0.266	39.9	0.1	7.33	429.0	17.6	0.42	6.91	4.1	5.7	12.3	12.6	LOS B

Midblock Effective Detection Zone Length = 7 ft

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QUEUE ANALYSIS

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 50 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Green (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.368	1.000	3.8	41.9	68.4	38.9	63.5	17.6	36.7	0.03	0.04	0.0	NA	NA
Approach		0.368			41.9	68.4	38.9	63.5	17.6	36.7	0.03	0.04			
East: Gilman St															
Lane 1		0.803	1.000	50.8	319.5	521.4	181.4	296.1	88.7	185.3	0.20	0.33	0.0	NA	NA
Approach		0.803			319.5	521.4	181.4	296.1	88.7	185.3	0.20	0.33			
North: Fourth St															
Lane 1		0.047	1.000	0.4	4.2	6.9	4.1	6.7	1.1	2.2	0.00	0.00	0.0	NA	NA
Approach		0.047			4.2	6.9	4.1	6.7	1.1	2.2	0.00	0.00			
West: Gilman St															
Lane 1		0.524	1.000	14.3	144.4	235.6	103.3	168.6	34.6	72.4	0.09	0.15	0.0	NA	NA
Approach		0.524			144.4	235.6	103.3	168.6	34.6	72.4	0.09	0.15			
Intersection		0.803			319.5	521.4	181.4	296.1	88.7	185.3	0.20	0.33			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Green (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.368	1.000	0.1	1.6	2.7	1.5	2.5	0.7	1.4	0.03	0.04	0.0	NA	NA
Approach		0.368			1.6	2.7	1.5	2.5	0.7	1.4	0.03	0.04			
East: Gilman St															
Lane 1		0.803	1.000	2.0	12.5	20.4	7.1	11.6	3.5	7.2	0.20	0.33	0.0	NA	NA
Approach		0.803			12.5	20.4	7.1	11.6	3.5	7.2	0.20	0.33			
North: Fourth St															
Lane 1		0.047	1.000	0.0	0.2	0.3	0.2	0.3	0.0	0.1	0.00	0.00	0.0	NA	NA
Approach		0.047			0.2	0.3	0.2	0.3	0.0	0.1	0.00	0.00			
West: Gilman St															
Lane 1		0.524	1.000	0.6	5.6	9.2	4.0	6.6	1.4	2.8	0.09	0.15	0.0	NA	NA
Approach		0.524			5.6	9.2	4.0	6.6	1.4	2.8	0.09	0.15			
Intersection		0.803			12.5	20.4	7.1	11.6	3.5	7.2	0.20	0.33			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.

Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	

There are no Continuous Lanes at this Site.

Pedestrian Queues

Mov ID	Description	Dem. Flow ped/h	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft
South: Fourth St				
2P	Full	40	0.0	0.1
East: Gilman St				
8P	Full	20	0.0	0.1
North: Fourth St				
6P	Full	30	0.0	0.1
West: Gilman St				
4P	Full	20	0.0	0.1
All Pedestrians		110	0.0	0.1

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SIDRA Calculations
Near-Term Plus Project Conditions

FEHR PEERS

LANE SUMMARY

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: W Frontage Rd															
Lane 1 d	50	2.0	50	2.0	491	0.102	100	8.6	LOS A	0.1	3.7	Full	1600	-1.6 N3	0.0
Approach	50	2.0	50	2.0		0.102		8.6	LOS A	0.1	3.7				
East: Gilman St															
Lane 1	337	3.0	326	3.0	1375	0.237	100	3.9	LOS A	0.5	12.0	Short	60	0.0	NA
Lane 2 d	641	3.0	621	3.0	1375	0.451	100	5.1	LOS A	1.2	31.6	Full	200	0.0	0.0
Approach	978	3.0	947	3.0		0.451		4.7	LOS A	1.2	31.6				
North: I-80 off-ramp															
Lane 1 d	736	2.0	736	2.0	574	1.281	100	158.8	LOS F	24.0	610.6	Short	600	-1.8 N3	NA
Lane 2	508	2.0	508	2.0	523	0.970	100	58.5	LOS F	6.3	159.9	Full	1600	0.0	3.5 8
Approach	1244	2.0	1244	2.0		1.281		117.8	LOS F	24.0	610.6				
West: Gilman St															
Lane 1 d	41	3.0	41	3.0	203	0.202	100	23.0	LOS C	0.2	5.2	Full	200	-1.2 N3	0.0
Approach	41	3.0	41	3.0		0.202		23.0	LOS C	0.2	5.2				
All Vehicles	2313	2.4	2282	2.5		1.281		66.8	LOS F	24.0	610.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
d Dominant lane on roundabout approach
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: W Frontage Rd

Mov. From S To Exit:	L2 W	R2 E	R3 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	45	2	50	2.0	491	0.102	100	NA	NA
Approach	3	45	2	50	2.0		0.102			

East: Gilman St

Mov. From E To Exit:	L3 SE	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	326	-	-	326	3.0	1375	0.237	100	0.0	2

Lane 2	-	603	17	621	3.0		1375	0.451	100	NA	NA
Approach	326	603	17	947	3.0			0.451			
North: I-80 off-ramp											
Mov. From N To Exit:	L2 E	L1 SE	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	732	4	-	-	736	2.0	574	1.281	100	52.1	2
Lane 2	-	-	494	14	508	2.0	523	0.970	100	NA	NA
Approach	732	4	494	14	1244	2.0		1.281			
West: Gilman St											
Mov. From W To Exit:	T1 E	R1 SE	R2 S	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	27	2	12	41	3.0		203	0.202	100	NA	NA
Approach	27	2	12	41	3.0			0.202			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2282	2.5	1.281

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: W Frontage Rd				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: I-80 off-ramp				
Lane 1	0.0	40.4	253.0	NA
Lane 2	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eastshore Highway															
Lane 1 d	250	2.0	250	2.0	299	0.837	100	54.8	LOS F	2.2	55.0	Full	1600	0.0	0.0
Approach	250	2.0	250	2.0		0.837		54.8	LOS F	2.2	55.0				
East: Gilman St															
Lane 1 d	625	3.0	625	3.0	1108	0.564	100	10.0	LOS B	1.7	42.9	Full	200	0.0	0.0
Lane 2	188	3.0	188	3.0	1040	0.181	100	5.1	LOS A	0.3	7.6	Short	80	0.0	NA
Approach	813	3.0	813	3.0		0.564		8.9	LOS A	1.7	42.9				
NorthEast: Eastshore Highway															
Lane 1 d	582	2.0	582	2.0	533	1.093	100	91.8	LOS F	11.0	279.7	Full	1600	0.0	0.0
Approach	582	2.0	582	2.0		1.093		91.8	LOS F	11.0	279.7				
West: Gilman St															
Lane 1 d	804	3.0	645	3.2	1028	0.627	100	12.1	LOS B	2.8	72.6	Full	200	0.0	2.0
Approach	804	3.0	645	3.2		0.627		12.1	LOS B	2.8	72.6				
SouthWest: I-80 Off-ramp															
Lane 1 d	612	2.0	612	2.0	520	1.176	100	121.1	LOS F	15.8	401.9	Full	1600	0.0	0.0
Approach	612	2.0	612	2.0		1.176		121.1	LOS F	15.8	401.9				
All Vehicles	3061	2.5	2902	2.7		1.176		53.8	LOS F	15.8	401.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
South: Eastshore Highway										
Lane 1	109	68	73	250	2.0	299	0.837	100	NA	NA
Approach	109	68	73	250	2.0		0.837			

Mov. From E To Exit:	U E	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
East: Gilman St										

Lane 1	99	526	-	625	3.0	1108	0.564	100	NA	NA
Lane 2	-	-	188	188	3.0	1040	0.181	100	0.0	1
Approach	99	526	188	813	3.0		0.564			
NorthEast: Eastshore Highway										
Mov. From NE To Exit:	L3 E	R1 W	R3 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	160	311	111	582	2.0	533	1.093	100	NA	NA
Approach	160	311	111	582	2.0		1.093			
West: Gilman St										
Mov. From W To Exit:	L2 N	T1 E	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	34	611	645	3.2		1028	0.627	100	NA	NA
Approach	34	611	645	3.2			0.627			
SouthWest: I-80 Off-ramp										
Mov. From SW To Exit:	L3 W	L1 N	R1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	3	577	612	2.0	520	1.176	100	NA	NA
Approach	32	3	577	612	2.0		1.176			
	Total	%HV		Deg.Satn (v/c)						
All Vehicles	2902	2.7		1.176						

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Eastshore Highway				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
NorthEast: Eastshore Highway				
Lane 1	0.0	12.4	83.6	NA
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
SouthWest: I-80 Off-ramp				
Lane 1	0.0	22.9	158.5	NA

LANE SUMMARY

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	845	3.0	845	3.0	1902	0.444	100	0.0	LOS A	0.0	0.0	Full	200	0.0	0.0
Approach	845	3.0	845	3.0		0.444		0.0	NA	0.0	0.0				
West: Gilman St															
Lane 1	84	3.0	71	3.2	780	0.092	100	5.5	LOS A	0.1	3.7	Short	100	0.0	NA
Lane 2	1579	3.0	1343	3.2	1664	0.807	100	0.1	LOS A	0.0	0.0	Full	200	0.0	0.0
Approach	1663	3.0	1415	3.2		0.807		0.4	NA	0.1	3.7				
All Vehicles	2508	3.0	2260	3.3		0.807		0.3	NA	0.1	3.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	805	40	845	3.0	1902	0.444	100	NA	NA
Approach	805	40	845	3.0		0.444			

West: Gilman St

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	71	-	-	71	3.2	780	0.092	100	0.0	2
Lane 2	-	546	797	1343	3.2	1664	0.807	100	NA	NA
Approach	71	546	797	1415	3.2		0.807			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2260	3.3	0.807

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

	Opposing Flow Rate	Critical Gap	Follow-up Headway	Capacity	Deg. Satn	Min. Delay	Merge Delay

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	veh/h	pcu/h	sec	sec	Lane Flow Rate veh/h	veh/h	v/c	sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	831	3.0	831	3.0	1918	0.433	100	0.1	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	831	3.0	831	3.0		0.433		0.1	NA	0.0	0.0				
West: Gilman St															
Lane 1	619	3.0	527	3.2	1842	0.286	100	0.1	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	619	3.0	527	3.2		0.286		0.1	NA	0.0	0.0				
All Vehicles	1450	3.0	1358	3.2		0.433		0.1	NA	0.0	0.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	831	831	3.0	1918	0.433	100	NA	NA
Approach	831	831	3.0		0.433			

West: Gilman St

Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	527	527	3.2	1842	0.286	100	NA	NA
Approach	527	527	3.2		0.286			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1358	3.2	0.433

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 60 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Fourth St															
Lane 1	36	3.0	36	3.0	268	0.134	100	17.7	LOS B	0.5	12.5	Full	1600	0.0	0.0
Approach	36	3.0	36	3.0		0.134		17.7	LOS B	0.5	12.5				
East: Gilman St															
Lane 1	935	3.0	935	3.0	1290	0.725	100	9.1	LOS A	11.5	294.7	Full	1600	0.0	0.0
Approach	935	3.0	935	3.0		0.725		9.1	LOS A	11.5	294.7				
North: Fourth St															
Lane 1	24	3.0	24	3.0	315	0.076	100	11.6	LOS B	0.2	5.6	Full	1600	0.0	0.0
Approach	24	3.0	24	3.0		0.076		11.6	LOS B	0.2	5.6				
West: Gilman St															
Lane 1	697	3.0	604	3.1	1291	0.468	100	5.6	LOS A	5.2	133.6	Full	1600	0.0	0.0
Approach	697	3.0	604	3.1		0.468		5.6	LOS A	5.2	133.6				
All Vehicles	1691	3.0	1599	3.2		0.725		8.0	LOS A	11.5	294.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

South: Fourth St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	10	5	36	3.0	268	0.134	100	NA	NA
Approach	21	10	5	36	3.0		0.134			

East: Gilman St

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	16	918	935	3.0	1290	0.725	100	NA	NA
Approach	16	918	935	3.0		0.725			

North: Fourth St

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	13	11	24	3.0	315	0.076	100	NA	NA

Approach	13	11	24	3.0			0.076			
West: Gilman St										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	532	62	604	3.1	1291	0.468	100	NA	NA
Approach	9	532	62	604	3.1		0.468			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1599	3.2	0.725

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
North: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

QUEUE ANALYSIS

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		0.102	1.000	0.0	3.7	9.1	3.5	8.8	3.0	5.5	0.00	0.01	0.0	NA	NA
Approach		0.102			3.7	9.1	3.5	8.8	3.0	5.5	0.00	0.01			
East: Gilman St															
Lane 1		0.237	1.000	0.0	12.0	29.8	9.1	22.7	9.0	16.4	0.20	0.50	NA	0.0	2
Lane 2		0.451	1.000	0.0	31.6	78.6	17.4	43.2	22.5	40.9	0.16	0.39	0.0	NA	NA
Approach		0.451			31.6	78.6	17.4	43.2	22.5	40.9	0.16	0.39			
North: I-80 off-ramp															
Lane 1		1.281	1.000	547.2	610.6	1517.5	587.2	1459.4	- [1]	1495.9	1.02	2.53	NA	52.1	2
Lane 2		0.970	1.000	102.5	159.9	397.4	134.0	333.1	209.5	380.1	0.10	0.25	3.5	NA	NA
Approach		1.281			610.6	1517.5	587.2	1459.4	- [1]	1495.9	0.10	0.25			
West: Gilman St															
Lane 1		0.202	1.000	0.2	5.2	13.0	5.1	12.8	6.7	12.1	0.03	0.06	0.0	NA	NA
Approach		0.202			5.2	13.0	5.1	12.8	6.7	12.1	0.03	0.06			
Intersection		1.281			610.6	1517.5	587.2	1459.4	- [1]	1495.9	0.16	0.39			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.
[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		0.102	1.000	0.0	0.1	0.4	0.1	0.3	0.1	0.2	0.00	0.01	0.0	NA	NA
Approach		0.102			0.1	0.4	0.1	0.3	0.1	0.2	0.00	0.01			
East: Gilman St															
Lane 1		0.237	1.000	0.0	0.5	1.2	0.4	0.9	0.4	0.6	0.20	0.50	NA	0.0	2
Lane 2		0.451	1.000	0.0	1.2	3.1	0.7	1.7	0.9	1.6	0.16	0.39	0.0	NA	NA
Approach		0.451			1.2	3.1	0.7	1.7	0.9	1.6	0.16	0.39			
North: I-80 off-ramp															
Lane 1		1.281	1.000	21.5	24.0	59.7	23.1	57.5	- [1]	58.9	1.02	2.53	NA	52.1	2
Lane 2		0.970	1.000	4.0	6.3	15.6	5.3	13.1	8.2	15.0	0.10	0.25	3.5	NA	NA
Approach		1.281			24.0	59.7	23.1	57.5	- [1]	58.9	0.10	0.25			
West: Gilman St															
Lane 1		0.202	1.000	0.0	0.2	0.5	0.2	0.5	0.3	0.5	0.03	0.06	0.0	NA	NA

Approach	0.202	0.2	0.5	0.2	0.5	0.3	0.5	0.03	0.06
Intersection	1.281	24.0	59.7	23.1	57.5	- [1]	58.9	0.16	0.39

Roundabout Capacity Model: US HCM 6.

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

Short Lanes are not included in determining Queue Storage Ratios.

[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		0.837	1.000	27.2	55.0	136.6	54.3	134.9	96.6	175.3	0.03	0.09	0.0	NA	NA
Approach		0.837			55.0	136.6	54.3	134.9	96.6	175.3	0.03	0.09			
East: Gilman St															
Lane 1		0.564	1.000	4.0	42.9	106.7	23.8	59.0	44.5	80.7	0.21	0.53	0.0	NA	NA
Lane 2		0.181	1.000	0.0	7.6	18.9	6.5	16.2	6.8	12.4	0.09	0.24	NA	0.0	1
Approach		0.564			42.9	106.7	23.8	59.0	44.5	80.7	0.21	0.53			
NorthEast: Eastshore Highway															
Lane 1		1.093	1.000	222.0	279.7	695.2	256.2	636.7	- [1]	683.8	0.17	0.43	0.0	NA	NA
Approach		1.093			279.7	695.2	256.2	636.7	- [1]	683.8	0.17	0.43			
West: Gilman St															
Lane 1		0.627	1.000	14.5	72.6	180.5	39.7	98.7	55.4	100.5	0.36	0.90	2.0	NA	NA
Approach		0.627			72.6	180.5	39.7	98.7	55.4	100.5	0.36	0.90			
SouthWest: I-80 Off-ramp															
Lane 1		1.176	1.000	336.0	401.9	998.9	378.0	939.4	- [1]	948.3	0.25	0.62	0.0	NA	NA
Approach		1.176			401.9	998.9	378.0	939.4	- [1]	948.3	0.25	0.62			
Intersection		1.176			401.9	998.9	378.0	939.4	- [1]	948.3	0.36	0.90			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.
[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		0.837	1.000	1.1	2.2	5.4	2.1	5.3	3.8	6.9	0.03	0.09	0.0	NA	NA
Approach		0.837			2.2	5.4	2.1	5.3	3.8	6.9	0.03	0.09			
East: Gilman St															
Lane 1		0.564	1.000	0.2	1.7	4.2	0.9	2.3	1.7	3.2	0.21	0.53	0.0	NA	NA
Lane 2		0.181	1.000	0.0	0.3	0.7	0.3	0.6	0.3	0.5	0.09	0.24	NA	0.0	1
Approach		0.564			1.7	4.2	0.9	2.3	1.7	3.2	0.21	0.53			
NorthEast: Eastshore Highway															
Lane 1		1.093	1.000	8.7	11.0	27.4	10.1	25.1	- [1]	26.9	0.17	0.43	0.0	NA	NA
Approach		1.093			11.0	27.4	10.1	25.1	- [1]	26.9	0.17	0.43			

West: Gilman St														
Lane 1	0.627	1.000	0.6	2.8	7.0	1.5	3.8	2.2	3.9	0.36	0.90	2.0	NA	NA
Approach	0.627			2.8	7.0	1.5	3.8	2.2	3.9	0.36	0.90			
SouthWest: I-80 Off-ramp														
Lane 1	1.176	1.000	13.2	15.8	39.3	14.9	37.0	- [1]	37.3	0.25	0.62	0.0	NA	NA
Approach	1.176			15.8	39.3	14.9	37.0	- [1]	37.3	0.25	0.62			
Intersection	1.176			15.8	39.3	14.9	37.0	- [1]	37.3	0.36	0.90			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.
[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.444	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.444			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.092	1.000	0.0	3.7	9.1	3.5	8.7	2.8	5.1	0.04	0.09	NA	0.0	2
Lane 2	Y	0.807	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.807			3.7	9.1	3.5	8.7	2.8	5.1	0.00	0.00			
Intersection		0.807			3.7	9.1	3.5	8.7	2.8	5.1	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.444	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.444			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.092	1.000	0.0	0.1	0.4	0.1	0.3	0.1	0.2	0.04	0.09	NA	0.0	2
Lane 2	Y	0.807	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.807			0.1	0.4	0.1	0.3	0.1	0.2	0.00	0.00			
Intersection		0.807			0.1	0.4	0.1	0.3	0.1	0.2	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.444	39.8	0.0	4.26	248.6	17.6	0.42	3.84	7.1	9.9	21.2	21.8	LOS C
West: Gilman St													
Lane 2	0.807	38.8	0.1	2.68	152.3	17.6	0.43	2.25	11.6	16.1	34.7	35.5	LOS E

Midblock Effective Detection Zone Length = 7 ft

QUEUE ANALYSIS

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.433	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.433			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.286	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.286			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.433			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.433	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.433			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.286	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.286			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.433			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.433	39.8	0.1	4.33	252.8	17.6	0.42	3.91	6.9	9.7	20.9	21.4	LOS C
West: Gilman St													
Lane 1	0.286	39.9	0.1	6.84	400.0	17.6	0.42	6.42	4.4	6.2	13.2	13.5	LOS B

Midblock Effective Detection Zone Length = 7 ft

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QUEUE ANALYSIS

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [AM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 60 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Green (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.134	1.000	1.0	12.5	20.3	12.2	19.9	4.5	9.4	0.01	0.01	0.0	NA	NA
Approach		0.134			12.5	20.3	12.2	19.9	4.5	9.4	0.01	0.01			
East: Gilman St															
Lane 1		0.725	1.000	40.5	294.7	480.9	162.6	265.4	60.4	126.2	0.18	0.30	0.0	NA	NA
Approach		0.725			294.7	480.9	162.6	265.4	60.4	126.2	0.18	0.30			
North: Fourth St															
Lane 1		0.076	1.000	0.6	5.6	9.1	5.5	9.0	2.0	4.1	0.00	0.01	0.0	NA	NA
Approach		0.076			5.6	9.1	5.5	9.0	2.0	4.1	0.00	0.01			
West: Gilman St															
Lane 1		0.468	1.000	14.0	133.6	218.1	94.2	153.8	23.9	49.9	0.08	0.14	0.0	NA	NA
Approach		0.468			133.6	218.1	94.2	153.8	23.9	49.9	0.08	0.14			
Intersection		0.725			294.7	480.9	162.6	265.4	60.4	126.2	0.18	0.30			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Green (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.134	1.000	0.0	0.5	0.8	0.5	0.8	0.2	0.4	0.01	0.01	0.0	NA	NA
Approach		0.134			0.5	0.8	0.5	0.8	0.2	0.4	0.01	0.01			
East: Gilman St															
Lane 1		0.725	1.000	1.6	11.5	18.8	6.4	10.4	2.4	4.9	0.18	0.30	0.0	NA	NA
Approach		0.725			11.5	18.8	6.4	10.4	2.4	4.9	0.18	0.30			
North: Fourth St															
Lane 1		0.076	1.000	0.0	0.2	0.4	0.2	0.4	0.1	0.2	0.00	0.01	0.0	NA	NA
Approach		0.076			0.2	0.4	0.2	0.4	0.1	0.2	0.00	0.01			
West: Gilman St															
Lane 1		0.468	1.000	0.5	5.2	8.5	3.7	6.0	0.9	1.9	0.08	0.14	0.0	NA	NA
Approach		0.468			5.2	8.5	3.7	6.0	0.9	1.9	0.08	0.14			
Intersection		0.725			11.5	18.8	6.4	10.4	2.4	4.9	0.18	0.30			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.

Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	

There are no Continuous Lanes at this Site.

Pedestrian Queues

Mov ID	Description	Dem. Flow ped/h	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft
South: Fourth St				
2P	Full	30	0.0	0.1
East: Gilman St				
8P	Full	10	0.0	0.0
North: Fourth St				
6P	Full	20	0.0	0.1
West: Gilman St				
4P	Full	10	0.0	0.0
All Pedestrians		70	0.0	0.1

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LANE SUMMARY

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: W Frontage Rd															
Lane 1 d	563	2.0	563	2.0	504	1.118	100	101.1	LOS F	12.1	307.7	Full	1600	-12.4 N7	0.0
Approach	563	2.0	563	2.0		1.118		101.1	LOS F	12.1	307.7				
East: Gilman St															
Lane 1 d	452	3.0	316	3.4	1330	0.238	100	4.5	LOS A	0.5	11.8	Short	60	0.0	NA
Lane 2	178	3.0	125	3.4	1330	0.094	100	3.4	LOS A	0.2	3.9	Full	200	0.0	0.0
Approach	630	3.0	441	3.4		0.238		4.2	LOS A	0.5	11.8				
North: I-80 off-ramp															
Lane 1 d	403	2.0	403	2.0	785	0.513	100	11.2	LOS B	1.2	31.6	Short	600	-13.1 N7	NA
Lane 2	227	2.0	227	2.0	834	0.272	100	7.3	LOS A	0.5	11.5	Full	1600	0.0	0.0
Approach	630	2.0	630	2.0		0.513		9.8	LOS A	1.2	31.6				
West: Gilman St															
Lane 1 d	96	3.0	96	3.0	516	0.186	100	8.7	LOS A	0.2	5.7	Full	200	-11.0 N7	0.0
Approach	96	3.0	96	3.0		0.186		8.7	LOS A	0.2	5.7				
All Vehicles	1919	2.4	1730	2.6		1.118		38.0	LOS E	12.1	307.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

N7 The capacity reduction has been determined from the queue blockage probability based on the Back of Queue value of a Site further downstream.

Approach Lane Flows (veh/h)

South: W Frontage Rd

Mov. From S To Exit:	L2 W	R2 E	R3 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	517	10	563	2.0	504	1.118	100	NA	NA
Approach	36	517	10	563	2.0		1.118			

East: Gilman St

Mov. From E To Exit:	L3 SE	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	316	-	-	316	3.4	1330	0.238	100	0.0	2

Lane 2	-	77	48	125	3.4		1330	0.094	100	NA	NA
Approach	316	77	48	441	3.4			0.238			
North: I-80 off-ramp											
Mov. From N To Exit:	L2 E	L1 SE	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	397	6	-	-	403	2.0	785	0.513	100	0.0	2
Lane 2	-	-	140	87	227	2.0	834	0.272	100	NA	NA
Approach	397	6	140	87	630	2.0		0.513			
West: Gilman St											
Mov. From W To Exit:	T1 E	R1 SE	R2 S	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	77	2	17	96	3.0		516	0.186	100	NA	NA
Approach	77	2	17	96	3.0			0.186			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1730	2.6	1.118

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: W Frontage Rd				
Lane 1	0.0	14.9	106.2	NA
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: I-80 off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eastshore Highway															
Lane 1 d	933	2.0	933	2.0	394	2.367	100	641.9	LOS F	69.6	1767.0	Full	1600	0.0	66.3
Approach	933	2.0	933	2.0		2.367		641.9	LOS F	69.6	1767.0				
East: Gilman St															
Lane 1	276	3.0	276	3.0	663	0.417	100	11.3	LOS B	0.8	21.0	Full	200	0.0	16.2 8
Lane 2 d	612	3.0	612	3.0	726	0.843	100	29.1	LOS D	4.4	113.1	Short	80	0.0	NA
Approach	888	3.0	888	3.0		0.843		23.5	LOS C	4.4	113.1				
NorthEast: Eastshore Highway															
Lane 1 d	124	2.0	124	2.0	326	0.380	100	19.5	LOS C	0.5	13.2	Full	1600	0.0	0.0
Approach	124	2.0	124	2.0		0.380		19.5	LOS C	0.5	13.2				
West: Gilman St															
Lane 1 d	991	3.0	937	3.1	1263	0.742	100	12.4	LOS B	4.0	102.8	Full	200	0.0	12.8
Approach	991	3.0	937	3.1		0.742		12.4	LOS B	4.0	102.8				
SouthWest: I-80 Off-ramp															
Lane 1 d	155	2.0	155	2.0	465	0.333	100	13.1	LOS B	0.6	14.1	Full	1600	0.0	0.0
Approach	155	2.0	155	2.0		0.333		13.1	LOS B	0.6	14.1				
All Vehicles	3091	2.6	3037	2.7		2.367		209.4	LOS F	69.6	1767.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eastshore Highway

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	328	369	236	933	2.0	394	2.367	100	NA	NA
Approach	328	369	236	933	2.0		2.367			

East: Gilman St

Mov.	U	T1	R2	Total	%HV

From E To Exit:	E	W	N			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	255	-	276	3.0	663	0.417	100	NA	NA
Lane 2	-	-	612	612	3.0	726	0.843	100	100.0	1
Approach	21	255	612	888	3.0		0.843			
NorthEast: Eastshore Highway										
Mov. From NE To Exit:	L3 E	R1 W	R3 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	35	26	63	124	2.0	326	0.380	100	NA	NA
Approach	35	26	63	124	2.0		0.380			
West: Gilman St										
Mov. From W To Exit:	L2 N	T1 E	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	377	560	937	3.1		1263	0.742	100	NA	NA
Approach	377	560	937	3.1			0.742			
SouthWest: I-80 Off-ramp										
Mov. From SW To Exit:	L3 W	L1 N	R1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	3	131	155	2.0	465	0.333	100	NA	NA
Approach	21	3	131	155	2.0		0.333			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3037	2.7	2.367

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Eastshore Highway				
Lane 1	0.0	134.7	1230.7	NA
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
NorthEast: Eastshore Highway				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
SouthWest: I-80 Off-ramp				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	973	3.0	973	3.0	1605	0.606	100	0.1	LOS A	0.0	0.0	Full	200	-14.8 N7	0.0
Approach	973	3.0	973	3.0		0.606		0.1	NA	0.0	0.0				
West: Gilman St															
Lane 1	192	3.0	160	3.2	696	0.230	100	7.8	LOS A	0.4	10.0	Short	100	0.0	NA
Lane 2	823	3.0	687	3.2	1753	0.392	100	0.0	LOS A	0.0	0.0	Full	200	0.0	0.0
Approach	1015	3.0	847	3.2		0.392		1.5	NA	0.4	10.0				
All Vehicles	1988	3.0	1820	3.3		0.606		0.7	NA	0.4	10.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
N7 The capacity reduction has been determined from the queue blockage probability based on the Back of Queue value of a Site further downstream.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	875	98	973	3.0	1605	0.606	100	NA	NA
Approach	875	98	973	3.0		0.606			

West: Gilman St

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	160	-	-	160	3.2	696	0.230	100	0.0	2
Lane 2	-	494	193	687	3.2	1753	0.392	100	NA	NA
Approach	160	494	193	847	3.2		0.392			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1820	3.3	0.606

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
East: Gilman St															
Lane 1	944	3.0	944	3.0	1918	0.492	100	0.0	LOS A	0.0	0.0	Full	260	0.0	0.0
Approach	944	3.0	944	3.0		0.492		0.0	NA	0.0	0.0				
West: Gilman St															
Lane 1	573	3.0	478	3.2	1780	0.269	100	0.1	LOS A	0.0	0.0	Full	1600	-3.3 N3	0.0
Approach	573	3.0	478	3.2		0.269		0.1	NA	0.0	0.0				
All Vehicles	1517	3.0	1422	3.2		0.492		0.0	NA	0.0	0.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

East: Gilman St

Mov. From E To Exit:	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	944	944	3.0	1918	0.492	100	NA	NA
Approach	944	944	3.0		0.492			

West: Gilman St

Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	478	478	3.2	1780	0.269	100	NA	NA
Approach	478	478	3.2		0.269			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1422	3.2	0.492

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn	Min. Delay	Merge Delay

ft	%	veh/h	pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.										

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

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LANE SUMMARY

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 60 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Fourth St															
Lane 1	130	3.0	130	3.0	343	0.380	100	23.0	LOS C	2.0	51.3	Full	1600	0.0	0.0
Approach	130	3.0	130	3.0		0.380		23.0	LOS C	2.0	51.3				
East: Gilman St															
Lane 1	954	3.0	954	3.0	1213	0.787	100	13.0	LOS B	14.1	362.1	Full	1600	0.0	0.0
Approach	954	3.0	954	3.0		0.787		13.0	LOS B	14.1	362.1				
North: Fourth St															
Lane 1	22	3.0	22	3.0	451	0.048	100	8.0	LOS A	0.2	4.9	Full	1600	0.0	0.0
Approach	22	3.0	22	3.0		0.048		8.0	LOS A	0.2	4.9				
West: Gilman St															
Lane 1	672	3.0	578	3.2	1160	0.498	100	8.1	LOS A	6.1	156.2	Full	260	0.0	3.2
Approach	672	3.0	578	3.2		0.498		8.1	LOS A	6.1	156.2				
All Vehicles	1778	3.0	1685	3.2		0.787		12.0	LOS B	14.1	362.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Approach Lane Flows (veh/h)

South: Fourth St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	88	16	26	130	3.0	343	0.380	100	NA	NA
Approach	88	16	26	130	3.0		0.380			

East: Gilman St

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	939	7	954	3.0	1213	0.787	100	NA	NA
Approach	9	939	7	954	3.0		0.787			

North: Fourth St

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	15	22	3.0	451	0.048	100	NA	NA

Approach	7	15	22	3.0			0.048			
West: Gilman St										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	13	541	24	578	3.2	1160	0.498	100	NA	NA
Approach	13	541	24	578	3.2		0.498			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1685	3.2	0.787

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
East: Gilman St				
Lane 1	0.0	0.0	0.0	0.0
North: Fourth St				
Lane 1	0.0	0.0	0.0	0.0
West: Gilman St				
Lane 1	0.0	0.0	0.0	0.0

QUEUE ANALYSIS

Site: 101 [Western Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout west of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		1.118	1.000	243.4	307.7	764.7	278.9	693.2	- [1]	728.2	0.19	0.48	0.0	NA	NA
Approach		1.118			307.7	764.7	278.9	693.2	- [1]	728.2	0.19	0.48			
East: Gilman St															
Lane 1		0.238	1.000	0.0	11.8	29.4	9.1	22.6	10.2	18.5	0.20	0.49	NA	0.0	2
Lane 2		0.094	1.000	0.0	3.9	9.8	3.6	8.9	3.0	5.4	0.02	0.05	0.0	NA	NA
Approach		0.238			11.8	29.4	9.1	22.6	10.2	18.5	0.02	0.05			
North: I-80 off-ramp															
Lane 1		0.513	1.000	7.3	31.6	78.4	22.5	55.9	31.8	57.7	0.05	0.13	NA	0.0	2
Lane 2		0.272	1.000	0.0	11.5	28.6	9.5	23.6	11.6	21.1	0.01	0.02	0.0	NA	NA
Approach		0.513			31.6	78.4	22.5	55.9	31.8	57.7	0.01	0.02			
West: Gilman St															
Lane 1		0.186	1.000	0.0	5.7	14.0	5.2	12.9	5.9	10.8	0.03	0.07	0.0	NA	NA
Approach		0.186			5.7	14.0	5.2	12.9	5.9	10.8	0.03	0.07			
Intersection		1.118			307.7	764.7	278.9	693.2	- [1]	728.2	0.19	0.48			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.
[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: W Frontage Rd															
Lane 1		1.118	1.000	9.6	12.1	30.1	11.0	27.3	- [1]	28.7	0.19	0.48	0.0	NA	NA
Approach		1.118			12.1	30.1	11.0	27.3	- [1]	28.7	0.19	0.48			
East: Gilman St															
Lane 1		0.238	1.000	0.0	0.5	1.1	0.4	0.9	0.4	0.7	0.20	0.49	NA	0.0	2
Lane 2		0.094	1.000	0.0	0.2	0.4	0.1	0.3	0.1	0.2	0.02	0.05	0.0	NA	NA
Approach		0.238			0.5	1.1	0.4	0.9	0.4	0.7	0.02	0.05			
North: I-80 off-ramp															
Lane 1		0.513	1.000	0.3	1.2	3.1	0.9	2.2	1.3	2.3	0.05	0.13	NA	0.0	2
Lane 2		0.272	1.000	0.0	0.5	1.1	0.4	0.9	0.5	0.8	0.01	0.02	0.0	NA	NA
Approach		0.513			1.2	3.1	0.9	2.2	1.3	2.3	0.01	0.02			
West: Gilman St															
Lane 1		0.186	1.000	0.0	0.2	0.5	0.2	0.5	0.2	0.4	0.03	0.07	0.0	NA	NA

Approach	0.186	0.2	0.5	0.2	0.5	0.2	0.4	0.03	0.07
Intersection	1.118	12.1	30.1	11.0	27.3	- [1]	28.7	0.19	0.48

Roundabout Capacity Model: US HCM 6.

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

Short Lanes are not included in determining Queue Storage Ratios.

[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 102 [Eastern Roundabout (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Roundabout east of I-80
Site Category: (None)
Roundabout

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		2.367	1.000	1716.7	1767.0	4391.6	1797.0	4466.1	- [1]	- [1]	1.10	2.74	66.3	NA	NA
Approach		2.367			1767.0	4391.6	1797.0	4466.1	- [1]	- [1]	1.10	2.74			
East: Gilman St															
Lane 1		0.417	1.000	3.5	21.0	52.3	17.5	43.4	22.1	40.1	0.11	0.26	16.2	NA	NA
Lane 2		0.843	1.000	51.2	113.1	281.0	78.7	195.5	126.5	229.5	1.41	3.51	NA	100.0	1
Approach		0.843			113.1	281.0	78.7	195.5	126.5	229.5	0.11	0.26			
NorthEast: Eastshore Highway															
Lane 1		0.380	1.000	2.1	13.2	32.9	13.0	32.3	17.1	31.0	0.01	0.02	0.0	NA	NA
Approach		0.380			13.2	32.9	13.0	32.3	17.1	31.0	0.01	0.02			
West: Gilman St															
Lane 1		0.742	1.000	0.0	102.8	255.5	30.9	76.7	82.8	150.2	0.51	1.28	12.8	NA	NA
Approach		0.742			102.8	255.5	30.9	76.7	82.8	150.2	0.51	1.28			
SouthWest: I-80 Off-ramp															
Lane 1		0.333	1.000	1.4	14.1	35.0	13.0	32.3	14.4	26.1	0.01	0.02	0.0	NA	NA
Approach		0.333			14.1	35.0	13.0	32.3	14.4	26.1	0.01	0.02			
Intersection		2.367			1767.0	4391.6	1797.0	4466.1	- [1]	- [1]	1.10	2.74			

Roundabout Capacity Model: US HCM 6.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
Short Lanes are not included in determining Queue Storage Ratios.
[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Eastshore Highway															
Lane 1		2.367	1.000	67.6	69.6	172.9	70.7	175.8	- [1]	- [1]	1.10	2.74	66.3	NA	NA
Approach		2.367			69.6	172.9	70.7	175.8	- [1]	- [1]	1.10	2.74			
East: Gilman St															
Lane 1		0.417	1.000	0.1	0.8	2.0	0.7	1.7	0.9	1.6	0.11	0.26	16.2	NA	NA
Lane 2		0.843	1.000	2.0	4.4	11.0	3.1	7.6	4.9	9.0	1.41	3.51	NA	100.0	1
Approach		0.843			4.4	11.0	3.1	7.6	4.9	9.0	0.11	0.26			
NorthEast: Eastshore Highway															
Lane 1		0.380	1.000	0.1	0.5	1.3	0.5	1.3	0.7	1.2	0.01	0.02	0.0	NA	NA
Approach		0.380			0.5	1.3	0.5	1.3	0.7	1.2	0.01	0.02			
West: Gilman St															

Lane 1	0.742	1.000	0.0	4.0	10.0	1.2	3.0	3.2	5.9	0.51	1.28	12.8	NA	NA
Approach	0.742			4.0	10.0	1.2	3.0	3.2	5.9	0.51	1.28			
SouthWest: I-80 Off-ramp														
Lane 1	0.333	1.000	0.1	0.6	1.4	0.5	1.3	0.6	1.0	0.01	0.02	0.0	NA	NA
Approach	0.333			0.6	1.4	0.5	1.3	0.6	1.0	0.01	0.02			
Intersection	2.367			69.6	172.9	70.7	175.8	- [1]	- [1]	1.10	2.74			

Roundabout Capacity Model: US HCM 6.

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

Short Lanes are not included in determining Queue Storage Ratios.

[1] Cycle-Average Queue is not given as it is larger than the Back of Queue because the delay estimate includes a large delay experienced after the analysis period in oversaturated conditions.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
There are no Continuous Lanes at this Site.													

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QUEUE ANALYSIS

Site: 103 [Gilman/Second (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.606	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.606			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.230	1.000	0.4	10.0	24.7	9.0	22.4	8.9	16.2	0.10	0.25	NA	0.0	2
Lane 2	Y	0.392	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.392			10.0	24.7	9.0	22.4	8.9	16.2	0.00	0.00			
Intersection		0.606			10.0	24.7	9.0	22.4	8.9	16.2	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.606	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.606			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1		0.230	1.000	0.0	0.4	1.0	0.4	0.9	0.3	0.6	0.10	0.25	NA	0.0	2
Lane 2	Y	0.392	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.392			0.4	1.0	0.4	0.9	0.3	0.6	0.00	0.00			
Intersection		0.606			0.4	1.0	0.4	0.9	0.3	0.6	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.606	39.5	0.1	3.70	214.4	17.6	0.42	3.28	8.2	11.5	24.6	25.2	LOS C
West: Gilman St													
Lane 2	0.392	39.8	0.0	5.24	306.0	17.6	0.42	4.82	5.8	8.0	17.3	17.7	LOS B

Midblock Effective Detection Zone Length = 7 ft

QUEUE ANALYSIS

Site: 104 [Gilman/Third (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Gap (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.492	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.492			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.269	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.269			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.492			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Gilman St															
Lane 1	Y	0.492	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.492			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
West: Gilman St															
Lane 1	Y	0.269	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.269			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.492			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard (HCM).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	
East: Gilman St													
Lane 1	0.492	39.7	0.0	3.81	222.3	17.6	0.42	3.39	7.9	11.1	23.8	24.3	LOS C
West: Gilman St													
Lane 1	0.269	39.9	0.1	7.53	440.5	17.6	0.42	7.11	4.0	5.6	12.0	12.3	LOS B

Midblock Effective Detection Zone Length = 7 ft

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QUEUE ANALYSIS

Site: 105 [Gilman/Fourth (Site Folder: Proposed Design)]

Network: N101 [PM Peak (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gilman/Fourth
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 60 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (ft)	Back of Queue (ft)		Queue at Start of Green (ft)		Cycle-Average Queue (ft)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.380	1.000	4.4	51.3	83.7	47.6	77.6	21.3	44.5	0.03	0.05	0.0	NA	NA
Approach		0.380			51.3	83.7	47.6	77.6	21.3	44.5	0.03	0.05			
East: Gilman St															
Lane 1		0.787	1.000	53.0	362.1	590.9	199.9	326.2	88.0	183.9	0.23	0.37	0.0	NA	NA
Approach		0.787			362.1	590.9	199.9	326.2	88.0	183.9	0.23	0.37			
North: Fourth St															
Lane 1		0.048	1.000	0.4	4.9	8.0	4.7	7.7	1.2	2.6	0.00	0.00	0.0	NA	NA
Approach		0.048			4.9	8.0	4.7	7.7	1.2	2.6	0.00	0.00			
West: Gilman St															
Lane 1		0.498	1.000	14.8	156.2	255.0	111.5	182.0	33.5	69.9	0.60	0.98	3.2	NA	NA
Approach		0.498			156.2	255.0	111.5	182.0	33.5	69.9	0.60	0.98			
Intersection		0.787			362.1	590.9	199.9	326.2	88.0	183.9	0.60	0.98			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Green (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Fourth St															
Lane 1		0.380	1.000	0.2	2.0	3.3	1.9	3.0	0.8	1.7	0.03	0.05	0.0	NA	NA
Approach		0.380			2.0	3.3	1.9	3.0	0.8	1.7	0.03	0.05			
East: Gilman St															
Lane 1		0.787	1.000	2.1	14.1	23.1	7.8	12.7	3.4	7.2	0.23	0.37	0.0	NA	NA
Approach		0.787			14.1	23.1	7.8	12.7	3.4	7.2	0.23	0.37			
North: Fourth St															
Lane 1		0.048	1.000	0.0	0.2	0.3	0.2	0.3	0.0	0.1	0.00	0.00	0.0	NA	NA
Approach		0.048			0.2	0.3	0.2	0.3	0.0	0.1	0.00	0.00			
West: Gilman St															
Lane 1		0.498	1.000	0.6	6.1	9.9	4.4	7.1	1.3	2.7	0.60	0.98	3.2	NA	NA
Approach		0.498			6.1	9.9	4.4	7.1	1.3	2.7	0.60	0.98			
Intersection		0.787			14.1	23.1	7.8	12.7	3.4	7.2	0.60	0.98			

Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity Formula: Traditional M1.

Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy	Spacing	Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	mph	sec	sec	ft	ft	sec	sec	%	%	veh/mi	pc/mi	

There are no Continuous Lanes at this Site.

Pedestrian Queues

Mov ID	Description	Dem. Flow ped/h	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft
South: Fourth St				
2P	Full	40	0.1	0.2
East: Gilman St				
8P	Full	20	0.0	0.1
North: Fourth St				
6P	Full	30	0.0	0.1
West: Gilman St				
4P	Full	20	0.0	0.1
All Pedestrians		110	0.1	0.2

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Appendix G
CMP Analysis

Gilman Gateway Rezone Project
Alameda CTC Roadway System Analysis Summary - 2020 PM

Link Location	Segment Limits		# Lanes	No Project Volume	Plus Project Volume	V/C Ratio - No Project	V/C Ratio - Plus Project	No Project LOS	Plus Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C >3%
Freeway Segments											
I-80 Eastbound											
Between	University Avenue	Gilman Street	4	10,574	10,610	1.32	1.33	F	F	-	No
Between	Gilman Street	Buchanan Street	4	11,400	11,626	1.43	1.45	F	F	-	No
I-80 Westbound											
Between	Buchanan Street	Gilman Street	5	8,404	8,448	0.84	0.84	D	D	No	-
Between	Gilman Street	University Avenue	4	8,145	8,414	1.02	1.05	F	F	-	No
Arterials											
San Pablo Avenue (SR 123) Northbound											
Between	University Avenue	Cedar Street	2	2,089	2,097	1.31	1.31	F	F	-	No
Between	Cedar Street	Gilman Street	2	2,077	2,079	1.30	1.30	F	F	-	No
Between	Gilman Street	Buchanan Street	2	2,171	2,222	1.36	1.39	F	F	-	No
San Pablo Avenue (SR 123) Southbound											
Between	Buchanan Street	Gilman Street	2	1,546	1,556	0.97	0.97	E	E	No	-
Between	Gilman Street	Cedar Street	2	1,683	1,685	1.05	1.05	F	F	-	No
Between	Cedar Street	University Avenue	2	1,785	1,821	1.12	1.14	F	F	-	No
Ashby Avenue (SR 13) Eastbound											
Between	I-80	San Pablo Avenue	2	831	835	0.52	0.52	B	B	No	-
Ashby Avenue (SR 13) Westbound											
Between	San Pablo Avenue	I-80	2	1,075	1,079	0.67	0.67	C	C	No	-
Gilman Street Eastbound											
Between	I-80	Second Street	2	917	1,098	0.57	0.69	B	C	No	-
Between	Second Street	Sixth Street	2	966	1,048	0.60	0.65	C	C	No	-
Between	Sixth Street	San Pablo Avenue	1	489	584	0.61	0.73	C	C	No	-
Between	San Pablo Avenue	Santa Fe Avenue	1	607	651	0.76	0.81	D	D	No	-
Gilman Street Westbound											
Between	Santa Fe Avenue	San Pablo Avenue	1	488	496	0.61	0.62	C	C	No	-
Between	San Pablo Avenue	Sixth Street	1	417	435	0.52	0.54	B	B	No	-
Between	Sixth Street	Second Street	2	998	1,016	0.62	0.63	C	C	No	-
Between	Second Street	I-80	2	1,133	1,151	0.71	0.72	C	C	No	-
Buchanan Street/Marin Avenue Eastbound											
Between	I-80	San Pablo Avenue	2	1,296	1,301	0.81	0.81	D	D	No	-
Between	San Pablo Avenue	Masonic Avenue	1	1,011	1,016	1.26	1.27	F	F	-	No
Marin Avenue/Buchanan Street Westbound											
Between	Masonic Avenue	San Pablo Avenue	1	978	983	1.22	1.23	F	F	-	No
Between	San Pablo Avenue	I-80	2	1,267	1,272	0.79	0.80	D	D	No	-

Fehr & Peers, 2023.

Gilman Gateway Rezone Project
Alameda CTC Roadway System Analysis Summary - 2040 PM

Link Location	Segment Limits		# Lanes	No Project Volume	Plus Project Volume	V/C Ratio - No Project	V/C Ratio - Plus Project	No Project LOS	Plus Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C >3%
Freeway Segments											
I-80 Eastbound											
Between	University Avenue	Gilman Street	4	11,974	12,010	1.50	1.50	F	F	-	No
Between	Gilman Street	Buchanan Street	4	12,778	13,004	1.60	1.63	F	F	-	No
I-80 Westbound											
Between	Buchanan Street	Gilman Street	5	10,154	10,198	1.02	1.02	F	F	-	No
Between	Gilman Street	University Avenue	4	9,597	9,866	1.20	1.23	F	F	-	No
Arterials											
San Pablo Avenue (SR 123) Northbound											
Between	University Avenue	Cedar Street	2	2,169	2,177	1.36	1.36	F	F	-	No
Between	Cedar Street	Gilman Street	2	2,151	2,153	1.34	1.35	F	F	-	No
Between	Gilman Street	Buchanan Street	2	2,337	2,388	1.46	1.49	F	F	-	No
San Pablo Avenue (SR 123) Southbound											
Between	Buchanan Street	Gilman Street	2	2,061	2,071	1.29	1.29	F	F	-	No
Between	Gilman Street	Cedar Street	2	2,039	2,041	1.27	1.28	F	F	-	No
Between	Cedar Street	University Avenue	2	1,987	2,023	1.24	1.26	F	F	-	No
Ashby Avenue (SR 13) Eastbound											
Between	I-80	San Pablo Avenue	2	1,051	1,055	0.66	0.66	C	C	No	-
Ashby Avenue (SR 13) Westbound											
Between	San Pablo Avenue	I-80	2	1,366	1,370	0.85	0.86	D	D	No	-
Gilman Street Eastbound											
Between	I-80	Second Street	2	955	1,136	0.60	0.71	C	C	No	-
Between	Second Street	Sixth Street	2	962	1,044	0.60	0.65	C	C	No	-
Between	Sixth Street	San Pablo Avenue	1	634	729	0.79	0.91	D	E	No	-
Between	San Pablo Avenue	Santa Fe Avenue	1	681	725	0.85	0.91	D	E	No	-
Gilman Street Westbound											
Between	Santa Fe Avenue	San Pablo Avenue	1	594	602	0.74	0.75	C	C	No	-
Between	San Pablo Avenue	Sixth Street	1	360	378	0.45	0.47	B	B	No	-
Between	Sixth Street	Second Street	2	824	842	0.51	0.53	B	B	No	-
Between	Second Street	I-80	2	993	1,011	0.62	0.63	C	C	No	-
Buchanan Street/Marin Avenue Eastbound											
Between	I-80	San Pablo Avenue	2	1,740	1,745	1.09	1.09	F	F	-	No
Between	San Pablo Avenue	Masonic Avenue	1	1,065	1,070	1.33	1.34	F	F	-	No
Marin Avenue/Buchanan Street Westbound											
Between	Masonic Avenue	San Pablo Avenue	1	990	995	1.24	1.24	F	F	-	No
Between	San Pablo Avenue	I-80	2	1,809	1,814	1.13	1.13	F	F	-	No

Fehr & Peers, 2023.

Appendix H
Loading Assessment Memorandum

FEHR PEERS

Memorandum

Date: March 31, 2023

To: Gavin Smith, Perkins and Will

From: Sam Tabibnia, Fehr & Peers

Subject: Berkeley Forge Project – On-Site Loading Assessment

OK22-0480

The Berkeley Forge development (Project) in the City of Berkeley proposes fewer on-site truck loading spaces than required by the City of Berkeley Municipal Code. As described in this memorandum, we expect that the truck loading spaces proposed by the Project would meet the loading needs of the Project because the number of loading spaces would meet or exceed the loading requirements of nearby jurisdictions that specify loading requirements for R&D uses.

Table 1 shows the size and the proposed number of loading spaces for each Project building. The Project would provide approximately 873,000 square feet of R&D/office uses in seven buildings. Six of the buildings would range in size from about 91,500 to 145,500 square feet and would provide two loading spaces per building. Building C1 would be about 214,200 square feet and provide three loading spaces. The seven buildings combined would provide 15 loading spaces and all loading spaces would be 60 feet long.

Table 1 also shows the number of loading spaces required by the City of Berkeley Municipal Code, as well as the Cities of Emeryville, Richmond, and Oakland Municipal Codes, which are nearby jurisdictions that specify loading requirements for R&D or similar uses. City of Berkeley requires between four to nine loading spaces for each Project building for a total of 39 loading spaces. The City of Berkeley requirements apply to all non-residential uses in the Manufacturing districts, regardless of the specific use. In comparison, Cities of Emeryville, Richmond, and Oakland specify requirements for R&D uses. The Cities of Emeryville and Richmond require between one and three loading spaces for each Project building for a total of 13 loading spaces, and the City of Oakland requires between two and three loading spaces for each Project building for a total of 15 loading spaces.

Table 1: On-Site Loading Requirements Comparison

Building	Size (KSF)[1]	Proposed Loading Spaces [1]	Required Loading Spaces		
			Per City of Berkeley [2]	Per Cities of Emeryville and Richmond [3, 4]	Per City of Oakland[5]
A1	102.1	2	5	2	2
A2	145.5	2	6	2	2
A3	107.2	2	5	2	2
B1	115.1	2	5	2	2
B2	97.6	2	5	1	2
C1	214.2	3	9	3	3
C2	91.5	2	4	1	2
Total	**873.2**	**15**	**39**	**13**	**15**

Notes:
1. Per Project site plan dated March 30, 2023.
2. Berkeley Municipal Code Section 23.322.100 requires one loading space for the first 10,000 square feet in manufacturing districts, with one additional loading space for each additional 25,000 square feet.
3. Emeryville Municipal Code Section 9-4.409 requires one medium loading space for 25,000-100,000 square feet, two medium loading spaces for 100,000-200,000 square feet, and one large loading space for each additional 100,000 square feet of research and development uses.
4. Richmond Municipal Code Section 15.04.607.090 requires one medium loading space for 25,000-100,000 square feet, two medium loading spaces for 100,000-200,000 square feet, and one large loading space for each additional 100,000 square feet of research and development uses.
5. Oakland Municipal Code Section 17.116.140 requires two loading spaces for 60,000-160,000 square feet, and three loading spaces for larger than 160,000 square feet of research service uses.

Source: Fehr & Peers, 2023.

All Project buildings would meet or exceed the minimum loading spaces required by the Cities of Emeryville, Richmond, and Oakland. In addition, the proposed loading spaces would exceed the minimum loading dimensions required by each jurisdiction (City of Berkeley required 25-foot, Cities of Emeryville and Richmond require 35-foot, and City of Oakland requires 45-foot loading spaces).

As described above, a review of truck loading requirements for nearby jurisdictions that have specific requirements for R&D uses indicates that the number and dimension of the loading spaces proposed by the Project would meet typical truck loading needs of the Project.

Please contact Sam Tabibnia (stabibnia@fehrandpeers.com or 510-835-1943) with questions or comments.

APPENDIX F

CALEEMOD RESULTS

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Gilman Gateway Rezone Project Custom Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Gilman Gateway Rezone Project
Construction Start Date	1/5/2025
Operational Year	2033
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	3.40
Location	37.877866195579045, -122.30578464484333
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Research & Development	1,005	1000sqft	11.5	1,005,266	50,268	—	—	—
Unenclosed Parking with Elevator	3,016	Space	0.00	1,206,400	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	84.3	29.4	52.0	0.12	0.34	9.40	9.63	0.33	3.97	4.07	—	19,310	19,310	0.70	1.70	19,882
Mit.	84.3	15.3	52.0	0.12	0.28	9.40	9.59	0.28	3.97	4.07	—	19,310	19,310	0.70	1.70	19,882
% Reduced	—	48%	—	—	17%	—	< 0.5%	16%	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	84.3	30.0	48.4	0.12	0.34	9.40	9.63	0.33	2.31	2.54	—	18,809	18,809	0.71	1.72	19,339
Mit.	84.3	16.5	48.4	0.12	0.28	9.40	9.59	0.28	2.31	2.50	—	18,809	18,809	0.71	1.72	19,339

% Reduced	—	45%	—	—	17%	—	< 0.5%	16%	—	2%	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.6	18.3	32.8	0.07	0.19	6.72	6.88	0.17	1.65	1.81	—	13,242	13,242	0.47	1.21	13,629
Mit.	27.6	11.0	32.8	0.07	0.15	6.72	6.85	0.14	1.65	1.78	—	13,242	13,242	0.47	1.21	13,629
% Reduced	< 0.5%	40%	—	—	18%	—	< 0.5%	18%	—	2%	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.03	3.34	5.99	0.01	0.03	1.23	1.26	0.03	0.30	0.33	—	2,192	2,192	0.08	0.20	2,256
Mit.	5.03	2.01	5.99	0.01	0.03	1.23	1.25	0.03	0.30	0.33	—	2,192	2,192	0.08	0.20	2,256
% Reduced	< 0.5%	40%	—	—	18%	—	< 0.5%	18%	—	2%	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.06	29.4	40.1	0.12	0.34	7.81	7.91	0.33	3.97	4.07	—	14,991	14,991	0.70	1.39	15,441
2026	3.15	29.1	52.0	0.12	0.34	9.40	9.63	0.28	2.31	2.54	—	19,310	19,310	0.70	1.70	19,882
2027	3.05	22.7	49.8	0.09	0.23	9.40	9.63	0.22	2.31	2.54	—	18,991	18,991	0.61	1.70	19,558
2028	2.98	22.3	48.1	0.09	0.23	9.40	9.63	0.22	2.31	2.54	—	18,648	18,648	0.60	1.41	19,126
2029	2.79	21.6	46.6	0.09	0.23	9.40	9.63	0.16	2.31	2.47	—	18,288	18,288	0.54	1.41	18,760
2030	2.73	21.2	45.1	0.09	0.16	9.40	9.56	0.16	2.31	2.47	—	17,915	17,915	0.52	1.34	18,362
2031	2.62	20.9	43.9	0.09	0.16	9.40	9.56	0.16	2.31	2.47	—	17,548	17,548	0.52	1.34	17,991
2032	84.3	7.22	11.0	0.01	0.09	1.37	1.40	0.08	0.32	0.35	—	1,626	1,626	0.06	0.01	1,632

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.04	30.0	40.0	0.12	0.34	5.96	6.30	0.33	2.06	2.40	—	14,983	14,983	0.71	1.39	15,414
2026	3.05	29.7	48.4	0.12	0.34	9.40	9.63	0.28	2.31	2.54	—	18,809	18,809	0.70	1.72	19,339
2027	2.96	23.9	46.7	0.09	0.23	9.40	9.63	0.22	2.31	2.54	—	18,500	18,500	0.67	1.72	19,029
2028	2.88	23.2	45.0	0.09	0.23	9.40	9.63	0.22	2.31	2.54	—	18,167	18,167	0.64	1.65	18,675
2029	2.74	22.8	43.6	0.09	0.23	9.40	9.63	0.16	2.31	2.47	—	17,815	17,815	0.57	1.62	18,314
2030	2.63	22.1	42.2	0.09	0.16	9.40	9.56	0.16	2.31	2.47	—	17,450	17,450	0.55	1.56	17,929
2031	2.55	21.7	41.3	0.09	0.16	9.40	9.56	0.16	2.31	2.47	—	17,090	17,090	0.55	1.34	17,504
2032	84.3	21.1	40.1	0.09	0.16	9.40	9.56	0.16	2.31	2.47	—	16,731	16,731	0.55	1.27	17,125
2033	84.3	1.33	4.56	< 0.005	0.03	1.37	1.40	0.03	0.32	0.35	—	1,302	1,302	0.03	0.01	1,306
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.51	13.6	19.7	0.05	0.17	3.43	3.60	0.16	1.25	1.42	—	6,004	6,004	0.27	0.44	6,144
2026	1.71	18.3	32.1	0.07	0.19	5.90	6.09	0.17	1.58	1.76	—	12,492	12,492	0.47	1.12	12,851
2027	2.09	16.7	32.8	0.07	0.16	6.70	6.86	0.16	1.65	1.81	—	13,242	13,242	0.46	1.21	13,629
2028	2.06	16.4	31.7	0.07	0.16	6.72	6.88	0.16	1.65	1.81	—	13,039	13,039	0.44	1.16	13,410
2029	1.92	15.9	30.7	0.07	0.16	6.70	6.86	0.11	1.65	1.76	—	12,752	12,752	0.40	1.16	13,119
2030	1.87	15.6	29.7	0.07	0.12	6.70	6.82	0.11	1.65	1.76	—	12,491	12,491	0.40	0.96	12,797
2031	1.79	15.2	28.9	0.07	0.12	6.70	6.82	0.11	1.65	1.76	—	12,232	12,232	0.38	0.96	12,537
2032	27.6	3.85	7.02	0.01	0.05	0.91	0.96	0.04	0.22	0.26	—	1,739	1,739	0.05	0.07	1,761
2033	1.15	0.02	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	17.9	17.9	< 0.005	< 0.005	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.09	2.49	3.60	0.01	0.03	0.63	0.66	0.03	0.23	0.26	—	994	994	0.05	0.07	1,017
2026	0.31	3.34	5.85	0.01	0.03	1.08	1.11	0.03	0.29	0.32	—	2,068	2,068	0.08	0.19	2,128
2027	0.38	3.05	5.99	0.01	0.03	1.22	1.25	0.03	0.30	0.33	—	2,192	2,192	0.08	0.20	2,256
2028	0.38	3.00	5.79	0.01	0.03	1.23	1.26	0.03	0.30	0.33	—	2,159	2,159	0.07	0.19	2,220
2029	0.35	2.90	5.60	0.01	0.03	1.22	1.25	0.02	0.30	0.32	—	2,111	2,111	0.07	0.19	2,172

2030	0.34	2.85	5.42	0.01	0.02	1.22	1.24	0.02	0.30	0.32	—	2,068	2,068	0.07	0.16	2,119
2031	0.33	2.77	5.28	0.01	0.02	1.22	1.24	0.02	0.30	0.32	—	2,025	2,025	0.06	0.16	2,076
2032	5.03	0.70	1.28	< 0.005	0.01	0.17	0.17	0.01	0.04	0.05	—	288	288	0.01	0.01	292
2033	0.21	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	2.98

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.89	14.4	40.1	0.12	0.28	7.81	7.91	0.28	3.97	4.07	—	14,991	14,991	0.70	1.39	15,441
2026	3.05	15.3	52.0	0.12	0.28	9.40	9.59	0.23	2.31	2.50	—	19,310	19,310	0.70	1.70	19,882
2027	2.94	14.6	49.8	0.09	0.18	9.40	9.59	0.18	2.31	2.50	—	18,991	18,991	0.61	1.70	19,558
2028	2.87	14.2	48.1	0.09	0.18	9.40	9.59	0.18	2.31	2.50	—	18,648	18,648	0.60	1.41	19,126
2029	2.68	13.5	46.6	0.09	0.18	9.40	9.59	0.12	2.31	2.43	—	18,288	18,288	0.54	1.41	18,760
2030	2.63	13.1	45.1	0.09	0.12	9.40	9.52	0.12	2.31	2.43	—	17,915	17,915	0.52	1.34	18,362
2031	2.52	12.8	43.9	0.09	0.12	9.40	9.52	0.12	2.31	2.43	—	17,548	17,548	0.52	1.34	17,991
2032	84.3	1.95	11.0	0.01	0.03	1.37	1.37	0.03	0.32	0.32	—	1,626	1,626	0.06	0.01	1,632
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.88	15.0	40.0	0.12	0.28	5.96	6.24	0.28	2.06	2.34	—	14,983	14,983	0.71	1.39	15,414
2026	2.94	16.5	48.4	0.12	0.28	9.40	9.59	0.23	2.31	2.50	—	18,809	18,809	0.70	1.72	19,339
2027	2.85	15.8	46.7	0.09	0.18	9.40	9.59	0.18	2.31	2.50	—	18,500	18,500	0.67	1.72	19,029
2028	2.78	15.1	45.0	0.09	0.18	9.40	9.59	0.18	2.31	2.50	—	18,167	18,167	0.64	1.65	18,675
2029	2.64	14.7	43.6	0.09	0.18	9.40	9.59	0.12	2.31	2.43	—	17,815	17,815	0.57	1.62	18,314
2030	2.52	14.0	42.2	0.09	0.12	9.40	9.52	0.12	2.31	2.43	—	17,450	17,450	0.55	1.56	17,929
2031	2.44	13.6	41.3	0.09	0.12	9.40	9.52	0.12	2.31	2.43	—	17,090	17,090	0.55	1.34	17,504

2032	84.3	13.0	40.1	0.09	0.12	9.40	9.52	0.12	2.31	2.43	—	16,731	16,731	0.55	1.27	17,125
2033	84.3	0.91	4.56	< 0.005	< 0.005	1.37	1.37	< 0.005	0.32	0.32	—	1,302	1,302	0.03	0.01	1,306
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.43	6.02	19.7	0.05	0.11	3.43	3.54	0.11	1.25	1.36	—	6,004	6,004	0.27	0.44	6,144
2026	1.62	11.0	32.1	0.07	0.15	5.90	6.05	0.14	1.58	1.72	—	12,492	12,492	0.47	1.12	12,851
2027	2.01	11.0	32.8	0.07	0.13	6.70	6.83	0.13	1.65	1.78	—	13,242	13,242	0.46	1.21	13,629
2028	1.98	10.6	31.7	0.07	0.13	6.72	6.85	0.13	1.65	1.78	—	13,039	13,039	0.44	1.16	13,410
2029	1.84	10.1	30.7	0.07	0.13	6.70	6.83	0.08	1.65	1.73	—	12,752	12,752	0.40	1.16	13,119
2030	1.79	9.83	29.7	0.07	0.08	6.70	6.79	0.08	1.65	1.73	—	12,491	12,491	0.40	0.96	12,797
2031	1.71	9.37	28.9	0.07	0.08	6.70	6.79	0.08	1.65	1.73	—	12,232	12,232	0.38	0.96	12,537
2032	27.6	1.54	7.02	0.01	0.02	0.91	0.92	0.02	0.22	0.23	—	1,739	1,739	0.05	0.07	1,761
2033	1.15	0.01	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	17.9	17.9	< 0.005	< 0.005	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.08	1.10	3.60	0.01	0.02	0.63	0.65	0.02	0.23	0.25	—	994	994	0.05	0.07	1,017
2026	0.30	2.01	5.85	0.01	0.03	1.08	1.10	0.03	0.29	0.31	—	2,068	2,068	0.08	0.19	2,128
2027	0.37	2.00	5.99	0.01	0.02	1.22	1.25	0.02	0.30	0.32	—	2,192	2,192	0.08	0.20	2,256
2028	0.36	1.94	5.79	0.01	0.02	1.23	1.25	0.02	0.30	0.33	—	2,159	2,159	0.07	0.19	2,220
2029	0.34	1.85	5.60	0.01	0.02	1.22	1.25	0.02	0.30	0.32	—	2,111	2,111	0.07	0.19	2,172
2030	0.33	1.79	5.42	0.01	0.02	1.22	1.24	0.02	0.30	0.32	—	2,068	2,068	0.07	0.16	2,119
2031	0.31	1.71	5.28	0.01	0.02	1.22	1.24	0.02	0.30	0.32	—	2,025	2,025	0.06	0.16	2,076
2032	5.03	0.28	1.28	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	288	288	0.01	0.01	292
2033	0.21	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	2.98

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	68.0	32.1	335	0.72	1.23	68.7	70.0	1.17	17.4	18.6	988	93,018	94,007	107	5.39	98,414
Mit.	50.6	31.3	239	0.72	1.06	68.7	69.8	1.04	17.4	18.5	988	92,658	93,646	107	5.39	98,052
% Reduced	26%	3%	29%	1%	14%	—	< 0.5%	11%	—	1%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	51.3	34.7	222	0.68	1.06	68.7	69.8	1.04	17.4	18.5	988	88,737	89,725	107	5.62	94,104
Mit.	49.7	34.7	222	0.68	1.06	68.7	69.8	1.04	17.4	18.5	988	88,737	89,725	107	5.62	94,104
% Reduced	3%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	58.8	33.7	264	0.69	1.14	68.6	69.7	1.10	17.4	18.5	988	89,251	90,239	107	5.53	94,632
Mit.	49.4	33.3	216	0.68	1.06	68.6	69.6	1.03	17.4	18.4	988	89,073	90,061	107	5.53	94,453
% Reduced	16%	1%	18%	< 0.5%	7%	—	< 0.5%	6%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.7	6.14	48.1	0.13	0.21	12.5	12.7	0.20	3.17	3.37	164	14,776	14,940	17.7	0.92	15,667
Mit.	9.02	6.07	39.5	0.12	0.19	12.5	12.7	0.19	3.17	3.36	164	14,747	14,911	17.7	0.92	15,638
% Reduced	16%	1%	18%	< 0.5%	7%	—	< 0.5%	6%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.9	20.6	229	0.67	0.35	68.7	69.1	0.33	17.4	17.8	—	68,601	68,601	2.26	2.75	69,585
Area	40.2	0.81	96.2	0.01	0.17	—	0.17	0.13	—	0.13	—	396	396	0.02	< 0.005	397
Energy	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	21,444	21,444	2.91	0.28	21,602
Water	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Waste	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Stationary	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	68.0	32.1	335	0.72	1.23	68.7	70.0	1.17	17.4	18.6	988	93,018	94,007	107	5.39	98,414
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.0	24.0	213	0.63	0.35	68.7	69.1	0.33	17.4	17.8	—	64,714	64,714	2.50	2.99	65,671
Area	24.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	21,444	21,444	2.91	0.28	21,602
Water	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Waste	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Stationary	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	51.3	34.7	222	0.68	1.06	68.7	69.8	1.04	17.4	18.5	988	88,737	89,725	107	5.62	94,104
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	24.8	22.6	207	0.64	0.35	68.6	68.9	0.33	17.4	17.7	—	65,051	65,051	2.40	2.90	66,020
Area	32.2	0.40	47.4	< 0.005	0.08	—	0.08	0.06	—	0.06	—	195	195	0.01	< 0.005	196
Energy	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	21,444	21,444	2.91	0.28	21,602
Water	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Waste	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Stationary	1.51	4.21	3.84	0.01	0.22	0.00	0.22	0.22	0.00	0.22	0.00	771	771	0.03	0.01	773
Total	58.8	33.7	264	0.69	1.14	68.6	69.7	1.10	17.4	18.5	988	89,251	90,239	107	5.53	94,632
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.52	4.13	37.8	0.12	0.06	12.5	12.6	0.06	3.17	3.23	—	10,770	10,770	0.40	0.48	10,930
Area	5.87	0.07	8.66	< 0.005	0.02	—	0.02	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	32.4
Energy	0.06	1.17	0.98	0.01	0.09	—	0.09	0.09	—	0.09	—	3,550	3,550	0.48	0.05	3,576
Water	—	—	—	—	—	—	—	—	—	—	157	296	453	16.1	0.39	972
Waste	—	—	—	—	—	—	—	—	—	—	6.82	0.00	6.82	0.68	0.00	23.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.25
Stationary	0.27	0.77	0.70	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	128	128	0.01	< 0.005	128
Total	10.7	6.14	48.1	0.13	0.21	12.5	12.7	0.20	3.17	3.37	164	14,776	14,940	17.7	0.92	15,667

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.9	20.6	229	0.67	0.35	68.7	69.1	0.33	17.4	17.8	—	68,601	68,601	2.26	2.75	69,585
Area	22.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	21,479	21,479	2.91	0.29	21,637
Water	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Waste	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Stationary	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	50.6	31.3	239	0.72	1.06	68.7	69.8	1.04	17.4	18.5	988	92,658	93,646	107	5.39	98,052

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.0	24.0	213	0.63	0.35	68.7	69.1	0.33	17.4	17.8	—	64,714	64,714	2.50	2.99	65,671
Area	22.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	21,444	21,444	2.91	0.28	21,602
Water	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Waste	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Stationary	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	49.7	34.7	222	0.68	1.06	68.7	69.8	1.04	17.4	18.5	988	88,737	89,725	107	5.62	94,104
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	24.8	22.6	207	0.64	0.35	68.6	68.9	0.33	17.4	17.7	—	65,051	65,051	2.40	2.90	66,020
Area	22.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	21,461	21,461	2.91	0.29	21,619
Water	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Waste	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Stationary	1.51	4.21	3.84	0.01	0.22	0.00	0.22	0.22	0.00	0.22	0.00	771	771	0.03	0.01	773
Total	49.4	33.3	216	0.68	1.06	68.6	69.6	1.03	17.4	18.4	988	89,073	90,061	107	5.53	94,453
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.52	4.13	37.8	0.12	0.06	12.5	12.6	0.06	3.17	3.23	—	10,770	10,770	0.40	0.48	10,930
Area	4.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	1.17	0.98	0.01	0.09	—	0.09	0.09	—	0.09	—	3,553	3,553	0.48	0.05	3,579
Water	—	—	—	—	—	—	—	—	—	—	157	296	453	16.1	0.39	972
Waste	—	—	—	—	—	—	—	—	—	—	6.82	0.00	6.82	0.68	0.00	23.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.25
Stationary	0.27	0.77	0.70	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	128	128	0.01	< 0.005	128

Total	9.02	6.07	39.5	0.12	0.19	12.5	12.7	0.19	3.17	3.36	164	14,747	14,911	17.7	0.92	15,638

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	1.95	1.95	—	0.30	0.30	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	1.95	1.95	—	0.30	0.30	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	3.91	5.97	0.01	0.07	—	0.07	0.06	—	0.06	—	1,126	1,126	0.05	0.01	1,130
Demolition	—	—	—	—	—	0.64	0.64	—	0.10	0.10	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.71	1.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	186	186	0.01	< 0.005	187
Demolition	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.58	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	2.86	1.15	0.02	0.04	0.63	0.67	0.04	0.17	0.22	—	2,367	2,367	0.12	0.38	2,489
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.51	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	120	120	< 0.005	0.01	122
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.02	1.16	0.02	0.04	0.63	0.67	0.04	0.17	0.22	—	2,368	2,368	0.12	0.38	2,485
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.9	39.9	< 0.005	< 0.005	40.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.97	0.38	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	778	778	0.04	0.13	817
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.60	6.60	< 0.005	< 0.005	6.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	129	129	0.01	0.02	135

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	1.95	1.95	—	0.30	0.30	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	1.95	1.95	—	0.30	0.30	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.48	5.97	0.01	0.02	—	0.02	0.02	—	0.02	—	1,126	1,126	0.05	0.01	1,130
Demolition	—	—	—	—	—	0.64	0.64	—	0.10	0.10	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.27	1.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	186	186	0.01	< 0.005	187
Demolition	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.58	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	2.86	1.15	0.02	0.04	0.63	0.67	0.04	0.17	0.22	—	2,367	2,367	0.12	0.38	2,489
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.51	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	120	120	< 0.005	0.01	122
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.02	1.16	0.02	0.04	0.63	0.67	0.04	0.17	0.22	—	2,368	2,368	0.12	0.38	2,485
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.9	39.9	< 0.005	< 0.005	40.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.97	0.38	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	778	778	0.04	0.13	817
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.60	6.60	< 0.005	< 0.005	6.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	129	129	0.01	0.02	135

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	2.42	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	870	870	0.04	0.01	873
Dust From Material Movement	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.44	0.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	144	144	0.01	< 0.005	145
Dust From Material Movement	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.67	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	152	152	< 0.005	0.01	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.3	23.3	< 0.005	< 0.005	23.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.85	3.85	< 0.005	< 0.005	3.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.43	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	870	870	0.04	0.01	873
Dust From Material Movement	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	144	144	0.01	< 0.005	145
Dust From Material Movement	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.67	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	152	152	< 0.005	0.01	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.3	23.3	< 0.005	< 0.005	23.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.85	3.85	< 0.005	< 0.005	3.91

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	4.11	7.47	0.01	0.04	—	0.04	0.04	—	0.04	—	1,395	1,395	0.06	0.01	1,399

Dust From Material Movement	—	—	—	—	—	0.77	0.77	—	0.30	0.30	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.75	1.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	231	231	0.01	< 0.005	232
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.06	0.06	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.77	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.19	9.93	3.98	0.05	0.16	2.17	2.33	0.16	0.59	0.75	—	8,219	8,219	0.43	1.33	8,643
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	10.5	4.02	0.05	0.16	2.17	2.33	0.16	0.59	0.75	—	8,223	8,223	0.43	1.33	8,630
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.2	34.2	< 0.005	< 0.005	34.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.17	0.84	0.01	0.03	0.46	0.49	0.03	0.13	0.16	—	1,738	1,738	0.09	0.28	1,825
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.66	5.66	< 0.005	< 0.005	5.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.40	0.15	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	288	288	0.02	0.05	302

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.94	7.47	0.01	0.03	—	0.03	0.03	—	0.03	—	1,395	1,395	0.06	0.01	1,399

Dust From Material Movement	—	—	—	—	—	0.77	0.77	—	0.30	0.30	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.17	1.36	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	231	231	0.01	< 0.005	232
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.06	0.06	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.77	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.19	9.93	3.98	0.05	0.16	2.17	2.33	0.16	0.59	0.75	—	8,219	8,219	0.43	1.33	8,643
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	10.5	4.02	0.05	0.16	2.17	2.33	0.16	0.59	0.75	—	8,223	8,223	0.43	1.33	8,630
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.2	34.2	< 0.005	< 0.005	34.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.17	0.84	0.01	0.03	0.46	0.49	0.03	0.13	0.16	—	1,738	1,738	0.09	0.28	1,825
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.66	5.66	< 0.005	< 0.005	5.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.40	0.15	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	288	288	0.02	0.05	302

3.7. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	4.34	7.89	0.01	0.04	—	0.04	0.04	—	0.04	—	1,472	1,472	0.06	0.01	1,477

Dust From Material Movement	—	—	—	—	—	0.81	0.81	—	0.32	0.32	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.79	1.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	244	244	0.01	< 0.005	245
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.06	0.06	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.72	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	170	170	< 0.005	0.01	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	9.62	3.88	0.05	0.16	2.17	2.33	0.10	0.59	0.70	—	8,065	8,065	0.43	1.27	8,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.64	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	160
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	10.2	3.92	0.05	0.16	2.17	2.33	0.10	0.59	0.70	—	8,069	8,069	0.43	1.27	8,460
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.4	35.4	< 0.005	< 0.005	35.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.22	0.87	0.01	0.03	0.48	0.52	0.02	0.13	0.16	—	1,800	1,800	0.10	0.28	1,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.86	5.86	< 0.005	< 0.005	5.95
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.16	< 0.005	0.01	0.09	0.09	< 0.005	0.02	0.03	—	298	298	0.02	0.05	313

3.8. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.99	7.89	0.01	0.03	—	0.03	0.03	—	0.03	—	1,472	1,472	0.06	0.01	1,477

Dust From Material Movement	—	—	—	—	—	0.81	0.81	—	0.32	0.32	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.18	1.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	244	244	0.01	< 0.005	245
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.06	0.06	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.72	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	170	170	< 0.005	0.01	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	9.62	3.88	0.05	0.16	2.17	2.33	0.10	0.59	0.70	—	8,065	8,065	0.43	1.27	8,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.64	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	160
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	10.2	3.92	0.05	0.16	2.17	2.33	0.10	0.59	0.70	—	8,069	8,069	0.43	1.27	8,460
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.4	35.4	< 0.005	< 0.005	35.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.22	0.87	0.01	0.03	0.48	0.52	0.02	0.13	0.16	—	1,800	1,800	0.10	0.28	1,888
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.86	5.86	< 0.005	< 0.005	5.95
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.16	< 0.005	0.01	0.09	0.09	< 0.005	0.02	0.03	—	298	298	0.02	0.05	313

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,782	2,782	0.11	0.02	2,791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,782	2,782	0.11	0.02	2,791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	5.03	8.29	0.01	0.05	—	0.05	0.04	—	0.04	—	1,355	1,355	0.05	0.01	1,360
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.92	1.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	224	224	0.01	< 0.005	225

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.48	1.78	30.0	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	7,037	7,037	0.13	0.27	7,146
Vendor	0.30	11.3	5.02	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,491	9,491	0.39	1.41	9,945
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.39	2.33	26.3	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,529	6,529	0.16	0.29	6,619
Vendor	0.29	12.0	5.11	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,499	9,499	0.39	1.41	9,928
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.00	12.4	0.00	0.00	3.33	3.33	0.00	0.78	0.78	—	3,203	3,203	0.07	0.13	3,249
Vendor	0.14	5.72	2.45	0.03	0.07	1.24	1.31	0.07	0.34	0.41	—	4,626	4,626	0.19	0.69	4,841
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	2.27	0.00	0.00	0.61	0.61	0.00	0.14	0.14	—	530	530	0.01	0.02	538
Vendor	0.03	1.04	0.45	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	766	766	0.03	0.11	801
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,782	2,782	0.11	0.02	2,791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,782	2,782	0.11	0.02	2,791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.08	8.29	0.01	0.02	—	0.02	0.02	—	0.02	—	1,355	1,355	0.05	0.01	1,360
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.20	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	224	224	0.01	< 0.005	225
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.48	1.78	30.0	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	7,037	7,037	0.13	0.27	7,146
Vendor	0.30	11.3	5.02	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,491	9,491	0.39	1.41	9,945
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.39	2.33	26.3	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,529	6,529	0.16	0.29	6,619
Vendor	0.29	12.0	5.11	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,499	9,499	0.39	1.41	9,928
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.00	12.4	0.00	0.00	3.33	3.33	0.00	0.78	0.78	—	3,203	3,203	0.07	0.13	3,249
Vendor	0.14	5.72	2.45	0.03	0.07	1.24	1.31	0.07	0.34	0.41	—	4,626	4,626	0.19	0.69	4,841
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	2.27	0.00	0.00	0.61	0.61	0.00	0.14	0.14	—	530	530	0.01	0.02	538
Vendor	0.03	1.04	0.45	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	766	766	0.03	0.11	801
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,993
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.37	1.54	28.0	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,907	6,907	0.11	0.27	7,013
Vendor	0.30	10.9	4.81	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,303	9,303	0.39	1.41	9,755
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.30	2.08	24.8	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,408	6,408	0.16	0.29	6,499
Vendor	0.29	11.5	4.95	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,311	9,311	0.39	1.41	9,740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.61	1.29	17.2	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,608	4,608	0.10	0.19	4,675
Vendor	0.21	8.08	3.48	0.05	0.10	1.82	1.92	0.10	0.50	0.60	—	6,647	6,647	0.28	1.00	6,961

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.24	3.13	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	763	763	0.02	0.03	774
Vendor	0.04	1.47	0.64	0.01	0.02	0.33	0.35	0.02	0.09	0.11	—	1,101	1,101	0.05	0.17	1,152
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.12. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,986	1,986	0.08	0.02	1,993
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.37	1.54	28.0	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,907	6,907	0.11	0.27	7,013
Vendor	0.30	10.9	4.81	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,303	9,303	0.39	1.41	9,755
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.30	2.08	24.8	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,408	6,408	0.16	0.29	6,499
Vendor	0.29	11.5	4.95	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,311	9,311	0.39	1.41	9,740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.61	1.29	17.2	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,608	4,608	0.10	0.19	4,675
Vendor	0.21	8.08	3.48	0.05	0.10	1.82	1.92	0.10	0.50	0.60	—	6,647	6,647	0.28	1.00	6,961
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.24	3.13	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	763	763	0.02	0.03	774
Vendor	0.04	1.47	0.64	0.01	0.02	0.33	0.35	0.02	0.09	0.11	—	1,101	1,101	0.05	0.17	1,152
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.39	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,992	1,992	0.08	0.02	1,999
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.35	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	330	330	0.01	< 0.005	331
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.31	1.52	26.4	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,785	6,785	0.11	0.05	6,825
Vendor	0.29	10.5	4.65	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,083	9,083	0.38	1.33	9,511
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	1.83	23.2	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,295	6,295	0.15	0.29	6,385
Vendor	0.29	11.1	4.79	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,091	9,091	0.38	1.34	9,500
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58	1.28	16.2	0.00	0.00	4.89	4.89	0.00	1.15	1.15	—	4,539	4,539	0.09	0.19	4,605
Vendor	0.21	7.77	3.38	0.05	0.10	1.83	1.92	0.10	0.50	0.60	—	6,508	6,508	0.27	0.95	6,806
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.23	2.95	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	752	752	0.02	0.03	762
Vendor	0.04	1.42	0.62	0.01	0.02	0.33	0.35	0.02	0.09	0.11	—	1,077	1,077	0.05	0.16	1,127
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.14. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,992	1,992	0.08	0.02	1,999
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	330	330	0.01	< 0.005	331
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.31	1.52	26.4	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,785	6,785	0.11	0.05	6,825
Vendor	0.29	10.5	4.65	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,083	9,083	0.38	1.33	9,511
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	1.83	23.2	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,295	6,295	0.15	0.29	6,385
Vendor	0.29	11.1	4.79	0.07	0.13	2.55	2.69	0.13	0.71	0.84	—	9,091	9,091	0.38	1.34	9,500
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58	1.28	16.2	0.00	0.00	4.89	4.89	0.00	1.15	1.15	—	4,539	4,539	0.09	0.19	4,605
Vendor	0.21	7.77	3.38	0.05	0.10	1.83	1.92	0.10	0.50	0.60	—	6,508	6,508	0.27	0.95	6,806

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.23	2.95	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	752	752	0.02	0.03	762
Vendor	0.04	1.42	0.62	0.01	0.02	0.33	0.35	0.02	0.09	0.11	—	1,077	1,077	0.05	0.16	1,127
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.19	1.27	25.1	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,669	6,669	0.11	0.05	6,707
Vendor	0.23	10.0	4.51	0.07	0.13	2.55	2.69	0.07	0.71	0.77	—	8,839	8,839	0.31	1.33	9,264
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.15	1.81	22.0	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,188	6,188	0.15	0.27	6,272
Vendor	0.22	10.6	4.64	0.07	0.13	2.55	2.69	0.07	0.71	0.77	—	8,847	8,847	0.31	1.33	9,253
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.50	1.12	15.3	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,450	4,450	0.09	0.19	4,515
Vendor	0.16	7.42	3.27	0.05	0.10	1.82	1.92	0.05	0.50	0.55	—	6,316	6,316	0.22	0.95	6,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.20	2.78	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	737	737	0.02	0.03	748
Vendor	0.03	1.35	0.60	0.01	0.02	0.33	0.35	0.01	0.09	0.10	—	1,046	1,046	0.04	0.16	1,095
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.16. Building Construction (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.19	1.27	25.1	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,669	6,669	0.11	0.05	6,707
Vendor	0.23	10.0	4.51	0.07	0.13	2.55	2.69	0.07	0.71	0.77	—	8,839	8,839	0.31	1.33	9,264
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.15	1.81	22.0	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,188	6,188	0.15	0.27	6,272
Vendor	0.22	10.6	4.64	0.07	0.13	2.55	2.69	0.07	0.71	0.77	—	8,847	8,847	0.31	1.33	9,253
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.50	1.12	15.3	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,450	4,450	0.09	0.19	4,515
Vendor	0.16	7.42	3.27	0.05	0.10	1.82	1.92	0.05	0.50	0.55	—	6,316	6,316	0.22	0.95	6,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.20	2.78	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	737	737	0.02	0.03	748
Vendor	0.03	1.35	0.60	0.01	0.02	0.33	0.35	0.01	0.09	0.10	—	1,046	1,046	0.04	0.16	1,095
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.17. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.13	1.26	23.7	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,560	6,560	0.09	0.05	6,595
Vendor	0.23	9.65	4.37	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,575	8,575	0.31	1.26	8,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.04	1.58	20.7	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,087	6,087	0.13	0.27	6,171
Vendor	0.21	10.2	4.49	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,583	8,583	0.31	1.26	8,968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.44	1.10	14.4	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,378	4,378	0.09	0.04	4,397
Vendor	0.16	7.14	3.15	0.05	0.05	1.82	1.87	0.05	0.50	0.55	—	6,127	6,127	0.22	0.90	6,408

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.20	2.63	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	725	725	0.02	0.01	728
Vendor	0.03	1.30	0.58	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,014	1,014	0.04	0.15	1,061
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.18. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.13	1.26	23.7	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,560	6,560	0.09	0.05	6,595
Vendor	0.23	9.65	4.37	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,575	8,575	0.31	1.26	8,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.04	1.58	20.7	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,087	6,087	0.13	0.27	6,171
Vendor	0.21	10.2	4.49	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,583	8,583	0.31	1.26	8,968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.44	1.10	14.4	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,378	4,378	0.09	0.04	4,397
Vendor	0.16	7.14	3.15	0.05	0.05	1.82	1.87	0.05	0.50	0.55	—	6,127	6,127	0.22	0.90	6,408
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.20	2.63	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	725	725	0.02	0.01	728
Vendor	0.03	1.30	0.58	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,014	1,014	0.04	0.15	1,061
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.19. Building Construction (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.24	22.6	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,470	6,470	0.09	0.05	6,503
Vendor	0.23	9.33	4.23	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,298	8,298	0.31	1.26	8,699
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.97	1.56	19.9	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,004	6,004	0.13	0.05	6,024
Vendor	0.21	9.85	4.34	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,306	8,306	0.31	1.26	8,691
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.37	0.92	13.7	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,317	4,317	0.08	0.04	4,336
Vendor	0.16	6.86	3.05	0.05	0.05	1.82	1.87	0.05	0.50	0.55	—	5,929	5,929	0.22	0.90	6,209
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.17	2.50	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	715	715	0.01	0.01	718
Vendor	0.03	1.25	0.56	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	982	982	0.04	0.15	1,028
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.20. Building Construction (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.24	22.6	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,470	6,470	0.09	0.05	6,503
Vendor	0.23	9.33	4.23	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,298	8,298	0.31	1.26	8,699
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.97	1.56	19.9	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	6,004	6,004	0.13	0.05	6,024
Vendor	0.21	9.85	4.34	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,306	8,306	0.31	1.26	8,691
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.37	0.92	13.7	0.00	0.00	4.88	4.88	0.00	1.14	1.14	—	4,317	4,317	0.08	0.04	4,336
Vendor	0.16	6.86	3.05	0.05	0.05	1.82	1.87	0.05	0.50	0.55	—	5,929	5,929	0.22	0.90	6,209

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.17	2.50	0.00	0.00	0.89	0.89	0.00	0.21	0.21	—	715	715	0.01	0.01	718
Vendor	0.03	1.25	0.56	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	982	982	0.04	0.15	1,028
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.21. Building Construction (2032) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.46	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	125	125	0.01	< 0.005	126
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.08	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.7	20.7	< 0.005	< 0.005	20.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.89	1.33	18.9	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	5,918	5,918	0.13	0.05	5,938
Vendor	0.21	9.47	4.20	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,033	8,033	0.31	1.20	8,398
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.82	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	268	268	< 0.005	< 0.005	269
Vendor	0.01	0.42	0.19	< 0.005	< 0.005	0.11	0.12	< 0.005	0.03	0.03	—	361	361	0.01	0.05	378
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	44.4	44.4	< 0.005	< 0.005	44.6
Vendor	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	59.8	59.8	< 0.005	0.01	62.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.22. Building Construction (2032) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	125	125	0.01	< 0.005	126
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.7	20.7	< 0.005	< 0.005	20.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.89	1.33	18.9	0.00	0.00	6.85	6.85	0.00	1.61	1.61	—	5,918	5,918	0.13	0.05	5,938
Vendor	0.21	9.47	4.20	0.07	0.07	2.55	2.62	0.07	0.71	0.77	—	8,033	8,033	0.31	1.20	8,398
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.82	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	268	268	< 0.005	< 0.005	269
Vendor	0.01	0.42	0.19	< 0.005	< 0.005	0.11	0.12	< 0.005	0.03	0.03	—	361	361	0.01	0.05	378
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	44.4	44.4	< 0.005	< 0.005	44.6

Vendor	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	59.8	59.8	< 0.005	0.01	62.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.23. Paving (2032) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	7.21	10.6	0.01	0.09	—	0.09	0.08	—	0.08	—	1,511	1,511	0.06	0.01	1,516
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	7.21	10.6	0.01	0.09	—	0.09	0.08	—	0.08	—	1,511	1,511	0.06	0.01	1,516
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.47	3.63	< 0.005	0.03	—	0.03	0.03	—	0.03	—	517	517	0.02	< 0.005	519
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.45	0.66	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.7	85.7	< 0.005	< 0.005	85.9
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	115	115	< 0.005	< 0.005	116
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.34	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	107	107	< 0.005	< 0.005	108
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.0	37.0	< 0.005	< 0.005	37.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.12	6.12	< 0.005	< 0.005	6.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.24. Paving (2032) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	1,516
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	1,516
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.66	3.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	517	517	0.02	< 0.005	519
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	85.7	85.7	< 0.005	< 0.005	85.9
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	115	115	< 0.005	< 0.005	116
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.34	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	107	107	< 0.005	< 0.005	108
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.0	37.0	< 0.005	< 0.005	37.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.12	6.12	< 0.005	< 0.005	6.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.25. Architectural Coating (2032) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134
Architectural Coatings	83.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134
Architectural Coatings	83.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.35	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.4	43.4	< 0.005	< 0.005	43.5
Architectural Coatings	27.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.18	7.18	< 0.005	< 0.005	7.20
Architectural Coatings	4.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.20	4.31	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,276	1,276	0.02	0.01	1,282
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.27	3.79	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,184	1,184	0.03	0.01	1,188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.08	1.19	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	387	387	0.01	< 0.005	389
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	64.1	64.1	< 0.005	< 0.005	64.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.26. Architectural Coating (2032) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	134
Architectural Coatings	83.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	134
Architectural Coatings	83.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.21	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.4	43.4	< 0.005	< 0.005	43.5
Architectural Coatings	27.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.18	7.18	< 0.005	< 0.005	7.20
Architectural Coatings	4.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.20	4.31	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,276	1,276	0.02	0.01	1,282
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.27	3.79	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,184	1,184	0.03	0.01	1,188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.08	1.19	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	387	387	0.01	< 0.005	389
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	64.1	64.1	< 0.005	< 0.005	64.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.27. Architectural Coating (2033) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134
Architectural Coatings	83.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	1.84
Architectural Coatings	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	0.30
Architectural Coatings	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.26	3.60	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,168	1,168	0.02	0.01	1,172

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	16.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	2.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.28. Architectural Coating (2033) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	134
Architectural Coatings	83.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	1.84
Architectural Coatings	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	0.30
Architectural Coatings	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.26	3.60	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,168	1,168	0.02	0.01	1,172
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	16.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	2.68

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	25.9	20.6	229	0.67	0.35	68.7	69.1	0.33	17.4	17.8	—	68,601	68,601	2.26	2.75	69,585
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	25.9	20.6	229	0.67	0.35	68.7	69.1	0.33	17.4	17.8	—	68,601	68,601	2.26	2.75	69,585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	25.0	24.0	213	0.63	0.35	68.7	69.1	0.33	17.4	17.8	—	64,714	64,714	2.50	2.99	65,671
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Total	25.0	24.0	213	0.63	0.35	68.7	69.1	0.33	17.4	17.8	—	64,714	64,714	2.50	2.99	65,671
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	4.52	4.13	37.8	0.12	0.06	12.5	12.6	0.06	3.17	3.23	—	10,770	10,770	0.40	0.48	10,930
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	4.52	4.13	37.8	0.12	0.06	12.5	12.6	0.06	3.17	3.23	—	10,770	10,770	0.40	0.48	10,930

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	25.9	20.6	229	0.67	0.35	68.7	69.1	0.33	17.4	17.8	—	68,601	68,601	2.26	2.75	69,585
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	25.9	20.6	229	0.67	0.35	68.7	69.1	0.33	17.4	17.8	—	68,601	68,601	2.26	2.75	69,585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	25.0	24.0	213	0.63	0.35	68.7	69.1	0.33	17.4	17.8	—	64,714	64,714	2.50	2.99	65,671

Unenclosed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	25.0	24.0	213	0.63	0.35	68.7	69.1	0.33	17.4	17.8	—	64,714	64,714	2.50	2.99	65,671
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	4.52	4.13	37.8	0.12	0.06	12.5	12.6	0.06	3.17	3.23	—	10,770	10,770	0.40	0.48	10,930
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	4.52	4.13	37.8	0.12	0.06	12.5	12.6	0.06	3.17	3.23	—	10,770	10,770	0.40	0.48	10,930

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	11,893	11,893	1.92	0.23	12,010
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900	0.31	0.04	1,919
Total	—	—	—	—	—	—	—	—	—	—	—	13,792	13,792	2.23	0.27	13,929
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	11,893	11,893	1.92	0.23	12,010
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900	0.31	0.04	1,919
Total	—	—	—	—	—	—	—	—	—	—	—	13,792	13,792	2.23	0.27	13,929
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	1,969	1,969	0.32	0.04	1,988
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	315	315	0.05	0.01	318
Total	—	—	—	—	—	—	—	—	—	—	—	2,283	2,283	0.37	0.04	2,306

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	11,908	11,908	1.93	0.23	12,026
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,919	1,919	0.31	0.04	1,938
Total	—	—	—	—	—	—	—	—	—	—	—	13,827	13,827	2.24	0.27	13,964

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	11,893	11,893	1.92	0.23	12,010
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900	0.31	0.04	1,919
Total	—	—	—	—	—	—	—	—	—	—	—	13,792	13,792	2.23	0.27	13,929
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	1,970	1,970	0.32	0.04	1,990
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	316	316	0.05	0.01	319
Total	—	—	—	—	—	—	—	—	—	—	—	2,286	2,286	0.37	0.04	2,309

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673

Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.06	1.17	0.98	0.01	0.09	—	0.09	0.09	—	0.09	—	1,267	1,267	0.11	< 0.005	1,270
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.06	1.17	0.98	0.01	0.09	—	0.09	0.09	—	0.09	—	1,267	1,267	0.11	< 0.005	1,270

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.35	6.41	5.39	0.04	0.49	—	0.49	0.49	—	0.49	—	7,652	7,652	0.68	0.01	7,673
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.06	1.17	0.98	0.01	0.09	—	0.09	0.09	—	0.09	—	1,267	1,267	0.11	< 0.005	1,270
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.06	1.17	0.98	0.01	0.09	—	0.09	0.09	—	0.09	—	1,267	1,267	0.11	< 0.005	1,270

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	15.8	0.81	96.2	0.01	0.17	—	0.17	0.13	—	0.13	—	396	396	0.02	< 0.005	397
Total	40.2	0.81	96.2	0.01	0.17	—	0.17	0.13	—	0.13	—	396	396	0.02	< 0.005	397
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	24.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.42	0.07	8.66	< 0.005	0.02	—	0.02	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	32.4
Total	5.87	0.07	8.66	< 0.005	0.02	—	0.02	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	32.4

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	22.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	22.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	157	296	453	16.1	0.39	972
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	157	296	453	16.1	0.39	972

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	947	1,790	2,738	97.4	2.34	5,871
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	157	296	453	16.1	0.39	972

Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	157	296	453	16.1	0.39	972

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	6.82	0.00	6.82	0.68	0.00	23.8
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	6.82	0.00	6.82	0.68	0.00	23.8

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144

Unenclosed	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	41.2	0.00	41.2	4.11	0.00	144
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	6.82	0.00	6.82	0.68	0.00	23.8
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	6.82	0.00	6.82	0.68	0.00	23.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.25
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.25

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.25
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.25

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.27	0.77	0.70	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	128	128	0.01	< 0.005	128
Total	0.27	0.77	0.70	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	128	128	0.01	< 0.005	128

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Total	1.54	4.30	3.92	0.01	0.23	0.00	0.23	0.23	0.00	0.23	0.00	787	787	0.03	0.01	790
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.27	0.77	0.70	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	128	128	0.01	< 0.005	128
Total	0.27	0.77	0.70	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	128	128	0.01	< 0.005	128

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequester	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/6/2025	6/20/2025	5.00	120	—
Site Preparation	Site Preparation	6/23/2025	9/12/2025	5.00	60.0	—
Grading	Grading	9/15/2025	4/24/2026	5.00	160	—
Building Construction	Building Construction	4/27/2026	1/23/2032	5.00	1,500	—
Paving	Paving	1/26/2032	7/16/2032	5.00	125	—
Architectural Coating	Architectural Coating	7/19/2032	1/7/2033	5.00	125	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Interim	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Interim	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40

Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Building Construction	Bore/Drill Rigs	Diesel	Tier 4 Interim	1.00	8.00	83.0	0.50
Paving	Pavers	Diesel	Tier 4 Interim	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1.00	8.00	14.0	0.74

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Bore/Drill Rigs	Diesel	Tier 4 Final	1.00	8.00	83.0	0.50
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	33.7	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	117	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	828	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	362	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	166	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	33.7	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	117	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	828	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	362	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	166	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction

Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	1,507,899	502,633	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	352,077	—
Site Preparation	—	—	90.0	0.00	—
Grading	150,000	—	480	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%

Unenclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005
2029	0.00	204	0.03	< 0.005
2030	0.00	204	0.03	< 0.005
2031	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2032	0.00	204	0.03	< 0.005
2033	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	10,002	10,002	10,002	3,650,875	97,283	97,283	97,283	35,508,126
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	10,002	10,002	10,002	3,650,875	97,283	97,283	97,283	35,508,126

Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,507,899	502,633	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	21,280,107	204	0.0330	0.0040	23,875,359
Unenclosed Parking with Elevator	3,399,635	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	21,280,107	204	0.0330	0.0040	23,875,359
Unenclosed Parking with Elevator	3,399,635	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	494,283,208	571,110
Unenclosed Parking with Elevator	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	494,283,208	571,110
Unenclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	76.4	—
Unenclosed Parking with Elevator	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	76.4	—
Unenclosed Parking with Elevator	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	10.0	0.14	50.0	670	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	The proposed creation of the M-RD zoning district would facilitate future development of up to 1,005,266 square feet (sf) of R&D uses. This analysis conservatively assumes 3 parking spaces per 1,000 sf and 10% of the total site would be landscaped.
Construction: Construction Phases	This analysis assumes that construction would begin 2025 and occur for 8 years.

Construction: Off-Road Equipment	Assuming the use of Tier 4 construction equipment consistent with the City's COA: Air Quality – Diesel Particulate Matter Controls During Construction. Also assuming that pile driving would be required.
Operations: Vehicle Data	Based on the project's TIA, the average daily trip generation rate is 9.70 trips per 1,000 sq ft + 247.71.
Operations: Energy Use	The project would be all-electric.
Operations: Emergency Generators and Fire Pumps	Up to seven generators could be located on the Potential Berkeley Forge Development site ranging from 200 to 500 kilowatts (670 horsepower); therefore, conservatively assuming up to 10 generators for buildout under the Gilman Gateway Rezone Project. Assuming the generators would run approximately 50 hours per year.
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Potential Berkeley Forge Project Custom Report

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4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Potential Berkeley Forge Project
Construction Start Date	1/6/2025
Operational Year	2032
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	3.40
Location	37.877866195579045, -122.30578464484333
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Research & Development	900	1000sqft	10.3	10.0	24,000	—	—	—
Unenclosed Parking with Elevator	1,900	Space	0.00	760,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-1-A	Use Electric or Hybrid Powered Equipment
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	29.3	40.0	0.11	0.34	7.81	7.91	0.33	3.97	4.07	—	14,890	14,890	0.70	1.37	15,334
Mit.	1.33	14.3	40.0	0.11	0.28	7.81	7.91	0.28	3.97	4.07	—	14,890	14,890	0.70	1.37	15,334
% Reduced	8%	51%	—	—	17%	—	—	16%	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.39	29.9	40.0	0.11	0.34	5.93	6.27	0.33	2.06	2.39	—	14,881	14,881	0.70	1.37	15,308
Mit.	1.28	14.9	40.0	0.11	0.28	5.93	6.21	0.28	2.06	2.33	—	14,881	14,881	0.70	1.37	15,308

% Reduced	8%	50%	—	—	17%	—	1%	16%	—	2%	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.98	15.6	21.9	0.06	0.19	3.75	3.93	0.18	1.32	1.51	—	7,229	7,229	0.33	0.59	7,416
Mit.	0.90	7.23	21.9	0.06	0.13	3.75	3.88	0.13	1.32	1.46	—	7,229	7,229	0.33	0.59	7,416
% Reduced	8%	54%	—	—	28%	—	1%	27%	—	3%	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.18	2.84	3.99	0.01	0.03	0.68	0.72	0.03	0.24	0.27	—	1,197	1,197	0.06	0.10	1,228
Mit.	0.16	1.32	3.99	0.01	0.02	0.68	0.71	0.02	0.24	0.27	—	1,197	1,197	0.06	0.10	1,228
% Reduced	8%	54%	—	—	28%	—	1%	27%	—	3%	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.05	29.3	40.0	0.11	0.34	7.81	7.91	0.33	3.97	4.07	—	14,890	14,890	0.70	1.37	15,334
2026	1.43	14.9	30.3	0.05	0.14	3.52	3.66	0.14	0.86	1.00	—	8,755	8,755	0.30	0.61	8,962
2027	1.39	14.6	29.4	0.05	0.14	3.52	3.66	0.14	0.86	1.00	—	8,639	8,639	0.29	0.61	8,845
2028	1.37	14.5	28.8	0.05	0.14	3.52	3.66	0.14	0.86	1.00	—	8,516	8,516	0.29	0.50	8,688
2029	1.29	14.3	28.2	0.05	0.14	3.52	3.66	0.11	0.86	0.97	—	8,387	8,387	0.26	0.50	8,557
2030	1.27	14.1	27.7	0.05	0.12	3.52	3.63	0.11	0.86	0.97	—	8,254	8,254	0.26	0.48	8,416
2031	1.23	14.0	27.2	0.05	0.12	3.52	3.63	0.11	0.86	0.97	—	8,124	8,124	0.26	0.48	8,285

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.04	29.9	40.0	0.11	0.34	5.93	6.27	0.33	2.06	2.39	—	14,881	14,881	0.70	1.37	15,308
2026	1.39	29.5	39.9	0.11	0.34	5.93	6.27	0.28	2.06	2.34	—	14,726	14,726	0.70	1.32	15,136
2027	1.36	15.1	28.3	0.05	0.14	3.52	3.66	0.14	0.86	1.00	—	8,450	8,450	0.31	0.62	8,641
2028	1.33	14.8	27.6	0.05	0.14	3.52	3.66	0.14	0.86	1.00	—	8,330	8,330	0.30	0.59	8,515
2029	1.28	14.7	27.1	0.05	0.14	3.52	3.66	0.11	0.86	0.97	—	8,205	8,205	0.28	0.58	8,386
2030	1.23	14.4	26.5	0.05	0.12	3.52	3.63	0.11	0.86	0.97	—	8,075	8,075	0.27	0.56	8,249
2031	1.20	14.3	26.2	0.05	0.12	3.52	3.63	0.11	0.86	0.97	—	7,948	7,948	0.27	0.48	8,097
2032	0.17	1.17	2.42	< 0.005	0.03	0.53	0.56	0.03	0.12	0.15	—	590	590	0.02	0.01	592
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.57	15.6	21.9	0.06	0.19	3.75	3.93	0.18	1.32	1.51	—	7,229	7,229	0.33	0.59	7,416
2026	0.98	11.2	20.6	0.04	0.11	2.57	2.67	0.10	0.65	0.75	—	6,285	6,285	0.23	0.45	6,432
2027	0.96	10.6	20.0	0.04	0.10	2.51	2.61	0.10	0.61	0.71	—	6,046	6,046	0.22	0.44	6,187
2028	0.95	10.6	19.6	0.04	0.10	2.51	2.61	0.10	0.62	0.71	—	5,977	5,977	0.21	0.42	6,112
2029	0.90	10.3	19.2	0.04	0.10	2.51	2.61	0.08	0.61	0.69	—	5,871	5,871	0.19	0.42	6,004
2030	0.88	10.2	18.8	0.04	0.08	2.51	2.59	0.08	0.61	0.69	—	5,778	5,778	0.19	0.34	5,889
2031	0.39	5.41	9.43	0.02	0.06	0.99	1.04	0.05	0.24	0.29	—	2,435	2,435	0.08	0.12	2,474
2032	< 0.005	0.02	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	10.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	2.84	3.99	0.01	0.03	0.68	0.72	0.03	0.24	0.27	—	1,197	1,197	0.06	0.10	1,228
2026	0.18	2.04	3.77	0.01	0.02	0.47	0.49	0.02	0.12	0.14	—	1,041	1,041	0.04	0.08	1,065
2027	0.18	1.94	3.64	0.01	0.02	0.46	0.48	0.02	0.11	0.13	—	1,001	1,001	0.04	0.07	1,024
2028	0.17	1.93	3.57	0.01	0.02	0.46	0.48	0.02	0.11	0.13	—	990	990	0.03	0.07	1,012
2029	0.16	1.89	3.50	0.01	0.02	0.46	0.48	0.01	0.11	0.13	—	972	972	0.03	0.07	994
2030	0.16	1.87	3.43	0.01	0.02	0.46	0.47	0.01	0.11	0.13	—	957	957	0.03	0.06	975
2031	0.07	0.99	1.72	< 0.005	0.01	0.18	0.19	0.01	0.04	0.05	—	403	403	0.01	0.02	410

2032	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.73	1.73	< 0.005	< 0.005	1.74

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.89	14.3	40.0	0.11	0.28	7.81	7.91	0.28	3.97	4.07	—	14,890	14,890	0.70	1.37	15,334
2026	1.33	6.80	30.3	0.05	0.10	3.52	3.61	0.10	0.86	0.96	—	8,651	8,651	0.29	0.61	8,858
2027	1.28	6.56	29.4	0.05	0.10	3.52	3.61	0.10	0.86	0.96	—	8,535	8,535	0.28	0.61	8,741
2028	1.26	6.42	28.8	0.05	0.10	3.52	3.61	0.10	0.86	0.96	—	8,412	8,412	0.28	0.50	8,584
2029	1.19	6.16	28.2	0.05	0.10	3.52	3.61	0.07	0.86	0.93	—	8,283	8,283	0.26	0.50	8,453
2030	1.17	6.02	27.7	0.05	0.07	3.52	3.59	0.07	0.86	0.93	—	8,151	8,151	0.25	0.48	8,312
2031	1.12	5.90	27.2	0.05	0.07	3.52	3.59	0.07	0.86	0.93	—	8,021	8,021	0.25	0.48	8,180
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.88	14.9	40.0	0.11	0.28	5.93	6.21	0.28	2.06	2.33	—	14,881	14,881	0.70	1.37	15,308
2026	1.28	14.5	39.9	0.11	0.28	5.93	6.21	0.23	2.06	2.28	—	14,726	14,726	0.70	1.32	15,136
2027	1.25	6.99	28.3	0.05	0.10	3.52	3.61	0.10	0.86	0.96	—	8,346	8,346	0.31	0.62	8,537
2028	1.22	6.74	27.6	0.05	0.10	3.52	3.61	0.10	0.86	0.96	—	8,227	8,227	0.30	0.59	8,411
2029	1.17	6.57	27.1	0.05	0.10	3.52	3.61	0.07	0.86	0.93	—	8,101	8,101	0.27	0.58	8,282
2030	1.13	6.32	26.5	0.05	0.07	3.52	3.59	0.07	0.86	0.93	—	7,971	7,971	0.27	0.56	8,145
2031	1.10	6.21	26.2	0.05	0.07	3.52	3.59	0.07	0.86	0.93	—	7,844	7,844	0.27	0.48	7,993
2032	0.17	0.75	2.42	< 0.005	< 0.005	0.53	0.53	< 0.005	0.12	0.13	—	590	590	0.02	0.01	592
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.48	7.23	21.9	0.06	0.13	3.75	3.88	0.13	1.32	1.46	—	7,229	7,229	0.33	0.59	7,416

2026	0.90	5.24	20.6	0.04	0.07	2.57	2.64	0.07	0.65	0.72	—	6,215	6,215	0.22	0.45	6,362
2027	0.88	4.86	20.0	0.03	0.07	2.51	2.58	0.07	0.61	0.68	—	5,972	5,972	0.21	0.43	6,112
2028	0.87	4.76	19.6	0.03	0.07	2.51	2.58	0.07	0.62	0.68	—	5,903	5,903	0.21	0.42	6,037
2029	0.82	4.57	19.2	0.03	0.07	2.51	2.58	0.05	0.61	0.67	—	5,797	5,797	0.19	0.42	5,930
2030	0.80	4.47	18.8	0.03	0.05	2.51	2.56	0.05	0.61	0.67	—	5,704	5,704	0.19	0.34	5,814
2031	0.34	2.09	9.43	0.02	0.03	0.99	1.01	0.03	0.24	0.27	—	2,410	2,410	0.08	0.12	2,449
2032	< 0.005	0.01	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	10.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.09	1.32	3.99	0.01	0.02	0.68	0.71	0.02	0.24	0.27	—	1,197	1,197	0.06	0.10	1,228
2026	0.16	0.96	3.77	0.01	0.01	0.47	0.48	0.01	0.12	0.13	—	1,029	1,029	0.04	0.08	1,053
2027	0.16	0.89	3.64	0.01	0.01	0.46	0.47	0.01	0.11	0.12	—	989	989	0.04	0.07	1,012
2028	0.16	0.87	3.57	0.01	0.01	0.46	0.47	0.01	0.11	0.12	—	977	977	0.03	0.07	1,000
2029	0.15	0.83	3.50	0.01	0.01	0.46	0.47	0.01	0.11	0.12	—	960	960	0.03	0.07	982
2030	0.15	0.81	3.43	0.01	0.01	0.46	0.47	0.01	0.11	0.12	—	944	944	0.03	0.06	963
2031	0.06	0.38	1.72	< 0.005	< 0.005	0.18	0.18	< 0.005	0.04	0.05	—	399	399	0.01	0.02	405
2032	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.73	1.73	< 0.005	< 0.005	1.74

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.3	22.4	246	0.62	0.54	61.5	62.1	0.51	15.6	16.1	885	76,429	77,314	94.9	4.85	81,245
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.1	25.3	199	0.58	0.48	61.5	62.0	0.46	15.6	16.1	885	72,771	73,656	95.2	5.07	77,548

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	26.5	24.1	209	0.58	0.51	61.4	61.9	0.48	15.6	16.1	885	73,131	74,015	95.1	4.98	77,925
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.84	4.40	38.2	0.11	0.09	11.2	11.3	0.09	2.84	2.93	146	12,108	12,254	15.7	0.83	12,901

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	23.8	19.1	210	0.61	0.33	61.5	61.9	0.31	15.6	15.9	—	62,295	62,295	2.09	2.52	63,209
Area	5.43	0.28	33.1	< 0.005	0.06	—	0.06	0.04	—	0.04	—	136	136	0.01	< 0.005	136
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11,844	11,844	1.92	0.23	11,961
Water	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Waste	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	30.3	22.4	246	0.62	0.54	61.5	62.1	0.51	15.6	16.1	885	76,429	77,314	94.9	4.85	81,245
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	23.1	22.3	196	0.58	0.33	61.5	61.9	0.31	15.6	15.9	—	58,774	58,774	2.32	2.73	59,649
Area	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11,844	11,844	1.92	0.23	11,961
Water	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Waste	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	24.1	25.3	199	0.58	0.48	61.5	62.0	0.46	15.6	16.1	885	72,771	73,656	95.2	5.07	77,548
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.8	21.0	190	0.58	0.33	61.4	61.7	0.31	15.6	15.9	—	59,078	59,078	2.22	2.65	59,971
Area	2.68	0.14	16.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	67.0	67.0	< 0.005	< 0.005	67.3
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11,844	11,844	1.92	0.23	11,961
Water	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Waste	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	1.05	2.95	2.69	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	539	539	0.02	< 0.005	541
Total	26.5	24.1	209	0.58	0.51	61.4	61.9	0.48	15.6	16.1	885	73,131	74,015	95.1	4.98	77,925
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.16	3.84	34.7	0.11	0.06	11.2	11.3	0.06	2.84	2.90	—	9,781	9,781	0.37	0.44	9,929
Area	0.49	0.03	2.97	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	11.1
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,961	1,961	0.32	0.04	1,980
Water	—	—	—	—	—	—	—	—	—	—	140	265	406	14.4	0.35	870
Waste	—	—	—	—	—	—	—	—	—	—	6.10	0.00	6.10	0.61	0.00	21.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	0.19	0.54	0.49	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	0.00	89.3	89.3	< 0.005	< 0.005	89.6
Total	4.84	4.40	38.2	0.11	0.09	11.2	11.3	0.09	2.84	2.93	146	12,108	12,254	15.7	0.83	12,901

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	23.8	19.1	210	0.61	0.33	61.5	61.9	0.31	15.6	15.9	—	62,295	62,295	2.09	2.52	63,209
Area	5.43	0.28	33.1	< 0.005	0.06	—	0.06	0.04	—	0.04	—	136	136	0.01	< 0.005	136
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11,844	11,844	1.92	0.23	11,961
Water	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Waste	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	30.3	22.4	246	0.62	0.54	61.5	62.1	0.51	15.6	16.1	885	76,429	77,314	94.9	4.85	81,245
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	23.1	22.3	196	0.58	0.33	61.5	61.9	0.31	15.6	15.9	—	58,774	58,774	2.32	2.73	59,649
Area	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11,844	11,844	1.92	0.23	11,961
Water	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Waste	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	24.1	25.3	199	0.58	0.48	61.5	62.0	0.46	15.6	16.1	885	72,771	73,656	95.2	5.07	77,548
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.8	21.0	190	0.58	0.33	61.4	61.7	0.31	15.6	15.9	—	59,078	59,078	2.22	2.65	59,971
Area	2.68	0.14	16.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	67.0	67.0	< 0.005	< 0.005	67.3
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11,844	11,844	1.92	0.23	11,961
Water	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Waste	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	1.05	2.95	2.69	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	539	539	0.02	< 0.005	541
Total	26.5	24.1	209	0.58	0.51	61.4	61.9	0.48	15.6	16.1	885	73,131	74,015	95.1	4.98	77,925
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.16	3.84	34.7	0.11	0.06	11.2	11.3	0.06	2.84	2.90	—	9,781	9,781	0.37	0.44	9,929
Area	0.49	0.03	2.97	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	11.1
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,961	1,961	0.32	0.04	1,980
Water	—	—	—	—	—	—	—	—	—	—	140	265	406	14.4	0.35	870
Waste	—	—	—	—	—	—	—	—	—	—	6.10	0.00	6.10	0.61	0.00	21.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Stationary	0.19	0.54	0.49	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	0.00	89.3	89.3	< 0.005	< 0.005	89.6
Total	4.84	4.40	38.2	0.11	0.09	11.2	11.3	0.09	2.84	2.93	146	12,108	12,254	15.7	0.83	12,901

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	2.36	2.36	—	0.36	0.36	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	2.36	2.36	—	0.36	0.36	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	2.94	4.48	0.01	0.05	—	0.05	0.05	—	0.05	—	845	845	0.03	0.01	847
Demolition	—	—	—	—	—	0.58	0.58	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.54	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	140	140	0.01	< 0.005	140
Demolition	—	—	—	—	—	0.11	0.11	—	0.02	0.02	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.58	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	3.46	1.38	0.02	0.05	0.76	0.81	0.05	0.21	0.26	—	2,859	2,859	0.15	0.46	3,007
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.51	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	120	120	< 0.005	0.01	122

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	3.65	1.40	0.02	0.05	0.76	0.81	0.05	0.21	0.26	—	2,861	2,861	0.15	0.46	3,002
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.9	29.9	< 0.005	< 0.005	30.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.88	0.34	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	705	705	0.04	0.11	741
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.95	4.95	< 0.005	< 0.005	5.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	117	117	0.01	0.02	123

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	2.36	2.36	—	0.36	0.36	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	2.36	2.36	—	0.36	0.36	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	1.11	4.48	0.01	0.02	—	0.02	0.02	—	0.02	—	845	845	0.03	0.01	847
Demolition	—	—	—	—	—	0.58	0.58	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.20	0.82	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	140	140	0.01	< 0.005	140
Demolition	—	—	—	—	—	0.11	0.11	—	0.02	0.02	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.58	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	< 0.005	< 0.005	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	3.46	1.38	0.02	0.05	0.76	0.81	0.05	0.21	0.26	—	2,859	2,859	0.15	0.46	3,007
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.51	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	120	120	< 0.005	0.01	122
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	3.65	1.40	0.02	0.05	0.76	0.81	0.05	0.21	0.26	—	2,861	2,861	0.15	0.46	3,002
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.9	29.9	< 0.005	< 0.005	30.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Hauling	0.02	0.88	0.34	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	705	705	0.04	0.11	741
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.95	4.95	< 0.005	< 0.005	5.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	117	117	0.01	0.02	123

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	1.82	3.49	0.01	0.01	—	0.01	0.01	—	0.01	—	653	653	0.03	0.01	655
Dust From Material Movement	—	—	—	—	—	0.95	0.95	—	0.49	0.49	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.33	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	108	108	< 0.005	< 0.005	108
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.67	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	152	152	< 0.005	0.01	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.4	17.4	< 0.005	< 0.005	17.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.89	2.89	< 0.005	< 0.005	2.93
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.32	3.49	0.01	0.01	—	0.01	0.01	—	0.01	—	653	653	0.03	0.01	655
Dust From Material Movement	—	—	—	—	—	0.95	0.95	—	0.49	0.49	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	108	108	< 0.005	< 0.005	108
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.67	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	152	152	< 0.005	0.01	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.4	17.4	< 0.005	< 0.005	17.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.89	2.89	< 0.005	< 0.005	2.93
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	6.50	11.8	0.02	0.06	—	0.06	0.06	—	0.06	—	2,208	2,208	0.09	0.02	2,216
Dust From Material Movement	—	—	—	—	—	1.21	1.21	—	0.48	0.48	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.19	2.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	366	366	0.01	< 0.005	367
Dust From Material Movement	—	—	—	—	—	0.22	0.22	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.77	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	176

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	9.81	3.93	0.05	0.15	2.15	2.30	0.15	0.59	0.74	—	8,118	8,118	0.43	1.31	8,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	10.4	3.97	0.05	0.15	2.15	2.30	0.15	0.59	0.74	—	8,122	8,122	0.43	1.31	8,523
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	54.1	54.1	< 0.005	< 0.005	54.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	3.40	1.32	0.02	0.05	0.72	0.77	0.05	0.20	0.25	—	2,717	2,717	0.14	0.44	2,854
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.96	8.96	< 0.005	< 0.005	9.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.62	0.24	< 0.005	0.01	0.13	0.14	0.01	0.04	0.05	—	450	450	0.02	0.07	472

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,622
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	1.48	11.8	0.02	0.04	—	0.04	0.04	—	0.04	—	2,208	2,208	0.09	0.02	2,216
Dust From Material Movement	—	—	—	—	—	1.21	1.21	—	0.48	0.48	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.27	2.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	366	366	0.01	< 0.005	367
Dust From Material Movement	—	—	—	—	—	0.22	0.22	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.77	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	176

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	9.81	3.93	0.05	0.15	2.15	2.30	0.15	0.59	0.74	—	8,118	8,118	0.43	1.31	8,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	10.4	3.97	0.05	0.15	2.15	2.30	0.15	0.59	0.74	—	8,122	8,122	0.43	1.31	8,523
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	54.1	54.1	< 0.005	< 0.005	54.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	3.40	1.32	0.02	0.05	0.72	0.77	0.05	0.20	0.25	—	2,717	2,717	0.14	0.44	2,854
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.96	8.96	< 0.005	< 0.005	9.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.62	0.24	< 0.005	0.01	0.13	0.14	0.01	0.04	0.05	—	450	450	0.02	0.07	472

3.7. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	6,621

Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.61	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	207	207	0.01	< 0.005	207
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.11	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	34.3
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.64	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	160
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	10.1	3.87	0.05	0.15	2.15	2.30	0.10	0.59	0.69	—	7,969	7,969	0.43	1.26	8,355
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.97	4.97	< 0.005	< 0.005	5.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.31	0.12	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	249	249	0.01	0.04	262
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.3	41.3	< 0.005	0.01	43.3

3.8. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.14	1.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	207	207	0.01	< 0.005	207
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	34.3
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.64	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	160
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	10.1	3.87	0.05	0.15	2.15	2.30	0.10	0.59	0.69	—	7,969	7,969	0.43	1.26	8,355
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.97	4.97	< 0.005	< 0.005	5.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.31	0.12	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	249	249	0.01	0.04	262
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.3	41.3	< 0.005	0.01	43.3

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,782	2,782	0.11	0.02	2,791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,782	2,782	0.11	0.02	2,791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	7.00	11.6	0.02	0.06	—	0.06	0.06	—	0.06	—	1,889	1,889	0.08	0.02	1,895
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.28	2.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	313	313	0.01	< 0.005	314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.95	0.68	11.6	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,712	2,712	0.05	0.10	2,754

Vendor	0.10	3.89	1.73	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,261	3,261	0.13	0.48	3,417
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.92	0.90	10.1	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,516	2,516	0.06	0.11	2,551
Vendor	0.10	4.11	1.75	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,264	3,264	0.13	0.48	3,412
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.54	6.68	0.00	0.00	1.79	1.79	0.00	0.42	0.42	—	1,720	1,720	0.04	0.07	1,745
Vendor	0.07	2.74	1.17	0.02	0.03	0.59	0.63	0.03	0.16	0.20	—	2,216	2,216	0.09	0.33	2,318
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.22	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	285	285	0.01	0.01	289
Vendor	0.01	0.50	0.21	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	367	367	0.02	0.05	384
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,678	2,678	0.11	0.02	2,687
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,678	2,678	0.11	0.02	2,687
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.51	11.6	0.02	0.03	—	0.03	0.03	—	0.03	—	1,818	1,818	0.07	0.01	1,825
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.28	2.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	301	301	0.01	< 0.005	302
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.95	0.68	11.6	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,712	2,712	0.05	0.10	2,754
Vendor	0.10	3.89	1.73	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,261	3,261	0.13	0.48	3,417
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.92	0.90	10.1	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,516	2,516	0.06	0.11	2,551
Vendor	0.10	4.11	1.75	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,264	3,264	0.13	0.48	3,412
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.62	0.54	6.68	0.00	0.00	1.79	1.79	0.00	0.42	0.42	—	1,720	1,720	0.04	0.07	1,745
Vendor	0.07	2.74	1.17	0.02	0.03	0.59	0.63	0.03	0.16	0.20	—	2,216	2,216	0.09	0.33	2,318
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.22	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	285	285	0.01	0.01	289
Vendor	0.01	0.50	0.21	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	367	367	0.02	0.05	384
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,993

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.91	0.59	10.8	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,662	2,662	0.04	0.10	2,702
Vendor	0.10	3.74	1.65	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,197	3,197	0.13	0.48	3,352
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.80	9.54	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,469	2,469	0.06	0.11	2,504
Vendor	0.10	3.97	1.70	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,200	3,200	0.13	0.48	3,347
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.50	6.61	0.00	0.00	1.88	1.88	0.00	0.44	0.44	—	1,776	1,776	0.04	0.07	1,802
Vendor	0.07	2.78	1.20	0.02	0.03	0.63	0.66	0.03	0.17	0.21	—	2,284	2,284	0.10	0.35	2,392
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	294	294	0.01	0.01	298
Vendor	0.01	0.51	0.22	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	378	378	0.02	0.06	396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.12. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,677	2,677	0.11	0.02	2,686
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,677	2,677	0.11	0.02	2,686
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,912	1,912	0.08	0.02	1,919
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	317	317	0.01	< 0.005	318
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.91	0.59	10.8	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,662	2,662	0.04	0.10	2,702
Vendor	0.10	3.74	1.65	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,197	3,197	0.13	0.48	3,352
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.80	9.54	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,469	2,469	0.06	0.11	2,504
Vendor	0.10	3.97	1.70	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,200	3,200	0.13	0.48	3,347
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.50	6.61	0.00	0.00	1.88	1.88	0.00	0.44	0.44	—	1,776	1,776	0.04	0.07	1,802
Vendor	0.07	2.78	1.20	0.02	0.03	0.63	0.66	0.03	0.17	0.21	—	2,284	2,284	0.10	0.35	2,392
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	294	294	0.01	0.01	298
Vendor	0.01	0.51	0.22	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	378	378	0.02	0.06	396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,781	2,781	0.11	0.02	2,790
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.39	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,992	1,992	0.08	0.02	1,999
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.35	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	330	330	0.01	< 0.005	331
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.89	0.59	10.2	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,614	2,614	0.04	0.02	2,630
Vendor	0.10	3.61	1.60	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,121	3,121	0.13	0.46	3,268
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.86	0.71	8.96	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,426	2,426	0.06	0.11	2,460

Vendor	0.10	3.81	1.65	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,124	3,124	0.13	0.46	3,265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.49	6.23	0.00	0.00	1.89	1.89	0.00	0.44	0.44	—	1,749	1,749	0.04	0.07	1,775
Vendor	0.07	2.67	1.16	0.02	0.03	0.63	0.66	0.03	0.17	0.21	—	2,236	2,236	0.09	0.33	2,339
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.14	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	290	290	0.01	0.01	294
Vendor	0.01	0.49	0.21	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	370	370	0.02	0.05	387
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.14. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,677	2,677	0.11	0.02	2,686
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,677	2,677	0.11	0.02	2,686
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,917	1,917	0.08	0.02	1,924
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	317	317	0.01	< 0.005	319
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.89	0.59	10.2	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,614	2,614	0.04	0.02	2,630
Vendor	0.10	3.61	1.60	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,121	3,121	0.13	0.46	3,268
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.86	0.71	8.96	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,426	2,426	0.06	0.11	2,460
Vendor	0.10	3.81	1.65	0.02	0.05	0.88	0.92	0.05	0.24	0.29	—	3,124	3,124	0.13	0.46	3,265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.49	6.23	0.00	0.00	1.89	1.89	0.00	0.44	0.44	—	1,749	1,749	0.04	0.07	1,775
Vendor	0.07	2.67	1.16	0.02	0.03	0.63	0.66	0.03	0.17	0.21	—	2,236	2,236	0.09	0.33	2,339
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.14	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	290	290	0.01	0.01	294

Vendor	0.01	0.49	0.21	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	370	370	0.02	0.05	387
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.49	9.66	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,570	2,570	0.04	0.02	2,584
Vendor	0.08	3.45	1.55	0.02	0.05	0.88	0.92	0.02	0.24	0.27	—	3,037	3,037	0.11	0.46	3,183
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.70	8.47	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,384	2,384	0.06	0.10	2,417
Vendor	0.08	3.65	1.59	0.02	0.05	0.88	0.92	0.02	0.24	0.27	—	3,040	3,040	0.11	0.46	3,180
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.43	5.88	0.00	0.00	1.88	1.88	0.00	0.44	0.44	—	1,715	1,715	0.04	0.07	1,740
Vendor	0.05	2.55	1.12	0.02	0.03	0.63	0.66	0.02	0.17	0.19	—	2,170	2,170	0.08	0.33	2,272
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.08	1.07	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	284	284	0.01	0.01	288
Vendor	0.01	0.47	0.20	< 0.005	0.01	0.11	0.12	< 0.005	0.03	0.03	—	359	359	0.01	0.05	376
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.16. Building Construction (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,676	2,676	0.11	0.02	2,685
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,676	2,676	0.11	0.02	2,685
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,911	1,911	0.08	0.02	1,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	316	316	0.01	< 0.005	318
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.49	9.66	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,570	2,570	0.04	0.02	2,584
Vendor	0.08	3.45	1.55	0.02	0.05	0.88	0.92	0.02	0.24	0.27	—	3,037	3,037	0.11	0.46	3,183
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.70	8.47	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,384	2,384	0.06	0.10	2,417

Vendor	0.08	3.65	1.59	0.02	0.05	0.88	0.92	0.02	0.24	0.27	—	3,040	3,040	0.11	0.46	3,180
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.43	5.88	0.00	0.00	1.88	1.88	0.00	0.44	0.44	—	1,715	1,715	0.04	0.07	1,740
Vendor	0.05	2.55	1.12	0.02	0.03	0.63	0.66	0.02	0.17	0.19	—	2,170	2,170	0.08	0.33	2,272
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.08	1.07	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	284	284	0.01	0.01	288
Vendor	0.01	0.47	0.20	< 0.005	0.01	0.11	0.12	< 0.005	0.03	0.03	—	359	359	0.01	0.05	376
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.17. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	7.37	12.2	0.02	0.07	—	0.07	0.06	—	0.06	—	1,986	1,986	0.08	0.02	1,992
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.34	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	329	329	0.01	< 0.005	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82	0.48	9.15	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,528	2,528	0.04	0.02	2,541
Vendor	0.08	3.32	1.50	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,947	2,947	0.11	0.43	3,085
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.61	7.98	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,346	2,346	0.05	0.10	2,378
Vendor	0.07	3.49	1.54	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,950	2,950	0.11	0.43	3,082
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.42	5.55	0.00	0.00	1.88	1.88	0.00	0.44	0.44	—	1,687	1,687	0.04	0.02	1,694
Vendor	0.05	2.45	1.08	0.02	0.02	0.63	0.64	0.02	0.17	0.19	—	2,106	2,106	0.08	0.31	2,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.01	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	279	279	0.01	< 0.005	280

Vendor	0.01	0.45	0.20	< 0.005	< 0.005	0.11	0.12	< 0.005	0.03	0.03	—	349	349	0.01	0.05	365
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.18. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,676	2,676	0.11	0.02	2,685
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,676	2,676	0.11	0.02	2,685
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.59	12.2	0.02	0.04	—	0.04	0.04	—	0.04	—	1,911	1,911	0.08	0.02	1,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	316	316	0.01	< 0.005	318
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82	0.48	9.15	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,528	2,528	0.04	0.02	2,541
Vendor	0.08	3.32	1.50	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,947	2,947	0.11	0.43	3,085
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.61	7.98	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,346	2,346	0.05	0.10	2,378
Vendor	0.07	3.49	1.54	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,950	2,950	0.11	0.43	3,082
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.42	5.55	0.00	0.00	1.88	1.88	0.00	0.44	0.44	—	1,687	1,687	0.04	0.02	1,694
Vendor	0.05	2.45	1.08	0.02	0.02	0.63	0.64	0.02	0.17	0.19	—	2,106	2,106	0.08	0.31	2,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.01	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	279	279	0.01	< 0.005	280
Vendor	0.01	0.45	0.20	< 0.005	< 0.005	0.11	0.12	< 0.005	0.03	0.03	—	349	349	0.01	0.05	365
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.19. Building Construction (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.3	17.0	0.03	0.09	—	0.09	0.09	—	0.09	—	2,780	2,780	0.11	0.02	2,789
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	2.46	4.06	0.01	0.02	—	0.02	0.02	—	0.02	—	664	664	0.03	0.01	666
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.45	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	110	110	< 0.005	< 0.005	110
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.78	0.48	8.73	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,493	2,493	0.04	0.02	2,506
Vendor	0.08	3.20	1.45	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,851	2,851	0.11	0.43	2,989
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76	0.60	7.67	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,313	2,313	0.05	0.02	2,321

Vendor	0.07	3.39	1.49	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,854	2,854	0.11	0.43	2,987
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.12	1.77	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	556	556	0.01	0.01	558
Vendor	0.02	0.79	0.35	0.01	0.01	0.21	0.21	0.01	0.06	0.06	—	681	681	0.03	0.10	713
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.32	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	92.1	92.1	< 0.005	< 0.005	92.5
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	118
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.20. Building Construction (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,676	2,676	0.11	0.02	2,685
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.22	17.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,676	2,676	0.11	0.02	2,685
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.53	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	639	639	0.03	0.01	641
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	106	106	< 0.005	< 0.005	106
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.78	0.48	8.73	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,493	2,493	0.04	0.02	2,506
Vendor	0.08	3.20	1.45	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,851	2,851	0.11	0.43	2,989
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76	0.60	7.67	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,313	2,313	0.05	0.02	2,321
Vendor	0.07	3.39	1.49	0.02	0.02	0.88	0.90	0.02	0.24	0.27	—	2,854	2,854	0.11	0.43	2,987
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.12	1.77	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	556	556	0.01	0.01	558
Vendor	0.02	0.79	0.35	0.01	0.01	0.21	0.21	0.01	0.06	0.06	—	681	681	0.03	0.10	713
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.32	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	92.1	92.1	< 0.005	< 0.005	92.5

Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	118
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.21. Paving (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	7.21	10.6	0.01	0.09	—	0.09	0.08	—	0.08	—	1,511	1,511	0.06	0.01	1,516
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	1.78	2.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	372	372	0.02	< 0.005	374
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.32	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	61.7	61.7	< 0.005	< 0.005	61.9
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.41	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	117	117	< 0.005	< 0.005	118
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.0	27.0	< 0.005	< 0.005	27.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.47	4.47	< 0.005	< 0.005	4.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.22. Paving (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	1,516
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.48	2.61	< 0.005	0.01	—	0.01	0.01	—	0.01	—	372	372	0.02	< 0.005	374
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	61.7	61.7	< 0.005	< 0.005	61.9
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.41	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	117	117	< 0.005	< 0.005	118
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.0	27.0	< 0.005	< 0.005	27.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.47	4.47	< 0.005	< 0.005	4.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.23. Architectural Coating (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.24	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.0	30.0	< 0.005	< 0.005	30.2
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.97	4.97	< 0.005	< 0.005	4.99
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.10	1.75	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	499	499	0.01	< 0.005	501
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.12	1.53	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	463	463	0.01	< 0.005	464
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.33	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	105	105	< 0.005	< 0.005	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	17.4	17.4	< 0.005	< 0.005	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.24. Architectural Coating (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	134
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	134
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.15	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.0	30.0	< 0.005	< 0.005	30.2
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.97	4.97	< 0.005	< 0.005	4.99
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.10	1.75	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	499	499	0.01	< 0.005	501
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.12	1.53	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	463	463	0.01	< 0.005	464
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.33	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	105	105	< 0.005	< 0.005	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	17.4	17.4	< 0.005	< 0.005	17.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.25. Architectural Coating (2032) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	2.36
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	0.39
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.10	1.46	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	456	456	0.01	< 0.005	458
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.09	8.09	< 0.005	< 0.005	8.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.34	1.34	< 0.005	< 0.005	1.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.26. Architectural Coating (2032) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	134
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	2.36
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	0.39
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.10	1.46	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	456	456	0.01	< 0.005	458
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.09	8.09	< 0.005	< 0.005	8.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.34	1.34	< 0.005	< 0.005	1.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	23.8	19.1	210	0.61	0.33	61.5	61.9	0.31	15.6	15.9	—	62,295	62,295	2.09	2.52	63,209
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	23.8	19.1	210	0.61	0.33	61.5	61.9	0.31	15.6	15.9	—	62,295	62,295	2.09	2.52	63,209
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	23.1	22.3	196	0.58	0.33	61.5	61.9	0.31	15.6	15.9	—	58,774	58,774	2.32	2.73	59,649
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	23.1	22.3	196	0.58	0.33	61.5	61.9	0.31	15.6	15.9	—	58,774	58,774	2.32	2.73	59,649
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	4.16	3.84	34.7	0.11	0.06	11.2	11.3	0.06	2.84	2.90	—	9,781	9,781	0.37	0.44	9,929
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	4.16	3.84	34.7	0.11	0.06	11.2	11.3	0.06	2.84	2.90	—	9,781	9,781	0.37	0.44	9,929

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	23.8	19.1	210	0.61	0.33	61.5	61.9	0.31	15.6	15.9	—	62,295	62,295	2.09	2.52	63,209
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	23.8	19.1	210	0.61	0.33	61.5	61.9	0.31	15.6	15.9	—	62,295	62,295	2.09	2.52	63,209
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	23.1	22.3	196	0.58	0.33	61.5	61.9	0.31	15.6	15.9	—	58,774	58,774	2.32	2.73	59,649
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	23.1	22.3	196	0.58	0.33	61.5	61.9	0.31	15.6	15.9	—	58,774	58,774	2.32	2.73	59,649
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	4.16	3.84	34.7	0.11	0.06	11.2	11.3	0.06	2.84	2.90	—	9,781	9,781	0.37	0.44	9,929
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	4.16	3.84	34.7	0.11	0.06	11.2	11.3	0.06	2.84	2.90	—	9,781	9,781	0.37	0.44	9,929

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	10,647	10,647	1.72	0.21	10,753
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,197	1,197	0.19	0.02	1,209
Total	—	—	—	—	—	—	—	—	—	—	—	11,844	11,844	1.92	0.23	11,961
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	10,647	10,647	1.72	0.21	10,753
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,197	1,197	0.19	0.02	1,209
Total	—	—	—	—	—	—	—	—	—	—	—	11,844	11,844	1.92	0.23	11,961
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	1,763	1,763	0.29	0.03	1,780

Unenclosed	—	—	—	—	—	—	—	—	—	—	—	198	198	0.03	< 0.005	200
Total	—	—	—	—	—	—	—	—	—	—	—	1,961	1,961	0.32	0.04	1,980

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	10,647	10,647	1.72	0.21	10,753
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,197	1,197	0.19	0.02	1,209
Total	—	—	—	—	—	—	—	—	—	—	—	11,844	11,844	1.92	0.23	11,961
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	10,647	10,647	1.72	0.21	10,753
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	1,197	1,197	0.19	0.02	1,209
Total	—	—	—	—	—	—	—	—	—	—	—	11,844	11,844	1.92	0.23	11,961
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	1,763	1,763	0.29	0.03	1,780
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	198	198	0.03	< 0.005	200
Total	—	—	—	—	—	—	—	—	—	—	—	1,961	1,961	0.32	0.04	1,980

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00

Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	5.43	0.28	33.1	< 0.005	0.06	—	0.06	0.04	—	0.04	—	136	136	0.01	< 0.005	136
Total	5.43	0.28	33.1	< 0.005	0.06	—	0.06	0.04	—	0.04	—	136	136	0.01	< 0.005	136
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.49	0.03	2.97	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	11.1
Total	0.49	0.03	2.97	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	11.1

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.43	0.28	33.1	< 0.005	0.06	—	0.06	0.04	—	0.04	—	136	136	0.01	< 0.005	136
Total	5.43	0.28	33.1	< 0.005	0.06	—	0.06	0.04	—	0.04	—	136	136	0.01	< 0.005	136
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.49	0.03	2.97	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	11.1
Total	0.49	0.03	2.97	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	11.1

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	140	265	406	14.4	0.35	870
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	140	265	406	14.4	0.35	870

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	848	1,602	2,450	87.2	2.10	5,256
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	140	265	406	14.4	0.35	870

Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	140	265	406	14.4	0.35	870

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	6.10	0.00	6.10	0.61	0.00	21.4
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	6.10	0.00	6.10	0.61	0.00	21.4

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129

Unenclosed	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	36.9	0.00	36.9	3.68	0.00	129
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	6.10	0.00	6.10	0.61	0.00	21.4
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	6.10	0.00	6.10	0.61	0.00	21.4

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.19	0.54	0.49	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	0.00	89.3	89.3	< 0.005	< 0.005	89.6
Total	0.19	0.54	0.49	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	0.00	89.3	89.3	< 0.005	< 0.005	89.6

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Total	1.08	3.01	2.75	0.01	0.16	0.00	0.16	0.16	0.00	0.16	0.00	551	551	0.02	< 0.005	553
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.19	0.54	0.49	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	0.00	89.3	89.3	< 0.005	< 0.005	89.6
Total	0.19	0.54	0.49	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	0.00	89.3	89.3	< 0.005	< 0.005	89.6

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequester	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/6/2025	5/9/2025	5.00	90.0	—
Site Preparation	Site Preparation	5/12/2025	7/11/2025	5.00	45.0	—
Grading	Grading	7/14/2025	1/16/2026	5.00	135	—
Building Construction	Building Construction	1/19/2026	5/2/2031	5.00	1,380	—
Paving	Paving	5/5/2031	9/5/2031	5.00	90.0	—
Architectural Coating	Architectural Coating	9/8/2031	1/9/2032	5.00	90.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Interim	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Interim	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40

Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Building Construction	Bore/Drill Rigs	Diesel	Tier 4 Interim	1.00	8.00	83.0	0.50
Paving	Pavers	Diesel	Tier 4 Interim	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Electric	Average	1.00	8.00	14.0	0.74

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Bore/Drill Rigs	Diesel	Tier 4 Final	1.00	8.00	83.0	0.50
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	40.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	116	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	319	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	125	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	63.8	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	40.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	116	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	319	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	125	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	63.8	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction

Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	15.0	5.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	319,000	—
Site Preparation	—	—	67.5	0.00	—
Grading	125,000	—	405	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%

Unenclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005
2029	0.00	204	0.03	< 0.005
2030	0.00	204	0.03	< 0.005
2031	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2032	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	8,955	8,955	8,955	3,268,575	87,096	87,096	87,096	31,789,908
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	8,955	8,955	8,955	3,268,575	87,096	87,096	87,096	31,789,908

Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	15.0	5.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	19,051,770	204	0.0330	0.0040	0.00
Unenclosed Parking with Elevator	2,141,680	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	19,051,770	204	0.0330	0.0040	0.00
Unenclosed Parking with Elevator	2,141,680	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	442,524,552	272,671
Unenclosed Parking with Elevator	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	442,524,552	272,671
Unenclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	68.4	—
Unenclosed Parking with Elevator	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	68.4	—
Unenclosed Parking with Elevator	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	7.00	0.14	50.0	670	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	This EIR also evaluates the reasonably foreseeable Potential Berkeley Forge Development, which includes redevelopment of a 10.26-acre portion of the project site with up to 900,000 square feet of a mix of light manufacturing, R&D, laboratory, and office uses, consistent with the uses allowed in the M-RD district.
Construction: Construction Phases	If approved, construction of the Potential Berkeley Forge Development is anticipated to begin in 2025 and occur over approximately 7 years.

Construction: Off-Road Equipment	Assuming the use of Tier 4 construction equipment consistent with the City's COA: Air Quality – Diesel Particulate Matter Controls During Construction. Also assuming that pile driving would be required.
Operations: Vehicle Data	Based on the project's TIA, the average daily trip generation rate is 9.70 trips per 1,000 sq ft + 247.71.
Operations: Energy Use	The project would be all-electric.
Operations: Emergency Generators and Fire Pumps	Up to seven generators could be located on the Potential Berkeley Forge Development site ranging from 200 to 500 kilowatts (670 horsepower). Assuming the generators would run approximately 50 hours per year.

APPENDIX G

HEALTH RISK ASSESSMENT

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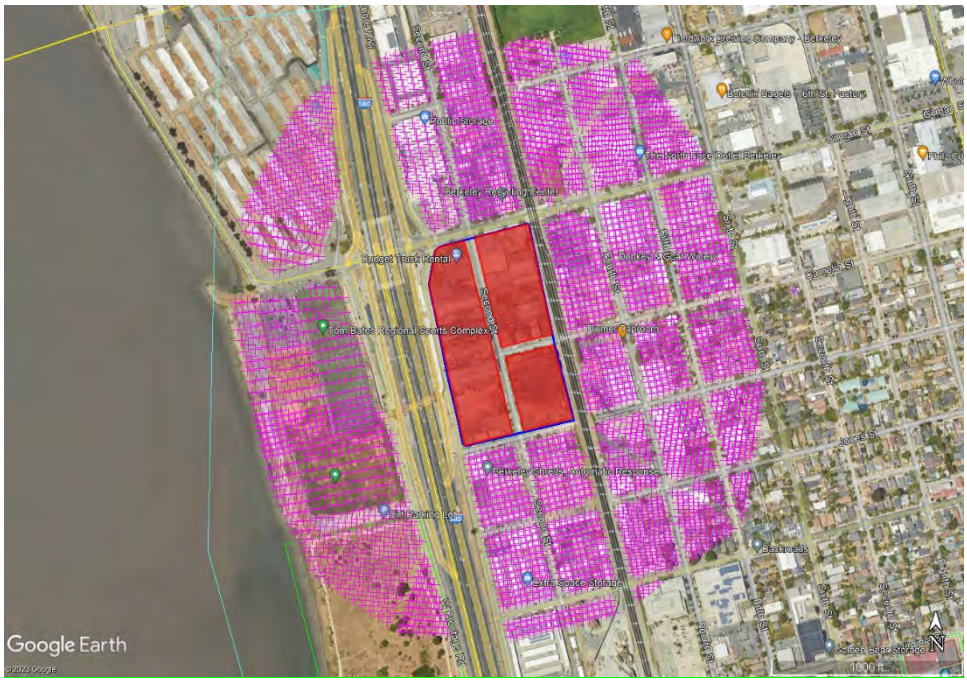
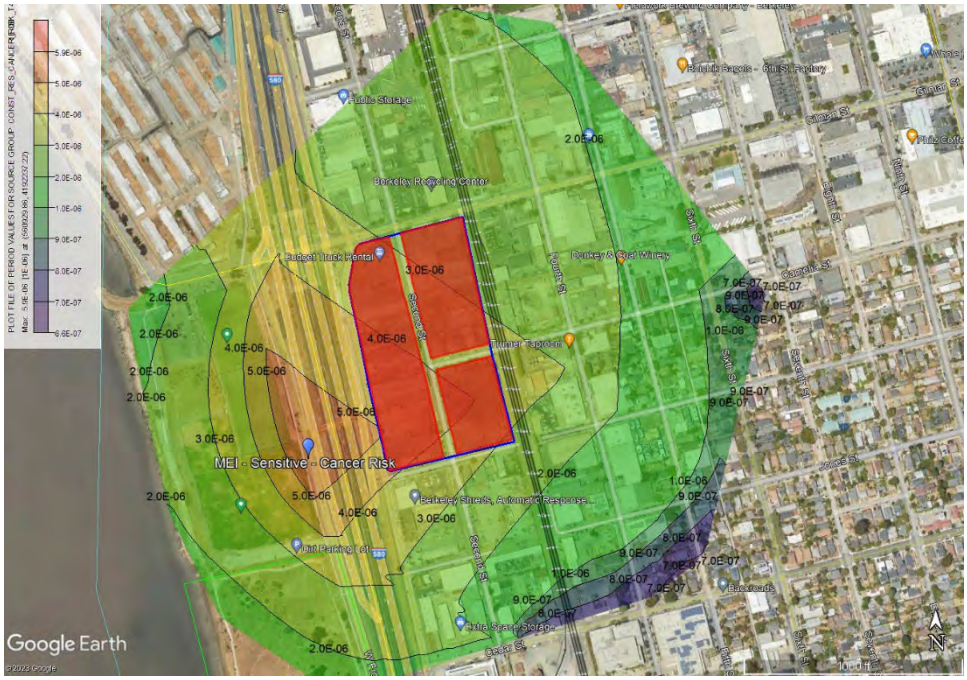
Project Location

Unmitigated Health Risks from Construction of Buildout under the Gilman Gateway Rezone to Off-Site Receptors

Residential Receptor Grid

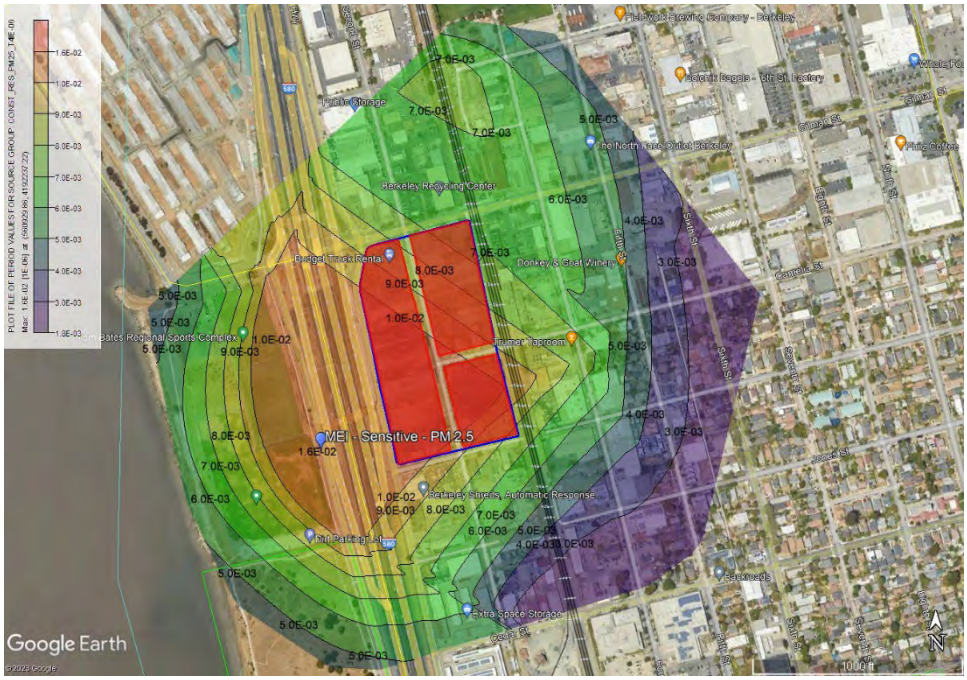


Residential Receptor - Cancer Risk

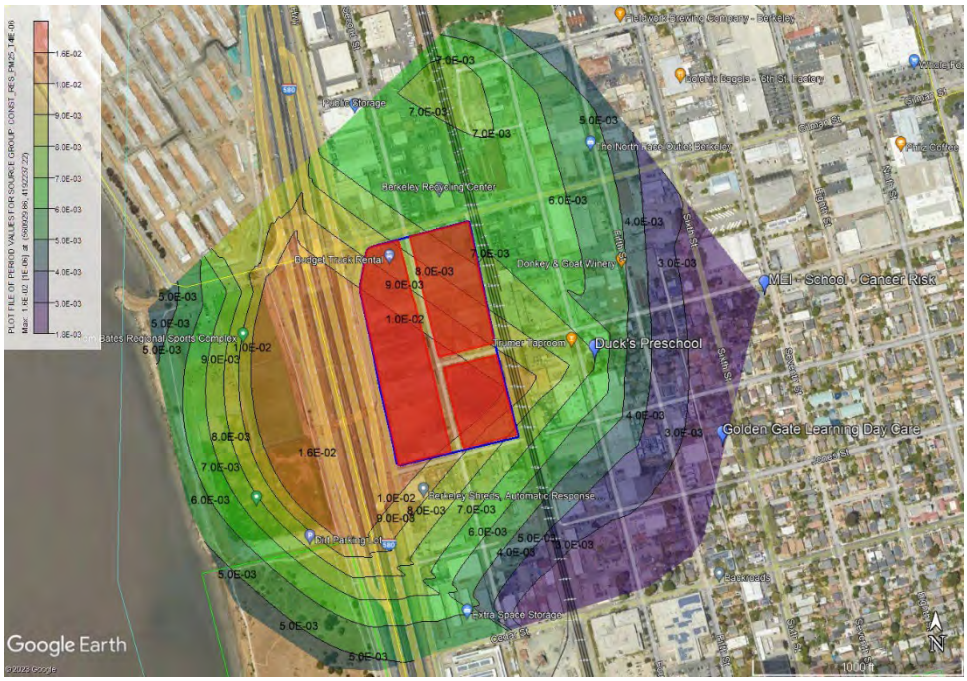


Residential Receptor - Chronic Hazard Index

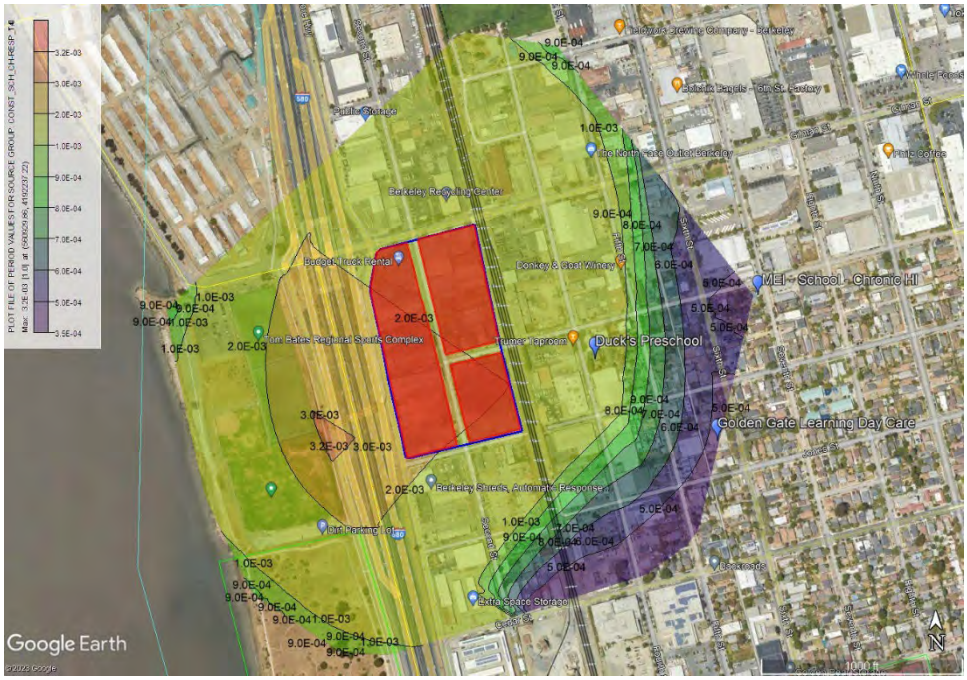
Residential Receptor - Annual PM2.5



School Receptor - Cancer Risk

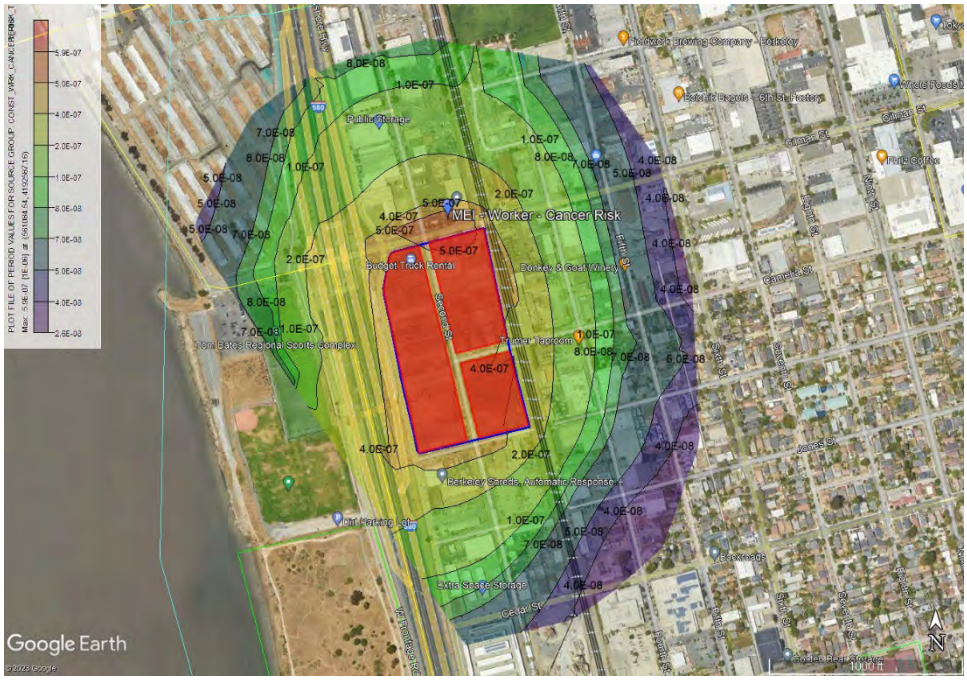


School Receptor - Chronic Hazard Index

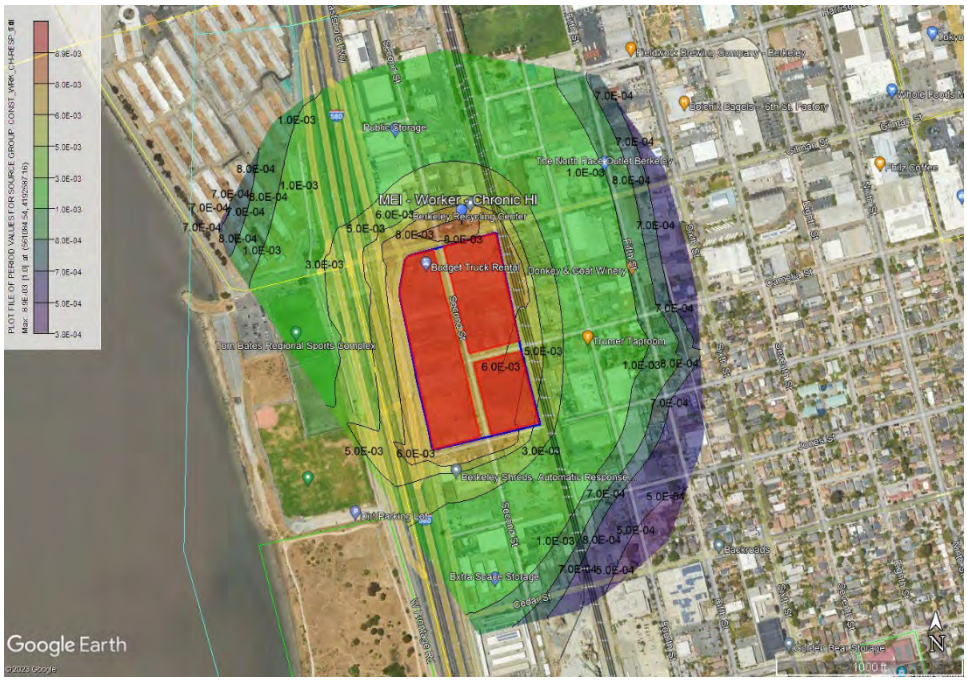


School Receptor - Annual PM2.5

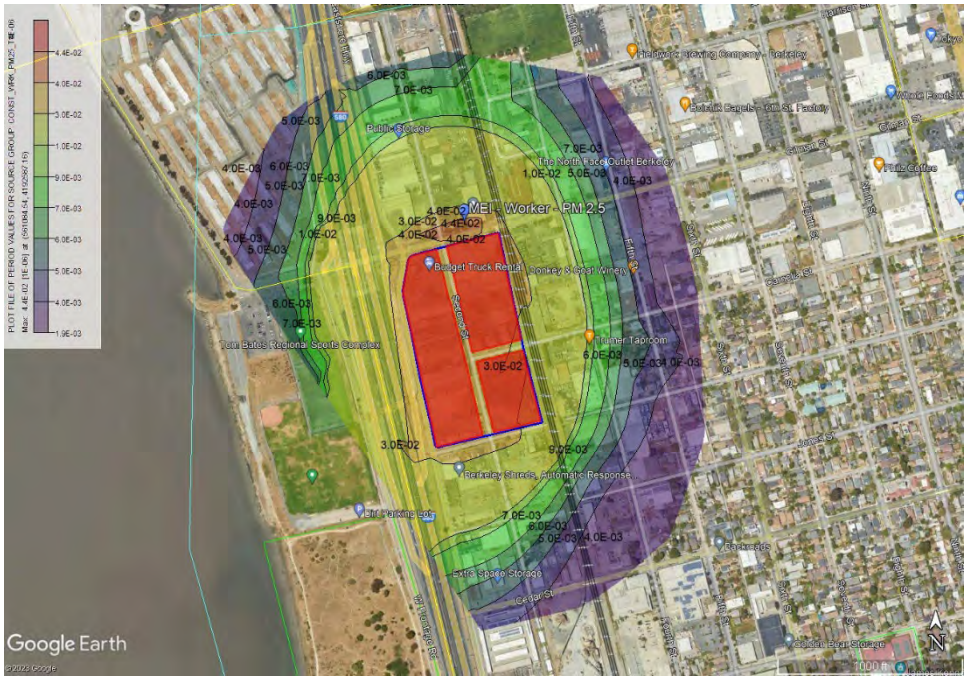
Worker Receptor - Cancer Risk



Worker Receptor - Chronic Hazard Index

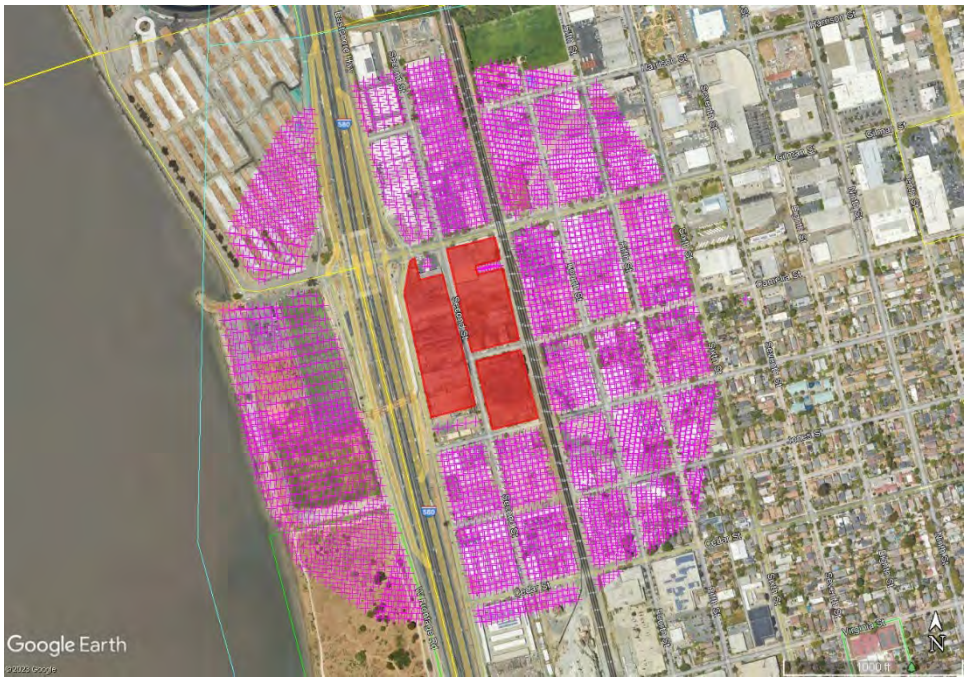


Worker Receptor - Annual PM2.5

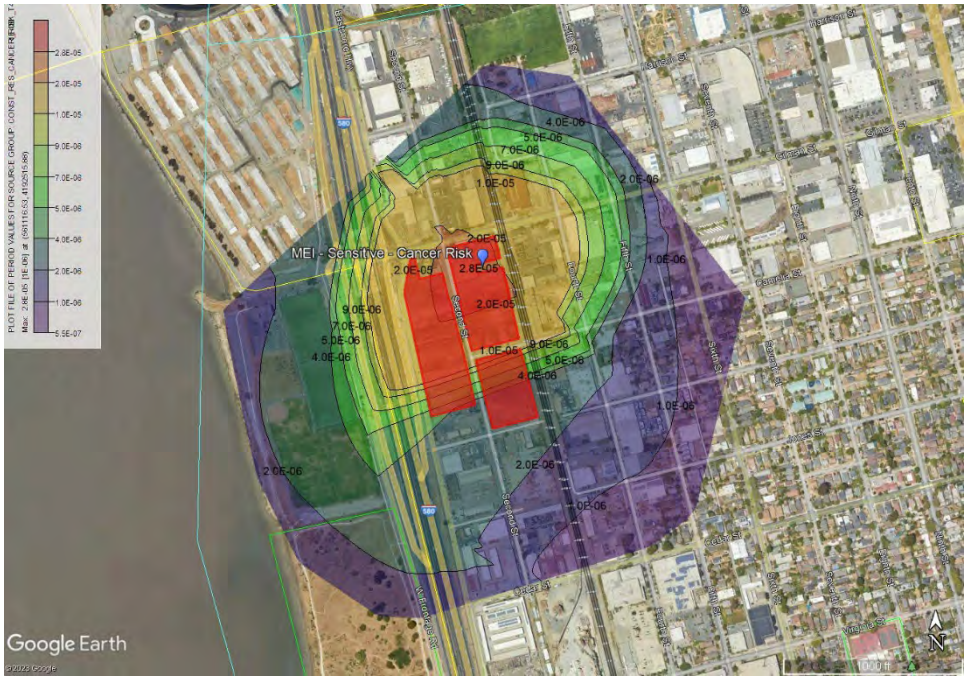


Unmitigated Health Risks from Construction of the Potential Berkeley Forge Development

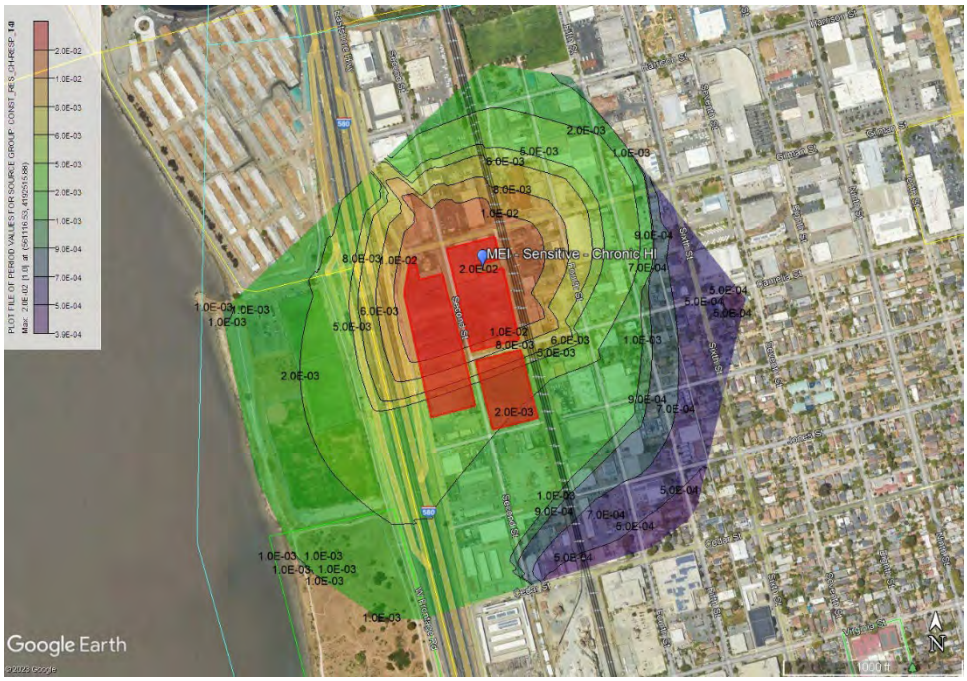
Residential Receptor Grid



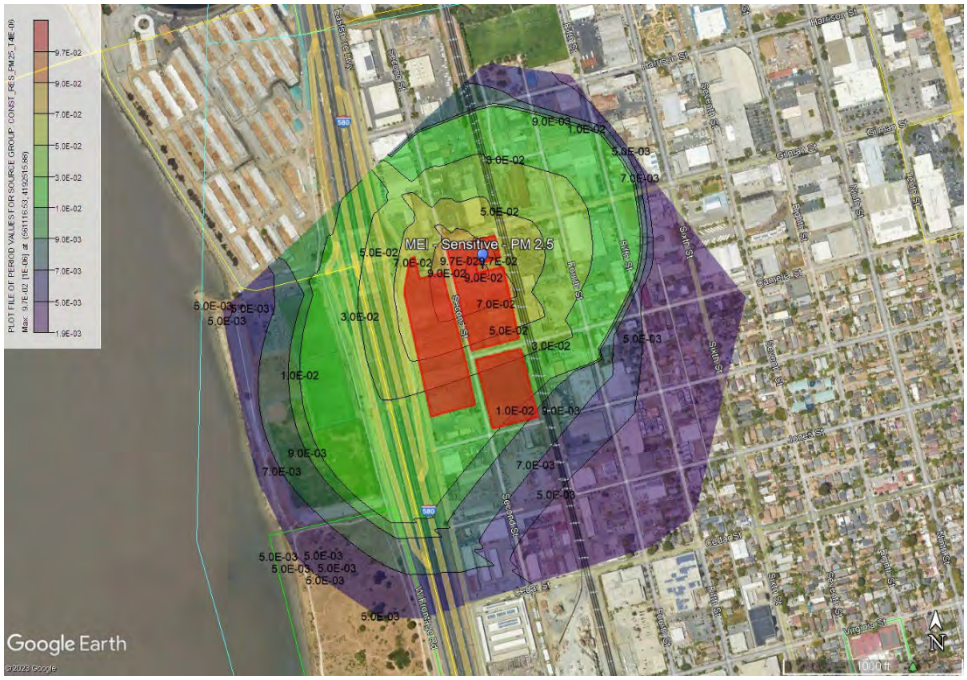
Residential Receptor - Cancer Risk



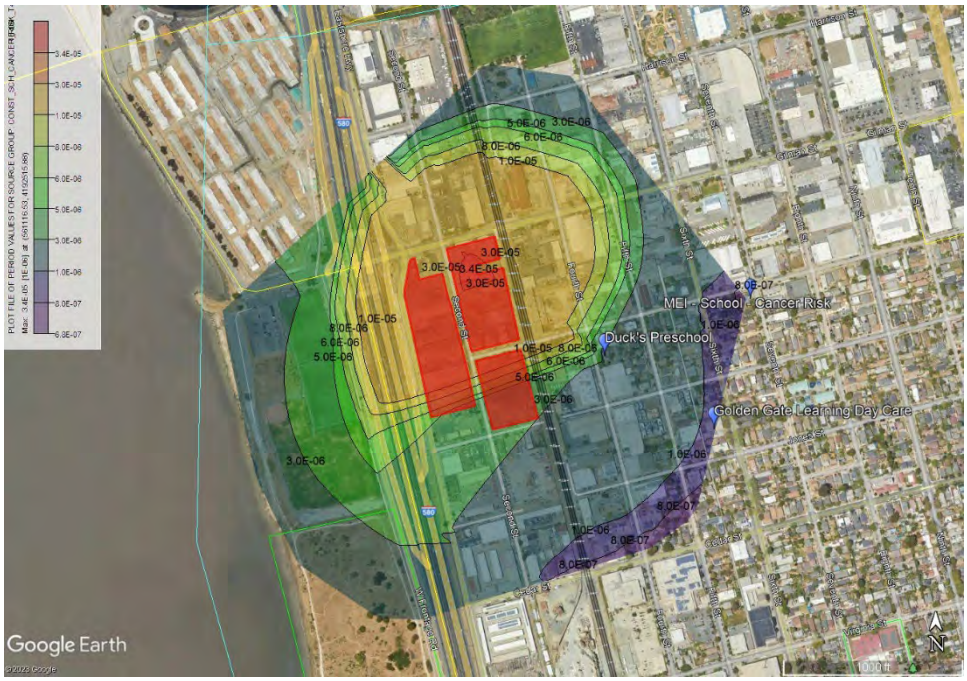
Residential Receptor - Chronic Hazard Index



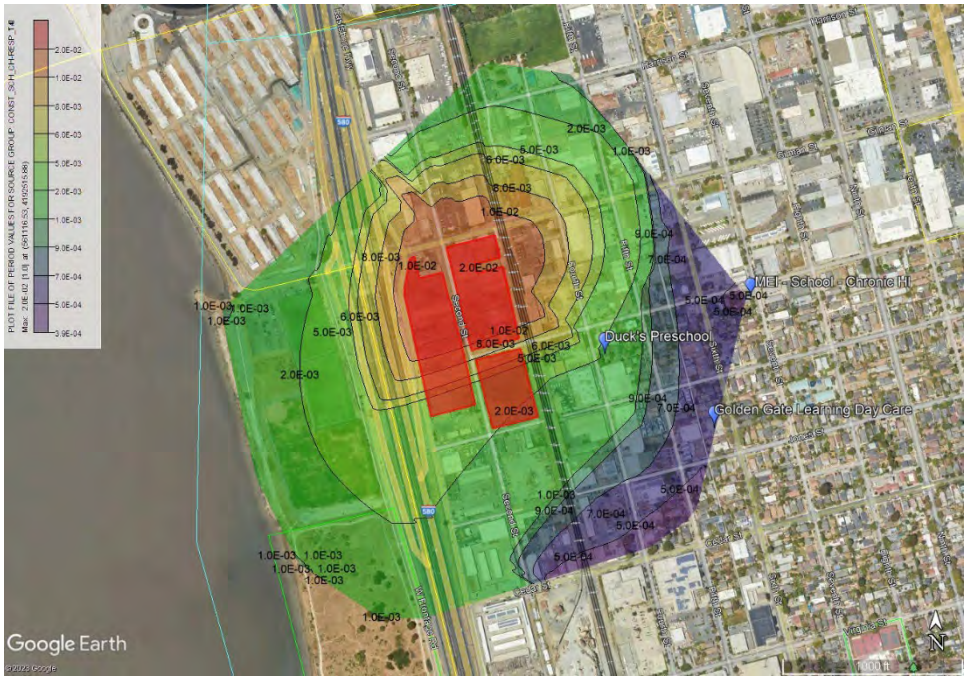
Residential Receptor - Annual PM2.5



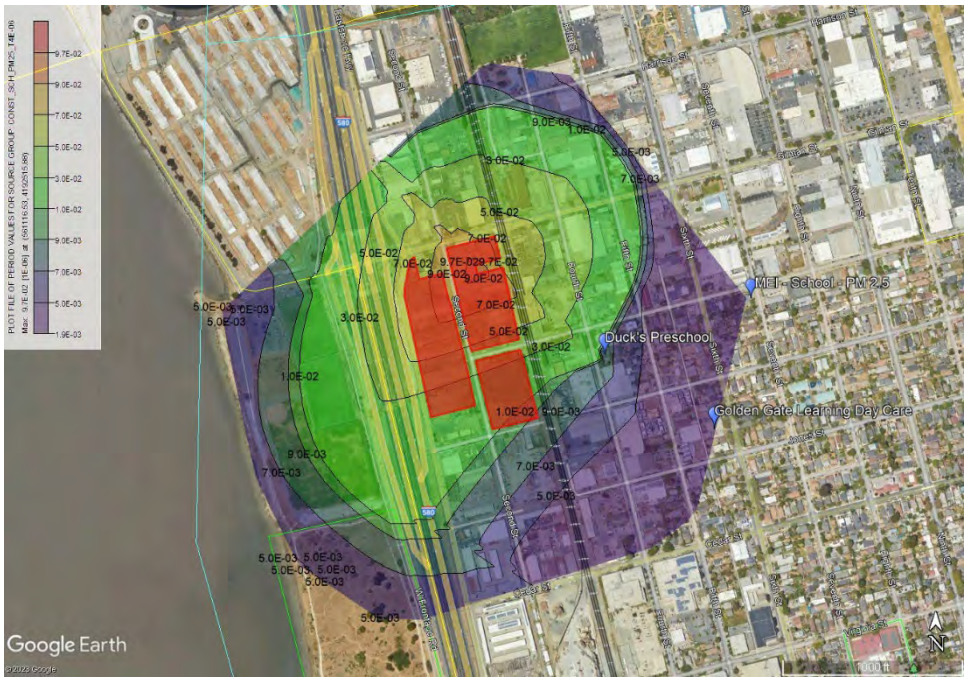
School Receptor - Cancer Risk



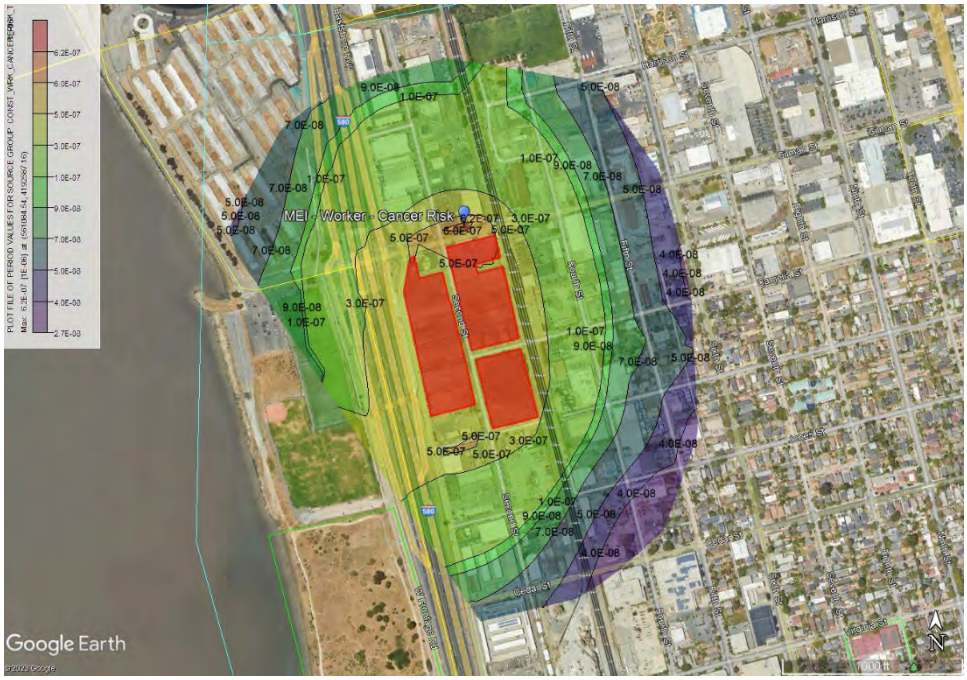
School Receptor - Chronic Hazard Index



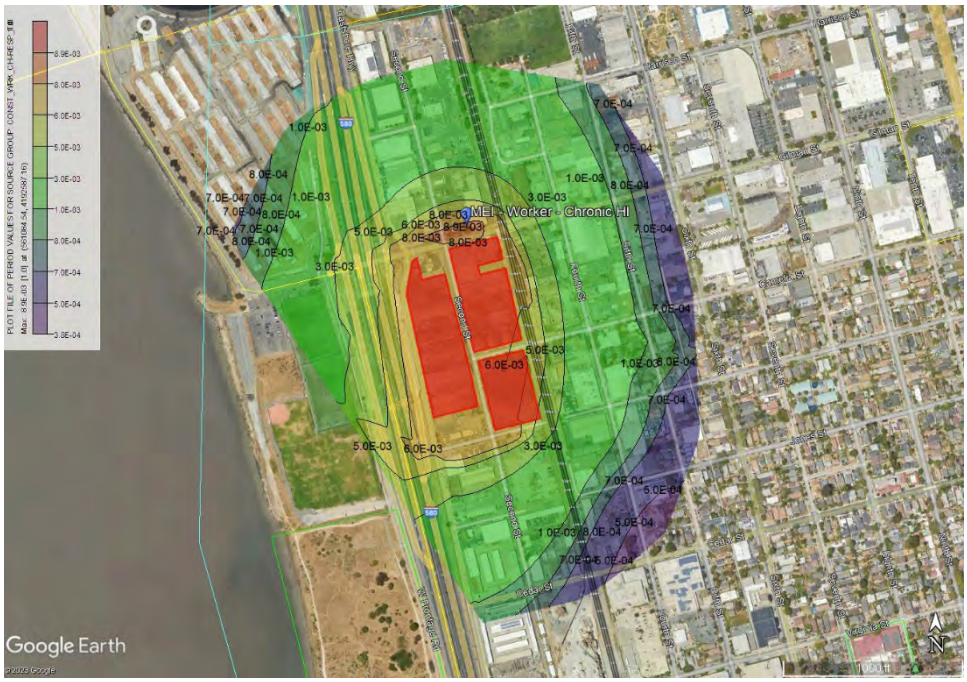
School Receptor - Annual PM2.5



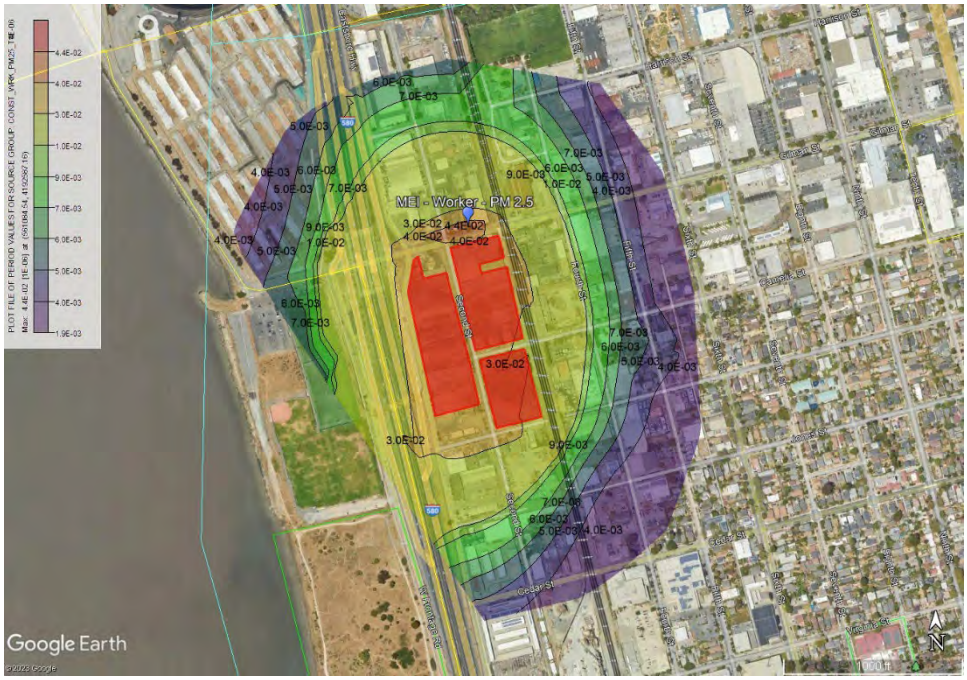
Worker Receptor - Cancer Risk



Worker Receptor - Chronic Hazard Index

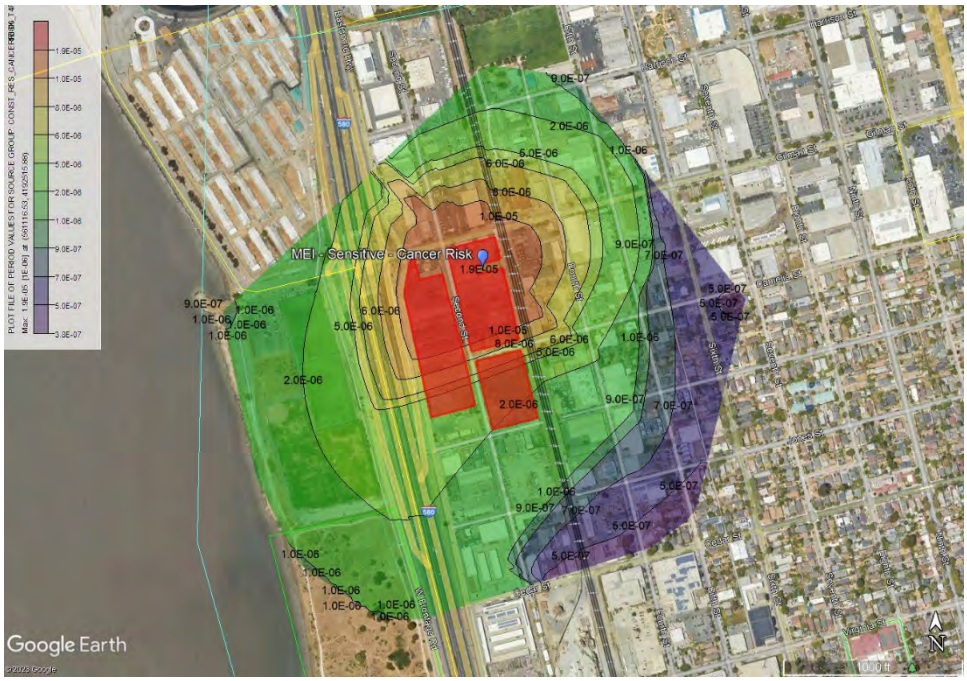


Worker Receptor - Annual PM2.5

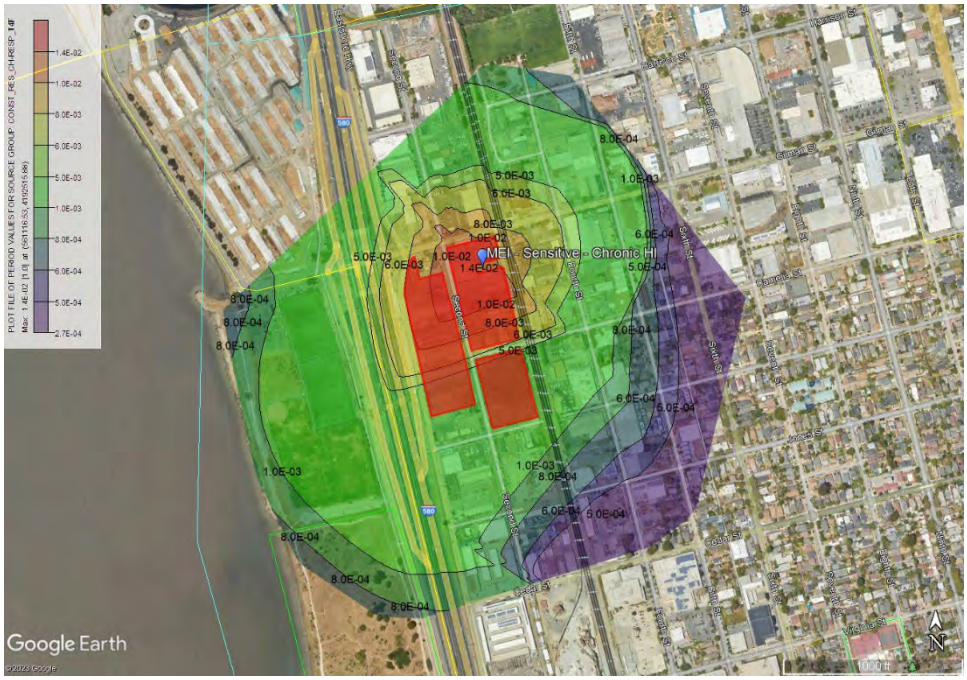


Mitigated Health Risks from Construction of the Potential Berkeley Forge Development

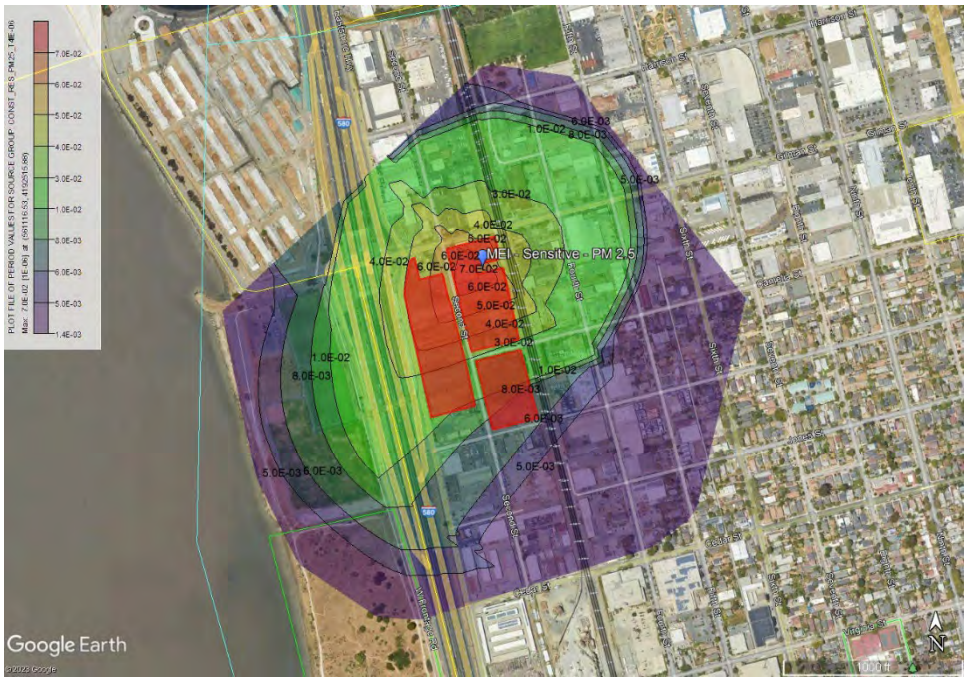
Residential Receptor - Cancer Risk



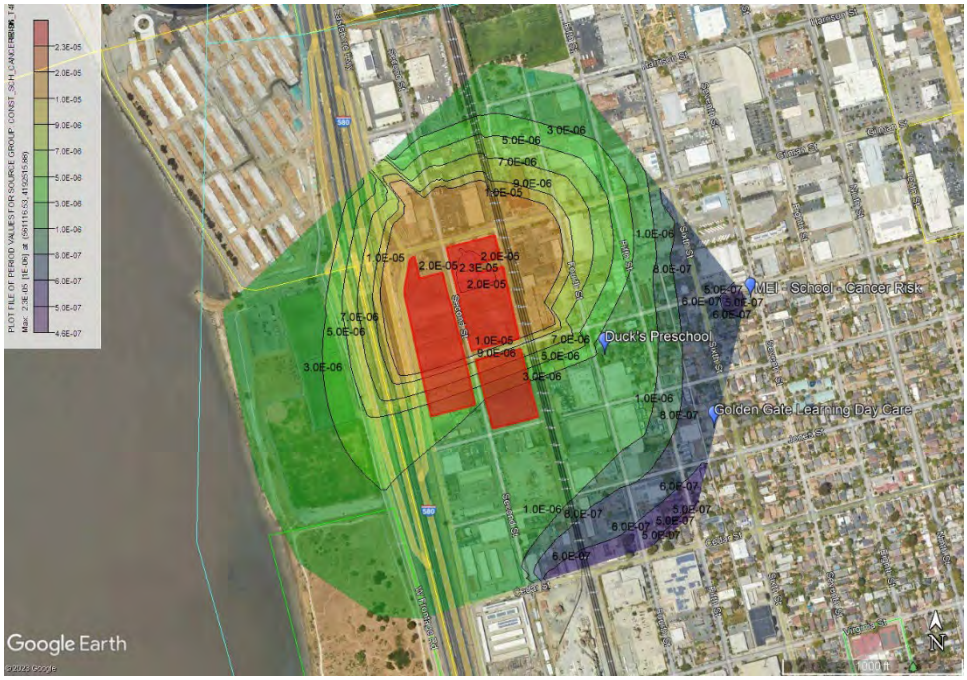
Residential Receptor - Chronic Hazard Index



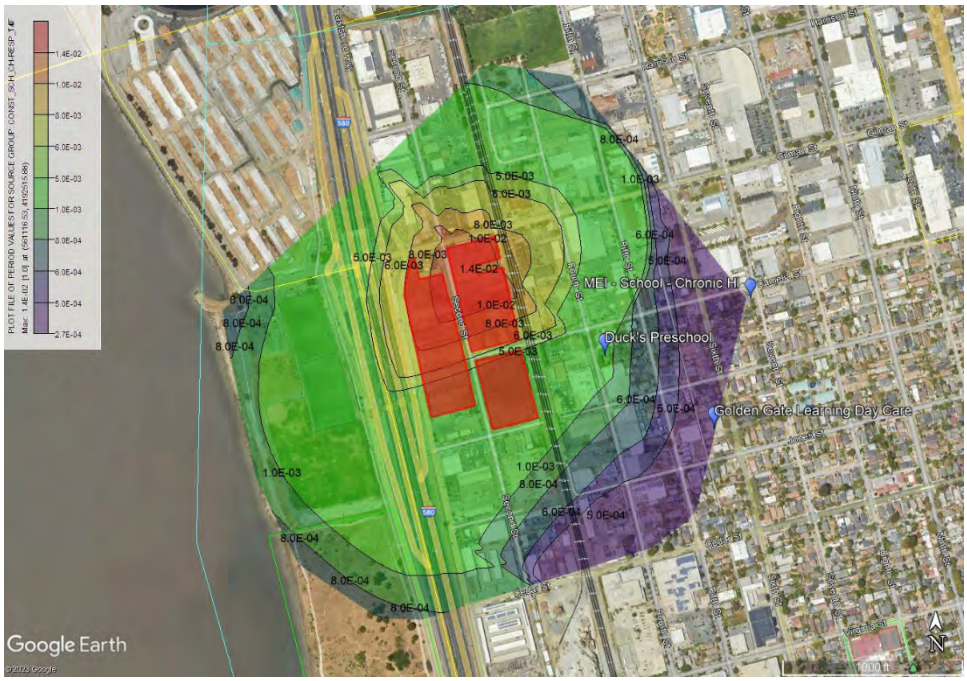
Residential Receptor - Annual PM2.5



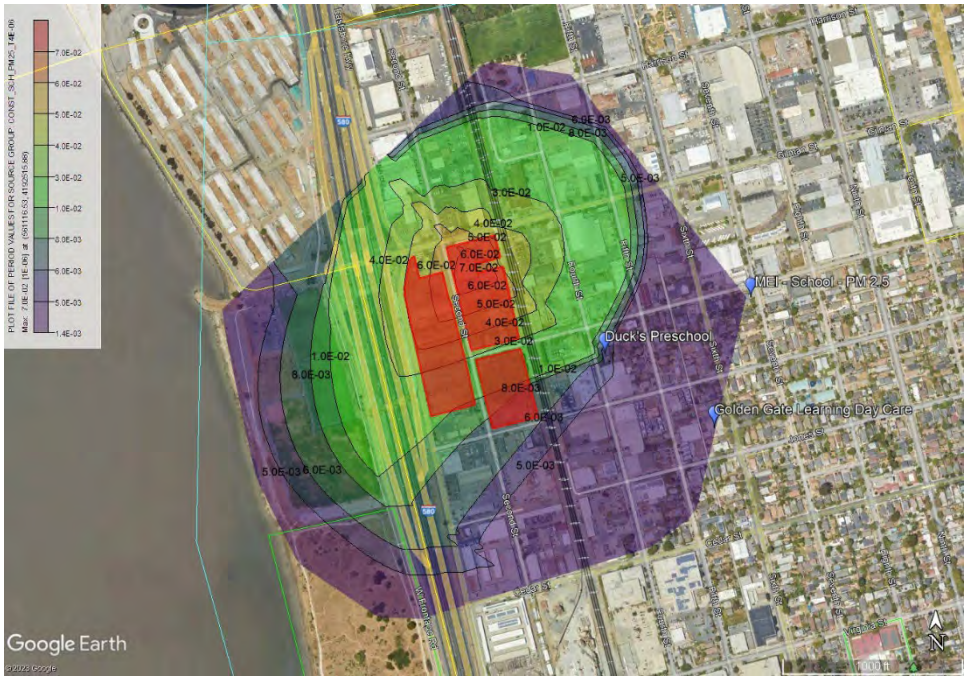
School Receptor - Cancer Risk



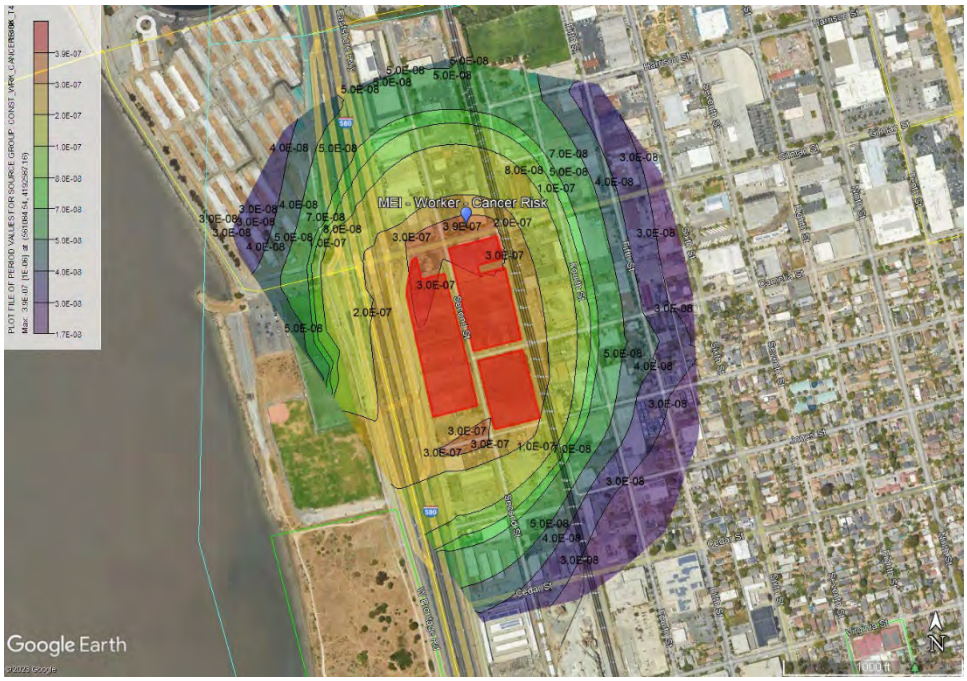
School Receptor - Chronic Hazard Index



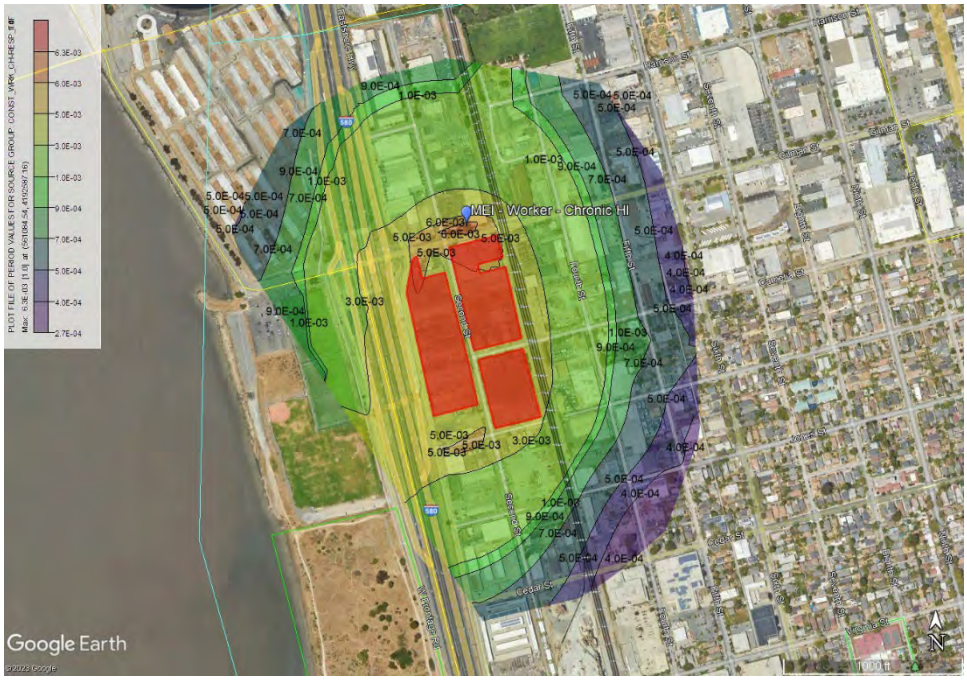
School Receptor - Annual PM2.5



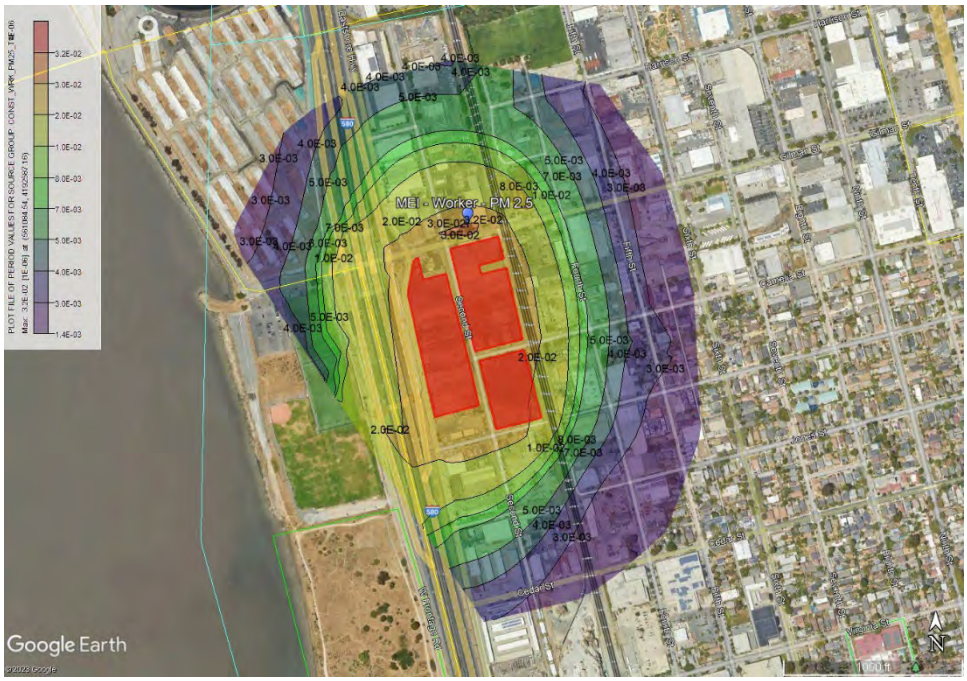
Worker Receptor - Cancer Risk



Worker Receptor - Chronic Hazard Index



Worker Receptor - Annual PM2.5



Construction MEI (Sensitive) - Cancer Risk (in a Million) HARP Rec #: 1133 X: 561116.53 Y: 4192515.88			
T4i	T4iRev	T4fRev	0
20.70	23.42	17.33	0.00

MEI (Sensitive) - Chronic Hazard Index HARP Rec #: 1133 X: 561116.53 Y: 4192515.88			
T4i	T4iRev	T4fRev	0
1.46E-02	1.46E-02	1.04E-02	0.00E+00

MEI (Sensitive) - Acute Hazard Index HARP Rec #: NA X: NA Y: NA			
T4i	T4iRev	T4fRev	0
0.00E+00	0.00E+00	0.00E+00	0.00E+00

MEI (Sensitive) - PM 2.5 HARP Rec #: 1133 X: 561116.53 Y: 4192515.88			
T4i	T4iRev	T4fRev	0
0.073	0.073	0.052	0.000

Construction MEI (Worker) - Cancer Risk (in a Million) HARP Rec #: 153 X: 561084.54 Y: 4192587.16			
T4i	T4iRev	T4fRev	0
0.62	0.73	0.54	0.00

MEI (Worker) - Chronic Hazard Index HARP Rec #: 153 X: 561084.54 Y: 4192587.16			
T4i	T4iRev	T4fRev	0
8.87E-03	1.12E-02	8.70E-03	0.00E+00

MEI (Worker) - Acute Hazard Index HARP Rec #: NA X: NA Y: NA			
T4i	T4iRev	T4fRev	0
0.00E+00	0.00E+00	0.00E+00	0.00E+00

MEI (Worker) - PM 2.5 HARP Rec #: 153 X: 561084.54 Y: 4192587.16			
T4i	T4iRev	T4fRev	0
0.044	0.044	0.032	0.000

Construction MEI (School) - Cancer Risk (in a Million) HARP Rec #: 1132 X: 561570.52 Y: 4192469.82			
T4i	T4iRev	T4fRev	0
0.68	0.77	0.57	0.00

MEI (School) - Chronic Hazard Index HARP Rec #: 1132 X: 561570.52 Y: 4192469.82			
T4i	T4iRev	T4fRev	0
3.90E-04	3.90E-04	2.79E-04	0.00E+00

MEI (School) - Acute Hazard Index HARP Rec #: NA X: NA Y: NA			
T4i	T4iRev	T4fRev	0
0.00E+00	0.00E+00	0.00E+00	0.00E+00

MEI (School) - PM 2.5 HARP Rec #: 1132 X: 561570.52 Y: 4192469.82			
T4i	T4iRev	T4fRev	0
0.0974	0.0974	0.0696	0.0000

Construction MEI (PreSchool) - Cancer Risk (in a Million) HARP Rec #: 132 X: 561325.61 Y: 4192377.76			
T4i	T4iRev	T4fRev	0
2.83	3.21	2.37	0.00

MEI (Preschool) - Chronic Hazard Index HARP Rec #: 132 X: 561325.61 Y: 4192377.76			
T4i	T4iRev	T4fRev	0
1.64E-03	1.25E-03	9.74E-04	0.00E+00

MEI (PreSchool) - Acute Hazard Index HARP Rec #: 132 X: 561325.61 Y: 4192377.76			
T4i	T4iRev	T4fRev	0
0.00E+00	0.00E+00	0.00E+00	0.00E+00

MEI (PreSchool) - PM 2.5 HARP Rec #: 132 X: 561325.61 Y: 4192377.76			
T4i	T4iRev	T4fRev	0
0.0082	0.0082	0.0059	0.0000

Construction MEI (Day Care) - Cancer Risk (in a Million) HARP Rec #: 383 X: 561499.75 Y: 4192253.3			
T4i	T4iRev	T4fRev	0
0.98	1.10	0.82	0.00

MEI (Day Care) - Chronic Hazard Index HARP Rec #: 383 X: 561499.75 Y: 4192253.3			
T4i	T4iRev	T4fRev	0
5.63E-04	4.30E-04	3.35E-04	0.00E+00

MEI (Day Care) - Acute Hazard Index HARP Rec #: 383 X: 561499.75 Y: 4192253.3			
T4i	T4iRev	T4fRev	0
0.00E+00	0.00E+00	0.00E+00	0.00E+00

MEI (Day Care) - PM 2.5 HARP Rec #: 383 X: 561499.75 Y: 4192253.3			
T4i	T4iRev	T4fRev	0
0.0028	0.0028	0.0020	0.0000

	Zone	**10**	Process Coordinates			
	Datum	**WGS 1984**				
	KML File Name	**CBE1906.09 Project MEI Scenario 2**				
Description	**Receptor Type**	**Model Type**	**UTM X**	**UTM Y**	**Latitude**	**Longitude**
Construction	Sensitive	Cancer Risk	561116.53	4192515.88	37.87808377	-122.305044
Construction	Sensitive	Chronic HI	561116.53	4192515.88	37.87808377	-122.305044
Construction	Sensitive	Acute HI	0	0		
Construction	Sensitive	PM 2.5	561116.53	4192515.88	37.87808377	-122.305044
Construction	School	Cancer Risk	561570.52	4192469.82	37.87763807	-122.2998859
Construction	School	Chronic HI	561570.52	4192469.82	37.87763807	-122.2998859
Construction	School	Acute HI	0	0		
Construction	School	PM 2.5	561570.52	4192469.82	37.87763807	-122.2998859
Construction	Worker	Cancer Risk	561084.54	4192587.16	37.87872832	-122.3054017
Construction	Worker	Chronic HI	561084.54	4192587.16	37.87872832	-122.3054017
Construction	Worker	Acute HI	0	0		
Construction	Worker	PM 2.5	561084.54	4192587.16	37.87872832	-122.3054017

General AERMOD Input Parameters			
Project Boundary			
	Based on site plan		
Project Elevation Data			
	Source	**Lakes Environmental**	
	Link	http://www.webgis.com/terraindata.html	
	Evel Data Descr.	**7.5 min**	
Project Receptor Grid			
	Telescoping Grid	Spacing (m)	Distance (m)
	Grid 1	**10**	**310**
	Grid 2		
	Grid 3		
	Grid 4		
	Comments	**Receptors on roads or parking lot areas have been removed.**	
Meteorological Dataset			
	Location	**Chevron**	
	Provided By	**Bay Area AQMD**	
	Years	**2013-2017**	
	Elevation (m)	**1.5**	
	Link		
Construction Modeling Specific Inputs			
AERMOD Input Options			
	Regulatory Options	**Default**	
	Pollutant Type	**Other**	
	Averaging Period	**Period & Hourly**	
	Dispersion Coefficient	**Urban**	
	County	**Berkeley, Ca**	
	Urban Grouping / Pop	**Y**	**118,962**
	# of Worker Receptors	**2,410**	
	# of Sensitive Receptors	**1,132**	
	# of School Receptors		
Construction Area Parameters			
	Source Type	**Polygon Area**	
	Project Area (m^2)	**15233.3, 9341.6, 22779.9**	
	Ht. of Source (m)	**3.048**	

General HARP Input Parameters		
Construction		
School Receptors		
School Scenario Parameters		
	Class Grade	**Day Care - 12**
	Starting Age	**1**
	Age Range	**1 Year Old - 8 Years Old**
	Receptor Type	**Individual Resident**
	Assessment Type	**Cancer / Chronic / Acute**
	Exposure Duration	**1**
	Intake Rate	**RMP using the Derived Merthod**
	Comments	**Each year of construction is modeled seperately and the impact to each recepetor is summed to estimate the total esposure from construction emissions. Additionally, the starting age is increased for each year of construction.**
School Pathway Parameters		
	Pathways	**Manadatory minimum Pathways**
	Deposition Rate	**0.02**
	TAH < 16 yrs	**N**
	TAH ≥ 16 yrs	**N**
Sensitive Receptors		
Sensitive Scenario Parameters		
	Starting Age	**3rd Trimester**
	Age Range	**3rd Trimester - 8 Year**
	Receptor Type	**Individual Resident**
	Assessment Type	**Cancer / Chronic / Acute**
	Exposure Duration	**1**
	Intake Rate	**RMP using the Derived Merthod**
	Comments	**Each year of construction is modeled seperately and the impact to each recepetor is summed to estimate the total esposure from construction emissions. Additionally, the starting age is increased for each year of construction.**
Sensitive Pathway Parameters		
	Pathways	**Manadatory minimum Pathways**
	Deposition Rate	**0.02**
	TAH < 16 yrs	**Y**
	TAH ≥ 16 yrs	**Y**
Worker Receptors		
Worker Scenario Parameters		
	Starting Age	**16**
	Age Range	**16 - 23**
	Receptor Type	**Worker**
	Assessment Type	**Cancer / Chronic / Acute**
	Exposure Duration	**1**
	Intake Rate	**OEHHA Derived Merthod**

	Comments	**Each year of construction is modeled seperately and the impact to each recepetor is summed to estimate the total esposure from construction emissions. Additionally, the starting age is increased for each year of construction.**
Worker Pathway Parameters		
	Pathways	**OEHHA minimum Pathways**
	Deposition Rate	**0.02**
	TAH < 16 yrs	**N**
	TAH ≥ 16 yrs	**N**

			T4iRev								T4fRev							
										7.66E-07								5.66E-07
	UTM X	UTM Y	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
1	561383.48	4192287.53	8.91E-07	6.28E-07	1.06E-07	1.07E-07	1.06E-07	7.88E-08	4.78E-08	1.96E-06	6.37E-07	4.89E-07	8.24E-08	8.27E-08	8.24E-08	5.50E-08	2.41E-08	1.45E-06
2	561389.35	4192262.71	8.35E-07	5.88E-07	9.96E-08	9.99E-08	9.96E-08	7.38E-08	4.48E-08	1.84E-06	5.97E-07	4.58E-07	7.72E-08	7.74E-08	7.72E-08	5.15E-08	2.25E-08	1.36E-06
3	561390.63	4192271.92	8.40E-07	5.92E-07	1.00E-07	1.00E-07	1.00E-07	7.43E-08	4.51E-08	1.85E-06	6.01E-07	4.61E-07	7.77E-08	7.79E-08	7.77E-08	5.18E-08	2.27E-08	1.37E-06
4	561391.9	4192281.12	8.43E-07	5.94E-07	1.01E-07	1.01E-07	1.01E-07	7.46E-08	4.52E-08	1.86E-06	6.03E-07	4.63E-07	7.80E-08	7.82E-08	7.80E-08	5.20E-08	2.28E-08	1.38E-06
5	561393.17	4192290.32	8.45E-07	5.96E-07	1.01E-07	1.01E-07	1.01E-07	7.48E-08	4.53E-08	1.86E-06	6.04E-07	4.64E-07	7.82E-08	7.84E-08	7.82E-08	5.21E-08	2.28E-08	1.38E-06
6	561395.97	4192243.3	7.77E-07	5.47E-07	9.27E-08	9.29E-08	9.27E-08	6.87E-08	4.17E-08	1.71E-06	5.55E-07	4.27E-07	7.19E-08	7.21E-08	7.19E-08	4.79E-08	2.10E-08	1.27E-06
7	561397.32	4192253.01	7.86E-07	5.54E-07	9.38E-08	9.41E-08	9.38E-08	6.96E-08	4.22E-08	1.73E-06	5.62E-07	4.32E-07	7.28E-08	7.30E-08	7.28E-08	4.85E-08	2.12E-08	1.28E-06
8	561398.66	4192262.73	7.94E-07	5.59E-07	9.47E-08	9.50E-08	9.47E-08	7.02E-08	4.26E-08	1.75E-06	5.68E-07	4.36E-07	7.34E-08	7.36E-08	7.34E-08	4.90E-08	2.14E-08	1.29E-06
9	561400.01	4192272.44	7.99E-07	5.63E-07	9.53E-08	9.55E-08	9.53E-08	7.07E-08	4.28E-08	1.76E-06	5.71E-07	4.39E-07	7.39E-08	7.41E-08	7.39E-08	4.93E-08	2.16E-08	1.30E-06
10	561401.35	4192282.16	8.02E-07	5.65E-07	9.56E-08	9.59E-08	9.56E-08	7.09E-08	4.30E-08	1.77E-06	5.73E-07	4.40E-07	7.42E-08	7.44E-08	7.42E-08	4.94E-08	2.16E-08	1.31E-06
11	561402.69	4192291.87	8.03E-07	5.66E-07	9.58E-08	9.61E-08	9.58E-08	7.10E-08	4.31E-08	1.77E-06	5.74E-07	4.41E-07	7.43E-08	7.45E-08	7.43E-08	4.95E-08	2.17E-08	1.31E-06
12	561404.44	4192237.18	7.34E-07	5.17E-07	8.76E-08	8.78E-08	8.76E-08	6.50E-08	3.94E-08	1.62E-06	5.25E-07	4.03E-07	6.79E-08	6.81E-08	6.79E-08	4.53E-08	1.98E-08	1.20E-06
13	561405.76	4192246.77	7.44E-07	5.25E-07	8.88E-08	8.90E-08	8.88E-08	6.58E-08	3.99E-08	1.64E-06	5.32E-07	4.09E-07	6.88E-08	6.90E-08	6.88E-08	4.59E-08	2.01E-08	1.21E-06
14	561407.09	4192256.35	7.52E-07	5.30E-07	8.97E-08	9.00E-08	8.97E-08	6.65E-08	4.03E-08	1.66E-06	5.38E-07	4.13E-07	6.96E-08	6.98E-08	6.96E-08	4.64E-08	2.03E-08	1.23E-06
15	561408.41	4192265.94	7.58E-07	5.34E-07	9.04E-08	9.06E-08	9.04E-08	6.70E-08	4.06E-08	1.67E-06	5.42E-07	4.16E-07	7.01E-08	7.03E-08	7.01E-08	4.67E-08	2.05E-08	1.24E-06
16	561409.74	4192275.53	7.61E-07	5.37E-07	9.08E-08	9.11E-08	9.08E-08	6.74E-08	4.08E-08	1.68E-06	5.44E-07	4.18E-07	7.04E-08	7.06E-08	7.04E-08	4.70E-08	2.06E-08	1.24E-06
17	561411.07	4192285.11	7.63E-07	5.38E-07	9.11E-08	9.13E-08	9.11E-08	6.76E-08	4.10E-08	1.68E-06	5.46E-07	4.19E-07	7.06E-08	7.08E-08	7.06E-08	4.71E-08	2.06E-08	1.25E-06
18	561412.39	4192294.7	7.64E-07	5.39E-07	9.12E-08	9.14E-08	9.12E-08	6.76E-08	4.10E-08	1.69E-06	5.47E-07	4.20E-07	7.07E-08	7.09E-08	7.07E-08	4.71E-08	2.06E-08	1.25E-06
19	561414.22	4192240.65	7.05E-07	4.97E-07	8.41E-08	8.44E-08	8.41E-08	6.24E-08	3.78E-08	1.55E-06	5.04E-07	3.87E-07	6.52E-08	6.54E-08	6.52E-08	4.35E-08	1.90E-08	1.15E-06
20	561415.54	4192250.13	7.13E-07	5.03E-07	8.51E-08	8.54E-08	8.51E-08	6.31E-08	3.83E-08	1.57E-06	5.10E-07	3.92E-07	6.60E-08	6.62E-08	6.60E-08	4.40E-08	1.93E-08	1.16E-06
21	561416.85	4192259.6	7.20E-07	5.07E-07	8.59E-08	8.61E-08	8.59E-08	6.37E-08	3.86E-08	1.59E-06	5.15E-07	3.95E-07	6.66E-08	6.68E-08	6.66E-08	4.44E-08	1.94E-08	1.17E-06
22	561418.16	4192269.07	7.24E-07	5.10E-07	8.64E-08	8.66E-08	8.64E-08	6.41E-08	3.88E-08	1.60E-06	5.18E-07	3.98E-07	6.70E-08	6.72E-08	6.70E-08	4.47E-08	1.96E-08	1.18E-06
23	561419.47	4192278.55	7.27E-07	5.12E-07	8.68E-08	8.70E-08	8.68E-08	6.43E-08	3.90E-08	1.60E-06	5.20E-07	3.99E-07	6.73E-08	6.75E-08	6.73E-08	4.49E-08	1.96E-08	1.19E-06
24	561420.78	4192288.02	7.28E-07	5.14E-07	8.69E-08	8.72E-08	8.69E-08	6.45E-08	3.91E-08	1.61E-06	5.21E-07	4.00E-07	6.74E-08	6.76E-08	6.74E-08	4.49E-08	1.97E-08	1.19E-06
25	561424	4192244.03	6.78E-07	4.78E-07	8.09E-08	8.11E-08	8.09E-08	6.00E-08	3.64E-08	1.50E-06	4.85E-07	3.72E-07	6.27E-08	6.29E-08	6.27E-08	4.18E-08	1.83E-08	1.11E-06
26	561425.3	4192253.4	6.85E-07	4.83E-07	8.17E-08	8.19E-08	8.17E-08	6.06E-08	3.67E-08	1.51E-06	4.90E-07	3.76E-07	6.34E-08	6.35E-08	6.34E-08	4.22E-08	1.85E-08	1.12E-06
27	561426.59	4192262.77	6.90E-07	4.86E-07	8.23E-08	8.25E-08	8.23E-08	6.10E-08	3.70E-08	1.52E-06	4.93E-07	3.79E-07	6.38E-08	6.40E-08	6.38E-08	4.26E-08	1.86E-08	1.13E-06
28	561356.27	4192417.52	1.15E-06	8.12E-07	1.37E-07	1.38E-07	1.37E-07	1.02E-07	6.18E-08	2.54E-06	8.24E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.10E-08	3.11E-08	1.88E-06
29	561366.04	4192419.68	1.07E-06	7.55E-07	1.28E-07	1.28E-07	1.28E-07	9.48E-08	5.75E-08	2.36E-06	7.66E-07	5.88E-07	9.91E-08	9.94E-08	9.91E-08	6.61E-08	2.89E-08	1.75E-06
30	561375.8	4192421.84	9.99E-07	7.04E-07	1.19E-07	1.19E-07	1.19E-07	8.84E-08	5.36E-08	2.20E-06	7.14E-07	5.48E-07	9.24E-08	9.27E-08	9.24E-08	6.16E-08	2.70E-08	1.63E-06
31	561385.56	4192424.01	9.33E-07	6.58E-07	1.11E-07	1.12E-07	1.11E-07	8.26E-08	5.01E-08	2.06E-06	6.67E-07	5.13E-07	8.64E-08	8.66E-08	8.64E-08	5.76E-08	2.52E-08	1.52E-06
32	561405.09	4192428.33	8.22E-07	5.79E-07	9.81E-08	9.84E-08	9.81E-08	7.27E-08	4.41E-08	1.81E-06	5.88E-07	4.51E-07	7.61E-08	7.63E-08	7.61E-08	5.07E-08	2.22E-08	1.34E-06
33	561116.02	4192791.18	1.47E-06	1.04E-06	1.75E-07	1.76E-07	1.75E-07	1.30E-07	7.89E-08	3.24E-06	1.05E-06	8.08E-07	1.36E-07	1.36E-07	1.36E-07	9.07E-08	3.97E-08	2.40E-06
34	561414.85	4192430.5	7.73E-07	5.45E-07	9.23E-08	9.25E-08	9.23E-08	6.84E-08	4.15E-08	1.71E-06	5.53E-07	4.25E-07	7.16E-08	7.18E-08	7.16E-08	4.77E-08	2.09E-08	1.26E-06
35	561122.51	4192799.55	1.40E-06	9.87E-07	1.67E-07	1.67E-07	1.67E-07	1.24E-07	7.51E-08	3.09E-06	1.00E-06	7.69E-07	1.30E-07	1.30E-07	1.30E-07	8.63E-08	3.78E-08	2.28E-06
36	561424.61	4192432.66	7.28E-07	5.13E-07	8.69E-08	8.71E-08	8.69E-08	6.44E-08	3.91E-08	1.61E-06	5.21E-07	4.00E-07	6.74E-08	6.76E-08	6.74E-08	4.49E-08	1.97E-08	1.19E-06
37	561150.66	4192804.85	1.31E-06	9.23E-07	1.56E-07	1.57E-07	1.56E-07	1.16E-07	7.02E-08	2.89E-06	9.36E-07	7.19E-07	1.21E-07	1.21E-07	1.21E-07	8.08E-08	3.54E-08	2.14E-06
38	561140.93	4192806.23	1.32E-06	9.32E-07	1.58E-07	1.58E-07	1.58E-07	1.17E-07	7.09E-08	2.92E-06	9.45E-07	7.26E-07	1.22E-07	1.23E-07	1.22E-07	8.16E-08	3.57E-08	2.16E-06
39	561131.19	4192807.61	1.33E-06	9.39E-07	1.59E-07	1.59E-07	1.59E-07	1.18E-07	7.14E-08	2.94E-06	9.52E-07	7.31E-07	1.23E-07	1.24E-07	1.23E-07	8.21E-08	3.60E-08	2.17E-06
40	561121.46	4192808.98	1.34E-06	9.43E-07	1.60E-07	1.60E-07	1.60E-07	1.18E-07	7.18E-08	2.95E-06	9.57E-07	7.35E-07	1.24E-07	1.24E-07	1.24E-07	8.26E-08	3.61E-08	2.18E-06
41	561111.73	4192810.36	1.34E-06	9.46E-07	1.60E-07	1.61E-07	1.60E-07	1.19E-07	7.20E-08	2.96E-06	9.60E-07	7.37E-07	1.24E-07	1.25E-07	1.24E-07	8.28E-08	3.62E-08	2.19E-06
42	561432.25	4192444.45	6.91E-07	4.87E-07	8.24E-08	8.26E-08	8.24E-08	6.11E-08	3.70E-08	1.52E-06	4.94E-07	3.79E-07	6.39E-08	6.41E-08	6.39E-08	4.26E-08	1.86E-08	1.13E-06
43	561434.38	4192434.83	6.87E-07	4.84E-07	8.19E-08	8.21E-08	8.19E-08	6.07E-08	3.68E-08	1.51E-06	4.91E-07	3.77E-07	6.35E-08	6.37E-08	6.35E-08	4.24E-08	1.85E-08	1.12E-06
44	561166.68	4192811.87	1.23E-06	8.67E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.60E-08	2.71E-06	8.80E-07	6.76E-07	1.14E-07	1.14E-07	1.14E-07	7.59E-08	3.32E-08	2.01E-06
45	561157.04	4192813.24	1.25E-06	8.78E-07	1.49E-07	1.49E-07	1.49E-07	1.10E-07	6.68E-08	2.75E-06	8.91E-07	6.84E-07	1.15E-07	1.16E-07	1.15E-07	7.69E-08	3.37E-08	2.03E-06
46	561147.4	4192814.6	1.26E-06	8.88E-07	1.50E-07	1.51E-07	1.50E-07	1.11E-07	6.75E-08	2.78E-06	9.00E-07	6.92E-07	1.17E-07	1.17E-07	1.17E-07	7.77E-08	3.40E-08	2.05E-06
47	561137.76	4192815.96	1.27E-06	8.95E-07	1.51E-07	1.52E-07	1.51E-07	1.12E-07	6.81E-08	2.80E-06	9.08E-07	6.97E-07	1.17E-07	1.18E-07	1.17E-07	7.83E-08	3.43E-08	2.07E-06
48	561128.12	4192817.33	1.28E-06	9.00E-07	1.52E-07	1.53E-07	1.52E-07	1.13E-07	6.85E-08	2.82E-06	9.13E-07	7.01E-07	1.18E-07	1.18E-07	1.18E-07	7.88E-08	3.45E-08	2.08E-06
49	561118.49	4192818.69	1.28E-06	9.03E-07	1.53E-07	1.53E-07	1.53E-07	1.13E-07	6.87E-08	2.83E-06	9.16E-07	7.04E-07	1.19E-07	1.19E-07	1.19E-07	7.91E-08	3.46E-08	2.09E-06
50	561422.82	4192533.18	6.65E-07	4.69E-07	7.94E-08	7.96E-08	7.94E-08	5.88E-08	3.57E-08	1.47E-06	4.76E-07	3.65E-07	6.15E-08	6.17E-08	6.15E-08	4.10E-08	1.80E-08	1.08E-06
51	561424.95	4192523.56	6.64E-07	4.68E-07	7.92E-08	7.95E-08	7.92E-08	5.88E-08	3.56E-08	1.46E-06	4.75E-07	3.65E-07	6.14E-08	6.16E-08	6.14E-08	4.10E-08	1.79E-08	1.08E-06
52	561442.01	4192446.61	6.52E-07	4.59E-07	7.78E-08	7.80E-08	7.78E-08	5.77E-08	3.50E-08	1.44E-06	4.66E-07	3.58E-07	6.03E-08	6.05E-08	6.03E-08	4.02E-08	1.76E-08	1.06E-06
53	561444.14	4192436.99	6.48E-07	4.57E-07	7.74E-08	7.76E-08	7.74E-08	5.74E-08	3.48E-08	1.43E-06	4.64E-07	3.56E-07	6.00E-08	6.02E-08	6.00E-08	4.00E-08	1.75E-08	1.06E-06
54	561182.43	4192818.93	1.15E-06	8.12E-07	1.38E-07	1.38E-07	1.38E-07	1.02E-07	6.18E-08	2.54E-06	8.24E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.11E-08	3.11E-08	1.88E-06
55	561172.87	4192820.28	1.17E-06	8.26E-07	1.40E-07	1.40E-07	1.40E-07	1.04E-07	6.28E-08	2.58E-06	8.38E-07	6.43E-07	1.08E-07	1.09E-07	1.08E-07	7.22E-08	3.16E-08	1.91E-06
56	561163.32	4192821.63	1.19E-06	8.37E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.37E-08	2.62E-06	8.49E-07	6.52E-07	1.10E-07	1.10E-07	1.10E-07	7.32E-08	3.21E-08	1.94E-06
57	561153.76	4192822.99	1.20E-06	8.46E-07	1.43E-07	1.44E-07	1.43E-07	1.06E-07	6.44E-08	2.65E-06	8.58E-07	6.59E-07	1.11E-07	1.11E-07	1.11E-07	7.41E-08	3.24E-08	1.96E-06
58	561144.21	4192824.34	1.21E-06	8.54E-07	1.45E-07	1.45E-07	1.45E-07	1.07E-07	6.50E-08	2.67E-06	8.66E-07	6.65E-07	1.12E-07	1.12E-07	1.12E-07	7.47E-08	3.27E-08	1.98E-06
59	561134.65	4192825.69	1.22E-06	8.59E-07	1.45E-07	1.46E-07	1.45E-07	1.08E-07	6.54E-08	2.69E-06	8.72E-07	6.70E-07	1.13E-07	1.13E-07	1.13E-07	7.52E-08	3.29E-08	1.99E-06
60	561125.1	4192827.04	1.22E-06	8.63E-07	1.46E-07	1.47E-07	1.46E-07	1.08E-07	6.57E-08	2.70E-06	8.76E-07	6.73E-07	1.13E-07	1.14E-07	1.13E-07	7.56E-08	3.31E-08	2.00E-06
61	561115.54	4192828.39	1.23E-06	8.66E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.59E-08	2.71E-06	8.78E-07	6.74E-07	1.14E-07	1.14E-07	1.14E-07	7.58E-08	3.32E-08	2.00E-06
62	561432.58	4192535.35	6.30E-07	4.44E-07	7.51E-08	7.53E-08	7.51E-08	5.57E-08	3.38E-08	1.39E-06	4.50E-07	3.46E-07	5.83E-08	5.84E-08	5.83E-08	3.88E-08	1.70E-08	1.03E-06
63	561434.72	4192525.73	6.29E-07	4.43E-07	7.50E-08	7.52E-08	7.50E-08	5.56E-08	3.37E-08	1.39E-06	4.49E-07	3.45E-07	5.82E-08	5.83E-08	5.82E-08	3.88E-08	1.70E-08	1.03E-06
64	561451.77	4192448.77	6.17E-07	4.35E-07	7.36E-08	7.38E-08	7.36E-08	5.46E-08	3.31E-08	1.36E-06	4.41E-07	3.39E-07	5.71E-08	5.72E-08	5.71E-08	3.80E-08	1.67E-08	1.01E-06
65	561453.9	4192439.15	6.14E-07	4.33E-07	7.33E-08	7.35E-08	7.33E-08	5.43E-08	3.29E-08	1.35E-06	4.39E-07	3.37E-07	5.68E-08	5.70E-08	5.68E-08	3.79E-08	1.66E-08	1.00E-06
66	561216.89	4192823.34	1.03E-06	7.25E-07	1.23E-07	1.23E-07	1.23E-07	9.10E-08	5.52E-08	2.27E-06	7.36E-07	5.65E-07	9.52E-08	9.54E-08	9.52E-08	6.35E-08	2.78E-08	1.68E-06
67	561207.41	4192824.68	1.05E-06	7.43E-07	1.26E-07	1.26E-07	1.26E-07	9.32E-08	5.65E-08	2.32E-06	7.53E-07	5.79E-07	9.75E-08	9.78E-08	9.75E-08	6.50E-08	2.85E-08	1.72E-06
68	561197.93	4192826.02	1.08E-06	7.59E-07	1.28E-07	1.29E-07	1.28E-07	9.53E-08	5.78E-08	2.37E-06	7.70E-07	5.91E-07	9.96E-08	9.99E-08	9.96E-08	6.64E-08	2.91E-08	1.76E-06
69	561178.98	4192828.71	1.12E-06	7.87E-07	1.33E-07	1.34E-07	1.33E-07	9.88E-08	5.99E-08	2.46E-06	7.98E-07	6.13E-07	1.03E-07	1.04E-07	1.03E-07	6.89E-08	3.02E-08	1.82E-06
70	561169.5	4192830.05	1.13E-06	7.98E-07	1.35E-07	1.35E-07	1.35E-07	1.00E-07	6.07E-08	2.50E-06	8.10E-07	6.22E-07	1.05E-07	1.05E-07	1.05E-07	6.98E-08	3.06E-08	1.85E-06
71	561160.02	4192831.39	1.15E-06	8.08E-07	1.37E-07	1.37E-07	1.37E-07	1.01E-07	6.15E-08	2.53E-06	8.19E-07	6.29E-07	1.06E-07	1.06E-07	1.06E-07	7.07E-08	3.09E-08	1.87E-06
72	561150.54	4192832.73	1.16E-06	8.15E-07	1.38E-07	1.38E-07	1.38E-07	1.02E-07	6.20E-08	2.55E-06	8.27E-07	6.35E-07	1.07E-07	1.07E-07	1.07E-07	7.13E-08	3.12E-08	1.89E-06
73	561141.06	4192834.07	1.17E-06	8.21E-07	1.39E-07	1.39E-07	1.39E-07	1.03E-07	6.25E-08	2.57E-06	8.33E-07	6.40E-07	1.08E-07	1.08E-07	1.08E-07	7.19E-08	3.15E-08	1.90E-06
74	561131.59	4192835.41	1.17E-06	8.26E-07	1.40E-07	1.40E-07	1.40E-07	1.04E-07	6.28E-08	2.58E-06	8.38E-07	6.43E-07	1.08E-07	1.09E-07	1.08E-07	7.23E-08	3.16E-08	1.91E-06
75	561122.11	4192836.75	1.18E-06	8.29E-07	1.40E-07	1.41E-07	1.40E-07	1.04E-07	6.31E-08	2.59E-06	8.41E-07	6.46E-07	1.09E-07	1.09E-07	1.09E-07	7.25E-08	3.17E-08	1.92E-06
76	561112.63	4192838.09	1.18E-06	8.30E-07	1.41E-07	1.41E-07	1.41E-07	1.04E-07	6.32E-08	2.60E-06	8.42E-07	6.47E-07	1.09E-07	1.09E-07	1.09E-07	7.26E-08	3.18E-08	1.92E-06
77	561442.35	4192537.51	5.97E-07	4.21E-07	7.13E-08	7.15E-08	7.13E-08	5.28E-08	3.20E-08	1.32E-06	4.27E-07	3.28E-07	5.53E-08	5.54E-08	5.53E-08	3.68E-08	1.61E-08	9.74E-07
78	561444.48	4192527.89	5.96E-07	4.20E-07	7.11E-08	7.13E-08	7.11E-08	5.27E-08	3.20E-08	1.31E-06	4.26E-07	3.27E-07	5.51E-08	5.53E-08	5.51E-08	3.68E-08	1.61E-08	9.72E-07
79	561461.53	4192450.94	5.84E-07	4.12E-07	6.97E-08	6.99E-08	6.97E-08	5.17E-08	3.13E-08	1.29E-06	4.18E-07	3.21E-07	5.41E-08	5.42E-08	5.41E-08	3.61E-08	1.58E-08	9.53E-07
80	561463.67	4192441.32	5.82E-07	4.10E-07	6.94E-08	6.96E-08	6.94E-08	5.15E-08	3.12E-08	1.28E-06	4.16E-07	3.20E-07	5.39E-08	5.40E-08	5.39E-08	3.59E-08	1.57E-08	9.49E-07
81	561241.45	4192829.16	9.29E-07	6.55E-07	1.11E-07	1.11E-07	1.11E-07	8.22E-08	4.99E-08	2.05E-06	6.65E-07	5.10E-07	8.60E-08	8.62E-08	8.60E-08	5.73E-08	2.51E-08	1.52E-06
82	561232.04	4192830.49	9.56E-07	6.74E-07	1.14E-07	1.14E-07	1.14E-07	8.46E-08	5.13E-08	2.11E-06	6.83E-07	5.25E-07	8.84E-08	8.87E-08	8.84E-08	5.90E-08	2.58E-08	1.56E-06
83	561222.63	4192831.82	9.81E-07	6.91E-07	1.17E-07	1.17E-07	1.17E-07	8.68E-08	5.26E-08	2.16E-06	7.01E-07	5.39E-07	9.08E-08	9.10E-08	9.08E-08	6.05E-08	2.65E-08	1.60E-06
84	561213.23	4192833.15	1.00E-06	7.08E-07	1.20E-07	1.20E-07	1.20E-07	8.89E-08	5.39E-08	2.22E-06	7.18E-07	5.52E-07	9.29E-08	9.32E-08	9.29E-08	6.20E-08	2.71E-08	1.64E-06
85	561203.82	4192834.48	1.03E-06	7.24E-07	1.22E-07	1.23E-07	1.22E-07	9.08E-08	5.51E-08	2.26E-06	7.34E-07	5.64E-07	9.50E-08	9.52E-08	9.50E-08	6.33E-08	2.77E-08	1.67E-06
86	561185	4192837.14	1.07E-06	7.51E-07	1.27E-07	1.27E-07	1.27E-07	9.43E-08	5.71E-08	2.35E-06	7.62E-07	5.85E-07	9.86E-08	9.88E-08	9.86E-08	6.57E-08	2.88E-08	1.74E-06
87	561175.6	4192838.47	1.08E-06	7.62E-07	1.29E-07	1.29E-07	1.29E-07	9.57E-08	5.80E-08	2.38E-06	7.73E-07	5.94E-07	1.00E-07	1.00E-07	1.00E-07	6.67E-08	2.92E-08	1.76E-06
88	561166.19	4192839.8	1.09E-06	7.71E-07	1.31E-07	1.31E-07	1.31E-07	9.68E-08	5.87E-08	2.41E-06	7.83E-07	6.01E-07	1.01E-07	1.02E-07	1.01E-07	6.75E-08	2.96E-08	1.78E-06

89	561156.78	4192841.13	1.11E-06	7.79E-07	1.32E-07	1.32E-07	1.32E-07	9.78E-08	5.93E-08	2.44E-06	7.91E-07	6.07E-07	1.02E-07	1.03E-07	1.02E-07	6.82E-08	2.99E-08	1.80E-06
90	561147.37	4192842.46	1.11E-06	7.86E-07	1.33E-07	1.33E-07	1.33E-07	9.86E-08	5.98E-08	2.46E-06	7.97E-07	6.12E-07	1.03E-07	1.03E-07	1.03E-07	6.88E-08	3.01E-08	1.82E-06
91	561137.97	4192843.79	1.12E-06	7.90E-07	1.34E-07	1.34E-07	1.34E-07	9.92E-08	6.01E-08	2.47E-06	8.02E-07	6.16E-07	1.04E-07	1.04E-07	1.04E-07	6.92E-08	3.03E-08	1.83E-06
92	561128.56	4192845.12	1.13E-06	7.94E-07	1.34E-07	1.35E-07	1.34E-07	9.96E-08	6.04E-08	2.48E-06	8.05E-07	6.18E-07	1.04E-07	1.04E-07	1.04E-07	6.95E-08	3.04E-08	1.84E-06
93	561119.15	4192846.45	1.13E-06	7.96E-07	1.35E-07	1.35E-07	1.35E-07	9.99E-08	6.06E-08	2.49E-06	8.07E-07	6.20E-07	1.04E-07	1.05E-07	1.04E-07	6.96E-08	3.05E-08	1.84E-06
94	561109.74	4192847.78	1.13E-06	7.97E-07	1.35E-07	1.35E-07	1.35E-07	1.00E-07	6.06E-08	2.49E-06	8.08E-07	6.21E-07	1.05E-07	1.05E-07	1.05E-07	6.97E-08	3.05E-08	1.84E-06
95	561452.11	4192539.68	5.67E-07	4.00E-07	6.77E-08	6.79E-08	6.77E-08	5.02E-08	3.04E-08	1.25E-06	4.06E-07	3.12E-07	5.25E-08	5.26E-08	5.25E-08	3.50E-08	1.53E-08	9.25E-07
96	561454.24	4192530.06	5.66E-07	3.99E-07	6.75E-08	6.77E-08	6.75E-08	5.01E-08	3.03E-08	1.25E-06	4.05E-07	3.11E-07	5.23E-08	5.25E-08	5.23E-08	3.49E-08	1.53E-08	9.23E-07
97	561471.3	4192453.1	5.55E-07	3.91E-07	6.62E-08	6.63E-08	6.62E-08	4.91E-08	2.97E-08	1.22E-06	3.97E-07	3.05E-07	5.13E-08	5.14E-08	5.13E-08	3.42E-08	1.50E-08	9.04E-07
98	561473.43	4192443.48	5.53E-07	3.89E-07	6.59E-08	6.61E-08	6.59E-08	4.89E-08	2.96E-08	1.22E-06	3.95E-07	3.03E-07	5.11E-08	5.13E-08	5.11E-08	3.41E-08	1.49E-08	9.01E-07
99	561264.15	4192835.23	8.40E-07	5.92E-07	1.00E-07	1.01E-07	1.00E-07	7.43E-08	4.51E-08	1.85E-06	6.01E-07	4.61E-07	7.77E-08	7.79E-08	7.77E-08	5.18E-08	2.27E-08	1.37E-06
100	561254.42	4192836.61	8.67E-07	6.11E-07	1.03E-07	1.04E-07	1.03E-07	7.67E-08	4.65E-08	1.91E-06	6.20E-07	4.76E-07	8.02E-08	8.05E-08	8.02E-08	5.35E-08	2.34E-08	1.41E-06
101	561244.68	4192837.98	8.94E-07	6.30E-07	1.07E-07	1.07E-07	1.07E-07	7.91E-08	4.79E-08	1.97E-06	6.39E-07	4.91E-07	8.27E-08	8.29E-08	8.27E-08	5.51E-08	2.41E-08	1.46E-06
102	561234.95	4192839.36	9.20E-07	6.48E-07	1.10E-07	1.10E-07	1.10E-07	8.14E-08	4.93E-08	2.03E-06	6.58E-07	5.05E-07	8.51E-08	8.53E-08	8.51E-08	5.67E-08	2.48E-08	1.50E-06
103	561225.22	4192840.74	9.44E-07	6.65E-07	1.13E-07	1.13E-07	1.13E-07	8.35E-08	5.06E-08	2.08E-06	6.75E-07	5.19E-07	8.73E-08	8.76E-08	8.73E-08	5.82E-08	2.55E-08	1.54E-06
104	561215.49	4192842.11	9.67E-07	6.82E-07	1.15E-07	1.16E-07	1.15E-07	8.56E-08	5.19E-08	2.13E-06	6.92E-07	5.31E-07	8.95E-08	8.97E-08	8.95E-08	5.97E-08	2.61E-08	1.58E-06
105	561205.76	4192843.49	9.88E-07	6.97E-07	1.18E-07	1.18E-07	1.18E-07	8.75E-08	5.30E-08	2.18E-06	7.07E-07	5.43E-07	9.14E-08	9.17E-08	9.14E-08	6.10E-08	2.67E-08	1.61E-06
106	561196.02	4192844.87	1.01E-06	7.11E-07	1.20E-07	1.21E-07	1.20E-07	8.92E-08	5.41E-08	2.22E-06	7.21E-07	5.54E-07	9.33E-08	9.35E-08	9.33E-08	6.22E-08	2.72E-08	1.64E-06
107	561176.56	4192847.62	1.04E-06	7.34E-07	1.24E-07	1.25E-07	1.24E-07	9.21E-08	5.58E-08	2.29E-06	7.44E-07	5.72E-07	9.63E-08	9.66E-08	9.63E-08	6.42E-08	2.81E-08	1.70E-06
108	561166.83	4192849	1.05E-06	7.42E-07	1.26E-07	1.26E-07	1.26E-07	9.32E-08	5.65E-08	2.32E-06	7.53E-07	5.79E-07	9.75E-08	9.77E-08	9.75E-08	6.50E-08	2.84E-08	1.72E-06
109	561157.1	4192850.37	1.06E-06	7.50E-07	1.27E-07	1.27E-07	1.27E-07	9.41E-08	5.71E-08	2.35E-06	7.61E-07	5.84E-07	9.84E-08	9.87E-08	9.84E-08	6.56E-08	2.87E-08	1.73E-06
110	561147.36	4192851.75	1.07E-06	7.56E-07	1.28E-07	1.28E-07	1.28E-07	9.49E-08	5.75E-08	2.36E-06	7.67E-07	5.89E-07	9.92E-08	9.95E-08	9.92E-08	6.61E-08	2.90E-08	1.75E-06
111	561137.63	4192853.13	1.08E-06	7.60E-07	1.29E-07	1.29E-07	1.29E-07	9.54E-08	5.78E-08	2.38E-06	7.71E-07	5.92E-07	9.97E-08	1.00E-07	9.97E-08	6.65E-08	2.91E-08	1.76E-06
112	561127.9	4192854.5	1.08E-06	7.63E-07	1.29E-07	1.29E-07	1.29E-07	9.58E-08	5.81E-08	2.39E-06	7.74E-07	5.94E-07	1.00E-07	1.00E-07	1.00E-07	6.68E-08	2.92E-08	1.77E-06
113	561118.17	4192855.88	1.08E-06	7.65E-07	1.29E-07	1.30E-07	1.29E-07	9.60E-08	5.82E-08	2.39E-06	7.76E-07	5.96E-07	1.00E-07	1.01E-07	1.00E-07	6.69E-08	2.93E-08	1.77E-06
114	561461.87	4192541.84	5.39E-07	3.80E-07	6.44E-08	6.45E-08	6.44E-08	4.77E-08	2.89E-08	1.19E-06	3.86E-07	2.96E-07	4.99E-08	5.00E-08	4.99E-08	3.33E-08	1.46E-08	8.80E-07
115	561464	4192532.22	5.38E-07	3.79E-07	6.42E-08	6.43E-08	6.42E-08	4.76E-08	2.88E-08	1.19E-06	3.85E-07	2.95E-07	4.98E-08	4.99E-08	4.98E-08	3.32E-08	1.45E-08	8.77E-07
116	561476.8	4192474.5	5.30E-07	3.73E-07	6.32E-08	6.34E-08	6.32E-08	4.69E-08	2.84E-08	1.17E-06	3.79E-07	2.91E-07	4.90E-08	4.91E-08	4.90E-08	3.27E-08	1.43E-08	8.64E-07
117	561481.06	4192455.26	5.27E-07	3.71E-07	6.29E-08	6.30E-08	6.29E-08	4.66E-08	2.83E-08	1.16E-06	3.77E-07	2.89E-07	4.87E-08	4.89E-08	4.87E-08	3.25E-08	1.42E-08	8.59E-07
118	561483.19	4192445.64	5.25E-07	3.70E-07	6.27E-08	6.28E-08	6.27E-08	4.65E-08	2.82E-08	1.16E-06	3.76E-07	2.88E-07	4.86E-08	4.87E-08	4.86E-08	3.24E-08	1.42E-08	8.57E-07
119	561269.64	4192843.74	8.04E-07	5.67E-07	9.59E-08	9.62E-08	9.59E-08	7.11E-08	4.31E-08	1.77E-06	5.75E-07	4.41E-07	7.44E-08	7.46E-08	7.44E-08	4.96E-08	2.17E-08	1.31E-06
120	561259.99	4192845.11	8.29E-07	5.84E-07	9.89E-08	9.92E-08	9.89E-08	7.34E-08	4.45E-08	1.83E-06	5.93E-07	4.55E-07	7.67E-08	7.69E-08	7.67E-08	5.12E-08	2.24E-08	1.35E-06
121	561250.33	4192846.47	8.54E-07	6.02E-07	1.02E-07	1.02E-07	1.02E-07	7.56E-08	4.58E-08	1.88E-06	6.11E-07	4.69E-07	7.90E-08	7.93E-08	7.90E-08	5.27E-08	2.31E-08	1.39E-06
122	561240.68	4192847.84	8.79E-07	6.19E-07	1.05E-07	1.05E-07	1.05E-07	7.77E-08	4.71E-08	1.94E-06	6.28E-07	4.83E-07	8.13E-08	8.15E-08	8.13E-08	5.42E-08	2.37E-08	1.43E-06
123	561231.02	4192849.2	9.02E-07	6.36E-07	1.08E-07	1.08E-07	1.08E-07	7.98E-08	4.84E-08	1.99E-06	6.45E-07	4.95E-07	8.35E-08	8.37E-08	8.35E-08	5.56E-08	2.44E-08	1.47E-06
124	561221.37	4192850.57	9.24E-07	6.51E-07	1.10E-07	1.11E-07	1.10E-07	8.18E-08	4.96E-08	2.04E-06	6.61E-07	5.07E-07	8.55E-08	8.57E-08	8.55E-08	5.70E-08	2.50E-08	1.51E-06
125	561211.71	4192851.93	9.44E-07	6.66E-07	1.13E-07	1.13E-07	1.13E-07	8.36E-08	5.07E-08	2.08E-06	6.75E-07	5.19E-07	8.74E-08	8.76E-08	8.74E-08	5.83E-08	2.55E-08	1.54E-06
126	561202.06	4192853.3	9.63E-07	6.79E-07	1.15E-07	1.15E-07	1.15E-07	8.52E-08	5.17E-08	2.12E-06	6.89E-07	5.29E-07	8.91E-08	8.94E-08	8.91E-08	5.94E-08	2.60E-08	1.57E-06
127	561173.1	4192857.4	1.01E-06	7.11E-07	1.20E-07	1.21E-07	1.20E-07	8.92E-08	5.41E-08	2.22E-06	7.21E-07	5.54E-07	9.33E-08	9.35E-08	9.33E-08	6.22E-08	2.72E-08	1.64E-06
128	561163.44	4192858.76	1.02E-06	7.18E-07	1.22E-07	1.22E-07	1.22E-07	9.01E-08	5.46E-08	2.25E-06	7.29E-07	5.60E-07	9.43E-08	9.45E-08	9.43E-08	6.28E-08	2.75E-08	1.66E-06
129	561153.79	4192860.13	1.03E-06	7.24E-07	1.23E-07	1.23E-07	1.23E-07	9.09E-08	5.51E-08	2.27E-06	7.35E-07	5.64E-07	9.50E-08	9.53E-08	9.50E-08	6.34E-08	2.77E-08	1.68E-06
130	561144.14	4192861.49	1.03E-06	7.29E-07	1.23E-07	1.24E-07	1.23E-07	9.15E-08	5.55E-08	2.28E-06	7.39E-07	5.68E-07	9.57E-08	9.59E-08	9.57E-08	6.38E-08	2.79E-08	1.69E-06
131	561134.48	4192862.86	1.04E-06	7.32E-07	1.24E-07	1.24E-07	1.24E-07	9.19E-08	5.57E-08	2.29E-06	7.43E-07	5.70E-07	9.61E-08	9.64E-08	9.61E-08	6.41E-08	2.81E-08	1.69E-06
132	561325.61	4192377.76	1.46E-06	1.03E-06	1.74E-07	1.74E-07	1.74E-07	1.29E-07	7.81E-08	3.21E-06	1.04E-06	8.00E-07	1.35E-07	1.35E-07	1.35E-07	8.98E-08	3.93E-08	2.37E-06
133	561328.03	4192368.66	1.42E-06	9.99E-07	1.69E-07	1.70E-07	1.69E-07	1.25E-07	7.60E-08	3.13E-06	1.01E-06	7.78E-07	1.31E-07	1.31E-07	1.31E-07	8.74E-08	3.83E-08	2.31E-06
134	561330.45	4192359.56	1.38E-06	9.72E-07	1.65E-07	1.65E-07	1.65E-07	1.22E-07	7.40E-08	3.04E-06	9.86E-07	7.57E-07	1.28E-07	1.28E-07	1.28E-07	8.51E-08	3.72E-08	2.25E-06
135	561335.28	4192380.33	1.35E-06	9.49E-07	1.61E-07	1.61E-07	1.61E-07	1.19E-07	7.22E-08	2.97E-06	9.63E-07	7.40E-07	1.25E-07	1.25E-07	1.25E-07	8.31E-08	3.64E-08	2.20E-06
136	561337.7	4192371.23	1.31E-06	9.25E-07	1.57E-07	1.57E-07	1.57E-07	1.16E-07	7.04E-08	2.90E-06	9.39E-07	7.21E-07	1.21E-07	1.22E-07	1.21E-07	8.10E-08	3.55E-08	2.14E-06
137	561340.12	4192362.14	1.28E-06	9.01E-07	1.53E-07	1.53E-07	1.53E-07	1.13E-07	6.86E-08	2.82E-06	9.14E-07	7.02E-07	1.18E-07	1.19E-07	1.18E-07	7.89E-08	3.45E-08	2.09E-06
138	561344.94	4192382.9	1.25E-06	8.81E-07	1.49E-07	1.50E-07	1.49E-07	1.11E-07	6.71E-08	2.76E-06	8.94E-07	6.87E-07	1.16E-07	1.16E-07	1.16E-07	7.71E-08	3.38E-08	2.04E-06
139	561347.36	4192373.81	1.22E-06	8.60E-07	1.46E-07	1.46E-07	1.46E-07	1.08E-07	6.55E-08	2.69E-06	8.73E-07	6.70E-07	1.13E-07	1.13E-07	1.13E-07	7.53E-08	3.30E-08	1.99E-06
140	561349.78	4192364.71	1.19E-06	8.39E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.39E-08	2.63E-06	8.51E-07	6.54E-07	1.10E-07	1.10E-07	1.10E-07	7.34E-08	3.22E-08	1.94E-06
141	561354.6	4192385.48	1.16E-06	8.20E-07	1.39E-07	1.39E-07	1.39E-07	1.03E-07	6.24E-08	2.57E-06	8.32E-07	6.39E-07	1.08E-07	1.08E-07	1.08E-07	7.18E-08	3.14E-08	1.90E-06
142	561357.02	4192376.38	1.14E-06	8.02E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.10E-08	2.51E-06	8.14E-07	6.25E-07	1.05E-07	1.06E-07	1.05E-07	7.02E-08	3.07E-08	1.86E-06
143	561359.45	4192367.28	1.11E-06	7.84E-07	1.33E-07	1.33E-07	1.33E-07	9.84E-08	5.96E-08	2.45E-06	7.95E-07	6.11E-07	1.03E-07	1.03E-07	1.03E-07	6.86E-08	3.00E-08	1.81E-06
144	561361.87	4192358.18	1.09E-06	7.65E-07	1.29E-07	1.30E-07	1.29E-07	9.60E-08	5.82E-08	2.39E-06	7.76E-07	5.96E-07	1.00E-07	1.01E-07	1.00E-07	6.69E-08	2.93E-08	1.77E-06
145	561359.43	4192406.24	1.13E-06	7.95E-07	1.34E-07	1.35E-07	1.34E-07	9.97E-08	6.05E-08	2.49E-06	8.06E-07	6.19E-07	1.04E-07	1.05E-07	1.04E-07	6.95E-08	3.04E-08	1.84E-06
146	561361.85	4192397.14	1.11E-06	7.80E-07	1.32E-07	1.32E-07	1.32E-07	9.79E-08	5.94E-08	2.44E-06	7.91E-07	6.08E-07	1.02E-07	1.03E-07	1.02E-07	6.83E-08	2.99E-08	1.80E-06
147	561364.27	4192388.05	1.09E-06	7.65E-07	1.29E-07	1.30E-07	1.29E-07	9.60E-08	5.82E-08	2.39E-06	7.76E-07	5.96E-07	1.00E-07	1.01E-07	1.00E-07	6.70E-08	2.93E-08	1.77E-06
148	561366.69	4192378.95	1.06E-06	7.49E-07	1.27E-07	1.27E-07	1.27E-07	9.41E-08	5.70E-08	2.34E-06	7.60E-07	5.84E-07	9.84E-08	9.86E-08	9.84E-08	6.56E-08	2.87E-08	1.73E-06
149	561369.11	4192369.85	1.04E-06	7.34E-07	1.24E-07	1.25E-07	1.24E-07	9.21E-08	5.58E-08	2.29E-06	7.44E-07	5.72E-07	9.63E-08	9.66E-08	9.63E-08	6.42E-08	2.81E-08	1.70E-06
150	561371.53	4192360.75	1.02E-06	7.17E-07	1.21E-07	1.22E-07	1.21E-07	9.01E-08	5.46E-08	2.24E-06	7.28E-07	5.59E-07	9.42E-08	9.44E-08	9.42E-08	6.28E-08	2.75E-08	1.66E-06
151	561373.95	4192351.65	9.95E-07	7.01E-07	1.19E-07	1.19E-07	1.19E-07	8.80E-08	5.34E-08	2.19E-06	7.12E-07	5.47E-07	9.21E-08	9.23E-08	9.21E-08	6.14E-08	2.69E-08	1.62E-06
152	561376.37	4192342.55	9.73E-07	6.86E-07	1.16E-07	1.16E-07	1.16E-07	8.61E-08	5.22E-08	2.15E-06	6.96E-07	5.34E-07	9.00E-08	9.03E-08	9.00E-08	6.00E-08	2.63E-08	1.59E-06
153	561378.79	4192333.46	9.51E-07	6.71E-07	1.14E-07	1.14E-07	1.14E-07	8.42E-08	5.10E-08	2.10E-06	6.80E-07	5.23E-07	8.80E-08	8.83E-08	8.80E-08	5.87E-08	2.57E-08	1.55E-06
154	561381.21	4192324.36	9.31E-07	6.56E-07	1.11E-07	1.11E-07	1.11E-07	8.24E-08	4.99E-08	2.05E-06	6.66E-07	5.11E-07	8.61E-08	8.64E-08	8.61E-08	5.74E-08	2.51E-08	1.52E-06
155	561383.63	4192315.26	9.11E-07	6.42E-07	1.09E-07	1.09E-07	1.09E-07	8.06E-08	4.89E-08	2.01E-06	6.51E-07	5.00E-07	8.43E-08	8.45E-08	8.43E-08	5.62E-08	2.46E-08	1.49E-06
156	561369.09	4192408.81	1.05E-06	7.41E-07	1.25E-07	1.26E-07	1.25E-07	9.30E-08	5.64E-08	2.32E-06	7.51E-07	5.77E-07	9.72E-08	9.75E-08	9.72E-08	6.48E-08	2.84E-08	1.71E-06
157	561371.51	4192399.72	1.03E-06	7.28E-07	1.23E-07	1.24E-07	1.23E-07	9.14E-08	5.54E-08	2.28E-06	7.39E-07	5.67E-07	9.56E-08	9.58E-08	9.56E-08	6.37E-08	2.79E-08	1.68E-06
158	561373.93	4192390.62	1.01E-06	7.15E-07	1.21E-07	1.21E-07	1.21E-07	8.98E-08	5.44E-08	2.24E-06	7.25E-07	5.57E-07	9.39E-08	9.41E-08	9.39E-08	6.26E-08	2.74E-08	1.65E-06
159	561376.35	4192381.52	9.96E-07	7.02E-07	1.19E-07	1.19E-07	1.19E-07	8.81E-08	5.34E-08	2.20E-06	7.12E-07	5.47E-07	9.21E-08	9.24E-08	9.21E-08	6.14E-08	2.69E-08	1.62E-06
160	561378.77	4192372.42	9.76E-07	6.88E-07	1.16E-07	1.17E-07	1.16E-07	8.64E-08	5.24E-08	2.15E-06	6.98E-07	5.36E-07	9.03E-08	9.06E-08	9.03E-08	6.02E-08	2.64E-08	1.59E-06
161	561381.19	4192363.32	9.57E-07	6.74E-07	1.14E-07	1.14E-07	1.14E-07	8.47E-08	5.13E-08	2.11E-06	6.84E-07	5.25E-07	8.85E-08	8.88E-08	8.85E-08	5.90E-08	2.58E-08	1.56E-06
162	561383.61	4192354.22	9.37E-07	6.60E-07	1.12E-07	1.12E-07	1.12E-07	8.29E-08	5.02E-08	2.07E-06	6.70E-07	5.15E-07	8.67E-08	8.69E-08	8.67E-08	5.78E-08	2.53E-08	1.53E-06
163	561386.04	4192345.13	9.17E-07	6.47E-07	1.09E-07	1.10E-07	1.09E-07	8.12E-08	4.92E-08	2.02E-06	6.56E-07	5.04E-07	8.49E-08	8.51E-08	8.49E-08	5.66E-08	2.48E-08	1.50E-06
164	561388.46	4192336.03	8.98E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.95E-08	4.82E-08	1.98E-06	6.42E-07	4.93E-07	8.31E-08	8.33E-08	8.31E-08	5.54E-08	2.43E-08	1.46E-06
165	561390.88	4192326.93	8.80E-07	6.20E-07	1.05E-07	1.05E-07	1.05E-07	7.79E-08	4.72E-08	1.94E-06	6.29E-07	4.83E-07	8.14E-08	8.16E-08	8.14E-08	5.43E-08	2.38E-08	1.44E-06
166	561393.3	4192317.83	8.62E-07	6.08E-07	1.03E-07	1.03E-07	1.03E-07	7.63E-08	4.63E-08	1.90E-06	6.17E-07	4.74E-07	7.98E-08	8.00E-08	7.98E-08	5.32E-08	2.33E-08	1.41E-06
167	561378.75	4192411.39	9.81E-07	6.92E-07	1.17E-07	1.17E-07	1.17E-07	8.68E-08	5.26E-08	2.16E-06	7.02E-07	5.39E-07	9.08E-08	9.11E-08	9.08E-08	6.05E-08	2.65E-08	1.60E-06
168	561381.17	4192402.29	9.66E-07	6.81E-07	1.15E-07	1.16E-07	1.15E-07	8.55E-08	5.18E-08	2.13E-06	6.91E-07	5.31E-07	8.94E-08	8.96E-08	8.94E-08	5.96E-08	2.61E-08	1.58E-06
169	561383.6	4192393.19	9.50E-07	6.70E-07	1.13E-07	1.14E-07	1.13E-07	8.41E-08	5.10E-08	2.10E-06	6.79E-07	5.22E-07	8.79E-08	8.81E-08	8.79E-08	5.86E-08	2.57E-08	1.55E-06
170	561386.02	4192384.09	9.34E-07	6.59E-07	1.11E-07	1.12E-07	1.11E-07	8.27E-08	5.01E-08	2.06E-06	6.68E-07	5.13E-07	8.64E-08	8.67E-08	8.64E-08	5.76E-08	2.52E-08	1.52E-06
171	561388.44	4192374.99	9.18E-07	6.47E-07	1.10E-07	1.10E-07	1.10E-07	8.12E-08	4.92E-08	2.02E-06	6.56E-07	5.04E-07	8.49E-08	8.52E-08	8.49E-08	5.66E-08	2.48E-08	1.50E-06
172	561390.86	4192365.89	9.01E-07	6.35E-07	1.08E-07	1.08E-07	1.08E-07	7.97E-08	4.83E-08	1.99E-06	6.44E-07	4.95E-07	8.34E-08	8.36E-08	8.34E-08	5.56E-08	2.43E-08	1.47E-06
173	561393.28	4192356.79	8.84E-07	6.23E-07	1.05E-07	1.06E-07	1.05E-07	7.82E-08	4.74E-08	1.95E-06	6.32E-07	4.85E-07	8.18E-08	8.20E-08	8.18E-08	5.45E-08	2.39E-08	1.44E-06
174	561395.7	4192347.7	8.66E-07	6.11E-07	1.03E-07	1.04E-07	1.03E-07	7.67E-08	4.65E-08	1.91E-06	6.20E-07	4.76E-07	8.02E-08	8.04E-08	8.02E-08	5.34E-08	2.34E-08	1.41E-06
175	561398.12	4192338.6	8.50E-07	5.99E-07	1.01E-07	1.02E-07	1.01E-07	7.52E-08	4.56E-08	1.87E-06	6.08E-07	4.67E-07	7.86E-08	7.88E-08	7.86E-08	5.24E-08	2.29E-08	1.39E-06
176	561400.54	4192329.5	8.33E-07	5.88E-07	9.95E-08	9.97E-08	9.95E-08	7.38E-08	4.47E-08	1.84E-06	5.96E-07	4.58E-07	7.71E-08	7.73E-08	7.71E-08	5.14E-08	2.25E-08	1.36E-06
177	561402.96	4192320.4	8.18E-07	5.76E-07	9.76E-08	9.78E-08	9.76E-08	7.24E-08	4.39E-08	1.80E-06	5.85E-07	4.49E-07	7.57E-08	7.59E-08	7.57E-08	5.04E-08	2.21E-08	1.33E-06
178	561407.75	4192419.1	8.12E-07	5.72E-07	9.69E-08	9.72E-08	9.69E-08	7.19E-08	4.36E-08	1.79E-06	5.81E-07	4.46E-07	7.51E-08	7.53E-08	7.51E-08	5.01E-08	2.19E-08	1.32E-06
179	561410.17	4192410	8.02E-07	5.66E-07	9.57E-08	9.60E-08	9.57E-08	7.10E-08	4.30E-08	1.77E-06	5.74E-07	4.41E-07	7.42E-08	7.44E-08	7.42E-08	4.95E-08	2.17E-08	1.31E-06
180	561412.59	4192400.9	7.92E-07	5.58E-07	9.45E-08	9.48E-08	9.45E-08	7.01E-08	4.25E-08	1.75E-06	5.66E-07	4.35E-07	7.33E-08	7.35E-08	7.33E-08	4.89E-08	2.14E-08	1.29E-06

181	561415.01	4192391.8	7.81E-07	5.51E-07	9.32E-08	9.35E-08	9.32E-08	6.91E-08	4.19E-08	1.72E-06	5.59E-07	4.29E-07	7.23E-08	7.25E-08	7.23E-08	4.82E-08	2.11E-08	1.27E-06
182	561417.43	4192382.71	7.71E-07	5.43E-07	9.20E-08	9.22E-08	9.20E-08	6.82E-08	4.13E-08	1.70E-06	5.51E-07	4.23E-07	7.13E-08	7.15E-08	7.13E-08	4.75E-08	2.08E-08	1.26E-06
183	561419.85	4192373.61	7.60E-07	5.35E-07	9.06E-08	9.09E-08	9.06E-08	6.72E-08	4.08E-08	1.68E-06	5.43E-07	4.17E-07	7.03E-08	7.05E-08	7.03E-08	4.69E-08	2.05E-08	1.24E-06
184	561422.27	4192364.51	7.48E-07	5.27E-07	8.93E-08	8.95E-08	8.93E-08	6.62E-08	4.01E-08	1.65E-06	5.35E-07	4.11E-07	6.92E-08	6.94E-08	6.92E-08	4.62E-08	2.02E-08	1.22E-06
185	561424.69	4192355.41	7.37E-07	5.19E-07	8.79E-08	8.81E-08	8.79E-08	6.52E-08	3.95E-08	1.62E-06	5.27E-07	4.05E-07	6.82E-08	6.84E-08	6.82E-08	4.54E-08	1.99E-08	1.20E-06
186	561427.11	4192346.31	7.25E-07	5.11E-07	8.65E-08	8.68E-08	8.65E-08	6.42E-08	3.89E-08	1.60E-06	5.19E-07	3.98E-07	6.71E-08	6.73E-08	6.71E-08	4.47E-08	1.96E-08	1.18E-06
187	561429.53	4192337.21	7.14E-07	5.03E-07	8.52E-08	8.54E-08	8.52E-08	6.32E-08	3.83E-08	1.57E-06	5.11E-07	3.92E-07	6.61E-08	6.62E-08	6.61E-08	4.40E-08	1.93E-08	1.16E-06
188	561431.95	4192328.11	7.03E-07	4.96E-07	8.39E-08	8.41E-08	8.39E-08	6.22E-08	3.77E-08	1.55E-06	5.03E-07	3.86E-07	6.51E-08	6.53E-08	6.51E-08	4.34E-08	1.90E-08	1.15E-06
189	561417.41	4192421.67	7.65E-07	5.39E-07	9.13E-08	9.15E-08	9.13E-08	6.77E-08	4.10E-08	1.69E-06	5.47E-07	4.20E-07	7.08E-08	7.10E-08	7.08E-08	4.72E-08	2.07E-08	1.25E-06
190	561419.83	4192412.57	7.56E-07	5.33E-07	9.03E-08	9.05E-08	9.03E-08	6.69E-08	4.06E-08	1.67E-06	5.41E-07	4.15E-07	7.00E-08	7.02E-08	7.00E-08	4.67E-08	2.04E-08	1.23E-06
191	561422.25	4192403.47	7.48E-07	5.27E-07	8.92E-08	8.95E-08	8.92E-08	6.62E-08	4.01E-08	1.65E-06	5.35E-07	4.11E-07	6.92E-08	6.94E-08	6.92E-08	4.61E-08	2.02E-08	1.22E-06
192	561424.67	4192394.37	7.38E-07	5.21E-07	8.81E-08	8.84E-08	8.81E-08	6.53E-08	3.96E-08	1.63E-06	5.28E-07	4.06E-07	6.83E-08	6.85E-08	6.83E-08	4.56E-08	1.99E-08	1.20E-06
193	561427.09	4192385.28	7.29E-07	5.14E-07	8.70E-08	8.72E-08	8.70E-08	6.45E-08	3.91E-08	1.61E-06	5.21E-07	4.00E-07	6.75E-08	6.77E-08	6.75E-08	4.50E-08	1.97E-08	1.19E-06
194	561429.51	4192376.18	7.19E-07	5.07E-07	8.58E-08	8.61E-08	8.58E-08	6.37E-08	3.86E-08	1.59E-06	5.14E-07	3.95E-07	6.66E-08	6.68E-08	6.66E-08	4.44E-08	1.94E-08	1.17E-06
195	561431.93	4192367.08	7.10E-07	5.00E-07	8.47E-08	8.49E-08	8.47E-08	6.28E-08	3.81E-08	1.56E-06	5.07E-07	3.90E-07	6.57E-08	6.58E-08	6.57E-08	4.38E-08	1.92E-08	1.16E-06
196	561434.35	4192357.98	6.99E-07	4.93E-07	8.35E-08	8.37E-08	8.35E-08	6.19E-08	3.75E-08	1.54E-06	5.00E-07	3.84E-07	6.47E-08	6.49E-08	6.47E-08	4.31E-08	1.89E-08	1.14E-06
197	561436.78	4192348.88	6.89E-07	4.86E-07	8.23E-08	8.25E-08	8.23E-08	6.10E-08	3.70E-08	1.52E-06	4.93E-07	3.79E-07	6.38E-08	6.40E-08	6.38E-08	4.25E-08	1.86E-08	1.12E-06
198	561439.2	4192339.78	6.80E-07	4.79E-07	8.11E-08	8.13E-08	8.11E-08	6.01E-08	3.65E-08	1.50E-06	4.86E-07	3.73E-07	6.29E-08	6.31E-08	6.29E-08	4.19E-08	1.84E-08	1.11E-06
199	561441.62	4192330.69	6.70E-07	4.72E-07	8.00E-08	8.02E-08	8.00E-08	5.93E-08	3.59E-08	1.48E-06	4.79E-07	3.68E-07	6.20E-08	6.22E-08	6.20E-08	4.13E-08	1.81E-08	1.09E-06
200	561429.49	4192415.14	7.14E-07	5.03E-07	8.52E-08	8.54E-08	8.52E-08	6.32E-08	3.83E-08	1.57E-06	5.11E-07	3.92E-07	6.61E-08	6.62E-08	6.61E-08	4.40E-08	1.93E-08	1.16E-06
201	561431.91	4192406.04	7.07E-07	4.98E-07	8.43E-08	8.46E-08	8.43E-08	6.25E-08	3.79E-08	1.56E-06	5.05E-07	3.88E-07	6.54E-08	6.56E-08	6.54E-08	4.36E-08	1.91E-08	1.15E-06
202	561434.34	4192396.95	6.99E-07	4.93E-07	8.34E-08	8.36E-08	8.34E-08	6.19E-08	3.75E-08	1.54E-06	5.00E-07	3.84E-07	6.47E-08	6.49E-08	6.47E-08	4.31E-08	1.89E-08	1.14E-06
203	561436.76	4192387.85	6.91E-07	4.87E-07	8.24E-08	8.26E-08	8.24E-08	6.11E-08	3.71E-08	1.52E-06	4.94E-07	3.79E-07	6.39E-08	6.41E-08	6.39E-08	4.26E-08	1.87E-08	1.13E-06
204	561439.18	4192378.75	6.82E-07	4.81E-07	8.14E-08	8.16E-08	8.14E-08	6.04E-08	3.66E-08	1.50E-06	4.88E-07	3.75E-07	6.31E-08	6.33E-08	6.31E-08	4.21E-08	1.84E-08	1.11E-06
205	561441.6	4192369.65	6.74E-07	4.75E-07	8.04E-08	8.06E-08	8.04E-08	5.96E-08	3.61E-08	1.49E-06	4.82E-07	3.70E-07	6.23E-08	6.25E-08	6.23E-08	4.16E-08	1.82E-08	1.10E-06
206	561444.02	4192360.55	6.65E-07	4.69E-07	7.93E-08	7.95E-08	7.93E-08	5.88E-08	3.57E-08	1.47E-06	4.75E-07	3.65E-07	6.15E-08	6.17E-08	6.15E-08	4.10E-08	1.80E-08	1.08E-06
207	561446.44	4192351.45	6.56E-07	4.63E-07	7.83E-08	7.85E-08	7.83E-08	5.81E-08	3.52E-08	1.45E-06	4.69E-07	3.60E-07	6.07E-08	6.09E-08	6.07E-08	4.05E-08	1.77E-08	1.07E-06
208	561448.86	4192342.36	6.48E-07	4.57E-07	7.73E-08	7.75E-08	7.73E-08	5.73E-08	3.47E-08	1.43E-06	4.63E-07	3.56E-07	5.99E-08	6.01E-08	5.99E-08	4.00E-08	1.75E-08	1.06E-06
209	561451.28	4192333.26	6.40E-07	4.51E-07	7.63E-08	7.65E-08	7.63E-08	5.66E-08	3.43E-08	1.41E-06	4.57E-07	3.51E-07	5.92E-08	5.93E-08	5.92E-08	3.95E-08	1.73E-08	1.04E-06
210	561439.16	4192417.71	6.75E-07	4.76E-07	8.05E-08	8.07E-08	8.05E-08	5.97E-08	3.62E-08	1.49E-06	4.82E-07	3.71E-07	6.24E-08	6.26E-08	6.24E-08	4.16E-08	1.82E-08	1.10E-06
211	561441.58	4192408.62	6.69E-07	4.71E-07	7.98E-08	8.00E-08	7.98E-08	5.92E-08	3.59E-08	1.47E-06	4.78E-07	3.67E-07	6.19E-08	6.20E-08	6.19E-08	4.13E-08	1.81E-08	1.09E-06
212	561444	4192399.52	6.62E-07	4.67E-07	7.90E-08	7.92E-08	7.90E-08	5.86E-08	3.55E-08	1.46E-06	4.74E-07	3.64E-07	6.13E-08	6.15E-08	6.13E-08	4.09E-08	1.79E-08	1.08E-06
213	561446.42	4192390.42	6.55E-07	4.62E-07	7.82E-08	7.84E-08	7.82E-08	5.80E-08	3.51E-08	1.44E-06	4.69E-07	3.60E-07	6.06E-08	6.08E-08	6.06E-08	4.04E-08	1.77E-08	1.07E-06
214	561448.84	4192381.32	6.48E-07	4.57E-07	7.73E-08	7.75E-08	7.73E-08	5.73E-08	3.47E-08	1.43E-06	4.63E-07	3.56E-07	5.99E-08	6.01E-08	5.99E-08	4.00E-08	1.75E-08	1.06E-06
215	561451.26	4192372.22	6.40E-07	4.51E-07	7.64E-08	7.66E-08	7.64E-08	5.66E-08	3.43E-08	1.41E-06	4.58E-07	3.52E-07	5.92E-08	5.94E-08	5.92E-08	3.95E-08	1.73E-08	1.04E-06
216	561453.68	4192363.12	6.33E-07	4.46E-07	7.55E-08	7.57E-08	7.55E-08	5.60E-08	3.39E-08	1.40E-06	4.52E-07	3.47E-07	5.85E-08	5.87E-08	5.85E-08	3.90E-08	1.71E-08	1.03E-06
217	561456.1	4192354.03	6.25E-07	4.41E-07	7.46E-08	7.48E-08	7.46E-08	5.53E-08	3.35E-08	1.38E-06	4.47E-07	3.43E-07	5.79E-08	5.80E-08	5.79E-08	3.86E-08	1.69E-08	1.02E-06
218	561458.52	4192344.93	6.18E-07	4.36E-07	7.38E-08	7.40E-08	7.38E-08	5.47E-08	3.32E-08	1.36E-06	4.42E-07	3.40E-07	5.72E-08	5.74E-08	5.72E-08	3.81E-08	1.67E-08	1.01E-06
219	561460.94	4192335.83	6.11E-07	4.31E-07	7.29E-08	7.31E-08	7.29E-08	5.41E-08	3.28E-08	1.35E-06	4.37E-07	3.36E-07	5.65E-08	5.67E-08	5.65E-08	3.77E-08	1.65E-08	9.97E-07
220	561448.82	4192420.29	6.39E-07	4.50E-07	7.62E-08	7.64E-08	7.62E-08	5.65E-08	3.43E-08	1.41E-06	4.57E-07	3.51E-07	5.91E-08	5.92E-08	5.91E-08	3.94E-08	1.72E-08	1.04E-06
221	561451.24	4192411.19	6.33E-07	4.47E-07	7.56E-08	7.58E-08	7.56E-08	5.61E-08	3.40E-08	1.40E-06	4.53E-07	3.48E-07	5.86E-08	5.88E-08	5.86E-08	3.91E-08	1.71E-08	1.03E-06
222	561453.66	4192402.09	6.28E-07	4.43E-07	7.49E-08	7.51E-08	7.49E-08	5.56E-08	3.37E-08	1.38E-06	4.49E-07	3.45E-07	5.81E-08	5.83E-08	5.81E-08	3.87E-08	1.70E-08	1.02E-06
223	561456.08	4192392.99	6.22E-07	4.38E-07	7.42E-08	7.44E-08	7.42E-08	5.50E-08	3.34E-08	1.37E-06	4.45E-07	3.42E-07	5.75E-08	5.77E-08	5.75E-08	3.84E-08	1.68E-08	1.01E-06
224	561458.5	4192383.89	6.15E-07	4.34E-07	7.34E-08	7.36E-08	7.34E-08	5.45E-08	3.30E-08	1.36E-06	4.40E-07	3.38E-07	5.69E-08	5.71E-08	5.69E-08	3.80E-08	1.66E-08	1.00E-06
225	561460.92	4192374.79	6.09E-07	4.29E-07	7.27E-08	7.29E-08	7.27E-08	5.39E-08	3.27E-08	1.34E-06	4.35E-07	3.34E-07	5.63E-08	5.65E-08	5.63E-08	3.76E-08	1.64E-08	9.93E-07
226	561463.35	4192365.69	6.02E-07	4.25E-07	7.19E-08	7.21E-08	7.19E-08	5.33E-08	3.23E-08	1.33E-06	4.31E-07	3.31E-07	5.57E-08	5.59E-08	5.57E-08	3.72E-08	1.63E-08	9.83E-07
227	561465.77	4192356.6	5.96E-07	4.20E-07	7.12E-08	7.14E-08	7.12E-08	5.28E-08	3.20E-08	1.32E-06	4.26E-07	3.28E-07	5.52E-08	5.53E-08	5.52E-08	3.68E-08	1.61E-08	9.73E-07
228	561468.19	4192347.5	5.90E-07	4.16E-07	7.04E-08	7.06E-08	7.04E-08	5.22E-08	3.17E-08	1.30E-06	4.22E-07	3.24E-07	5.46E-08	5.48E-08	5.46E-08	3.64E-08	1.59E-08	9.63E-07
229	561470.61	4192338.4	5.84E-07	4.12E-07	6.97E-08	6.99E-08	6.97E-08	5.17E-08	3.13E-08	1.29E-06	4.18E-07	3.21E-07	5.41E-08	5.42E-08	5.41E-08	3.60E-08	1.58E-08	9.53E-07
230	561458.48	4192422.86	6.05E-07	4.27E-07	7.22E-08	7.24E-08	7.22E-08	5.36E-08	3.25E-08	1.34E-06	4.33E-07	3.33E-07	5.60E-08	5.62E-08	5.60E-08	3.73E-08	1.64E-08	9.87E-07
231	561460.91	4192413.76	6.01E-07	4.24E-07	7.17E-08	7.19E-08	7.17E-08	5.32E-08	3.22E-08	1.33E-06	4.30E-07	3.30E-07	5.56E-08	5.57E-08	5.56E-08	3.71E-08	1.62E-08	9.80E-07
232	561463.33	4192404.66	5.96E-07	4.20E-07	7.11E-08	7.13E-08	7.11E-08	5.27E-08	3.20E-08	1.31E-06	4.26E-07	3.27E-07	5.51E-08	5.53E-08	5.51E-08	3.68E-08	1.61E-08	9.72E-07
233	561465.75	4192395.56	5.91E-07	4.16E-07	7.05E-08	7.07E-08	7.05E-08	5.23E-08	3.17E-08	1.30E-06	4.23E-07	3.25E-07	5.47E-08	5.48E-08	5.47E-08	3.64E-08	1.60E-08	9.64E-07
234	561468.17	4192386.46	5.85E-07	4.13E-07	6.98E-08	7.00E-08	6.98E-08	5.18E-08	3.14E-08	1.29E-06	4.19E-07	3.22E-07	5.42E-08	5.43E-08	5.42E-08	3.61E-08	1.58E-08	9.55E-07
235	561470.59	4192377.36	5.80E-07	4.09E-07	6.92E-08	6.94E-08	6.92E-08	5.13E-08	3.11E-08	1.28E-06	4.15E-07	3.18E-07	5.37E-08	5.38E-08	5.37E-08	3.58E-08	1.57E-08	9.46E-07
236	561473.01	4192368.27	5.74E-07	4.05E-07	6.85E-08	6.87E-08	6.85E-08	5.08E-08	3.08E-08	1.27E-06	4.11E-07	3.15E-07	5.31E-08	5.33E-08	5.31E-08	3.54E-08	1.55E-08	9.37E-07
237	561475.43	4192359.17	5.69E-07	4.01E-07	6.79E-08	6.81E-08	6.79E-08	5.04E-08	3.05E-08	1.26E-06	4.07E-07	3.13E-07	5.27E-08	5.28E-08	5.27E-08	3.51E-08	1.54E-08	9.28E-07
238	561477.85	4192350.07	5.64E-07	3.98E-07	6.73E-08	6.75E-08	6.73E-08	4.99E-08	3.03E-08	1.24E-06	4.03E-07	3.10E-07	5.22E-08	5.23E-08	5.22E-08	3.48E-08	1.52E-08	9.20E-07
239	561480.27	4192340.97	5.59E-07	3.94E-07	6.67E-08	6.69E-08	6.67E-08	4.95E-08	3.00E-08	1.23E-06	4.00E-07	3.07E-07	5.17E-08	5.19E-08	5.17E-08	3.45E-08	1.51E-08	9.12E-07
240	561468.15	4192425.43	5.75E-07	4.05E-07	6.86E-08	6.88E-08	6.86E-08	5.09E-08	3.08E-08	1.27E-06	4.11E-07	3.16E-07	5.32E-08	5.33E-08	5.32E-08	3.55E-08	1.55E-08	9.37E-07
241	561470.57	4192416.33	5.71E-07	4.02E-07	6.81E-08	6.83E-08	6.81E-08	5.05E-08	3.06E-08	1.26E-06	4.08E-07	3.13E-07	5.28E-08	5.30E-08	5.28E-08	3.52E-08	1.54E-08	9.31E-07
242	561472.99	4192407.23	5.66E-07	3.99E-07	6.76E-08	6.78E-08	6.76E-08	5.01E-08	3.04E-08	1.25E-06	4.05E-07	3.11E-07	5.24E-08	5.26E-08	5.24E-08	3.49E-08	1.53E-08	9.24E-07
243	561475.41	4192398.13	5.62E-07	3.96E-07	6.71E-08	6.72E-08	6.71E-08	4.97E-08	3.01E-08	1.24E-06	4.02E-07	3.09E-07	5.20E-08	5.21E-08	5.20E-08	3.47E-08	1.52E-08	9.17E-07
244	561477.83	4192389.03	5.58E-07	3.93E-07	6.65E-08	6.67E-08	6.65E-08	4.93E-08	2.99E-08	1.23E-06	3.99E-07	3.06E-07	5.16E-08	5.17E-08	5.16E-08	3.44E-08	1.51E-08	9.09E-07
245	561480.25	4192379.94	5.53E-07	3.90E-07	6.60E-08	6.62E-08	6.60E-08	4.89E-08	2.97E-08	1.22E-06	3.95E-07	3.04E-07	5.12E-08	5.13E-08	5.12E-08	3.41E-08	1.49E-08	9.02E-07
246	561482.67	4192370.84	5.48E-07	3.87E-07	6.54E-08	6.56E-08	6.54E-08	4.85E-08	2.94E-08	1.21E-06	3.92E-07	3.01E-07	5.07E-08	5.09E-08	5.07E-08	3.38E-08	1.48E-08	8.94E-07
247	561485.09	4192361.74	5.44E-07	3.83E-07	6.49E-08	6.51E-08	6.49E-08	4.81E-08	2.92E-08	1.20E-06	3.89E-07	2.99E-07	5.03E-08	5.05E-08	5.03E-08	3.36E-08	1.47E-08	8.87E-07
248	561487.51	4192352.64	5.40E-07	3.80E-07	6.44E-08	6.46E-08	6.44E-08	4.77E-08	2.89E-08	1.19E-06	3.86E-07	2.96E-07	4.99E-08	5.01E-08	4.99E-08	3.33E-08	1.46E-08	8.80E-07
249	561489.94	4192343.54	5.35E-07	3.77E-07	6.38E-08	6.40E-08	6.38E-08	4.73E-08	2.87E-08	1.18E-06	3.83E-07	2.94E-07	4.95E-08	4.96E-08	4.95E-08	3.30E-08	1.44E-08	8.73E-07
250	561477.81	4192428	5.46E-07	3.85E-07	6.52E-08	6.54E-08	6.52E-08	4.83E-08	2.93E-08	1.20E-06	3.91E-07	3.00E-07	5.05E-08	5.07E-08	5.05E-08	3.37E-08	1.48E-08	8.91E-07
251	561480.23	4192418.9	5.43E-07	3.83E-07	6.48E-08	6.50E-08	6.48E-08	4.80E-08	2.91E-08	1.20E-06	3.88E-07	2.98E-07	5.02E-08	5.04E-08	5.02E-08	3.35E-08	1.47E-08	8.85E-07
252	561482.65	4192409.8	5.39E-07	3.80E-07	6.44E-08	6.45E-08	6.44E-08	4.77E-08	2.89E-08	1.19E-06	3.86E-07	2.96E-07	4.99E-08	5.00E-08	4.99E-08	3.33E-08	1.46E-08	8.80E-07
253	561485.07	4192400.7	5.36E-07	3.78E-07	6.39E-08	6.41E-08	6.39E-08	4.74E-08	2.87E-08	1.18E-06	3.83E-07	2.94E-07	4.96E-08	4.97E-08	4.96E-08	3.30E-08	1.45E-08	8.74E-07
254	561487.5	4192391.61	5.32E-07	3.75E-07	6.35E-08	6.36E-08	6.35E-08	4.71E-08	2.85E-08	1.17E-06	3.80E-07	2.92E-07	4.92E-08	4.93E-08	4.92E-08	3.28E-08	1.44E-08	8.67E-07
255	561489.92	4192382.51	5.28E-07	3.72E-07	6.30E-08	6.32E-08	6.30E-08	4.67E-08	2.83E-08	1.16E-06	3.78E-07	2.90E-07	4.89E-08	4.90E-08	4.89E-08	3.26E-08	1.43E-08	8.61E-07
256	561492.34	4192373.41	5.24E-07	3.69E-07	6.25E-08	6.27E-08	6.25E-08	4.64E-08	2.81E-08	1.16E-06	3.75E-07	2.88E-07	4.85E-08	4.86E-08	4.85E-08	3.23E-08	1.42E-08	8.55E-07
257	561494.76	4192364.31	5.20E-07	3.67E-07	6.21E-08	6.23E-08	6.21E-08	4.60E-08	2.79E-08	1.15E-06	3.72E-07	2.86E-07	4.81E-08	4.83E-08	4.81E-08	3.21E-08	1.41E-08	8.49E-07
258	561497.18	4192355.21	5.16E-07	3.64E-07	6.16E-08	6.18E-08	6.16E-08	4.57E-08	2.77E-08	1.14E-06	3.69E-07	2.84E-07	4.78E-08	4.79E-08	4.78E-08	3.19E-08	1.39E-08	8.42E-07
259	561499.6	4192346.11	5.12E-07	3.61E-07	6.12E-08	6.13E-08	6.12E-08	4.53E-08	2.75E-08	1.13E-06	3.66E-07	2.81E-07	4.74E-08	4.75E-08	4.74E-08	3.16E-08	1.38E-08	8.36E-07
260	561487.48	4192430.57	5.20E-07	3.66E-07	6.20E-08	6.22E-08	6.20E-08	4.60E-08	2.79E-08	1.15E-06	3.72E-07	2.86E-07	4.81E-08	4.82E-08	4.81E-08	3.21E-08	1.40E-08	8.48E-07
261	561489.9	4192421.47	5.17E-07	3.64E-07	6.17E-08	6.19E-08	6.17E-08	4.57E-08	2.77E-08	1.14E-06	3.70E-07	2.84E-07	4.78E-08	4.80E-08	4.78E-08	3.19E-08	1.40E-08	8.43E-07
262	561492.32	4192412.37	5.14E-07	3.62E-07	6.13E-08	6.15E-08	6.13E-08	4.55E-08	2.76E-08	1.13E-06	3.68E-07	2.82E-07	4.76E-08	4.77E-08	4.76E-08	3.17E-08	1.39E-08	8.38E-07
263	561494.74	4192403.27	5.11E-07	3.60E-07	6.10E-08	6.11E-08	6.10E-08	4.52E-08	2.74E-08	1.13E-06	3.65E-07	2.81E-07	4.73E-08	4.74E-08	4.73E-08	3.15E-08	1.38E-08	8.33E-07
264	561497.16	4192394.18	5.08E-07	3.58E-07	6.06E-08	6.08E-08	6.06E-08	4.49E-08	2.72E-08	1.12E-06	3.63E-07	2.79E-07	4.70E-08	4.71E-08	4.70E-08	3.13E-08	1.37E-08	8.28E-07
265	561499.58	4192385.08	5.05E-07	3.56E-07	6.02E-08	6.04E-08	6.02E-08	4.47E-08	2.71E-08	1.11E-06	3.61E-07	2.77E-07	4.67E-08	4.68E-08	4.67E-08	3.11E-08	1.36E-08	8.23E-07
266	561502	4192375.98	5.01E-07	3.53E-07	5.98E-08	6.00E-08	5.98E-08	4.44E-08	2.69E-08	1.11E-06	3.59E-07	2.75E-07	4.64E-08	4.65E-08	4.64E-08	3.09E-08	1.35E-08	8.18E-07
267	561504.42	4192366.88	4.98E-07	3.51E-07	5.94E-08	5.96E-08	5.94E-08	4.41E-08	2.67E-08	1.10E-06	3.56E-07	2.74E-07	4.61E-08	4.62E-08	4.61E-08	3.07E-08	1.35E-08	8.12E-07
268	561506.84	4192357.78	4.95E-07	3.49E-07	5.90E-08	5.92E-08	5.90E-08	4.38E-08	2.65E-08	1.09E-06	3.54E-07	2.72E-07	4.58E-08	4.59E-08	4.58E-08	3.05E-08	1.34E-08	8.07E-07
269	561509.26	4192348.68	4.91E-07	3.46E-07	5.86E-08	5.88E-08	5.86E-08	4.35E-08	2.64E-08	1.08E-06	3.51E-07	2.70E-07	4.55E-08	4.56E-08	4.55E-08	3.03E-08	1.33E-08	8.02E-07
270	561401.78	4192218.01	7.07E-07	4.99E-07	8.44E-08	8.46E-08	8.44E-08	6.26E-08	3.79E-08	1.56E-06	5.06E-07	3.88E-07	6.54E-08	6.56E-08	6.54E-08	4.36E-08	1.91E-08	1.15E-06
271	561403.11	4192227.59	7.22E-07	5.09E-07	8.61E-08	8.64E-08	8.61E-08	6.39E-08	3.87E-08	1.59E-06	5.16E-07	3.96E-07	6.68E-08	6.70E-08	6.68E-08	4.45E-08	1.95E-08	1.18E-06
272	561410.29	4192212.23	6.68E-07	4.71E-07	7.98E-08	8.00E-08	7.98E-08	5.91E-08	3.59E-08	1.47E-06	4.78E-07	3.67E-07	6.18E-08	6.20E-08	6.18E-08	4.12E-08	1.81E-08	1.09E-06

273	561411.6	4192221.7	6.82E-07	4.81E-07	8.14E-08	8.17E-08	8.14E-08	6.04E-08	3.66E-08	1.51E-06	4.88E-07	3.75E-07	6.31E-08	6.33E-08	6.31E-08	4.21E-08	1.84E-08	1.11E-06
274	561412.91	4192231.18	6.95E-07	4.90E-07	8.29E-08	8.31E-08	8.29E-08	6.15E-08	3.73E-08	1.53E-06	4.97E-07	3.82E-07	6.43E-08	6.45E-08	6.43E-08	4.29E-08	1.88E-08	1.13E-06
275	561417.52	4192197.16	6.18E-07	4.36E-07	7.37E-08	7.39E-08	7.37E-08	5.47E-08	3.31E-08	1.36E-06	4.42E-07	3.39E-07	5.72E-08	5.73E-08	5.72E-08	3.81E-08	1.67E-08	1.01E-06
276	561418.81	4192206.53	6.33E-07	4.46E-07	7.55E-08	7.57E-08	7.55E-08	5.60E-08	3.40E-08	1.40E-06	4.53E-07	3.48E-07	5.86E-08	5.87E-08	5.86E-08	3.90E-08	1.71E-08	1.03E-06
277	561420.11	4192215.9	6.47E-07	4.56E-07	7.72E-08	7.74E-08	7.72E-08	5.72E-08	3.47E-08	1.43E-06	4.62E-07	3.55E-07	5.98E-08	6.00E-08	5.98E-08	3.99E-08	1.75E-08	1.05E-06
278	561421.41	4192225.28	6.59E-07	4.64E-07	7.86E-08	7.88E-08	7.86E-08	5.83E-08	3.53E-08	1.45E-06	4.71E-07	3.62E-07	6.10E-08	6.11E-08	6.10E-08	4.06E-08	1.78E-08	1.07E-06
279	561422.7	4192234.65	6.69E-07	4.72E-07	7.99E-08	8.01E-08	7.99E-08	5.92E-08	3.59E-08	1.48E-06	4.79E-07	3.68E-07	6.19E-08	6.21E-08	6.19E-08	4.13E-08	1.81E-08	1.09E-06
280	561424.77	4192182.33	5.71E-07	4.02E-07	6.81E-08	6.83E-08	6.81E-08	5.05E-08	3.06E-08	1.26E-06	4.08E-07	3.14E-07	5.28E-08	5.30E-08	5.28E-08	3.52E-08	1.54E-08	9.31E-07
281	561426.06	4192191.61	5.86E-07	4.13E-07	6.99E-08	7.01E-08	6.99E-08	5.19E-08	3.14E-08	1.29E-06	4.19E-07	3.22E-07	5.42E-08	5.44E-08	5.42E-08	3.62E-08	1.58E-08	9.56E-07
282	561427.34	4192200.89	6.00E-07	4.23E-07	7.17E-08	7.18E-08	7.17E-08	5.31E-08	3.22E-08	1.32E-06	4.29E-07	3.30E-07	5.56E-08	5.57E-08	5.56E-08	3.70E-08	1.62E-08	9.79E-07
283	561428.62	4192210.18	6.14E-07	4.33E-07	7.32E-08	7.34E-08	7.32E-08	5.43E-08	3.29E-08	1.35E-06	4.39E-07	3.37E-07	5.68E-08	5.70E-08	5.68E-08	3.79E-08	1.66E-08	1.00E-06
284	561429.91	4192219.46	6.26E-07	4.41E-07	7.47E-08	7.49E-08	7.47E-08	5.54E-08	3.36E-08	1.38E-06	4.48E-07	3.44E-07	5.79E-08	5.81E-08	5.79E-08	3.86E-08	1.69E-08	1.02E-06
285	561431.19	4192228.75	6.36E-07	4.49E-07	7.59E-08	7.61E-08	7.59E-08	5.63E-08	3.41E-08	1.40E-06	4.55E-07	3.49E-07	5.89E-08	5.90E-08	5.89E-08	3.93E-08	1.72E-08	1.04E-06
286	561432.48	4192238.03	6.45E-07	4.55E-07	7.70E-08	7.72E-08	7.70E-08	5.71E-08	3.46E-08	1.42E-06	4.61E-07	3.54E-07	5.97E-08	5.99E-08	5.97E-08	3.98E-08	1.74E-08	1.05E-06
287	561434.94	4192188.53	5.61E-07	3.95E-07	6.69E-08	6.71E-08	6.69E-08	4.96E-08	3.01E-08	1.24E-06	4.01E-07	3.08E-07	5.19E-08	5.20E-08	5.19E-08	3.46E-08	1.51E-08	9.14E-07
288	561436.28	4192198.22	5.75E-07	4.05E-07	6.86E-08	6.88E-08	6.86E-08	5.09E-08	3.08E-08	1.27E-06	4.11E-07	3.16E-07	5.32E-08	5.33E-08	5.32E-08	3.55E-08	1.55E-08	9.37E-07
289	561437.62	4192207.91	5.88E-07	4.14E-07	7.01E-08	7.03E-08	7.01E-08	5.20E-08	3.15E-08	1.30E-06	4.20E-07	3.23E-07	5.44E-08	5.45E-08	5.44E-08	3.63E-08	1.59E-08	9.59E-07
290	561438.96	4192217.59	6.00E-07	4.23E-07	7.16E-08	7.18E-08	7.16E-08	5.31E-08	3.22E-08	1.32E-06	4.29E-07	3.29E-07	5.55E-08	5.56E-08	5.55E-08	3.70E-08	1.62E-08	9.78E-07
291	561445.66	4192266.03	6.34E-07	4.47E-07	7.57E-08	7.59E-08	7.57E-08	5.61E-08	3.40E-08	1.40E-06	4.54E-07	3.48E-07	5.87E-08	5.89E-08	5.87E-08	3.91E-08	1.71E-08	1.03E-06
292	561429.07	4192129.23	4.63E-07	3.26E-07	5.52E-08	5.54E-08	5.52E-08	4.10E-08	2.48E-08	1.02E-06	3.31E-07	2.54E-07	4.28E-08	4.29E-08	4.28E-08	2.86E-08	1.25E-08	7.55E-07
293	561438.17	4192144.58	4.75E-07	3.35E-07	5.67E-08	5.68E-08	5.67E-08	4.20E-08	2.55E-08	1.05E-06	3.40E-07	2.61E-07	4.39E-08	4.41E-08	4.39E-08	2.93E-08	1.28E-08	7.74E-07
294	561439.49	4192154.17	4.90E-07	3.45E-07	5.84E-08	5.86E-08	5.84E-08	4.33E-08	2.63E-08	1.08E-06	3.50E-07	2.69E-07	4.53E-08	4.54E-08	4.53E-08	3.02E-08	1.32E-08	7.98E-07
295	561440.82	4192163.75	5.04E-07	3.55E-07	6.02E-08	6.03E-08	6.02E-08	4.46E-08	2.70E-08	1.11E-06	3.61E-07	2.77E-07	4.67E-08	4.68E-08	4.67E-08	3.11E-08	1.36E-08	8.22E-07
296	561444.8	4192192.51	5.47E-07	3.85E-07	6.52E-08	6.54E-08	6.52E-08	4.84E-08	2.93E-08	1.21E-06	3.91E-07	3.00E-07	5.06E-08	5.07E-08	5.06E-08	3.37E-08	1.48E-08	8.92E-07
297	561452.75	4192250.04	6.03E-07	4.25E-07	7.19E-08	7.21E-08	7.19E-08	5.33E-08	3.23E-08	1.33E-06	4.31E-07	3.31E-07	5.58E-08	5.59E-08	5.58E-08	3.72E-08	1.63E-08	9.83E-07
298	561454.08	4192259.62	6.07E-07	4.28E-07	7.24E-08	7.26E-08	7.24E-08	5.37E-08	3.25E-08	1.34E-06	4.34E-07	3.33E-07	5.61E-08	5.63E-08	5.61E-08	3.74E-08	1.64E-08	9.90E-07
299	561455.41	4192269.21	6.09E-07	4.30E-07	7.27E-08	7.29E-08	7.27E-08	5.39E-08	3.27E-08	1.34E-06	4.36E-07	3.35E-07	5.64E-08	5.65E-08	5.64E-08	3.76E-08	1.65E-08	9.94E-07
300	561459.39	4192297.97	6.11E-07	4.30E-07	7.29E-08	7.31E-08	7.29E-08	5.40E-08	3.28E-08	1.35E-06	4.37E-07	3.35E-07	5.65E-08	5.67E-08	5.65E-08	3.77E-08	1.65E-08	9.96E-07
301	561460.71	4192307.56	6.09E-07	4.29E-07	7.27E-08	7.29E-08	7.27E-08	5.39E-08	3.27E-08	1.34E-06	4.36E-07	3.35E-07	5.64E-08	5.65E-08	5.64E-08	3.76E-08	1.65E-08	9.93E-07
302	561430.05	4192118.47	4.44E-07	3.13E-07	5.29E-08	5.31E-08	5.29E-08	3.93E-08	2.38E-08	9.78E-07	3.17E-07	2.44E-07	4.10E-08	4.12E-08	4.10E-08	2.74E-08	1.20E-08	7.24E-07
303	561437.74	4192124.18	4.41E-07	3.11E-07	5.27E-08	5.28E-08	5.27E-08	3.91E-08	2.37E-08	9.73E-07	3.16E-07	2.42E-07	4.08E-08	4.10E-08	4.08E-08	2.72E-08	1.19E-08	7.20E-07
304	561446.76	4192139.39	4.53E-07	3.19E-07	5.40E-08	5.42E-08	5.40E-08	4.01E-08	2.43E-08	9.99E-07	3.24E-07	2.49E-07	4.19E-08	4.20E-08	4.19E-08	2.79E-08	1.22E-08	7.39E-07
305	561448.07	4192148.89	4.67E-07	3.29E-07	5.57E-08	5.58E-08	5.57E-08	4.13E-08	2.50E-08	1.03E-06	3.34E-07	2.56E-07	4.32E-08	4.33E-08	4.32E-08	2.88E-08	1.26E-08	7.61E-07
306	561449.38	4192158.38	4.80E-07	3.39E-07	5.73E-08	5.75E-08	5.73E-08	4.25E-08	2.58E-08	1.06E-06	3.43E-07	2.64E-07	4.44E-08	4.46E-08	4.44E-08	2.96E-08	1.30E-08	7.83E-07
307	561450.7	4192167.88	4.94E-07	3.48E-07	5.90E-08	5.91E-08	5.90E-08	4.37E-08	2.65E-08	1.09E-06	3.53E-07	2.71E-07	4.57E-08	4.58E-08	4.57E-08	3.05E-08	1.33E-08	8.06E-07
308	561462.52	4192253.34	5.81E-07	4.09E-07	6.93E-08	6.95E-08	6.93E-08	5.14E-08	3.11E-08	1.28E-06	4.15E-07	3.19E-07	5.37E-08	5.39E-08	5.37E-08	3.58E-08	1.57E-08	9.47E-07
309	561463.83	4192262.83	5.84E-07	4.12E-07	6.97E-08	6.99E-08	6.97E-08	5.17E-08	3.13E-08	1.29E-06	4.18E-07	3.21E-07	5.40E-08	5.42E-08	5.40E-08	3.60E-08	1.58E-08	9.52E-07
310	561465.15	4192272.33	5.86E-07	4.13E-07	6.99E-08	7.01E-08	6.99E-08	5.18E-08	3.14E-08	1.29E-06	4.19E-07	3.22E-07	5.42E-08	5.44E-08	5.42E-08	3.61E-08	1.58E-08	9.55E-07
311	561466.46	4192281.82	5.87E-07	4.14E-07	7.00E-08	7.02E-08	7.00E-08	5.19E-08	3.15E-08	1.29E-06	4.20E-07	3.22E-07	5.43E-08	5.44E-08	5.43E-08	3.62E-08	1.58E-08	9.57E-07
312	561467.77	4192291.32	5.86E-07	4.13E-07	7.00E-08	7.02E-08	7.00E-08	5.19E-08	3.15E-08	1.29E-06	4.19E-07	3.22E-07	5.43E-08	5.44E-08	5.43E-08	3.62E-08	1.58E-08	9.56E-07
313	561469.09	4192300.81	5.85E-07	4.13E-07	6.98E-08	7.00E-08	6.98E-08	5.18E-08	3.14E-08	1.29E-06	4.19E-07	3.21E-07	5.42E-08	5.43E-08	5.42E-08	3.61E-08	1.58E-08	9.55E-07
314	561470.4	4192310.31	5.83E-07	4.11E-07	6.96E-08	6.98E-08	6.96E-08	5.16E-08	3.13E-08	1.29E-06	4.17E-07	3.20E-07	5.40E-08	5.41E-08	5.40E-08	3.60E-08	1.58E-08	9.52E-07
315	561431.15	4192107.81	4.26E-07	3.00E-07	5.08E-08	5.09E-08	5.08E-08	3.77E-08	2.28E-08	9.39E-07	3.04E-07	2.34E-07	3.94E-08	3.95E-08	3.94E-08	2.63E-08	1.15E-08	6.94E-07
316	561438.78	4192113.47	4.23E-07	2.98E-07	5.05E-08	5.07E-08	5.05E-08	3.75E-08	2.27E-08	9.34E-07	3.03E-07	2.33E-07	3.92E-08	3.93E-08	3.92E-08	2.61E-08	1.14E-08	6.90E-07
317	561446.41	4192119.14	4.21E-07	2.97E-07	5.03E-08	5.04E-08	5.03E-08	3.73E-08	2.26E-08	9.30E-07	3.01E-07	2.32E-07	3.90E-08	3.91E-08	3.90E-08	2.60E-08	1.14E-08	6.87E-07
318	561455.35	4192134.21	4.32E-07	3.05E-07	5.16E-08	5.17E-08	5.16E-08	3.83E-08	2.32E-08	9.54E-07	3.09E-07	2.38E-07	4.00E-08	4.01E-08	4.00E-08	2.67E-08	1.17E-08	7.05E-07
319	561456.65	4192143.62	4.45E-07	3.14E-07	5.31E-08	5.33E-08	5.31E-08	3.94E-08	2.39E-08	9.82E-07	3.18E-07	2.45E-07	4.12E-08	4.13E-08	4.12E-08	2.75E-08	1.20E-08	7.26E-07
320	561457.95	4192153.03	4.58E-07	3.23E-07	5.47E-08	5.48E-08	5.47E-08	4.05E-08	2.46E-08	1.01E-06	3.28E-07	2.52E-07	4.24E-08	4.25E-08	4.24E-08	2.83E-08	1.24E-08	7.47E-07
321	561464.46	4192200.1	5.19E-07	3.66E-07	6.20E-08	6.22E-08	6.20E-08	4.60E-08	2.79E-08	1.15E-06	3.72E-07	2.85E-07	4.81E-08	4.82E-08	4.81E-08	3.20E-08	1.40E-08	8.47E-07
322	561465.76	4192209.51	5.29E-07	3.73E-07	6.32E-08	6.33E-08	6.32E-08	4.68E-08	2.84E-08	1.17E-06	3.79E-07	2.91E-07	4.90E-08	4.91E-08	4.90E-08	3.27E-08	1.43E-08	8.63E-07
323	561467.07	4192218.92	5.38E-07	3.79E-07	6.42E-08	6.44E-08	6.42E-08	4.76E-08	2.89E-08	1.19E-06	3.85E-07	2.96E-07	4.98E-08	4.99E-08	4.98E-08	3.32E-08	1.45E-08	8.78E-07
324	561472.28	4192256.57	5.60E-07	3.95E-07	6.68E-08	6.70E-08	6.68E-08	4.95E-08	3.00E-08	1.23E-06	4.00E-07	3.07E-07	5.18E-08	5.19E-08	5.18E-08	3.45E-08	1.51E-08	9.13E-07
325	561473.58	4192265.98	5.62E-07	3.96E-07	6.71E-08	6.73E-08	6.71E-08	4.97E-08	3.02E-08	1.24E-06	4.02E-07	3.09E-07	5.20E-08	5.22E-08	5.20E-08	3.47E-08	1.52E-08	9.17E-07
326	561474.88	4192275.4	5.63E-07	3.97E-07	6.72E-08	6.74E-08	6.72E-08	4.99E-08	3.02E-08	1.24E-06	4.03E-07	3.09E-07	5.21E-08	5.23E-08	5.21E-08	3.48E-08	1.52E-08	9.19E-07
327	561476.18	4192284.81	5.64E-07	3.97E-07	6.73E-08	6.74E-08	6.73E-08	4.99E-08	3.02E-08	1.24E-06	4.03E-07	3.10E-07	5.22E-08	5.23E-08	5.22E-08	3.48E-08	1.52E-08	9.19E-07
328	561477.48	4192294.22	5.63E-07	3.97E-07	6.72E-08	6.74E-08	6.72E-08	4.98E-08	3.02E-08	1.24E-06	4.03E-07	3.09E-07	5.21E-08	5.22E-08	5.21E-08	3.47E-08	1.52E-08	9.18E-07
329	561478.79	4192303.63	5.62E-07	3.96E-07	6.70E-08	6.72E-08	6.70E-08	4.97E-08	3.01E-08	1.24E-06	4.02E-07	3.08E-07	5.20E-08	5.21E-08	5.20E-08	3.46E-08	1.52E-08	9.16E-07
330	561480.09	4192313.05	5.59E-07	3.94E-07	6.67E-08	6.69E-08	6.67E-08	4.95E-08	3.00E-08	1.23E-06	4.00E-07	3.07E-07	5.18E-08	5.19E-08	5.18E-08	3.45E-08	1.51E-08	9.12E-07
331	561432.37	4192097.23	4.09E-07	2.88E-07	4.88E-08	4.89E-08	4.88E-08	3.62E-08	2.19E-08	9.02E-07	2.92E-07	2.25E-07	3.78E-08	3.79E-08	3.78E-08	2.52E-08	1.10E-08	6.67E-07
332	561439.94	4192102.85	4.06E-07	2.86E-07	4.85E-08	4.86E-08	4.85E-08	3.60E-08	2.18E-08	8.96E-07	2.91E-07	2.23E-07	3.76E-08	3.77E-08	3.76E-08	2.51E-08	1.10E-08	6.63E-07
333	561447.51	4192108.47	4.05E-07	2.85E-07	4.83E-08	4.84E-08	4.83E-08	3.58E-08	2.17E-08	8.92E-07	2.89E-07	2.22E-07	3.74E-08	3.75E-08	3.74E-08	2.50E-08	1.09E-08	6.60E-07
334	561455.08	4192114.08	4.03E-07	2.84E-07	4.81E-08	4.82E-08	4.81E-08	3.57E-08	2.16E-08	8.89E-07	2.88E-07	2.21E-07	3.73E-08	3.74E-08	3.73E-08	2.49E-08	1.09E-08	6.57E-07
335	561463.94	4192129.04	4.14E-07	2.92E-07	4.93E-08	4.95E-08	4.93E-08	3.66E-08	2.22E-08	9.12E-07	2.96E-07	2.27E-07	3.83E-08	3.84E-08	3.83E-08	2.55E-08	1.12E-08	6.75E-07
336	561470.4	4192175.72	4.74E-07	3.34E-07	5.66E-08	5.68E-08	5.66E-08	4.20E-08	2.55E-08	1.05E-06	3.39E-07	2.61E-07	4.39E-08	4.40E-08	4.39E-08	2.93E-08	1.28E-08	7.74E-07
337	561472.98	4192194.39	4.96E-07	3.50E-07	5.92E-08	5.94E-08	5.92E-08	4.39E-08	2.66E-08	1.09E-06	3.55E-07	2.73E-07	4.59E-08	4.61E-08	4.59E-08	3.06E-08	1.34E-08	8.09E-07
338	561474.27	4192203.73	5.06E-07	3.57E-07	6.04E-08	6.06E-08	6.04E-08	4.48E-08	2.71E-08	1.12E-06	3.62E-07	2.78E-07	4.68E-08	4.70E-08	4.68E-08	3.12E-08	1.37E-08	8.25E-07
339	561475.56	4192213.07	5.15E-07	3.63E-07	6.14E-08	6.16E-08	6.14E-08	4.56E-08	2.76E-08	1.14E-06	3.68E-07	2.83E-07	4.76E-08	4.78E-08	4.76E-08	3.18E-08	1.39E-08	8.40E-07
340	561476.86	4192222.4	5.22E-07	3.68E-07	6.23E-08	6.25E-08	6.23E-08	4.62E-08	2.80E-08	1.15E-06	3.73E-07	2.87E-07	4.83E-08	4.85E-08	4.83E-08	3.22E-08	1.41E-08	8.52E-07
341	561482.02	4192259.75	5.40E-07	3.81E-07	6.44E-08	6.46E-08	6.44E-08	4.78E-08	2.90E-08	1.19E-06	3.86E-07	2.97E-07	5.00E-08	5.01E-08	5.00E-08	3.33E-08	1.46E-08	8.81E-07
342	561483.31	4192269.09	5.42E-07	3.82E-07	6.46E-08	6.48E-08	6.46E-08	4.79E-08	2.91E-08	1.19E-06	3.87E-07	2.97E-07	5.01E-08	5.02E-08	5.01E-08	3.34E-08	1.46E-08	8.83E-07
343	561484.61	4192278.42	5.42E-07	3.82E-07	6.47E-08	6.49E-08	6.47E-08	4.80E-08	2.91E-08	1.20E-06	3.88E-07	2.98E-07	5.02E-08	5.03E-08	5.02E-08	3.34E-08	1.46E-08	8.84E-07
344	561485.9	4192287.76	5.42E-07	3.82E-07	6.47E-08	6.48E-08	6.47E-08	4.80E-08	2.91E-08	1.20E-06	3.88E-07	2.98E-07	5.01E-08	5.03E-08	5.01E-08	3.34E-08	1.46E-08	8.84E-07
345	561487.19	4192297.1	5.41E-07	3.81E-07	6.45E-08	6.47E-08	6.45E-08	4.79E-08	2.90E-08	1.19E-06	3.87E-07	2.97E-07	5.00E-08	5.02E-08	5.00E-08	3.34E-08	1.46E-08	8.82E-07
346	561488.48	4192306.43	5.39E-07	3.80E-07	6.43E-08	6.45E-08	6.43E-08	4.77E-08	2.89E-08	1.19E-06	3.85E-07	2.96E-07	4.99E-08	5.00E-08	4.99E-08	3.33E-08	1.46E-08	8.79E-07
347	561489.77	4192315.77	5.37E-07	3.78E-07	6.40E-08	6.42E-08	6.40E-08	4.75E-08	2.88E-08	1.18E-06	3.84E-07	2.95E-07	4.97E-08	4.98E-08	4.97E-08	3.31E-08	1.45E-08	8.75E-07
348	561439.89	4192091.33	3.91E-07	2.76E-07	4.67E-08	4.68E-08	4.67E-08	3.46E-08	2.10E-08	8.62E-07	2.80E-07	2.15E-07	3.62E-08	3.63E-08	3.62E-08	2.41E-08	1.06E-08	6.38E-07
349	561447.73	4192097.15	3.89E-07	2.74E-07	4.64E-08	4.65E-08	4.64E-08	3.44E-08	2.09E-08	8.57E-07	2.78E-07	2.14E-07	3.60E-08	3.61E-08	3.60E-08	2.40E-08	1.05E-08	6.34E-07
350	561455.57	4192102.97	3.87E-07	2.73E-07	4.62E-08	4.63E-08	4.62E-08	3.43E-08	2.08E-08	8.54E-07	2.77E-07	2.13E-07	3.58E-08	3.59E-08	3.58E-08	2.39E-08	1.05E-08	6.31E-07
351	561463.41	4192108.78	3.86E-07	2.72E-07	4.60E-08	4.62E-08	4.60E-08	3.41E-08	2.07E-08	8.51E-07	2.76E-07	2.12E-07	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	6.29E-07
352	561476.6	4192153.28	4.32E-07	3.05E-07	5.15E-08	5.17E-08	5.15E-08	3.82E-08	2.32E-08	9.53E-07	3.09E-07	2.37E-07	4.00E-08	4.01E-08	4.00E-08	2.66E-08	1.17E-08	7.05E-07
353	561477.94	4192162.95	4.44E-07	3.13E-07	5.30E-08	5.31E-08	5.30E-08	3.93E-08	2.38E-08	9.79E-07	3.17E-07	2.44E-07	4.11E-08	4.12E-08	4.11E-08	2.74E-08	1.20E-08	7.24E-07
354	561479.28	4192172.62	4.56E-07	3.22E-07	5.45E-08	5.46E-08	5.45E-08	4.04E-08	2.45E-08	1.01E-06	3.26E-07	2.51E-07	4.22E-08	4.23E-08	4.22E-08	2.82E-08	1.23E-08	7.44E-07
355	561483.29	4192201.63	4.87E-07	3.44E-07	5.82E-08	5.83E-08	5.82E-08	4.31E-08	2.61E-08	1.08E-06	3.49E-07	2.68E-07	4.51E-08	4.52E-08	4.51E-08	3.01E-08	1.32E-08	7.95E-07
356	561484.63	4192211.3	4.96E-07	3.50E-07	5.92E-08	5.93E-08	5.92E-08	4.39E-08	2.66E-08	1.09E-06	3.55E-07	2.72E-07	4.59E-08	4.60E-08	4.59E-08	3.06E-08	1.34E-08	8.09E-07
357	561485.97	4192220.97	5.03E-07	3.55E-07	6.01E-08	6.02E-08	6.01E-08	4.45E-08	2.70E-08	1.11E-06	3.60E-07	2.76E-07	4.66E-08	4.67E-08	4.66E-08	3.11E-08	1.36E-08	8.21E-07
358	561487.3	4192230.64	5.09E-07	3.59E-07	6.08E-08	6.10E-08	6.08E-08	4.51E-08	2.73E-08	1.12E-06	3.64E-07	2.80E-07	4.71E-08	4.73E-08	4.71E-08	3.14E-08	1.38E-08	8.31E-07
359	561491.32	4192259.65	5.20E-07	3.67E-07	6.21E-08	6.23E-08	6.21E-08	4.61E-08	2.79E-08	1.15E-06	3.72E-07	2.86E-07	4.82E-08	4.83E-08	4.82E-08	3.21E-08	1.41E-08	8.49E-07
360	561492.66	4192269.32	5.22E-07	3.68E-07	6.23E-08	6.24E-08	6.23E-08	4.62E-08	2.80E-08	1.15E-06	3.73E-07	2.87E-07	4.83E-08	4.84E-08	4.83E-08	3.22E-08	1.41E-08	8.51E-07
361	561493.99	4192278.99	5.22E-07	3.68E-07	6.23E-08	6.25E-08	6.23E-08	4.62E-08	2.80E-08	1.15E-06	3.73E-07	2.87E-07	4.83E-08	4.84E-08	4.83E-08	3.22E-08	1.41E-08	8.51E-07
362	561495.33	4192288.66	5.21E-07	3.68E-07	6.22E-08	6.24E-08	6.22E-08	4.61E-08	2.80E-08	1.15E-06	3.73E-07	2.86E-07	4.83E-08	4.84E-08	4.83E-08	3.22E-08	1.41E-08	8.51E-07
363	561496.67	4192298.33	5.20E-07	3.67E-07	6.21E-08	6.22E-08	6.21E-08	4.60E-08	2.79E-08	1.15E-06	3.72E-07	2.86E-07	4.81E-08	4.83E-08	4.81E-08	3.21E-08	1.40E-08	8.48E-07
364	561498.01	4192308	5.18E-07	3.65E-07	6.18E-08	6.20E-08	6.18E-08	4.58E-08	2.78E-08	1.14E-06	3.70E-07	2.85E-07	4.79E-08	4.81E-08	4.79E-08	3.20E-08	1.40E-08	8.45E-07

365	561499.34	4192317.67	5.15E-07	3.63E-07	6.15E-08	6.17E-08	6.15E-08	4.56E-08	2.76E-08	1.14E-06	3.69E-07	2.83E-07	4.77E-08	4.78E-08	4.77E-08	3.18E-08	1.39E-08	8.41E-07
366	561409.9	4192057.6	3.94E-07	2.77E-07	4.70E-08	4.71E-08	4.70E-08	3.48E-08	2.11E-08	8.68E-07	2.82E-07	2.16E-07	3.64E-08	3.65E-08	3.64E-08	2.43E-08	1.06E-08	6.42E-07
367	561433.22	4192074.9	3.79E-07	2.67E-07	4.53E-08	4.54E-08	4.53E-08	3.36E-08	2.04E-08	8.37E-07	2.71E-07	2.08E-07	3.51E-08	3.52E-08	3.51E-08	2.34E-08	1.02E-08	6.19E-07
368	561440.99	4192080.67	3.76E-07	2.65E-07	4.49E-08	4.50E-08	4.49E-08	3.33E-08	2.02E-08	8.30E-07	2.69E-07	2.07E-07	3.48E-08	3.49E-08	3.48E-08	2.32E-08	1.02E-08	6.14E-07
369	561448.76	4192086.44	3.74E-07	2.64E-07	4.46E-08	4.48E-08	4.46E-08	3.31E-08	2.01E-08	8.25E-07	2.67E-07	2.05E-07	3.46E-08	3.47E-08	3.46E-08	2.31E-08	1.01E-08	6.10E-07
370	561456.54	4192092.2	3.72E-07	2.62E-07	4.44E-08	4.45E-08	4.44E-08	3.29E-08	2.00E-08	8.21E-07	2.66E-07	2.04E-07	3.44E-08	3.45E-08	3.44E-08	2.30E-08	1.01E-08	6.07E-07
371	561464.31	4192097.97	3.71E-07	2.61E-07	4.42E-08	4.44E-08	4.42E-08	3.28E-08	1.99E-08	8.18E-07	2.65E-07	2.04E-07	3.43E-08	3.44E-08	3.43E-08	2.29E-08	1.00E-08	6.05E-07
372	561482.51	4192128.68	3.91E-07	2.76E-07	4.67E-08	4.68E-08	4.67E-08	3.46E-08	2.10E-08	8.62E-07	2.80E-07	2.15E-07	3.62E-08	3.63E-08	3.62E-08	2.41E-08	1.06E-08	6.38E-07
373	561483.83	4192138.26	4.02E-07	2.84E-07	4.80E-08	4.81E-08	4.80E-08	3.56E-08	2.16E-08	8.87E-07	2.88E-07	2.21E-07	3.72E-08	3.73E-08	3.72E-08	2.48E-08	1.09E-08	6.56E-07
374	561485.16	4192147.85	4.14E-07	2.92E-07	4.94E-08	4.95E-08	4.94E-08	3.66E-08	2.22E-08	9.12E-07	2.96E-07	2.27E-07	3.83E-08	3.84E-08	3.83E-08	2.55E-08	1.12E-08	6.75E-07
375	561486.48	4192157.44	4.25E-07	2.99E-07	5.07E-08	5.08E-08	5.07E-08	3.76E-08	2.28E-08	9.37E-07	3.04E-07	2.33E-07	3.93E-08	3.94E-08	3.93E-08	2.62E-08	1.15E-08	6.93E-07
376	561487.81	4192167.02	4.36E-07	3.07E-07	5.20E-08	5.22E-08	5.20E-08	3.86E-08	2.34E-08	9.62E-07	3.12E-07	2.39E-07	4.03E-08	4.05E-08	4.03E-08	2.69E-08	1.18E-08	7.11E-07
377	561489.14	4192176.61	4.47E-07	3.15E-07	5.34E-08	5.35E-08	5.34E-08	3.96E-08	2.40E-08	9.86E-07	3.20E-07	2.46E-07	4.14E-08	4.15E-08	4.14E-08	2.76E-08	1.21E-08	7.29E-07
378	561493.12	4192205.37	4.75E-07	3.35E-07	5.67E-08	5.68E-08	5.67E-08	4.20E-08	2.55E-08	1.05E-06	3.40E-07	2.61E-07	4.40E-08	4.41E-08	4.40E-08	2.93E-08	1.28E-08	7.75E-07
379	561494.44	4192214.96	4.83E-07	3.40E-07	5.76E-08	5.77E-08	5.76E-08	4.27E-08	2.59E-08	1.06E-06	3.45E-07	2.65E-07	4.46E-08	4.48E-08	4.46E-08	2.98E-08	1.30E-08	7.87E-07
380	561495.77	4192224.54	4.89E-07	3.45E-07	5.83E-08	5.85E-08	5.83E-08	4.33E-08	2.62E-08	1.08E-06	3.50E-07	2.68E-07	4.52E-08	4.54E-08	4.52E-08	3.02E-08	1.32E-08	7.97E-07
381	561497.09	4192234.13	4.94E-07	3.48E-07	5.90E-08	5.91E-08	5.90E-08	4.37E-08	2.65E-08	1.09E-06	3.53E-07	2.71E-07	4.57E-08	4.58E-08	4.57E-08	3.05E-08	1.33E-08	8.06E-07
382	561498.42	4192243.72	4.98E-07	3.51E-07	5.94E-08	5.96E-08	5.94E-08	4.41E-08	2.67E-08	1.10E-06	3.56E-07	2.74E-07	4.61E-08	4.62E-08	4.61E-08	3.07E-08	1.35E-08	8.12E-07
383	561499.75	4192253.3	5.01E-07	3.53E-07	5.98E-08	5.99E-08	5.98E-08	4.43E-08	2.69E-08	1.10E-06	3.58E-07	2.75E-07	4.64E-08	4.65E-08	4.64E-08	3.09E-08	1.35E-08	8.17E-07
384	561501.07	4192262.89	5.03E-07	3.54E-07	6.00E-08	6.01E-08	6.00E-08	4.45E-08	2.70E-08	1.11E-06	3.59E-07	2.76E-07	4.65E-08	4.66E-08	4.65E-08	3.10E-08	1.36E-08	8.20E-07
385	561502.4	4192272.48	5.03E-07	3.55E-07	6.00E-08	6.02E-08	6.00E-08	4.45E-08	2.70E-08	1.11E-06	3.60E-07	2.76E-07	4.66E-08	4.67E-08	4.66E-08	3.10E-08	1.36E-08	8.21E-07
386	561503.73	4192282.06	5.03E-07	3.54E-07	6.00E-08	6.02E-08	6.00E-08	4.45E-08	2.70E-08	1.11E-06	3.60E-07	2.76E-07	4.65E-08	4.67E-08	4.65E-08	3.10E-08	1.36E-08	8.20E-07
387	561505.05	4192291.65	5.02E-07	3.54E-07	5.99E-08	6.01E-08	5.99E-08	4.44E-08	2.69E-08	1.11E-06	3.59E-07	2.76E-07	4.65E-08	4.66E-08	4.65E-08	3.10E-08	1.36E-08	8.19E-07
388	561506.38	4192301.24	5.00E-07	3.53E-07	5.97E-08	5.99E-08	5.97E-08	4.43E-08	2.68E-08	1.10E-06	3.58E-07	2.75E-07	4.63E-08	4.64E-08	4.63E-08	3.09E-08	1.35E-08	8.16E-07
389	561507.71	4192310.83	4.98E-07	3.51E-07	5.94E-08	5.96E-08	5.94E-08	4.41E-08	2.67E-08	1.10E-06	3.56E-07	2.74E-07	4.61E-08	4.62E-08	4.61E-08	3.07E-08	1.35E-08	8.12E-07
390	561509.03	4192320.41	4.95E-07	3.49E-07	5.91E-08	5.93E-08	5.91E-08	4.38E-08	2.66E-08	1.09E-06	3.54E-07	2.72E-07	4.58E-08	4.59E-08	4.58E-08	3.06E-08	1.34E-08	8.08E-07
391	561411.35	4192047.2	3.81E-07	2.69E-07	4.55E-08	4.56E-08	4.55E-08	3.37E-08	2.04E-08	8.40E-07	2.72E-07	2.09E-07	3.53E-08	3.54E-08	3.53E-08	2.35E-08	1.03E-08	6.21E-07
392	561419.06	4192052.92	3.75E-07	2.64E-07	4.48E-08	4.49E-08	4.48E-08	3.32E-08	2.01E-08	8.27E-07	2.68E-07	2.06E-07	3.47E-08	3.48E-08	3.47E-08	2.31E-08	1.01E-08	6.12E-07
393	561426.77	4192058.64	3.70E-07	2.61E-07	4.42E-08	4.43E-08	4.42E-08	3.28E-08	1.99E-08	8.17E-07	2.65E-07	2.03E-07	3.43E-08	3.44E-08	3.43E-08	2.28E-08	1.00E-08	6.04E-07
394	561434.48	4192064.36	3.66E-07	2.58E-07	4.37E-08	4.38E-08	4.37E-08	3.24E-08	1.96E-08	8.08E-07	2.62E-07	2.01E-07	3.39E-08	3.40E-08	3.39E-08	2.26E-08	9.89E-09	5.97E-07
395	561442.19	4192070.08	3.63E-07	2.56E-07	4.33E-08	4.34E-08	4.33E-08	3.21E-08	1.95E-08	8.00E-07	2.59E-07	1.99E-07	3.36E-08	3.37E-08	3.36E-08	2.24E-08	9.80E-09	5.92E-07
396	561449.9	4192075.8	3.60E-07	2.54E-07	4.30E-08	4.31E-08	4.30E-08	3.19E-08	1.93E-08	7.94E-07	2.58E-07	1.98E-07	3.33E-08	3.34E-08	3.33E-08	2.22E-08	9.73E-09	5.87E-07
397	561457.61	4192081.52	3.58E-07	2.52E-07	4.27E-08	4.29E-08	4.27E-08	3.17E-08	1.92E-08	7.90E-07	2.56E-07	1.97E-07	3.31E-08	3.32E-08	3.31E-08	2.21E-08	9.67E-09	5.84E-07
398	561465.32	4192087.24	3.57E-07	2.51E-07	4.26E-08	4.27E-08	4.26E-08	3.16E-08	1.91E-08	7.87E-07	2.55E-07	1.96E-07	3.30E-08	3.31E-08	3.30E-08	2.20E-08	9.63E-09	5.82E-07
399	561473.04	4192092.96	3.56E-07	2.51E-07	4.24E-08	4.25E-08	4.24E-08	3.15E-08	1.91E-08	7.84E-07	2.54E-07	1.95E-07	3.29E-08	3.30E-08	3.29E-08	2.19E-08	9.60E-09	5.80E-07
400	561489.77	4192113.91	3.64E-07	2.57E-07	4.35E-08	4.36E-08	4.35E-08	3.22E-08	1.95E-08	8.03E-07	2.60E-07	2.00E-07	3.37E-08	3.38E-08	3.37E-08	2.25E-08	9.84E-09	5.94E-07
401	561491.09	4192123.42	3.75E-07	2.64E-07	4.47E-08	4.48E-08	4.47E-08	3.32E-08	2.01E-08	8.27E-07	2.68E-07	2.06E-07	3.47E-08	3.48E-08	3.47E-08	2.31E-08	1.01E-08	6.11E-07
402	561492.4	4192132.93	3.86E-07	2.72E-07	4.60E-08	4.61E-08	4.60E-08	3.41E-08	2.07E-08	8.50E-07	2.76E-07	2.12E-07	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	6.29E-07
403	561493.72	4192142.44	3.96E-07	2.79E-07	4.73E-08	4.74E-08	4.73E-08	3.51E-08	2.13E-08	8.74E-07	2.83E-07	2.18E-07	3.67E-08	3.68E-08	3.67E-08	2.45E-08	1.07E-08	6.46E-07
404	561495.03	4192151.95	4.07E-07	2.87E-07	4.86E-08	4.87E-08	4.86E-08	3.60E-08	2.18E-08	8.98E-07	2.91E-07	2.24E-07	3.77E-08	3.78E-08	3.77E-08	2.51E-08	1.10E-08	6.64E-07
405	561496.35	4192161.46	4.18E-07	2.94E-07	4.98E-08	5.00E-08	4.98E-08	3.70E-08	2.24E-08	9.21E-07	2.99E-07	2.29E-07	3.86E-08	3.88E-08	3.86E-08	2.58E-08	1.13E-08	6.81E-07
406	561497.67	4192170.97	4.28E-07	3.02E-07	5.11E-08	5.12E-08	5.11E-08	3.79E-08	2.30E-08	9.44E-07	3.06E-07	2.35E-07	3.96E-08	3.97E-08	3.96E-08	2.64E-08	1.16E-08	6.98E-07
407	561498.98	4192180.48	4.38E-07	3.09E-07	5.23E-08	5.24E-08	5.23E-08	3.88E-08	2.35E-08	9.66E-07	3.13E-07	2.41E-07	4.05E-08	4.06E-08	4.05E-08	2.70E-08	1.18E-08	7.14E-07
408	561502.93	4192209.02	4.63E-07	3.26E-07	5.52E-08	5.54E-08	5.52E-08	4.10E-08	2.48E-08	1.02E-06	3.31E-07	2.54E-07	4.28E-08	4.29E-08	4.28E-08	2.85E-08	1.25E-08	7.55E-07
409	561504.24	4192218.53	4.69E-07	3.31E-07	5.60E-08	5.62E-08	5.60E-08	4.15E-08	2.52E-08	1.03E-06	3.36E-07	2.58E-07	4.34E-08	4.35E-08	4.34E-08	2.90E-08	1.27E-08	7.65E-07
410	561505.56	4192228.04	4.75E-07	3.35E-07	5.66E-08	5.68E-08	5.66E-08	4.20E-08	2.55E-08	1.05E-06	3.39E-07	2.61E-07	4.39E-08	4.40E-08	4.39E-08	2.93E-08	1.28E-08	7.74E-07
411	561506.88	4192237.55	4.79E-07	3.38E-07	5.72E-08	5.73E-08	5.72E-08	4.24E-08	2.57E-08	1.06E-06	3.43E-07	2.63E-07	4.43E-08	4.45E-08	4.43E-08	2.96E-08	1.29E-08	7.81E-07
412	561508.19	4192247.06	4.82E-07	3.40E-07	5.76E-08	5.77E-08	5.76E-08	4.27E-08	2.59E-08	1.06E-06	3.45E-07	2.65E-07	4.46E-08	4.48E-08	4.46E-08	2.98E-08	1.30E-08	7.87E-07
413	561509.51	4192256.57	4.84E-07	3.41E-07	5.78E-08	5.80E-08	5.78E-08	4.29E-08	2.60E-08	1.07E-06	3.46E-07	2.66E-07	4.48E-08	4.49E-08	4.48E-08	2.99E-08	1.31E-08	7.90E-07
414	561510.82	4192266.08	4.85E-07	3.42E-07	5.79E-08	5.81E-08	5.79E-08	4.30E-08	2.60E-08	1.07E-06	3.47E-07	2.67E-07	4.49E-08	4.50E-08	4.49E-08	2.99E-08	1.31E-08	7.92E-07
415	561512.14	4192275.59	4.86E-07	3.42E-07	5.79E-08	5.81E-08	5.79E-08	4.30E-08	2.60E-08	1.07E-06	3.47E-07	2.67E-07	4.49E-08	4.51E-08	4.49E-08	3.00E-08	1.31E-08	7.92E-07
416	561513.45	4192285.1	4.85E-07	3.42E-07	5.79E-08	5.80E-08	5.79E-08	4.29E-08	2.60E-08	1.07E-06	3.47E-07	2.66E-07	4.49E-08	4.50E-08	4.49E-08	2.99E-08	1.31E-08	7.91E-07
417	561514.77	4192294.61	4.84E-07	3.41E-07	5.77E-08	5.79E-08	5.77E-08	4.28E-08	2.60E-08	1.07E-06	3.46E-07	2.66E-07	4.48E-08	4.49E-08	4.48E-08	2.98E-08	1.31E-08	7.89E-07
418	561516.09	4192304.12	4.82E-07	3.40E-07	5.75E-08	5.77E-08	5.75E-08	4.26E-08	2.59E-08	1.06E-06	3.45E-07	2.65E-07	4.46E-08	4.47E-08	4.46E-08	2.97E-08	1.30E-08	7.86E-07
419	561517.4	4192313.63	4.79E-07	3.38E-07	5.72E-08	5.74E-08	5.72E-08	4.24E-08	2.57E-08	1.06E-06	3.43E-07	2.63E-07	4.44E-08	4.45E-08	4.44E-08	2.96E-08	1.29E-08	7.82E-07
420	561518.72	4192323.14	4.76E-07	3.36E-07	5.68E-08	5.70E-08	5.68E-08	4.21E-08	2.55E-08	1.05E-06	3.41E-07	2.62E-07	4.41E-08	4.42E-08	4.41E-08	2.94E-08	1.29E-08	7.77E-07
421	560985.67	4192041.55	1.48E-06	1.04E-06	1.77E-07	1.77E-07	1.77E-07	1.31E-07	7.94E-08	3.26E-06	1.06E-06	8.13E-07	1.37E-07	1.37E-07	1.37E-07	9.13E-08	4.00E-08	2.41E-06
422	560991.7	4192030.36	1.42E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.26E-07	7.61E-08	3.13E-06	1.02E-06	7.80E-07	1.31E-07	1.32E-07	1.31E-07	8.76E-08	3.83E-08	2.31E-06
423	560982.51	4192032.06	1.41E-06	9.92E-07	1.68E-07	1.68E-07	1.68E-07	1.25E-07	7.55E-08	3.10E-06	1.01E-06	7.73E-07	1.30E-07	1.31E-07	1.30E-07	8.68E-08	3.80E-08	2.29E-06
424	560988.58	4192020.87	1.35E-06	9.53E-07	1.61E-07	1.62E-07	1.61E-07	1.20E-07	7.25E-08	2.98E-06	9.67E-07	7.42E-07	1.25E-07	1.25E-07	1.25E-07	8.34E-08	3.65E-08	2.20E-06
425	560979.35	4192022.57	1.34E-06	9.45E-07	1.60E-07	1.60E-07	1.60E-07	1.19E-07	7.19E-08	2.96E-06	9.58E-07	7.36E-07	1.24E-07	1.24E-07	1.24E-07	8.27E-08	3.62E-08	2.19E-06
426	560985.46	4192011.38	1.29E-06	9.09E-07	1.54E-07	1.54E-07	1.54E-07	1.14E-07	6.91E-08	2.84E-06	9.22E-07	7.08E-07	1.19E-07	1.20E-07	1.19E-07	7.95E-08	3.48E-08	2.10E-06
427	560994.83	4192011	1.31E-06	9.20E-07	1.56E-07	1.56E-07	1.56E-07	1.15E-07	7.00E-08	2.88E-06	9.33E-07	7.17E-07	1.21E-07	1.21E-07	1.21E-07	8.05E-08	3.52E-08	2.13E-06
428	560976.2	4192013.08	1.28E-06	9.01E-07	1.53E-07	1.53E-07	1.53E-07	1.13E-07	6.86E-08	2.82E-06	9.14E-07	7.02E-07	1.18E-07	1.19E-07	1.18E-07	7.89E-08	3.45E-08	2.08E-06
429	560982.33	4192001.89	1.23E-06	8.68E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.61E-08	2.72E-06	8.80E-07	6.76E-07	1.14E-07	1.14E-07	1.14E-07	7.60E-08	3.33E-08	2.01E-06
430	560991.77	4192001.51	1.25E-06	8.79E-07	1.49E-07	1.49E-07	1.49E-07	1.10E-07	6.69E-08	2.75E-06	8.91E-07	6.85E-07	1.15E-07	1.16E-07	1.15E-07	7.69E-08	3.37E-08	2.03E-06
431	561001.21	4192001.13	1.26E-06	8.88E-07	1.50E-07	1.51E-07	1.50E-07	1.11E-07	6.75E-08	2.78E-06	9.01E-07	6.92E-07	1.17E-07	1.17E-07	1.17E-07	7.77E-08	3.40E-08	2.05E-06
432	560973.04	4192003.6	1.22E-06	8.61E-07	1.46E-07	1.46E-07	1.46E-07	1.08E-07	6.55E-08	2.69E-06	8.73E-07	6.71E-07	1.13E-07	1.13E-07	1.13E-07	7.53E-08	3.30E-08	1.99E-06
433	560979.2	4191992.4	1.18E-06	8.30E-07	1.41E-07	1.41E-07	1.41E-07	1.04E-07	6.32E-08	2.60E-06	8.42E-07	6.47E-07	1.09E-07	1.09E-07	1.09E-07	7.27E-08	3.18E-08	1.92E-06
434	560988.7	4191992.01	1.19E-06	8.40E-07	1.42E-07	1.43E-07	1.42E-07	1.05E-07	6.39E-08	2.63E-06	8.52E-07	6.55E-07	1.10E-07	1.11E-07	1.10E-07	7.35E-08	3.22E-08	1.94E-06
435	560998.2	4191991.63	1.20E-06	8.49E-07	1.44E-07	1.44E-07	1.44E-07	1.07E-07	6.46E-08	2.66E-06	8.61E-07	6.61E-07	1.11E-07	1.12E-07	1.11E-07	7.43E-08	3.25E-08	1.96E-06
436	560969.88	4191994.11	1.17E-06	8.24E-07	1.39E-07	1.40E-07	1.39E-07	1.03E-07	6.27E-08	2.58E-06	8.36E-07	6.42E-07	1.08E-07	1.08E-07	1.08E-07	7.21E-08	3.16E-08	1.91E-06
437	560976.08	4191982.91	1.13E-06	7.95E-07	1.35E-07	1.35E-07	1.35E-07	9.98E-08	6.05E-08	2.49E-06	8.07E-07	6.19E-07	1.04E-07	1.05E-07	1.04E-07	6.96E-08	3.05E-08	1.84E-06
438	560985.63	4191982.52	1.14E-06	8.04E-07	1.36E-07	1.37E-07	1.36E-07	1.01E-07	6.12E-08	2.52E-06	8.16E-07	6.27E-07	1.06E-07	1.06E-07	1.06E-07	7.04E-08	3.08E-08	1.86E-06
439	560995.18	4191982.14	1.15E-06	8.12E-07	1.38E-07	1.38E-07	1.38E-07	1.02E-07	6.18E-08	2.54E-06	8.24E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.11E-08	3.11E-08	1.88E-06
440	561004.73	4191981.75	1.16E-06	8.19E-07	1.39E-07	1.39E-07	1.39E-07	1.03E-07	6.23E-08	2.56E-06	8.31E-07	6.38E-07	1.08E-07	1.08E-07	1.08E-07	7.17E-08	3.14E-08	1.90E-06
441	560966.73	4191984.62	1.12E-06	7.89E-07	1.34E-07	1.34E-07	1.34E-07	9.90E-08	6.00E-08	2.47E-06	8.00E-07	6.15E-07	1.04E-07	1.04E-07	1.04E-07	6.90E-08	3.02E-08	1.83E-06
442	560972.94	4191973.42	1.08E-06	7.62E-07	1.29E-07	1.29E-07	1.29E-07	9.57E-08	5.80E-08	2.39E-06	7.73E-07	5.94E-07	1.00E-07	1.00E-07	1.00E-07	6.67E-08	2.92E-08	1.76E-06
443	560982.55	4191973.03	1.09E-06	7.71E-07	1.31E-07	1.31E-07	1.31E-07	9.68E-08	5.87E-08	2.41E-06	7.82E-07	6.01E-07	1.01E-07	1.02E-07	1.01E-07	6.75E-08	2.95E-08	1.78E-06
444	560992.15	4191972.64	1.10E-06	7.79E-07	1.32E-07	1.32E-07	1.32E-07	9.78E-08	5.93E-08	2.44E-06	7.90E-07	6.07E-07	1.02E-07	1.03E-07	1.02E-07	6.82E-08	2.98E-08	1.80E-06
445	561001.76	4191972.26	1.11E-06	7.85E-07	1.33E-07	1.33E-07	1.33E-07	9.85E-08	5.97E-08	2.46E-06	7.96E-07	6.12E-07	1.03E-07	1.03E-07	1.03E-07	6.87E-08	3.01E-08	1.82E-06
446	561011.36	4191971.87	1.12E-06	7.90E-07	1.34E-07	1.34E-07	1.34E-07	9.91E-08	6.01E-08	2.47E-06	8.01E-07	6.15E-07	1.04E-07	1.04E-07	1.04E-07	6.91E-08	3.03E-08	1.83E-06
447	560963.57	4191975.13	1.07E-06	7.56E-07	1.28E-07	1.28E-07	1.28E-07	9.50E-08	5.76E-08	2.37E-06	7.67E-07	5.89E-07	9.93E-08	9.96E-08	9.93E-08	6.62E-08	2.90E-08	1.75E-06
448	560969.66	4191963.93	1.04E-06	7.32E-07	1.24E-07	1.24E-07	1.24E-07	9.19E-08	5.57E-08	2.29E-06	7.42E-07	5.70E-07	9.60E-08	9.63E-08	9.60E-08	6.40E-08	2.80E-08	1.69E-06
449	560979.01	4191963.56	1.05E-06	7.40E-07	1.25E-07	1.26E-07	1.25E-07	9.29E-08	5.63E-08	2.31E-06	7.51E-07	5.76E-07	9.71E-08	9.74E-08	9.71E-08	6.47E-08	2.83E-08	1.71E-06
450	560988.36	4191963.18	1.06E-06	7.47E-07	1.26E-07	1.27E-07	1.26E-07	9.38E-08	5.68E-08	2.34E-06	7.58E-07	5.82E-07	9.80E-08	9.83E-08	9.80E-08	6.54E-08	2.86E-08	1.73E-06
451	560997.71	4191962.8	1.07E-06	7.53E-07	1.27E-07	1.28E-07	1.27E-07	9.45E-08	5.73E-08	2.35E-06	7.64E-07	5.86E-07	9.88E-08	9.91E-08	9.88E-08	6.59E-08	2.88E-08	1.74E-06
452	561007.06	4191962.43	1.07E-06	7.57E-07	1.28E-07	1.29E-07	1.28E-07	9.51E-08	5.76E-08	2.37E-06	7.68E-07	5.90E-07	9.94E-08	9.97E-08	9.94E-08	6.63E-08	2.90E-08	1.75E-06
453	560960.42	4191965.64	1.03E-06	7.26E-07	1.23E-07	1.23E-07	1.23E-07	9.12E-08	5.53E-08	2.27E-06	7.37E-07	5.66E-07	9.53E-08	9.56E-08	9.53E-08	6.36E-08	2.78E-08	1.68E-06
454	560966.53	4191954.44	9.98E-07	7.03E-07	1.19E-07	1.19E-07	1.19E-07	8.83E-08	5.35E-08	2.20E-06	7.13E-07	5.48E-07	9.23E-08	9.26E-08	9.23E-08	6.15E-08	2.69E-08	1.63E-06
455	560975.93	4191954.06	1.01E-06	7.11E-07	1.20E-07	1.21E-07	1.20E-07	8.92E-08	5.41E-08	2.22E-06	7.21E-07	5.54E-07	9.33E-08	9.36E-08	9.33E-08	6.22E-08	2.72E-08	1.64E-06
456	560985.34	4191953.69	1.02E-06	7.17E-07	1.21E-07	1.22E-07	1.21E-07	9.01E-08	5.46E-08	2.24E-06	7.28E-07	5.59E-07	9.42E-08	9.44E-08	9.42E-08	6.28E-08	2.75E-08	1.66E-06

457	560994.74	4191953.31	1.03E-06	7.23E-07	1.22E-07	1.23E-07	1.22E-07	9.08E-08	5.50E-08	2.26E-06	7.34E-07	5.63E-07	9.49E-08	9.52E-08	9.49E-08	6.33E-08	2.77E-08	1.67E-06
458	561004.14	4191952.93	1.03E-06	7.27E-07	1.23E-07	1.23E-07	1.23E-07	9.13E-08	5.54E-08	2.28E-06	7.38E-07	5.67E-07	9.55E-08	9.57E-08	9.55E-08	6.37E-08	2.79E-08	1.68E-06
459	561013.54	4191952.55	1.04E-06	7.31E-07	1.24E-07	1.24E-07	1.24E-07	9.17E-08	5.56E-08	2.29E-06	7.41E-07	5.69E-07	9.59E-08	9.62E-08	9.59E-08	6.39E-08	2.80E-08	1.69E-06
460	560957.26	4191956.15	9.90E-07	6.98E-07	1.18E-07	1.18E-07	1.18E-07	8.76E-08	5.31E-08	2.18E-06	7.08E-07	5.44E-07	9.16E-08	9.19E-08	9.16E-08	6.11E-08	2.67E-08	1.62E-06
461	560963.4	4191944.95	9.60E-07	6.76E-07	1.15E-07	1.15E-07	1.15E-07	8.49E-08	5.15E-08	2.12E-06	6.86E-07	5.27E-07	8.88E-08	8.90E-08	8.88E-08	5.92E-08	2.59E-08	1.57E-06
462	560972.85	4191944.57	9.70E-07	6.84E-07	1.16E-07	1.16E-07	1.16E-07	8.58E-08	5.20E-08	2.14E-06	6.94E-07	5.33E-07	8.97E-08	9.00E-08	8.97E-08	5.98E-08	2.62E-08	1.58E-06
463	560982.3	4191944.19	9.79E-07	6.90E-07	1.17E-07	1.17E-07	1.17E-07	8.66E-08	5.25E-08	2.16E-06	7.00E-07	5.38E-07	9.06E-08	9.08E-08	9.06E-08	6.04E-08	2.64E-08	1.60E-06
464	560991.76	4191943.81	9.86E-07	6.95E-07	1.18E-07	1.18E-07	1.18E-07	8.73E-08	5.29E-08	2.18E-06	7.05E-07	5.42E-07	9.13E-08	9.15E-08	9.13E-08	6.08E-08	2.66E-08	1.61E-06
465	561001.21	4191943.43	9.92E-07	6.99E-07	1.18E-07	1.19E-07	1.18E-07	8.78E-08	5.32E-08	2.19E-06	7.10E-07	5.45E-07	9.18E-08	9.21E-08	9.18E-08	6.12E-08	2.68E-08	1.62E-06
466	561010.66	4191943.05	9.96E-07	7.02E-07	1.19E-07	1.19E-07	1.19E-07	8.82E-08	5.35E-08	2.20E-06	7.13E-07	5.47E-07	9.22E-08	9.25E-08	9.22E-08	6.15E-08	2.69E-08	1.63E-06
467	561020.11	4191942.67	9.99E-07	7.04E-07	1.19E-07	1.20E-07	1.19E-07	8.84E-08	5.36E-08	2.20E-06	7.14E-07	5.49E-07	9.24E-08	9.27E-08	9.24E-08	6.16E-08	2.70E-08	1.63E-06
468	560954.1	4191946.66	9.53E-07	6.72E-07	1.14E-07	1.14E-07	1.14E-07	8.43E-08	5.11E-08	2.10E-06	6.81E-07	5.23E-07	8.82E-08	8.84E-08	8.82E-08	5.88E-08	2.57E-08	1.55E-06
469	560960.27	4191935.46	9.24E-07	6.51E-07	1.10E-07	1.11E-07	1.10E-07	8.18E-08	4.96E-08	2.04E-06	6.61E-07	5.08E-07	8.55E-08	8.57E-08	8.55E-08	5.70E-08	2.50E-08	1.51E-06
470	560969.77	4191935.08	9.34E-07	6.58E-07	1.11E-07	1.12E-07	1.11E-07	8.26E-08	5.01E-08	2.06E-06	6.68E-07	5.13E-07	8.64E-08	8.66E-08	8.64E-08	5.76E-08	2.52E-08	1.52E-06
471	560979.26	4191934.7	9.42E-07	6.64E-07	1.12E-07	1.13E-07	1.12E-07	8.34E-08	5.05E-08	2.08E-06	6.74E-07	5.18E-07	8.72E-08	8.74E-08	8.72E-08	5.81E-08	2.54E-08	1.54E-06
472	560988.76	4191934.32	9.49E-07	6.69E-07	1.13E-07	1.14E-07	1.13E-07	8.40E-08	5.09E-08	2.09E-06	6.79E-07	5.21E-07	8.78E-08	8.81E-08	8.78E-08	5.86E-08	2.56E-08	1.55E-06
473	560998.26	4191933.94	9.55E-07	6.73E-07	1.14E-07	1.14E-07	1.14E-07	8.45E-08	5.12E-08	2.11E-06	6.83E-07	5.25E-07	8.84E-08	8.86E-08	8.84E-08	5.89E-08	2.58E-08	1.56E-06
474	561007.76	4191933.55	9.59E-07	6.76E-07	1.14E-07	1.15E-07	1.14E-07	8.49E-08	5.15E-08	2.12E-06	6.86E-07	5.27E-07	8.87E-08	8.90E-08	8.87E-08	5.92E-08	2.59E-08	1.56E-06
475	561017.26	4191933.17	9.62E-07	6.78E-07	1.15E-07	1.15E-07	1.15E-07	8.51E-08	5.16E-08	2.12E-06	6.88E-07	5.28E-07	8.90E-08	8.92E-08	8.90E-08	5.93E-08	2.60E-08	1.57E-06
476	560950.95	4191937.17	9.17E-07	6.47E-07	1.09E-07	1.10E-07	1.09E-07	8.12E-08	4.92E-08	2.02E-06	6.56E-07	5.04E-07	8.49E-08	8.51E-08	8.49E-08	5.66E-08	2.48E-08	1.50E-06
477	560957.13	4191925.97	8.91E-07	6.28E-07	1.06E-07	1.07E-07	1.06E-07	7.88E-08	4.78E-08	1.96E-06	6.37E-07	4.89E-07	8.24E-08	8.26E-08	8.24E-08	5.49E-08	2.41E-08	1.45E-06
478	560966.68	4191925.59	9.00E-07	6.34E-07	1.07E-07	1.08E-07	1.07E-07	7.96E-08	4.83E-08	1.98E-06	6.43E-07	4.94E-07	8.33E-08	8.35E-08	8.33E-08	5.55E-08	2.43E-08	1.47E-06
479	560976.22	4191925.21	9.08E-07	6.40E-07	1.08E-07	1.09E-07	1.08E-07	8.03E-08	4.87E-08	2.00E-06	6.49E-07	4.99E-07	8.40E-08	8.42E-08	8.40E-08	5.60E-08	2.45E-08	1.48E-06
480	560985.76	4191924.82	9.15E-07	6.45E-07	1.09E-07	1.09E-07	1.09E-07	8.09E-08	4.91E-08	2.02E-06	6.54E-07	5.02E-07	8.46E-08	8.49E-08	8.46E-08	5.64E-08	2.47E-08	1.49E-06
481	560995.3	4191924.44	9.20E-07	6.49E-07	1.10E-07	1.10E-07	1.10E-07	8.14E-08	4.94E-08	2.03E-06	6.58E-07	5.05E-07	8.51E-08	8.54E-08	8.51E-08	5.68E-08	2.49E-08	1.50E-06
482	561004.85	4191924.06	9.24E-07	6.51E-07	1.10E-07	1.11E-07	1.10E-07	8.18E-08	4.96E-08	2.04E-06	6.61E-07	5.08E-07	8.55E-08	8.57E-08	8.55E-08	5.70E-08	2.50E-08	1.51E-06
483	561014.39	4191923.67	9.27E-07	6.53E-07	1.11E-07	1.11E-07	1.11E-07	8.20E-08	4.97E-08	2.04E-06	6.63E-07	5.09E-07	8.57E-08	8.60E-08	8.57E-08	5.72E-08	2.50E-08	1.51E-06
484	561023.93	4191923.29	9.27E-07	6.54E-07	1.11E-07	1.11E-07	1.11E-07	8.21E-08	4.98E-08	2.05E-06	6.63E-07	5.09E-07	8.58E-08	8.61E-08	8.58E-08	5.72E-08	2.51E-08	1.51E-06
485	560947.79	4191927.68	8.84E-07	6.23E-07	1.06E-07	1.06E-07	1.06E-07	7.83E-08	4.74E-08	1.95E-06	6.32E-07	4.86E-07	8.18E-08	8.21E-08	8.18E-08	5.46E-08	2.39E-08	1.44E-06
486	560941.54	4192192.34	2.81E-06	1.98E-06	3.35E-07	3.36E-07	3.35E-07	2.49E-07	1.51E-07	6.19E-06	2.01E-06	1.54E-06	2.60E-07	2.61E-07	2.60E-07	1.73E-07	7.59E-08	4.58E-06
487	560936.25	4192207.6	2.93E-06	2.06E-06	3.49E-07	3.50E-07	3.49E-07	2.59E-07	1.57E-07	6.45E-06	2.09E-06	1.61E-06	2.71E-07	2.71E-07	2.71E-07	1.80E-07	7.90E-08	4.77E-06
488	560932.95	4192223.59	3.07E-06	2.16E-06	3.66E-07	3.67E-07	3.66E-07	2.71E-07	1.65E-07	6.76E-06	2.19E-06	1.68E-06	2.84E-07	2.85E-07	2.84E-07	1.89E-07	8.28E-08	5.00E-06
489	560931.59	4192190.65	2.63E-06	1.85E-06	3.13E-07	3.14E-07	3.13E-07	2.32E-07	1.41E-07	5.79E-06	1.88E-06	1.44E-06	2.43E-07	2.44E-07	2.43E-07	1.62E-07	7.09E-08	4.28E-06
490	560938.54	4192176.79	2.54E-06	1.79E-06	3.04E-07	3.04E-07	3.04E-07	2.25E-07	1.36E-07	5.61E-06	1.82E-06	1.40E-06	2.35E-07	2.36E-07	2.35E-07	1.57E-07	6.87E-08	4.15E-06
491	560945.5	4192162.92	2.45E-06	1.73E-06	2.92E-07	2.93E-07	2.92E-07	2.17E-07	1.31E-07	5.40E-06	1.75E-06	1.34E-06	2.26E-07	2.27E-07	2.26E-07	1.51E-07	6.61E-08	3.99E-06
492	560952.46	4192149.05	2.34E-06	1.65E-06	2.79E-07	2.80E-07	2.79E-07	2.07E-07	1.26E-07	5.16E-06	1.67E-06	1.29E-06	2.17E-07	2.17E-07	2.17E-07	1.44E-07	6.32E-08	3.82E-06
493	560926.46	4192205.58	2.73E-06	1.92E-06	3.25E-07	3.26E-07	3.25E-07	2.41E-07	1.46E-07	6.02E-06	1.95E-06	1.50E-06	2.52E-07	2.53E-07	2.52E-07	1.68E-07	7.37E-08	4.45E-06
494	560923.16	4192221.57	2.85E-06	2.01E-06	3.40E-07	3.41E-07	3.40E-07	2.52E-07	1.53E-07	6.29E-06	2.04E-06	1.57E-06	2.64E-07	2.65E-07	2.64E-07	1.76E-07	7.70E-08	4.65E-06
495	560921.66	4192188.89	2.46E-06	1.74E-06	2.94E-07	2.95E-07	2.94E-07	2.18E-07	1.32E-07	5.44E-06	1.76E-06	1.35E-06	2.28E-07	2.29E-07	2.28E-07	1.52E-07	6.66E-08	4.02E-06
496	560928.36	4192175.53	2.40E-06	1.69E-06	2.86E-07	2.87E-07	2.86E-07	2.12E-07	1.29E-07	5.28E-06	1.71E-06	1.32E-06	2.22E-07	2.22E-07	2.22E-07	1.48E-07	6.47E-08	3.91E-06
497	560935.06	4192162.18	2.31E-06	1.63E-06	2.76E-07	2.77E-07	2.76E-07	2.05E-07	1.24E-07	5.10E-06	1.65E-06	1.27E-06	2.14E-07	2.15E-07	2.14E-07	1.43E-07	6.25E-08	3.77E-06
498	560941.76	4192148.83	2.23E-06	1.57E-06	2.66E-07	2.66E-07	2.66E-07	1.97E-07	1.19E-07	4.91E-06	1.59E-06	1.22E-06	2.06E-07	2.07E-07	2.06E-07	1.37E-07	6.01E-08	3.63E-06
499	560954.7	4192131.37	2.14E-06	1.51E-06	2.55E-07	2.56E-07	2.55E-07	1.89E-07	1.15E-07	4.72E-06	1.53E-06	1.18E-06	1.98E-07	1.99E-07	1.98E-07	1.32E-07	5.78E-08	3.49E-06
500	560916.66	4192203.56	2.55E-06	1.80E-06	3.05E-07	3.05E-07	3.05E-07	2.26E-07	1.37E-07	5.63E-06	1.83E-06	1.40E-06	2.36E-07	2.37E-07	2.36E-07	1.57E-07	6.89E-08	4.16E-06
501	560913.36	4192219.55	2.66E-06	1.88E-06	3.17E-07	3.18E-07	3.17E-07	2.35E-07	1.43E-07	5.87E-06	1.90E-06	1.46E-06	2.46E-07	2.47E-07	2.46E-07	1.64E-07	7.19E-08	4.34E-06
502	560912.13	4192186.35	2.32E-06	1.63E-06	2.76E-07	2.77E-07	2.76E-07	2.05E-07	1.24E-07	5.11E-06	1.66E-06	1.27E-06	2.14E-07	2.15E-07	2.14E-07	1.43E-07	6.26E-08	3.78E-06
503	560919.34	4192171.97	2.25E-06	1.59E-06	2.69E-07	2.69E-07	2.69E-07	1.99E-07	1.21E-07	4.96E-06	1.61E-06	1.24E-06	2.08E-07	2.09E-07	2.08E-07	1.39E-07	6.08E-08	3.67E-06
504	560926.56	4192157.59	2.17E-06	1.53E-06	2.59E-07	2.60E-07	2.59E-07	1.92E-07	1.16E-07	4.78E-06	1.55E-06	1.19E-06	2.01E-07	2.01E-07	2.01E-07	1.34E-07	5.86E-08	3.54E-06
505	560933.77	4192143.21	2.09E-06	1.47E-06	2.49E-07	2.50E-07	2.49E-07	1.85E-07	1.12E-07	4.60E-06	1.49E-06	1.15E-06	1.93E-07	1.94E-07	1.93E-07	1.29E-07	5.63E-08	3.40E-06
506	560947.71	4192124.41	2.00E-06	1.41E-06	2.39E-07	2.40E-07	2.39E-07	1.77E-07	1.08E-07	4.42E-06	1.43E-06	1.10E-06	1.85E-07	1.86E-07	1.85E-07	1.24E-07	5.41E-08	3.27E-06
507	560961.14	4192115.55	2.01E-06	1.42E-06	2.40E-07	2.41E-07	2.40E-07	1.78E-07	1.08E-07	4.44E-06	1.44E-06	1.10E-06	1.86E-07	1.87E-07	1.86E-07	1.24E-07	5.43E-08	3.28E-06
508	560906.87	4192201.54	2.39E-06	1.69E-06	2.86E-07	2.87E-07	2.86E-07	2.12E-07	1.28E-07	5.28E-06	1.71E-06	1.32E-06	2.22E-07	2.22E-07	2.22E-07	1.48E-07	6.47E-08	3.91E-06
509	560903.57	4192217.53	2.49E-06	1.75E-06	2.97E-07	2.98E-07	2.97E-07	2.20E-07	1.33E-07	5.49E-06	1.78E-06	1.37E-06	2.30E-07	2.31E-07	2.30E-07	1.54E-07	6.72E-08	4.06E-06
510	560902.2	4192184.59	2.18E-06	1.54E-06	2.60E-07	2.61E-07	2.60E-07	1.93E-07	1.17E-07	4.81E-06	1.56E-06	1.20E-06	2.02E-07	2.03E-07	2.02E-07	1.35E-07	5.90E-08	3.56E-06
511	560909.16	4192170.72	2.13E-06	1.50E-06	2.54E-07	2.55E-07	2.54E-07	1.88E-07	1.14E-07	4.70E-06	1.52E-06	1.17E-06	1.97E-07	1.98E-07	1.97E-07	1.31E-07	5.75E-08	3.47E-06
512	560916.12	4192156.86	2.06E-06	1.45E-06	2.46E-07	2.46E-07	2.46E-07	1.82E-07	1.10E-07	4.54E-06	1.47E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.27E-07	5.56E-08	3.36E-06
513	560923.08	4192142.99	1.99E-06	1.40E-06	2.37E-07	2.38E-07	2.37E-07	1.76E-07	1.07E-07	4.39E-06	1.42E-06	1.09E-06	1.84E-07	1.85E-07	1.84E-07	1.23E-07	5.37E-08	3.24E-06
514	560930.04	4192129.12	1.91E-06	1.35E-06	2.28E-07	2.29E-07	2.28E-07	1.69E-07	1.03E-07	4.22E-06	1.37E-06	1.05E-06	1.77E-07	1.78E-07	1.77E-07	1.18E-07	5.17E-08	3.12E-06
515	560939.99	4192117.92	1.88E-06	1.33E-06	2.24E-07	2.25E-07	2.24E-07	1.66E-07	1.01E-07	4.15E-06	1.35E-06	1.03E-06	1.74E-07	1.75E-07	1.74E-07	1.16E-07	5.08E-08	3.07E-06
516	560952.95	4192109.38	1.89E-06	1.33E-06	2.25E-07	2.26E-07	2.25E-07	1.67E-07	1.01E-07	4.17E-06	1.35E-06	1.04E-06	1.75E-07	1.75E-07	1.75E-07	1.17E-07	5.10E-08	3.08E-06
517	560965.9	4192100.85	1.89E-06	1.33E-06	2.26E-07	2.26E-07	2.26E-07	1.67E-07	1.01E-07	4.17E-06	1.35E-06	1.04E-06	1.75E-07	1.75E-07	1.75E-07	1.17E-07	5.11E-08	3.08E-06
518	560897.08	4192199.52	2.25E-06	1.59E-06	2.68E-07	2.69E-07	2.68E-07	1.99E-07	1.21E-07	4.96E-06	1.61E-06	1.24E-06	2.08E-07	2.09E-07	2.08E-07	1.39E-07	6.08E-08	3.67E-06
519	560893.78	4192215.51	2.33E-06	1.64E-06	2.78E-07	2.79E-07	2.78E-07	2.06E-07	1.25E-07	5.14E-06	1.67E-06	1.28E-06	2.16E-07	2.16E-07	2.16E-07	1.44E-07	6.30E-08	3.80E-06
520	560892.31	4192182.78	2.06E-06	1.45E-06	2.46E-07	2.46E-07	2.46E-07	1.82E-07	1.10E-07	4.54E-06	1.47E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.27E-07	5.56E-08	3.36E-06
521	560899.05	4192169.33	2.02E-06	1.42E-06	2.41E-07	2.41E-07	2.41E-07	1.78E-07	1.08E-07	4.45E-06	1.44E-06	1.11E-06	1.87E-07	1.87E-07	1.87E-07	1.24E-07	5.45E-08	3.29E-06
522	560905.8	4192155.88	1.96E-06	1.38E-06	2.33E-07	2.34E-07	2.33E-07	1.73E-07	1.05E-07	4.32E-06	1.40E-06	1.07E-06	1.81E-07	1.82E-07	1.81E-07	1.21E-07	5.28E-08	3.19E-06
523	560912.55	4192142.44	1.90E-06	1.34E-06	2.26E-07	2.27E-07	2.26E-07	1.68E-07	1.02E-07	4.18E-06	1.36E-06	1.04E-06	1.75E-07	1.76E-07	1.75E-07	1.17E-07	5.12E-08	3.09E-06
524	560919.29	4192128.99	1.83E-06	1.29E-06	2.18E-07	2.19E-07	2.18E-07	1.62E-07	9.82E-08	4.04E-06	1.31E-06	1.01E-06	1.69E-07	1.70E-07	1.69E-07	1.13E-07	4.94E-08	2.99E-06
525	560932.32	4192111.41	1.77E-06	1.25E-06	2.11E-07	2.12E-07	2.11E-07	1.57E-07	9.50E-08	3.90E-06	1.27E-06	9.72E-07	1.64E-07	1.64E-07	1.64E-07	1.09E-07	4.78E-08	2.89E-06
526	560944.88	4192103.13	1.78E-06	1.25E-06	2.12E-07	2.13E-07	2.12E-07	1.57E-07	9.54E-08	3.92E-06	1.27E-06	9.77E-07	1.65E-07	1.65E-07	1.65E-07	1.10E-07	4.81E-08	2.90E-06
527	560957.45	4192094.85	1.78E-06	1.26E-06	2.13E-07	2.13E-07	2.13E-07	1.58E-07	9.56E-08	3.93E-06	1.27E-06	9.79E-07	1.65E-07	1.65E-07	1.65E-07	1.10E-07	4.81E-08	2.91E-06
528	560970.01	4192086.57	1.78E-06	1.25E-06	2.12E-07	2.13E-07	2.12E-07	1.57E-07	9.54E-08	3.92E-06	1.27E-06	9.76E-07	1.64E-07	1.65E-07	1.64E-07	1.10E-07	4.80E-08	2.90E-06
529	560887.28	4192197.5	2.12E-06	1.49E-06	2.53E-07	2.53E-07	2.53E-07	1.87E-07	1.14E-07	4.67E-06	1.51E-06	1.16E-06	1.96E-07	1.96E-07	1.96E-07	1.31E-07	5.72E-08	3.45E-06
530	560883.98	4192213.49	2.19E-06	1.54E-06	2.61E-07	2.62E-07	2.61E-07	1.94E-07	1.17E-07	4.83E-06	1.57E-06	1.20E-06	2.03E-07	2.03E-07	2.03E-07	1.35E-07	5.91E-08	3.57E-06
531	560882.72	4192180.34	1.94E-06	1.37E-06	2.32E-07	2.33E-07	2.32E-07	1.72E-07	1.04E-07	4.29E-06	1.39E-06	1.07E-06	1.80E-07	1.80E-07	1.80E-07	1.20E-07	5.25E-08	3.17E-06
532	560889.89	4192166.05	1.90E-06	1.34E-06	2.27E-07	2.28E-07	2.27E-07	1.68E-07	1.02E-07	4.20E-06	1.36E-06	1.05E-06	1.76E-07	1.77E-07	1.76E-07	1.17E-07	5.14E-08	3.11E-06
533	560897.06	4192151.76	1.85E-06	1.30E-06	2.21E-07	2.21E-07	2.21E-07	1.64E-07	9.92E-08	4.08E-06	1.32E-06	1.02E-06	1.71E-07	1.72E-07	1.71E-07	1.14E-07	5.00E-08	3.02E-06
534	560904.23	4192137.48	1.79E-06	1.26E-06	2.13E-07	2.14E-07	2.13E-07	1.58E-07	9.60E-08	3.95E-06	1.28E-06	9.83E-07	1.66E-07	1.66E-07	1.66E-07	1.10E-07	4.83E-08	2.92E-06
535	560911.4	4192123.19	1.73E-06	1.22E-06	2.06E-07	2.07E-07	2.06E-07	1.53E-07	9.26E-08	3.81E-06	1.24E-06	9.49E-07	1.60E-07	1.60E-07	1.60E-07	1.07E-07	4.66E-08	2.82E-06
536	560925.24	4192104.5	1.67E-06	1.18E-06	1.99E-07	2.00E-07	1.99E-07	1.48E-07	8.96E-08	3.68E-06	1.19E-06	9.17E-07	1.55E-07	1.55E-07	1.55E-07	1.03E-07	4.51E-08	2.72E-06
537	560938.59	4192095.71	1.68E-06	1.18E-06	2.00E-07	2.01E-07	2.00E-07	1.49E-07	9.01E-08	3.70E-06	1.20E-06	9.23E-07	1.55E-07	1.56E-07	1.55E-07	1.04E-07	4.54E-08	2.74E-06
538	560951.94	4192086.91	1.68E-06	1.19E-06	2.01E-07	2.01E-07	2.01E-07	1.49E-07	9.03E-08	3.71E-06	1.20E-06	9.25E-07	1.56E-07	1.56E-07	1.56E-07	1.04E-07	4.55E-08	2.75E-06
539	560965.28	4192078.12	1.68E-06	1.18E-06	2.00E-07	2.01E-07	2.00E-07	1.49E-07	9.01E-08	3.71E-06	1.20E-06	9.23E-07	1.55E-07	1.56E-07	1.55E-07	1.04E-07	4.54E-08	2.74E-06
540	560978.63	4192069.32	1.67E-06	1.18E-06	1.99E-07	2.00E-07	1.99E-07	1.48E-07	8.95E-08	3.68E-06	1.19E-06	9.16E-07	1.54E-07	1.55E-07	1.54E-07	1.03E-07	4.50E-08	2.72E-06
541	560877.49	4192195.47	2.00E-06	1.41E-06	2.38E-07	2.39E-07	2.38E-07	1.77E-07	1.07E-07	4.40E-06	1.43E-06	1.10E-06	1.85E-07	1.85E-07	1.85E-07	1.23E-07	5.39E-08	3.26E-06
542	560874.19	4192211.46	2.06E-06	1.45E-06	2.46E-07	2.47E-07	2.46E-07	1.82E-07	1.11E-07	4.55E-06	1.47E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.27E-07	5.57E-08	3.36E-06
543	560872.82	4192178.53	1.84E-06	1.30E-06	2.20E-07	2.20E-07	2.20E-07	1.63E-07	9.87E-08	4.06E-06	1.32E-06	1.01E-06	1.70E-07	1.71E-07	1.70E-07	1.14E-07	4.97E-08	3.00E-06
544	560879.78	4192164.66	1.81E-06	1.27E-06	2.16E-07	2.16E-07	2.16E-07	1.60E-07	9.69E-08	3.98E-06	1.29E-06	9.92E-07	1.67E-07	1.68E-07	1.67E-07	1.11E-07	4.88E-08	2.95E-06
545	560886.74	4192150.79	1.76E-06	1.24E-06	2.10E-07	2.11E-07	2.10E-07	1.56E-07	9.46E-08	3.89E-06	1.26E-06	9.69E-07	1.63E-07	1.64E-07	1.63E-07	1.09E-07	4.76E-08	2.88E-06
546	560893.7	4192136.93	1.71E-06	1.21E-06	2.04E-07	2.05E-07	2.04E-07	1.51E-07	9.18E-08	3.77E-06	1.22E-06	9.40E-07	1.58E-07	1.59E-07	1.58E-07	1.06E-07	4.62E-08	2.79E-06
547	560900.66	4192123.06	1.66E-06	1.17E-06	1.98E-07	1.98E-07	1.98E-07	1.47E-07	8.88E-08	3.65E-06	1.18E-06	9.09E-07	1.53E-07	1.54E-07	1.53E-07	1.02E-07	4.47E-08	2.70E-06
548	560907.61	4192109.19	1.60E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.42E-07	8.58E-08	3.53E-06	1.14E-06	8.79E-07	1.48E-07	1.48E-07	1.48E-07	9.87E-08	4.32E-08	2.61E-06

549	560917.57	4192097.99	1.58E-06	1.11E-06	1.88E-07	1.89E-07	1.88E-07	1.40E-07	8.47E-08	3.48E-06	1.13E-06	8.67E-07	1.46E-07	1.46E-07	1.46E-07	9.74E-08	4.26E-08	2.57E-06
550	560930.52	4192089.45	1.59E-06	1.12E-06	1.89E-07	1.90E-07	1.89E-07	1.41E-07	8.52E-08	3.50E-06	1.14E-06	8.72E-07	1.47E-07	1.47E-07	1.47E-07	9.80E-08	4.29E-08	2.59E-06
551	560943.48	4192080.92	1.59E-06	1.12E-06	1.90E-07	1.91E-07	1.90E-07	1.41E-07	8.55E-08	3.51E-06	1.14E-06	8.75E-07	1.47E-07	1.48E-07	1.47E-07	9.83E-08	4.30E-08	2.60E-06
552	560956.43	4192072.38	1.59E-06	1.12E-06	1.90E-07	1.91E-07	1.90E-07	1.41E-07	8.54E-08	3.51E-06	1.14E-06	8.75E-07	1.47E-07	1.48E-07	1.47E-07	9.83E-08	4.30E-08	2.60E-06
553	560969.39	4192063.84	1.59E-06	1.12E-06	1.89E-07	1.90E-07	1.89E-07	1.40E-07	8.50E-08	3.50E-06	1.13E-06	8.71E-07	1.47E-07	1.47E-07	1.47E-07	9.78E-08	4.28E-08	2.59E-06
554	560867.7	4192193.45	1.89E-06	1.33E-06	2.25E-07	2.26E-07	2.25E-07	1.67E-07	1.01E-07	4.16E-06	1.35E-06	1.04E-06	1.75E-07	1.75E-07	1.75E-07	1.16E-07	5.10E-08	3.08E-06
555	560864.4	4192209.44	1.95E-06	1.37E-06	2.32E-07	2.33E-07	2.32E-07	1.72E-07	1.04E-07	4.29E-06	1.39E-06	1.07E-06	1.80E-07	1.81E-07	1.80E-07	1.20E-07	5.26E-08	3.18E-06
556	560862.94	4192176.68	1.75E-06	1.23E-06	2.09E-07	2.09E-07	2.09E-07	1.55E-07	9.37E-08	3.85E-06	1.25E-06	9.60E-07	1.62E-07	1.62E-07	1.62E-07	1.08E-07	4.72E-08	2.85E-06
557	560869.72	4192163.17	1.72E-06	1.21E-06	2.05E-07	2.06E-07	2.05E-07	1.52E-07	9.23E-08	3.80E-06	1.23E-06	9.45E-07	1.59E-07	1.60E-07	1.59E-07	1.06E-07	4.65E-08	2.81E-06
558	560876.5	4192149.66	1.68E-06	1.19E-06	2.01E-07	2.01E-07	2.01E-07	1.49E-07	9.03E-08	3.71E-06	1.20E-06	9.24E-07	1.56E-07	1.56E-07	1.56E-07	1.04E-07	4.55E-08	2.74E-06
559	560883.28	4192136.15	1.64E-06	1.15E-06	1.95E-07	1.96E-07	1.95E-07	1.45E-07	8.79E-08	3.61E-06	1.17E-06	9.00E-07	1.52E-07	1.52E-07	1.52E-07	1.01E-07	4.42E-08	2.67E-06
560	560890.06	4192122.64	1.59E-06	1.12E-06	1.90E-07	1.90E-07	1.90E-07	1.41E-07	8.52E-08	3.50E-06	1.14E-06	8.73E-07	1.47E-07	1.47E-07	1.47E-07	9.80E-08	4.29E-08	2.59E-06
561	560896.84	4192109.13	1.54E-06	1.08E-06	1.84E-07	1.84E-07	1.84E-07	1.36E-07	8.26E-08	3.39E-06	1.10E-06	8.45E-07	1.42E-07	1.43E-07	1.42E-07	9.49E-08	4.16E-08	2.51E-06
562	560909.93	4192091.46	1.49E-06	1.05E-06	1.78E-07	1.79E-07	1.78E-07	1.32E-07	8.02E-08	3.30E-06	1.07E-06	8.21E-07	1.38E-07	1.39E-07	1.38E-07	9.22E-08	4.04E-08	2.44E-06
563	560922.55	4192083.14	1.50E-06	1.06E-06	1.79E-07	1.80E-07	1.79E-07	1.33E-07	8.07E-08	3.32E-06	1.08E-06	8.26E-07	1.39E-07	1.40E-07	1.39E-07	9.28E-08	4.06E-08	2.45E-06
564	560935.17	4192074.82	1.51E-06	1.06E-06	1.80E-07	1.81E-07	1.80E-07	1.34E-07	8.10E-08	3.33E-06	1.08E-06	8.29E-07	1.40E-07	1.40E-07	1.40E-07	9.32E-08	4.08E-08	2.46E-06
565	560947.8	4192066.5	1.51E-06	1.07E-06	1.80E-07	1.81E-07	1.80E-07	1.34E-07	8.11E-08	3.33E-06	1.08E-06	8.30E-07	1.40E-07	1.40E-07	1.40E-07	9.33E-08	4.08E-08	2.47E-06
566	560960.42	4192058.19	1.51E-06	1.06E-06	1.80E-07	1.80E-07	1.80E-07	1.33E-07	8.09E-08	3.33E-06	1.08E-06	8.28E-07	1.40E-07	1.40E-07	1.40E-07	9.30E-08	4.07E-08	2.46E-06
567	560973.04	4192049.87	1.50E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.33E-07	8.03E-08	3.30E-06	1.07E-06	8.22E-07	1.39E-07	1.39E-07	1.39E-07	9.24E-08	4.04E-08	2.44E-06
568	560857.9	4192191.43	1.79E-06	1.26E-06	2.13E-07	2.14E-07	2.13E-07	1.58E-07	9.60E-08	3.95E-06	1.28E-06	9.83E-07	1.66E-07	1.66E-07	1.66E-07	1.10E-07	4.83E-08	2.92E-06
569	560854.6	4192207.42	1.84E-06	1.30E-06	2.20E-07	2.20E-07	2.20E-07	1.63E-07	9.88E-08	4.06E-06	1.32E-06	1.01E-06	1.70E-07	1.71E-07	1.70E-07	1.14E-07	4.98E-08	3.01E-06
570	560853.33	4192174.3	1.66E-06	1.17E-06	1.98E-07	1.99E-07	1.98E-07	1.47E-07	8.91E-08	3.66E-06	1.19E-06	9.12E-07	1.54E-07	1.54E-07	1.54E-07	1.02E-07	4.49E-08	2.71E-06
571	560860.46	4192160.08	1.64E-06	1.15E-06	1.95E-07	1.96E-07	1.95E-07	1.45E-07	8.77E-08	3.61E-06	1.17E-06	8.98E-07	1.51E-07	1.52E-07	1.51E-07	1.01E-07	4.42E-08	2.67E-06
572	560867.6	4192145.86	1.60E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.41E-07	8.58E-08	3.53E-06	1.14E-06	8.78E-07	1.48E-07	1.48E-07	1.48E-07	9.86E-08	4.32E-08	2.61E-06
573	560874.74	4192131.64	1.56E-06	1.10E-06	1.86E-07	1.86E-07	1.86E-07	1.38E-07	8.35E-08	3.43E-06	1.11E-06	8.55E-07	1.44E-07	1.44E-07	1.44E-07	9.60E-08	4.20E-08	2.54E-06
574	560881.87	4192117.42	1.51E-06	1.06E-06	1.80E-07	1.81E-07	1.80E-07	1.34E-07	8.09E-08	3.33E-06	1.08E-06	8.29E-07	1.40E-07	1.40E-07	1.40E-07	9.31E-08	4.08E-08	2.46E-06
575	560889.01	4192103.19	1.46E-06	1.03E-06	1.74E-07	1.75E-07	1.74E-07	1.29E-07	7.84E-08	3.22E-06	1.04E-06	8.02E-07	1.35E-07	1.36E-07	1.35E-07	9.01E-08	3.95E-08	2.38E-06
576	560902.79	4192084.59	1.42E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.25E-07	7.61E-08	3.13E-06	1.01E-06	7.79E-07	1.31E-07	1.32E-07	1.31E-07	8.75E-08	3.83E-08	2.31E-06
577	560916.07	4192075.84	1.43E-06	1.01E-06	1.70E-07	1.71E-07	1.70E-07	1.26E-07	7.66E-08	3.15E-06	1.02E-06	7.84E-07	1.32E-07	1.32E-07	1.32E-07	8.81E-08	3.86E-08	2.33E-06
578	560929.36	4192067.08	1.43E-06	1.01E-06	1.71E-07	1.72E-07	1.71E-07	1.27E-07	7.69E-08	3.16E-06	1.03E-06	7.88E-07	1.33E-07	1.33E-07	1.33E-07	8.85E-08	3.87E-08	2.34E-06
579	560942.65	4192058.33	1.44E-06	1.01E-06	1.71E-07	1.72E-07	1.71E-07	1.27E-07	7.71E-08	3.17E-06	1.03E-06	7.89E-07	1.33E-07	1.33E-07	1.33E-07	8.86E-08	3.88E-08	2.34E-06
580	560955.94	4192049.57	1.43E-06	1.01E-06	1.71E-07	1.72E-07	1.71E-07	1.27E-07	7.69E-08	3.16E-06	1.03E-06	7.87E-07	1.33E-07	1.33E-07	1.33E-07	8.84E-08	3.87E-08	2.34E-06
581	560969.22	4192040.82	1.42E-06	1.00E-06	1.70E-07	1.70E-07	1.70E-07	1.26E-07	7.64E-08	3.14E-06	1.02E-06	7.82E-07	1.32E-07	1.32E-07	1.32E-07	8.78E-08	3.85E-08	2.32E-06
582	560848.11	4192189.41	1.70E-06	1.20E-06	2.03E-07	2.03E-07	2.03E-07	1.50E-07	9.11E-08	3.75E-06	1.21E-06	9.33E-07	1.57E-07	1.58E-07	1.57E-07	1.05E-07	4.59E-08	2.77E-06
583	560844.81	4192205.4	1.75E-06	1.23E-06	2.08E-07	2.09E-07	2.08E-07	1.55E-07	9.37E-08	3.85E-06	1.25E-06	9.60E-07	1.62E-07	1.62E-07	1.62E-07	1.08E-07	4.72E-08	2.85E-06
584	560843.44	4192172.46	1.58E-06	1.11E-06	1.89E-07	1.89E-07	1.89E-07	1.40E-07	8.48E-08	3.49E-06	1.13E-06	8.69E-07	1.46E-07	1.47E-07	1.46E-07	9.76E-08	4.27E-08	2.58E-06
585	560850.4	4192158.59	1.56E-06	1.10E-06	1.86E-07	1.87E-07	1.86E-07	1.38E-07	8.37E-08	3.44E-06	1.12E-06	8.57E-07	1.44E-07	1.45E-07	1.44E-07	9.62E-08	4.21E-08	2.54E-06
586	560857.36	4192144.73	1.53E-06	1.08E-06	1.82E-07	1.83E-07	1.82E-07	1.35E-07	8.20E-08	3.37E-06	1.09E-06	8.39E-07	1.41E-07	1.42E-07	1.41E-07	9.43E-08	4.13E-08	2.49E-06
587	560864.32	4192130.86	1.49E-06	1.05E-06	1.78E-07	1.78E-07	1.78E-07	1.32E-07	8.00E-08	3.29E-06	1.07E-06	8.19E-07	1.38E-07	1.38E-07	1.38E-07	9.20E-08	4.03E-08	2.43E-06
588	560871.27	4192116.99	1.45E-06	1.02E-06	1.73E-07	1.73E-07	1.73E-07	1.28E-07	7.78E-08	3.20E-06	1.04E-06	7.96E-07	1.34E-07	1.34E-07	1.34E-07	8.94E-08	3.92E-08	2.36E-06
589	560878.23	4192103.13	1.41E-06	9.92E-07	1.68E-07	1.68E-07	1.68E-07	1.24E-07	7.55E-08	3.10E-06	1.01E-06	7.73E-07	1.30E-07	1.31E-07	1.30E-07	8.68E-08	3.80E-08	2.29E-06
590	560885.19	4192089.26	1.36E-06	9.61E-07	1.63E-07	1.63E-07	1.63E-07	1.21E-07	7.31E-08	3.01E-06	9.75E-07	7.49E-07	1.26E-07	1.26E-07	1.26E-07	8.41E-08	3.68E-08	2.22E-06
591	560895.15	4192078.06	1.35E-06	9.50E-07	1.61E-07	1.61E-07	1.61E-07	1.19E-07	7.23E-08	2.97E-06	9.64E-07	7.40E-07	1.25E-07	1.25E-07	1.25E-07	8.31E-08	3.64E-08	2.20E-06
592	560908.1	4192069.52	1.36E-06	9.56E-07	1.62E-07	1.62E-07	1.62E-07	1.20E-07	7.28E-08	2.99E-06	9.70E-07	7.45E-07	1.26E-07	1.26E-07	1.26E-07	8.37E-08	3.66E-08	2.21E-06
593	560921.06	4192060.99	1.36E-06	9.61E-07	1.63E-07	1.63E-07	1.63E-07	1.21E-07	7.32E-08	3.01E-06	9.75E-07	7.49E-07	1.26E-07	1.27E-07	1.26E-07	8.41E-08	3.68E-08	2.22E-06
594	560934.01	4192052.45	1.37E-06	9.64E-07	1.63E-07	1.64E-07	1.63E-07	1.21E-07	7.33E-08	3.02E-06	9.78E-07	7.51E-07	1.26E-07	1.27E-07	1.26E-07	8.43E-08	3.69E-08	2.23E-06
595	560946.97	4192043.91	1.37E-06	9.63E-07	1.63E-07	1.63E-07	1.63E-07	1.21E-07	7.33E-08	3.01E-06	9.77E-07	7.51E-07	1.26E-07	1.27E-07	1.26E-07	8.43E-08	3.69E-08	2.23E-06
596	560959.92	4192035.38	1.36E-06	9.59E-07	1.62E-07	1.63E-07	1.62E-07	1.20E-07	7.30E-08	3.00E-06	9.73E-07	7.47E-07	1.26E-07	1.26E-07	1.26E-07	8.39E-08	3.67E-08	2.22E-06
597	560838.31	4192187.39	1.62E-06	1.14E-06	1.93E-07	1.93E-07	1.93E-07	1.43E-07	8.67E-08	3.56E-06	1.16E-06	8.88E-07	1.50E-07	1.50E-07	1.50E-07	9.97E-08	4.36E-08	2.64E-06
598	560835.01	4192203.38	1.66E-06	1.17E-06	1.98E-07	1.99E-07	1.98E-07	1.47E-07	8.90E-08	3.66E-06	1.19E-06	9.12E-07	1.54E-07	1.54E-07	1.54E-07	1.02E-07	4.48E-08	2.71E-06
599	560833.82	4192170.11	1.51E-06	1.06E-06	1.80E-07	1.80E-07	1.80E-07	1.33E-07	8.09E-08	3.33E-06	1.08E-06	8.28E-07	1.40E-07	1.40E-07	1.40E-07	9.30E-08	4.07E-08	2.46E-06
600	560841.1	4192155.58	1.49E-06	1.05E-06	1.77E-07	1.78E-07	1.77E-07	1.32E-07	7.98E-08	3.28E-06	1.06E-06	8.17E-07	1.38E-07	1.38E-07	1.38E-07	9.17E-08	4.02E-08	2.43E-06
601	560848.39	4192141.06	1.46E-06	1.03E-06	1.74E-07	1.74E-07	1.74E-07	1.29E-07	7.81E-08	3.21E-06	1.04E-06	8.00E-07	1.35E-07	1.35E-07	1.35E-07	8.99E-08	3.93E-08	2.38E-06
602	560855.68	4192126.53	1.42E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.26E-07	7.62E-08	3.13E-06	1.02E-06	7.80E-07	1.31E-07	1.32E-07	1.31E-07	8.76E-08	3.84E-08	2.32E-06
603	560862.97	4192112	1.38E-06	9.73E-07	1.65E-07	1.65E-07	1.65E-07	1.22E-07	7.41E-08	3.04E-06	9.87E-07	7.58E-07	1.28E-07	1.28E-07	1.28E-07	8.52E-08	3.73E-08	2.25E-06
604	560870.26	4192097.48	1.34E-06	9.44E-07	1.60E-07	1.60E-07	1.60E-07	1.18E-07	7.18E-08	2.95E-06	9.58E-07	7.36E-07	1.24E-07	1.24E-07	1.24E-07	8.26E-08	3.62E-08	2.18E-06
605	560877.55	4192082.95	1.30E-06	9.15E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.96E-08	2.86E-06	9.28E-07	7.13E-07	1.20E-07	1.20E-07	1.20E-07	8.00E-08	3.50E-08	2.12E-06
606	560887.98	4192071.21	1.28E-06	9.04E-07	1.53E-07	1.53E-07	1.53E-07	1.13E-07	6.88E-08	2.83E-06	9.17E-07	7.04E-07	1.19E-07	1.19E-07	1.19E-07	7.91E-08	3.46E-08	2.09E-06
607	560901.55	4192062.27	1.29E-06	9.11E-07	1.54E-07	1.55E-07	1.54E-07	1.14E-07	6.93E-08	2.85E-06	9.24E-07	7.10E-07	1.20E-07	1.20E-07	1.20E-07	7.97E-08	3.49E-08	2.11E-06
608	560915.12	4192053.33	1.30E-06	9.16E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.97E-08	2.87E-06	9.29E-07	7.14E-07	1.20E-07	1.21E-07	1.20E-07	8.01E-08	3.51E-08	2.12E-06
609	560928.7	4192044.38	1.30E-06	9.19E-07	1.56E-07	1.56E-07	1.56E-07	1.15E-07	6.99E-08	2.87E-06	9.32E-07	7.16E-07	1.21E-07	1.21E-07	1.21E-07	8.04E-08	3.52E-08	2.13E-06
610	560942.27	4192035.44	1.30E-06	9.19E-07	1.55E-07	1.56E-07	1.55E-07	1.15E-07	6.99E-08	2.87E-06	9.32E-07	7.16E-07	1.21E-07	1.21E-07	1.21E-07	8.04E-08	3.52E-08	2.13E-06
611	560955.84	4192026.5	1.30E-06	9.15E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.96E-08	2.86E-06	9.28E-07	7.13E-07	1.20E-07	1.20E-07	1.20E-07	8.01E-08	3.51E-08	2.12E-06
612	560828.52	4192185.37	1.54E-06	1.09E-06	1.84E-07	1.84E-07	1.84E-07	1.36E-07	8.26E-08	3.39E-06	1.10E-06	8.46E-07	1.42E-07	1.43E-07	1.42E-07	9.50E-08	4.16E-08	2.51E-06
613	560825.22	4192201.36	1.58E-06	1.11E-06	1.88E-07	1.89E-07	1.88E-07	1.40E-07	8.47E-08	3.48E-06	1.13E-06	8.68E-07	1.46E-07	1.47E-07	1.46E-07	9.74E-08	4.27E-08	2.58E-06
614	560823.93	4192168.27	1.44E-06	1.02E-06	1.72E-07	1.72E-07	1.72E-07	1.27E-07	7.73E-08	3.18E-06	1.03E-06	7.91E-07	1.33E-07	1.34E-07	1.33E-07	8.89E-08	3.89E-08	2.35E-06
615	560831.05	4192154.09	1.42E-06	1.00E-06	1.70E-07	1.70E-07	1.70E-07	1.26E-07	7.63E-08	3.14E-06	1.02E-06	7.81E-07	1.32E-07	1.32E-07	1.32E-07	8.77E-08	3.84E-08	2.32E-06
616	560838.16	4192139.92	1.40E-06	9.84E-07	1.67E-07	1.67E-07	1.67E-07	1.23E-07	7.49E-08	3.08E-06	9.98E-07	7.66E-07	1.29E-07	1.29E-07	1.29E-07	8.61E-08	3.77E-08	2.28E-06
617	560845.27	4192125.74	1.36E-06	9.61E-07	1.63E-07	1.63E-07	1.63E-07	1.21E-07	7.32E-08	3.01E-06	9.75E-07	7.49E-07	1.26E-07	1.27E-07	1.26E-07	8.41E-08	3.68E-08	2.22E-06
618	560852.38	4192111.57	1.33E-06	9.36E-07	1.58E-07	1.59E-07	1.58E-07	1.18E-07	7.12E-08	2.93E-06	9.50E-07	7.29E-07	1.23E-07	1.23E-07	1.23E-07	8.19E-08	3.59E-08	2.17E-06
619	560859.5	4192097.39	1.29E-06	9.10E-07	1.54E-07	1.54E-07	1.54E-07	1.14E-07	6.92E-08	2.85E-06	9.23E-07	7.09E-07	1.19E-07	1.20E-07	1.19E-07	7.96E-08	3.49E-08	2.11E-06
620	560866.61	4192083.22	1.25E-06	8.84E-07	1.50E-07	1.50E-07	1.50E-07	1.11E-07	6.73E-08	2.76E-06	8.97E-07	6.89E-07	1.16E-07	1.16E-07	1.16E-07	7.73E-08	3.39E-08	2.04E-06
621	560880.34	4192064.68	1.22E-06	8.61E-07	1.46E-07	1.46E-07	1.46E-07	1.08E-07	6.55E-08	2.69E-06	8.74E-07	6.71E-07	1.13E-07	1.13E-07	1.13E-07	7.54E-08	3.30E-08	1.99E-06
622	560893.59	4192055.95	1.23E-06	8.68E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.60E-08	2.71E-06	8.80E-07	6.76E-07	1.14E-07	1.14E-07	1.14E-07	7.59E-08	3.33E-08	2.01E-06
623	560906.83	4192047.23	1.24E-06	8.73E-07	1.48E-07	1.48E-07	1.48E-07	1.10E-07	6.64E-08	2.73E-06	8.86E-07	6.80E-07	1.15E-07	1.15E-07	1.15E-07	7.64E-08	3.35E-08	2.02E-06
624	560920.07	4192038.5	1.24E-06	8.76E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.67E-08	2.74E-06	8.89E-07	6.83E-07	1.15E-07	1.15E-07	1.15E-07	7.67E-08	3.36E-08	2.03E-06
625	560933.31	4192029.77	1.24E-06	8.78E-07	1.49E-07	1.49E-07	1.49E-07	1.10E-07	6.68E-08	2.75E-06	8.90E-07	6.84E-07	1.15E-07	1.15E-07	1.15E-07	7.68E-08	3.36E-08	2.03E-06
626	560946.56	4192021.05	1.24E-06	8.76E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.66E-08	2.74E-06	8.88E-07	6.82E-07	1.15E-07	1.15E-07	1.15E-07	7.66E-08	3.35E-08	2.03E-06
627	560959.8	4192012.32	1.23E-06	8.70E-07	1.47E-07	1.48E-07	1.47E-07	1.09E-07	6.62E-08	2.72E-06	8.83E-07	6.78E-07	1.14E-07	1.15E-07	1.14E-07	7.62E-08	3.33E-08	2.01E-06
628	560818.73	4192183.35	1.47E-06	1.04E-06	1.75E-07	1.76E-07	1.75E-07	1.30E-07	7.88E-08	3.24E-06	1.05E-06	8.07E-07	1.36E-07	1.36E-07	1.36E-07	9.06E-08	3.97E-08	2.40E-06
629	560815.43	4192199.34	1.51E-06	1.06E-06	1.80E-07	1.80E-07	1.80E-07	1.33E-07	8.08E-08	3.32E-06	1.08E-06	8.27E-07	1.39E-07	1.40E-07	1.39E-07	9.29E-08	4.07E-08	2.46E-06
630	560814.06	4192166.4	1.38E-06	9.71E-07	1.64E-07	1.65E-07	1.64E-07	1.22E-07	7.39E-08	3.04E-06	9.85E-07	7.57E-07	1.27E-07	1.28E-07	1.27E-07	8.50E-08	3.72E-08	2.25E-06
631	560821.02	4192152.53	1.36E-06	9.59E-07	1.62E-07	1.63E-07	1.62E-07	1.20E-07	7.30E-08	3.00E-06	9.73E-07	7.47E-07	1.26E-07	1.26E-07	1.26E-07	8.39E-08	3.67E-08	2.22E-06
632	560827.98	4192138.66	1.34E-06	9.43E-07	1.60E-07	1.60E-07	1.60E-07	1.18E-07	7.17E-08	2.95E-06	9.56E-07	7.35E-07	1.24E-07	1.24E-07	1.24E-07	8.25E-08	3.61E-08	2.18E-06
633	560834.94	4192124.8	1.31E-06	9.23E-07	1.56E-07	1.57E-07	1.56E-07	1.16E-07	7.03E-08	2.89E-06	9.37E-07	7.19E-07	1.21E-07	1.22E-07	1.21E-07	8.08E-08	3.54E-08	2.14E-06
634	560841.89	4192110.93	1.28E-06	9.01E-07	1.52E-07	1.53E-07	1.52E-07	1.13E-07	6.85E-08	2.82E-06	9.14E-07	7.02E-07	1.18E-07	1.19E-07	1.18E-07	7.88E-08	3.45E-08	2.08E-06
635	560848.85	4192097.06	1.24E-06	8.77E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.67E-08	2.74E-06	8.90E-07	6.83E-07	1.15E-07	1.15E-07	1.15E-07	7.67E-08	3.36E-08	2.03E-06
636	560855.81	4192083.2	1.21E-06	8.53E-07	1.44E-07	1.45E-07	1.44E-07	1.07E-07	6.49E-08	2.67E-06	8.66E-07	6.65E-07	1.12E-07	1.12E-07	1.12E-07	7.47E-08	3.27E-08	1.97E-06
637	560862.77	4192069.33	1.18E-06	8.30E-07	1.40E-07	1.41E-07	1.40E-07	1.04E-07	6.32E-08	2.60E-06	8.42E-07	6.47E-07	1.09E-07	1.09E-07	1.09E-07	7.26E-08	3.18E-08	1.92E-06
638	560872.72	4192058.13	1.17E-06	8.22E-07	1.39E-07	1.39E-07	1.39E-07	1.03E-07	6.25E-08	2.57E-06	8.34E-07	6.40E-07	1.08E-07	1.08E-07	1.08E-07	7.19E-08	3.15E-08	1.90E-06
639	560885.68	4192049.59	1.17E-06	8.28E-07	1.40E-07	1.41E-07	1.40E-07	1.04E-07	6.30E-08	2.59E-06	8.40E-07	6.45E-07	1.09E-07	1.09E-07	1.09E-07	7.25E-08	3.17E-08	1.92E-06
640	560898.63	4192041.06	1.18E-06	8.33E-07	1.41E-07	1.41E-07	1.41E-07	1.05E-07	6.34E-08	2.61E-06	8.45E-07	6.49E-07	1.09E-07	1.10E-07	1.09E-07	7.29E-08	3.19E-08	1.93E-06

641	560911.59	4192032.52	1.19E-06	8.37E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.37E-08	2.62E-06	8.49E-07	6.52E-07	1.10E-07	1.10E-07	1.10E-07	7.33E-08	3.21E-08	1.94E-06
642	560924.54	4192023.98	1.19E-06	8.39E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.38E-08	2.62E-06	8.51E-07	6.54E-07	1.10E-07	1.10E-07	1.10E-07	7.34E-08	3.21E-08	1.94E-06
643	560937.5	4192015.45	1.19E-06	8.38E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.38E-08	2.62E-06	8.51E-07	6.53E-07	1.10E-07	1.10E-07	1.10E-07	7.34E-08	3.21E-08	1.94E-06
644	560950.45	4192006.91	1.18E-06	8.35E-07	1.41E-07	1.42E-07	1.41E-07	1.05E-07	6.35E-08	2.61E-06	8.47E-07	6.51E-07	1.10E-07	1.10E-07	1.10E-07	7.31E-08	3.20E-08	1.93E-06
645	560808.93	4192181.33	1.40E-06	9.89E-07	1.67E-07	1.68E-07	1.67E-07	1.24E-07	7.53E-08	3.09E-06	1.00E-06	7.71E-07	1.30E-07	1.30E-07	1.30E-07	8.66E-08	3.79E-08	2.29E-06
646	560805.63	4192197.32	1.44E-06	1.01E-06	1.71E-07	1.72E-07	1.71E-07	1.27E-07	7.71E-08	3.17E-06	1.03E-06	7.89E-07	1.33E-07	1.33E-07	1.33E-07	8.87E-08	3.88E-08	2.34E-06
647	560804.41	4192164.09	1.32E-06	9.30E-07	1.57E-07	1.58E-07	1.57E-07	1.17E-07	7.07E-08	2.91E-06	9.43E-07	7.24E-07	1.22E-07	1.22E-07	1.22E-07	8.13E-08	3.56E-08	2.15E-06
648	560811.66	4192149.64	1.30E-06	9.17E-07	1.55E-07	1.56E-07	1.55E-07	1.15E-07	6.98E-08	2.87E-06	9.31E-07	7.15E-07	1.20E-07	1.21E-07	1.20E-07	8.03E-08	3.51E-08	2.12E-06
649	560818.91	4192135.2	1.28E-06	9.02E-07	1.53E-07	1.53E-07	1.53E-07	1.13E-07	6.86E-08	2.82E-06	9.15E-07	7.03E-07	1.18E-07	1.19E-07	1.18E-07	7.89E-08	3.45E-08	2.09E-06
650	560826.16	4192120.75	1.25E-06	8.83E-07	1.49E-07	1.50E-07	1.49E-07	1.11E-07	6.72E-08	2.76E-06	8.96E-07	6.88E-07	1.16E-07	1.16E-07	1.16E-07	7.73E-08	3.38E-08	2.04E-06
651	560833.41	4192106.31	1.22E-06	8.61E-07	1.46E-07	1.46E-07	1.46E-07	1.08E-07	6.55E-08	2.69E-06	8.74E-07	6.71E-07	1.13E-07	1.13E-07	1.13E-07	7.54E-08	3.30E-08	1.99E-06
652	560840.65	4192091.87	1.19E-06	8.38E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.38E-08	2.62E-06	8.50E-07	6.53E-07	1.10E-07	1.10E-07	1.10E-07	7.33E-08	3.21E-08	1.94E-06
653	560847.9	4192077.42	1.16E-06	8.15E-07	1.38E-07	1.38E-07	1.38E-07	1.02E-07	6.20E-08	2.55E-06	8.27E-07	6.35E-07	1.07E-07	1.07E-07	1.07E-07	7.13E-08	3.12E-08	1.89E-06
654	560855.15	4192062.98	1.12E-06	7.93E-07	1.34E-07	1.35E-07	1.34E-07	9.95E-08	6.03E-08	2.48E-06	8.04E-07	6.18E-07	1.04E-07	1.04E-07	1.04E-07	6.94E-08	3.04E-08	1.83E-06
655	560865.52	4192051.31	1.11E-06	7.85E-07	1.33E-07	1.33E-07	1.33E-07	9.85E-08	5.97E-08	2.46E-06	7.96E-07	6.11E-07	1.03E-07	1.03E-07	1.03E-07	6.87E-08	3.01E-08	1.82E-06
656	560879.01	4192042.42	1.12E-06	7.91E-07	1.34E-07	1.34E-07	1.34E-07	9.93E-08	6.02E-08	2.47E-06	8.02E-07	6.16E-07	1.04E-07	1.04E-07	1.04E-07	6.92E-08	3.03E-08	1.83E-06
657	560892.51	4192033.52	1.13E-06	7.97E-07	1.35E-07	1.35E-07	1.35E-07	1.00E-07	6.06E-08	2.49E-06	8.08E-07	6.21E-07	1.05E-07	1.05E-07	1.05E-07	6.97E-08	3.05E-08	1.84E-06
658	560906	4192024.63	1.14E-06	8.01E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.09E-08	2.51E-06	8.13E-07	6.24E-07	1.05E-07	1.05E-07	1.05E-07	7.01E-08	3.07E-08	1.85E-06
659	560919.5	4192015.74	1.14E-06	8.03E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.11E-08	2.51E-06	8.15E-07	6.26E-07	1.05E-07	1.06E-07	1.05E-07	7.03E-08	3.08E-08	1.86E-06
660	560932.99	4192006.85	1.14E-06	8.03E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.11E-08	2.51E-06	8.14E-07	6.26E-07	1.05E-07	1.06E-07	1.05E-07	7.03E-08	3.08E-08	1.86E-06
661	560946.49	4191997.96	1.13E-06	8.00E-07	1.35E-07	1.36E-07	1.35E-07	1.00E-07	6.09E-08	2.50E-06	8.11E-07	6.23E-07	1.05E-07	1.05E-07	1.05E-07	7.00E-08	3.06E-08	1.85E-06
662	560799.14	4192179.31	1.34E-06	9.46E-07	1.60E-07	1.61E-07	1.60E-07	1.19E-07	7.20E-08	2.96E-06	9.60E-07	7.37E-07	1.24E-07	1.25E-07	1.24E-07	8.28E-08	3.63E-08	2.19E-06
663	560795.84	4192195.3	1.37E-06	9.68E-07	1.64E-07	1.64E-07	1.64E-07	1.22E-07	7.37E-08	3.03E-06	9.82E-07	7.54E-07	1.27E-07	1.27E-07	1.27E-07	8.47E-08	3.71E-08	2.24E-06
664	560794.54	4192162.22	1.26E-06	8.91E-07	1.51E-07	1.51E-07	1.51E-07	1.12E-07	6.78E-08	2.79E-06	9.04E-07	6.94E-07	1.17E-07	1.17E-07	1.17E-07	7.80E-08	3.41E-08	2.06E-06
665	560801.64	4192148.08	1.25E-06	8.80E-07	1.49E-07	1.49E-07	1.49E-07	1.11E-07	6.70E-08	2.75E-06	8.93E-07	6.86E-07	1.16E-07	1.16E-07	1.16E-07	7.71E-08	3.37E-08	2.04E-06
666	560808.73	4192133.94	1.23E-06	8.66E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.59E-08	2.71E-06	8.79E-07	6.75E-07	1.14E-07	1.14E-07	1.14E-07	7.58E-08	3.32E-08	2.00E-06
667	560815.83	4192119.8	1.20E-06	8.49E-07	1.44E-07	1.44E-07	1.44E-07	1.07E-07	6.46E-08	2.66E-06	8.62E-07	6.62E-07	1.11E-07	1.12E-07	1.11E-07	7.43E-08	3.25E-08	1.96E-06
668	560822.92	4192105.67	1.18E-06	8.30E-07	1.41E-07	1.41E-07	1.41E-07	1.04E-07	6.32E-08	2.60E-06	8.42E-07	6.47E-07	1.09E-07	1.09E-07	1.09E-07	7.27E-08	3.18E-08	1.92E-06
669	560830.02	4192091.53	1.15E-06	8.09E-07	1.37E-07	1.37E-07	1.37E-07	1.02E-07	6.16E-08	2.53E-06	8.21E-07	6.31E-07	1.06E-07	1.07E-07	1.06E-07	7.08E-08	3.10E-08	1.87E-06
670	560837.11	4192077.39	1.12E-06	7.88E-07	1.33E-07	1.34E-07	1.33E-07	9.90E-08	6.00E-08	2.47E-06	8.00E-07	6.14E-07	1.03E-07	1.04E-07	1.03E-07	6.90E-08	3.02E-08	1.82E-06
671	560844.2	4192063.25	1.09E-06	7.68E-07	1.30E-07	1.30E-07	1.30E-07	9.64E-08	5.84E-08	2.40E-06	7.79E-07	5.98E-07	1.01E-07	1.01E-07	1.01E-07	6.72E-08	2.94E-08	1.78E-06
672	560857.9	4192044.76	1.06E-06	7.50E-07	1.27E-07	1.27E-07	1.27E-07	9.42E-08	5.71E-08	2.35E-06	7.61E-07	5.85E-07	9.85E-08	9.88E-08	9.85E-08	6.57E-08	2.87E-08	1.74E-06
673	560871.11	4192036.06	1.07E-06	7.56E-07	1.28E-07	1.28E-07	1.28E-07	9.49E-08	5.75E-08	2.37E-06	7.67E-07	5.89E-07	9.92E-08	9.95E-08	9.92E-08	6.62E-08	2.90E-08	1.75E-06
674	560884.32	4192027.35	1.08E-06	7.62E-07	1.29E-07	1.29E-07	1.29E-07	9.56E-08	5.80E-08	2.38E-06	7.73E-07	5.94E-07	1.00E-07	1.00E-07	1.00E-07	6.67E-08	2.92E-08	1.76E-06
675	560897.53	4192018.65	1.09E-06	7.67E-07	1.30E-07	1.30E-07	1.30E-07	9.62E-08	5.83E-08	2.40E-06	7.78E-07	5.97E-07	1.01E-07	1.01E-07	1.01E-07	6.71E-08	2.94E-08	1.77E-06
676	560910.74	4192009.94	1.09E-06	7.69E-07	1.30E-07	1.31E-07	1.30E-07	9.66E-08	5.85E-08	2.41E-06	7.80E-07	5.99E-07	1.01E-07	1.01E-07	1.01E-07	6.73E-08	2.95E-08	1.78E-06
677	560923.95	4192001.24	1.09E-06	7.70E-07	1.30E-07	1.31E-07	1.30E-07	9.67E-08	5.86E-08	2.41E-06	7.81E-07	6.00E-07	1.01E-07	1.01E-07	1.01E-07	6.74E-08	2.95E-08	1.78E-06
678	560937.16	4191992.54	1.09E-06	7.68E-07	1.30E-07	1.30E-07	1.30E-07	9.65E-08	5.85E-08	2.40E-06	7.80E-07	5.99E-07	1.01E-07	1.01E-07	1.01E-07	6.72E-08	2.94E-08	1.78E-06
679	560950.36	4191983.83	1.08E-06	7.64E-07	1.29E-07	1.30E-07	1.29E-07	9.59E-08	5.81E-08	2.39E-06	7.75E-07	5.95E-07	1.00E-07	1.01E-07	1.00E-07	6.69E-08	2.93E-08	1.77E-06
680	560789.35	4192177.28	1.29E-06	9.07E-07	1.53E-07	1.54E-07	1.53E-07	1.14E-07	6.90E-08	2.84E-06	9.20E-07	7.06E-07	1.19E-07	1.19E-07	1.19E-07	7.93E-08	3.47E-08	2.10E-06
681	560786.05	4192193.27	1.31E-06	9.27E-07	1.57E-07	1.57E-07	1.57E-07	1.16E-07	7.05E-08	2.90E-06	9.40E-07	7.22E-07	1.22E-07	1.22E-07	1.22E-07	8.11E-08	3.55E-08	2.14E-06
682	560784.68	4192160.33	1.21E-06	8.55E-07	1.45E-07	1.45E-07	1.45E-07	1.07E-07	6.51E-08	2.68E-06	8.68E-07	6.67E-07	1.12E-07	1.13E-07	1.12E-07	7.49E-08	3.28E-08	1.98E-06
683	560791.64	4192146.47	1.20E-06	8.46E-07	1.43E-07	1.44E-07	1.43E-07	1.06E-07	6.44E-08	2.65E-06	8.58E-07	6.59E-07	1.11E-07	1.11E-07	1.11E-07	7.40E-08	3.24E-08	1.96E-06
684	560798.6	4192132.6	1.18E-06	8.33E-07	1.41E-07	1.41E-07	1.41E-07	1.05E-07	6.34E-08	2.61E-06	8.45E-07	6.49E-07	1.09E-07	1.10E-07	1.09E-07	7.29E-08	3.19E-08	1.93E-06
685	560805.56	4192118.73	1.16E-06	8.18E-07	1.38E-07	1.39E-07	1.38E-07	1.03E-07	6.22E-08	2.56E-06	8.30E-07	6.37E-07	1.07E-07	1.08E-07	1.07E-07	7.16E-08	3.13E-08	1.89E-06
686	560812.51	4192104.87	1.14E-06	8.01E-07	1.36E-07	1.36E-07	1.36E-07	1.00E-07	6.09E-08	2.50E-06	8.12E-07	6.24E-07	1.05E-07	1.05E-07	1.05E-07	7.01E-08	3.07E-08	1.85E-06
687	560819.47	4192091	1.11E-06	7.82E-07	1.32E-07	1.33E-07	1.32E-07	9.82E-08	5.95E-08	2.45E-06	7.93E-07	6.09E-07	1.03E-07	1.03E-07	1.03E-07	6.84E-08	3.00E-08	1.81E-06
688	560826.43	4192077.13	1.08E-06	7.63E-07	1.29E-07	1.29E-07	1.29E-07	9.58E-08	5.81E-08	2.39E-06	7.74E-07	5.94E-07	1.00E-07	1.00E-07	1.00E-07	6.68E-08	2.92E-08	1.77E-06
689	560833.39	4192063.27	1.06E-06	7.44E-07	1.26E-07	1.26E-07	1.26E-07	9.34E-08	5.66E-08	2.33E-06	7.54E-07	5.79E-07	9.76E-08	9.79E-08	9.76E-08	6.51E-08	2.85E-08	1.72E-06
690	560840.35	4192049.4	1.03E-06	7.25E-07	1.23E-07	1.23E-07	1.23E-07	9.10E-08	5.51E-08	2.27E-06	7.35E-07	5.65E-07	9.51E-08	9.54E-08	9.51E-08	6.34E-08	2.78E-08	1.68E-06
691	560850.3	4192038.2	1.02E-06	7.18E-07	1.22E-07	1.22E-07	1.22E-07	9.02E-08	5.47E-08	2.25E-06	7.29E-07	5.60E-07	9.43E-08	9.46E-08	9.43E-08	6.29E-08	2.75E-08	1.66E-06
692	560863.26	4192029.66	1.03E-06	7.24E-07	1.23E-07	1.23E-07	1.23E-07	9.09E-08	5.51E-08	2.27E-06	7.35E-07	5.64E-07	9.50E-08	9.53E-08	9.50E-08	6.34E-08	2.77E-08	1.68E-06
693	560876.21	4192021.13	1.03E-06	7.29E-07	1.23E-07	1.24E-07	1.23E-07	9.15E-08	5.55E-08	2.28E-06	7.40E-07	5.68E-07	9.57E-08	9.60E-08	9.57E-08	6.38E-08	2.79E-08	1.69E-06
694	560889.17	4192012.59	1.04E-06	7.34E-07	1.24E-07	1.25E-07	1.24E-07	9.21E-08	5.59E-08	2.30E-06	7.45E-07	5.72E-07	9.64E-08	9.66E-08	9.64E-08	6.42E-08	2.81E-08	1.70E-06
695	560902.12	4192004.05	1.05E-06	7.37E-07	1.25E-07	1.25E-07	1.25E-07	9.26E-08	5.61E-08	2.31E-06	7.48E-07	5.75E-07	9.68E-08	9.71E-08	9.68E-08	6.45E-08	2.83E-08	1.71E-06
696	560915.08	4191995.52	1.05E-06	7.39E-07	1.25E-07	1.25E-07	1.25E-07	9.28E-08	5.62E-08	2.31E-06	7.50E-07	5.76E-07	9.70E-08	9.73E-08	9.70E-08	6.47E-08	2.83E-08	1.71E-06
697	560928.03	4191986.98	1.05E-06	7.38E-07	1.25E-07	1.25E-07	1.25E-07	9.27E-08	5.62E-08	2.31E-06	7.49E-07	5.75E-07	9.69E-08	9.72E-08	9.69E-08	6.46E-08	2.83E-08	1.71E-06
698	560940.98	4191978.44	1.04E-06	7.35E-07	1.25E-07	1.25E-07	1.25E-07	9.23E-08	5.60E-08	2.30E-06	7.46E-07	5.73E-07	9.65E-08	9.68E-08	9.65E-08	6.44E-08	2.82E-08	1.70E-06
699	560779.55	4192175.26	1.23E-06	8.69E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.61E-08	2.72E-06	8.81E-07	6.77E-07	1.14E-07	1.14E-07	1.14E-07	7.60E-08	3.33E-08	2.01E-06
700	560776.25	4192191.25	1.26E-06	8.87E-07	1.50E-07	1.51E-07	1.50E-07	1.11E-07	6.75E-08	2.77E-06	9.00E-07	6.91E-07	1.16E-07	1.17E-07	1.16E-07	7.76E-08	3.40E-08	2.05E-06
701	560775.02	4192158.06	1.16E-06	8.20E-07	1.39E-07	1.39E-07	1.39E-07	1.03E-07	6.24E-08	2.57E-06	8.32E-07	6.39E-07	1.08E-07	1.08E-07	1.08E-07	7.18E-08	3.14E-08	1.90E-06
702	560782.23	4192143.68	1.15E-06	8.12E-07	1.38E-07	1.38E-07	1.38E-07	1.02E-07	6.18E-08	2.54E-06	8.24E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.11E-08	3.11E-08	1.88E-06
703	560789.45	4192129.3	1.14E-06	8.00E-07	1.35E-07	1.36E-07	1.35E-07	1.00E-07	6.09E-08	2.50E-06	8.12E-07	6.24E-07	1.05E-07	1.05E-07	1.05E-07	7.00E-08	3.07E-08	1.85E-06
704	560796.66	4192114.92	1.11E-06	7.85E-07	1.33E-07	1.33E-07	1.33E-07	9.86E-08	5.98E-08	2.46E-06	7.97E-07	6.12E-07	1.03E-07	1.03E-07	1.03E-07	6.87E-08	3.01E-08	1.82E-06
705	560803.88	4192100.54	1.09E-06	7.69E-07	1.30E-07	1.30E-07	1.30E-07	9.65E-08	5.85E-08	2.40E-06	7.80E-07	5.99E-07	1.01E-07	1.01E-07	1.01E-07	6.73E-08	2.94E-08	1.78E-06
706	560811.09	4192086.16	1.06E-06	7.50E-07	1.27E-07	1.27E-07	1.27E-07	9.42E-08	5.71E-08	2.35E-06	7.61E-07	5.85E-07	9.85E-08	9.88E-08	9.85E-08	6.57E-08	2.88E-08	1.74E-06
707	560818.31	4192071.78	1.04E-06	7.32E-07	1.24E-07	1.24E-07	1.24E-07	9.19E-08	5.57E-08	2.29E-06	7.43E-07	5.70E-07	9.61E-08	9.63E-08	9.61E-08	6.41E-08	2.80E-08	1.69E-06
708	560825.53	4192057.39	1.01E-06	7.13E-07	1.21E-07	1.21E-07	1.21E-07	8.95E-08	5.43E-08	2.23E-06	7.24E-07	5.56E-07	9.36E-08	9.39E-08	9.36E-08	6.24E-08	2.73E-08	1.65E-06
709	560832.74	4192043.01	9.86E-07	6.95E-07	1.18E-07	1.18E-07	1.18E-07	8.72E-08	5.29E-08	2.17E-06	7.05E-07	5.41E-07	9.12E-08	9.15E-08	9.12E-08	6.08E-08	2.66E-08	1.61E-06
710	560843.07	4192031.4	9.77E-07	6.89E-07	1.17E-07	1.17E-07	1.17E-07	8.65E-08	5.24E-08	2.16E-06	6.99E-07	5.37E-07	9.04E-08	9.07E-08	9.04E-08	6.03E-08	2.64E-08	1.59E-06
711	560856.5	4192022.55	9.85E-07	6.94E-07	1.18E-07	1.18E-07	1.18E-07	8.72E-08	5.28E-08	2.17E-06	7.05E-07	5.41E-07	9.12E-08	9.14E-08	9.12E-08	6.08E-08	2.66E-08	1.61E-06
712	560869.94	4192013.69	9.92E-07	7.00E-07	1.18E-07	1.19E-07	1.18E-07	8.78E-08	5.32E-08	2.19E-06	7.10E-07	5.45E-07	9.18E-08	9.21E-08	9.18E-08	6.12E-08	2.68E-08	1.62E-06
713	560883.37	4192004.84	9.99E-07	7.04E-07	1.19E-07	1.20E-07	1.19E-07	8.84E-08	5.36E-08	2.20E-06	7.15E-07	5.49E-07	9.25E-08	9.27E-08	9.25E-08	6.16E-08	2.70E-08	1.63E-06
714	560896.81	4191995.99	1.00E-06	7.08E-07	1.20E-07	1.20E-07	1.20E-07	8.89E-08	5.39E-08	2.22E-06	7.18E-07	5.52E-07	9.29E-08	9.32E-08	9.29E-08	6.20E-08	2.71E-08	1.64E-06
715	560910.24	4191987.13	1.01E-06	7.10E-07	1.20E-07	1.20E-07	1.20E-07	8.91E-08	5.40E-08	2.22E-06	7.20E-07	5.53E-07	9.32E-08	9.34E-08	9.32E-08	6.21E-08	2.72E-08	1.64E-06
716	560923.67	4191978.28	1.01E-06	7.09E-07	1.20E-07	1.20E-07	1.20E-07	8.91E-08	5.40E-08	2.22E-06	7.20E-07	5.53E-07	9.31E-08	9.34E-08	9.31E-08	6.21E-08	2.72E-08	1.64E-06
717	560937.11	4191969.43	1.00E-06	7.07E-07	1.20E-07	1.20E-07	1.20E-07	8.87E-08	5.38E-08	2.21E-06	7.17E-07	5.51E-07	9.28E-08	9.30E-08	9.28E-08	6.19E-08	2.71E-08	1.64E-06
718	560769.76	4192173.24	1.18E-06	8.33E-07	1.41E-07	1.41E-07	1.41E-07	1.05E-07	6.34E-08	2.60E-06	8.45E-07	6.49E-07	1.09E-07	1.10E-07	1.09E-07	7.29E-08	3.19E-08	1.93E-06
719	560766.46	4192189.23	1.20E-06	8.49E-07	1.44E-07	1.44E-07	1.44E-07	1.07E-07	6.46E-08	2.66E-06	8.61E-07	6.61E-07	1.11E-07	1.12E-07	1.11E-07	7.43E-08	3.25E-08	1.96E-06
720	560765.16	4192156.17	1.12E-06	7.87E-07	1.33E-07	1.34E-07	1.33E-07	9.89E-08	5.99E-08	2.46E-06	7.99E-07	6.14E-07	1.03E-07	1.04E-07	1.03E-07	6.89E-08	3.02E-08	1.82E-06
721	560772.24	4192142.06	1.11E-06	7.81E-07	1.32E-07	1.32E-07	1.32E-07	9.80E-08	5.94E-08	2.44E-06	7.92E-07	6.08E-07	1.02E-07	1.03E-07	1.02E-07	6.83E-08	2.99E-08	1.81E-06
722	560779.32	4192127.95	1.09E-06	7.71E-07	1.30E-07	1.31E-07	1.30E-07	9.67E-08	5.86E-08	2.41E-06	7.82E-07	6.00E-07	1.01E-07	1.01E-07	1.01E-07	6.74E-08	2.95E-08	1.78E-06
723	560786.4	4192113.84	1.08E-06	7.58E-07	1.28E-07	1.29E-07	1.28E-07	9.51E-08	5.77E-08	2.37E-06	7.69E-07	5.90E-07	9.95E-08	9.97E-08	9.95E-08	6.63E-08	2.90E-08	1.75E-06
724	560793.48	4192099.73	1.05E-06	7.43E-07	1.26E-07	1.26E-07	1.26E-07	9.32E-08	5.65E-08	2.32E-06	7.53E-07	5.79E-07	9.75E-08	9.77E-08	9.75E-08	6.50E-08	2.85E-08	1.72E-06
725	560800.56	4192085.62	1.03E-06	7.26E-07	1.23E-07	1.23E-07	1.23E-07	9.11E-08	5.52E-08	2.27E-06	7.36E-07	5.65E-07	9.52E-08	9.55E-08	9.52E-08	6.35E-08	2.78E-08	1.68E-06
726	560807.64	4192071.51	1.01E-06	7.09E-07	1.20E-07	1.20E-07	1.20E-07	8.89E-08	5.39E-08	2.22E-06	7.19E-07	5.52E-07	9.30E-08	9.33E-08	9.30E-08	6.20E-08	2.71E-08	1.64E-06
727	560814.72	4192057.4	9.82E-07	6.92E-07	1.17E-07	1.17E-07	1.17E-07	8.69E-08	5.27E-08	2.16E-06	7.02E-07	5.39E-07	9.08E-08	9.11E-08	9.08E-08	6.06E-08	2.65E-08	1.60E-06
728	560821.8	4192043.29	9.57E-07	6.75E-07	1.14E-07	1.15E-07	1.14E-07	8.47E-08	5.14E-08	2.11E-06	6.85E-07	5.26E-07	8.86E-08	8.88E-08	8.86E-08	5.91E-08	2.59E-08	1.56E-06
729	560835.47	4192024.84	9.38E-07	6.61E-07	1.12E-07	1.12E-07	1.12E-07	8.30E-08	5.03E-08	2.07E-06	6.71E-07	5.15E-07	8.68E-08	8.70E-08	8.68E-08	5.79E-08	2.53E-08	1.53E-06
730	560848.65	4192016.15	9.45E-07	6.66E-07	1.13E-07	1.13E-07	1.13E-07	8.37E-08	5.07E-08	2.08E-06	6.76E-07	5.19E-07	8.75E-08	8.77E-08	8.75E-08	5.83E-08	2.55E-08	1.54E-06
731	560861.83	4192007.47	9.52E-07	6.71E-07	1.14E-07	1.14E-07	1.14E-07	8.43E-08	5.11E-08	2.10E-06	6.81E-07	5.23E-07	8.81E-08	8.84E-08	8.81E-08	5.88E-08	2.57E-08	1.55E-06
732	560875.01	4191998.78	9.59E-07	6.76E-07	1.14E-07	1.15E-07	1.14E-07	8.48E-08	5.14E-08	2.11E-06	6.86E-07	5.27E-07	8.87E-08	8.89E-08	8.87E-08	5.91E-08	2.59E-08	1.56E-06

733	560888.19	4191990.09	9.64E-07	6.80E-07	1.15E-07	1.15E-07	1.15E-07	8.53E-08	5.17E-08	2.13E-06	6.90E-07	5.30E-07	8.92E-08	8.95E-08	8.92E-08	5.95E-08	2.60E-08	1.57E-06
734	560901.38	4191981.41	9.68E-07	6.82E-07	1.15E-07	1.16E-07	1.15E-07	8.56E-08	5.19E-08	2.13E-06	6.92E-07	5.32E-07	8.95E-08	8.98E-08	8.95E-08	5.97E-08	2.61E-08	1.58E-06
735	560914.56	4191972.72	9.68E-07	6.83E-07	1.16E-07	1.16E-07	1.16E-07	8.57E-08	5.19E-08	2.14E-06	6.93E-07	5.32E-07	8.96E-08	8.99E-08	8.96E-08	5.97E-08	2.62E-08	1.58E-06
736	560927.74	4191964.03	9.66E-07	6.81E-07	1.15E-07	1.16E-07	1.15E-07	8.55E-08	5.18E-08	2.13E-06	6.91E-07	5.31E-07	8.94E-08	8.97E-08	8.94E-08	5.96E-08	2.61E-08	1.58E-06
737	560940.92	4191955.35	9.61E-07	6.78E-07	1.15E-07	1.15E-07	1.15E-07	8.51E-08	5.16E-08	2.12E-06	6.87E-07	5.28E-07	8.89E-08	8.92E-08	8.89E-08	5.93E-08	2.60E-08	1.57E-06
738	560759.97	4192171.22	1.13E-06	7.98E-07	1.35E-07	1.36E-07	1.35E-07	1.00E-07	6.08E-08	2.50E-06	8.10E-07	6.22E-07	1.05E-07	1.05E-07	1.05E-07	6.99E-08	3.06E-08	1.85E-06
739	560756.67	4192187.21	1.15E-06	8.13E-07	1.38E-07	1.38E-07	1.38E-07	1.02E-07	6.19E-08	2.54E-06	8.25E-07	6.34E-07	1.07E-07	1.07E-07	1.07E-07	7.12E-08	3.12E-08	1.88E-06
740	560755.3	4192154.27	1.07E-06	7.56E-07	1.28E-07	1.28E-07	1.28E-07	9.49E-08	5.76E-08	2.37E-06	7.67E-07	5.89E-07	9.93E-08	9.96E-08	9.93E-08	6.62E-08	2.90E-08	1.75E-06
741	560762.26	4192140.4	1.06E-06	7.50E-07	1.27E-07	1.27E-07	1.27E-07	9.42E-08	5.71E-08	2.35E-06	7.61E-07	5.85E-07	9.85E-08	9.88E-08	9.85E-08	6.57E-08	2.88E-08	1.74E-06
742	560769.22	4192126.54	1.05E-06	7.42E-07	1.26E-07	1.26E-07	1.26E-07	9.31E-08	5.64E-08	2.32E-06	7.53E-07	5.78E-07	9.74E-08	9.76E-08	9.74E-08	6.49E-08	2.84E-08	1.72E-06
743	560776.17	4192112.67	1.04E-06	7.31E-07	1.24E-07	1.24E-07	1.24E-07	9.17E-08	5.56E-08	2.29E-06	7.41E-07	5.69E-07	9.59E-08	9.62E-08	9.59E-08	6.40E-08	2.80E-08	1.69E-06
744	560783.13	4192098.8	1.02E-06	7.18E-07	1.21E-07	1.22E-07	1.21E-07	9.01E-08	5.46E-08	2.25E-06	7.28E-07	5.59E-07	9.42E-08	9.45E-08	9.42E-08	6.28E-08	2.75E-08	1.66E-06
745	560790.09	4192084.94	9.96E-07	7.02E-07	1.19E-07	1.19E-07	1.19E-07	8.81E-08	5.34E-08	2.20E-06	7.12E-07	5.47E-07	9.21E-08	9.24E-08	9.21E-08	6.14E-08	2.69E-08	1.62E-06
746	560797.05	4192071.07	9.72E-07	6.85E-07	1.16E-07	1.16E-07	1.16E-07	8.61E-08	5.22E-08	2.14E-06	6.95E-07	5.34E-07	9.00E-08	9.02E-08	9.00E-08	6.00E-08	2.63E-08	1.59E-06
747	560804.01	4192057.2	9.51E-07	6.70E-07	1.13E-07	1.14E-07	1.13E-07	8.41E-08	5.10E-08	2.10E-06	6.80E-07	5.22E-07	8.80E-08	8.82E-08	8.80E-08	5.87E-08	2.57E-08	1.55E-06
748	560810.96	4192043.34	9.30E-07	6.55E-07	1.11E-07	1.11E-07	1.11E-07	8.23E-08	4.99E-08	2.05E-06	6.65E-07	5.11E-07	8.60E-08	8.62E-08	8.60E-08	5.73E-08	2.51E-08	1.52E-06
749	560817.92	4192029.47	9.08E-07	6.40E-07	1.08E-07	1.09E-07	1.08E-07	8.03E-08	4.87E-08	2.00E-06	6.49E-07	4.99E-07	8.40E-08	8.42E-08	8.40E-08	5.60E-08	2.45E-08	1.48E-06
750	560827.88	4192018.27	9.01E-07	6.35E-07	1.08E-07	1.08E-07	1.08E-07	7.97E-08	4.83E-08	1.99E-06	6.44E-07	4.95E-07	8.34E-08	8.36E-08	8.34E-08	5.56E-08	2.43E-08	1.47E-06
751	560840.83	4192009.73	9.08E-07	6.40E-07	1.08E-07	1.09E-07	1.08E-07	8.03E-08	4.87E-08	2.00E-06	6.49E-07	4.99E-07	8.40E-08	8.42E-08	8.40E-08	5.60E-08	2.45E-08	1.48E-06
752	560853.79	4192001.2	9.15E-07	6.45E-07	1.09E-07	1.09E-07	1.09E-07	8.09E-08	4.91E-08	2.02E-06	6.54E-07	5.02E-07	8.46E-08	8.49E-08	8.46E-08	5.64E-08	2.47E-08	1.49E-06
753	560866.74	4191992.66	9.21E-07	6.49E-07	1.10E-07	1.10E-07	1.10E-07	8.15E-08	4.94E-08	2.03E-06	6.58E-07	5.06E-07	8.52E-08	8.54E-08	8.52E-08	5.68E-08	2.49E-08	1.50E-06
754	560879.7	4191984.12	9.26E-07	6.53E-07	1.11E-07	1.11E-07	1.11E-07	8.20E-08	4.97E-08	2.04E-06	6.62E-07	5.09E-07	8.57E-08	8.59E-08	8.57E-08	5.71E-08	2.50E-08	1.51E-06
755	560892.65	4191975.59	9.30E-07	6.56E-07	1.11E-07	1.11E-07	1.11E-07	8.23E-08	4.99E-08	2.05E-06	6.65E-07	5.11E-07	8.61E-08	8.63E-08	8.61E-08	5.74E-08	2.51E-08	1.52E-06
756	560905.61	4191967.05	9.32E-07	6.57E-07	1.11E-07	1.12E-07	1.11E-07	8.25E-08	5.00E-08	2.06E-06	6.67E-07	5.12E-07	8.63E-08	8.65E-08	8.63E-08	5.75E-08	2.52E-08	1.52E-06
757	560918.56	4191958.51	9.32E-07	6.57E-07	1.11E-07	1.11E-07	1.11E-07	8.24E-08	5.00E-08	2.05E-06	6.66E-07	5.12E-07	8.62E-08	8.64E-08	8.62E-08	5.75E-08	2.52E-08	1.52E-06
758	560931.52	4191949.98	9.28E-07	6.54E-07	1.11E-07	1.11E-07	1.11E-07	8.21E-08	4.98E-08	2.05E-06	6.64E-07	5.10E-07	8.59E-08	8.61E-08	8.59E-08	5.73E-08	2.51E-08	1.51E-06
759	560750.17	4192169.2	1.09E-06	7.67E-07	1.30E-07	1.30E-07	1.30E-07	9.63E-08	5.84E-08	2.40E-06	7.78E-07	5.98E-07	1.01E-07	1.01E-07	1.01E-07	6.71E-08	2.94E-08	1.77E-06
760	560746.87	4192185.19	1.11E-06	7.81E-07	1.32E-07	1.33E-07	1.32E-07	9.81E-08	5.95E-08	2.44E-06	7.93E-07	6.09E-07	1.03E-07	1.03E-07	1.03E-07	6.84E-08	2.99E-08	1.81E-06
761	560745.62	4192152.02	1.03E-06	7.28E-07	1.23E-07	1.24E-07	1.23E-07	9.14E-08	5.54E-08	2.28E-06	7.39E-07	5.68E-07	9.56E-08	9.59E-08	9.56E-08	6.38E-08	2.79E-08	1.69E-06
762	560752.81	4192137.69	1.02E-06	7.21E-07	1.22E-07	1.22E-07	1.22E-07	9.06E-08	5.49E-08	2.26E-06	7.32E-07	5.62E-07	9.47E-08	9.50E-08	9.47E-08	6.31E-08	2.76E-08	1.67E-06
763	560760	4192123.36	1.01E-06	7.13E-07	1.21E-07	1.21E-07	1.21E-07	8.95E-08	5.43E-08	2.23E-06	7.24E-07	5.56E-07	9.36E-08	9.39E-08	9.36E-08	6.24E-08	2.73E-08	1.65E-06
764	560767.19	4192109.03	9.97E-07	7.03E-07	1.19E-07	1.19E-07	1.19E-07	8.82E-08	5.35E-08	2.20E-06	7.13E-07	5.47E-07	9.22E-08	9.25E-08	9.22E-08	6.15E-08	2.69E-08	1.63E-06
765	560774.38	4192094.7	9.79E-07	6.90E-07	1.17E-07	1.17E-07	1.17E-07	8.66E-08	5.25E-08	2.16E-06	7.00E-07	5.38E-07	9.06E-08	9.08E-08	9.06E-08	6.04E-08	2.64E-08	1.60E-06
766	560781.57	4192080.37	9.57E-07	6.75E-07	1.14E-07	1.14E-07	1.14E-07	8.47E-08	5.13E-08	2.11E-06	6.84E-07	5.26E-07	8.85E-08	8.88E-08	8.85E-08	5.90E-08	2.58E-08	1.56E-06
767	560788.76	4192066.05	9.34E-07	6.58E-07	1.11E-07	1.12E-07	1.11E-07	8.26E-08	5.01E-08	2.06E-06	6.68E-07	5.13E-07	8.64E-08	8.66E-08	8.64E-08	5.76E-08	2.52E-08	1.52E-06
768	560795.95	4192051.72	9.13E-07	6.44E-07	1.09E-07	1.09E-07	1.09E-07	8.08E-08	4.90E-08	2.01E-06	6.53E-07	5.02E-07	8.45E-08	8.47E-08	8.45E-08	5.63E-08	2.47E-08	1.49E-06
769	560803.14	4192037.39	8.93E-07	6.29E-07	1.07E-07	1.07E-07	1.07E-07	7.90E-08	4.79E-08	1.97E-06	6.39E-07	4.90E-07	8.26E-08	8.29E-08	8.26E-08	5.51E-08	2.41E-08	1.46E-06
770	560810.33	4192023.06	8.73E-07	6.15E-07	1.04E-07	1.04E-07	1.04E-07	7.72E-08	4.68E-08	1.92E-06	6.24E-07	4.79E-07	8.08E-08	8.10E-08	8.08E-08	5.38E-08	2.36E-08	1.42E-06
771	560820.62	4192011.48	8.66E-07	6.11E-07	1.03E-07	1.04E-07	1.03E-07	7.67E-08	4.65E-08	1.91E-06	6.20E-07	4.76E-07	8.02E-08	8.04E-08	8.02E-08	5.35E-08	2.34E-08	1.41E-06
772	560834.01	4192002.66	8.73E-07	6.16E-07	1.04E-07	1.04E-07	1.04E-07	7.73E-08	4.68E-08	1.93E-06	6.25E-07	4.80E-07	8.08E-08	8.10E-08	8.08E-08	5.39E-08	2.36E-08	1.42E-06
773	560847.39	4191993.84	8.80E-07	6.20E-07	1.05E-07	1.05E-07	1.05E-07	7.79E-08	4.72E-08	1.94E-06	6.29E-07	4.83E-07	8.14E-08	8.17E-08	8.14E-08	5.43E-08	2.38E-08	1.44E-06
774	560860.78	4191985.02	8.86E-07	6.25E-07	1.06E-07	1.06E-07	1.06E-07	7.84E-08	4.75E-08	1.95E-06	6.34E-07	4.87E-07	8.20E-08	8.22E-08	8.20E-08	5.47E-08	2.39E-08	1.45E-06
775	560874.17	4191976.2	8.91E-07	6.28E-07	1.06E-07	1.07E-07	1.06E-07	7.89E-08	4.78E-08	1.97E-06	6.38E-07	4.90E-07	8.25E-08	8.27E-08	8.25E-08	5.50E-08	2.41E-08	1.45E-06
776	560887.55	4191967.38	8.96E-07	6.31E-07	1.07E-07	1.07E-07	1.07E-07	7.93E-08	4.81E-08	1.98E-06	6.41E-07	4.92E-07	8.29E-08	8.31E-08	8.29E-08	5.53E-08	2.42E-08	1.46E-06
777	560900.94	4191958.56	8.98E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.95E-08	4.82E-08	1.98E-06	6.42E-07	4.93E-07	8.31E-08	8.33E-08	8.31E-08	5.54E-08	2.43E-08	1.46E-06
778	560914.33	4191949.74	8.98E-07	6.33E-07	1.07E-07	1.07E-07	1.07E-07	7.94E-08	4.82E-08	1.98E-06	6.42E-07	4.93E-07	8.31E-08	8.33E-08	8.31E-08	5.54E-08	2.42E-08	1.46E-06
779	560927.71	4191940.92	8.95E-07	6.31E-07	1.07E-07	1.07E-07	1.07E-07	7.92E-08	4.80E-08	1.97E-06	6.40E-07	4.91E-07	8.28E-08	8.30E-08	8.28E-08	5.52E-08	2.42E-08	1.46E-06
780	560740.38	4192167.18	1.05E-06	7.39E-07	1.25E-07	1.25E-07	1.25E-07	9.27E-08	5.62E-08	2.31E-06	7.49E-07	5.76E-07	9.70E-08	9.72E-08	9.70E-08	6.46E-08	2.83E-08	1.71E-06
781	560737.08	4192183.17	1.07E-06	7.52E-07	1.27E-07	1.28E-07	1.27E-07	9.44E-08	5.72E-08	2.35E-06	7.63E-07	5.86E-07	9.87E-08	9.90E-08	9.87E-08	6.58E-08	2.88E-08	1.74E-06
782	560929.86	4192237.22	3.16E-06	2.23E-06	3.78E-07	3.79E-07	3.78E-07	2.80E-07	1.70E-07	6.98E-06	2.26E-06	1.74E-06	2.93E-07	2.94E-07	2.93E-07	1.95E-07	8.55E-08	5.16E-06
783	560920.14	4192234.86	2.93E-06	2.07E-06	3.50E-07	3.51E-07	3.50E-07	2.60E-07	1.57E-07	6.47E-06	2.10E-06	1.61E-06	2.71E-07	2.72E-07	2.71E-07	1.81E-07	7.92E-08	4.78E-06
784	560917.86	4192244.25	2.98E-06	2.10E-06	3.55E-07	3.56E-07	3.55E-07	2.63E-07	1.60E-07	6.56E-06	2.13E-06	1.63E-06	2.75E-07	2.76E-07	2.75E-07	1.84E-07	8.04E-08	4.85E-06
785	560915.58	4192253.64	3.01E-06	2.12E-06	3.59E-07	3.60E-07	3.59E-07	2.66E-07	1.61E-07	6.64E-06	2.15E-06	1.65E-06	2.78E-07	2.79E-07	2.78E-07	1.86E-07	8.13E-08	4.91E-06
786	560913.29	4192263.03	3.04E-06	2.14E-06	3.62E-07	3.63E-07	3.62E-07	2.69E-07	1.63E-07	6.69E-06	2.17E-06	1.67E-06	2.81E-07	2.82E-07	2.81E-07	1.87E-07	8.20E-08	4.95E-06
787	560911.01	4192272.42	3.05E-06	2.15E-06	3.64E-07	3.65E-07	3.64E-07	2.70E-07	1.64E-07	6.74E-06	2.18E-06	1.68E-06	2.83E-07	2.83E-07	2.83E-07	1.88E-07	8.25E-08	4.98E-06
788	560910.43	4192232.49	2.73E-06	1.92E-06	3.26E-07	3.26E-07	3.26E-07	2.41E-07	1.46E-07	6.02E-06	1.95E-06	1.50E-06	2.52E-07	2.53E-07	2.52E-07	1.68E-07	7.37E-08	4.45E-06
789	560908.14	4192241.88	2.77E-06	1.95E-06	3.30E-07	3.31E-07	3.30E-07	2.45E-07	1.48E-07	6.10E-06	1.98E-06	1.52E-06	2.56E-07	2.57E-07	2.56E-07	1.71E-07	7.47E-08	4.51E-06
790	560905.86	4192251.28	2.79E-06	1.97E-06	3.33E-07	3.34E-07	3.33E-07	2.47E-07	1.50E-07	6.16E-06	2.00E-06	1.54E-06	2.59E-07	2.59E-07	2.59E-07	1.72E-07	7.55E-08	4.56E-06
791	560903.58	4192260.67	2.82E-06	1.99E-06	3.36E-07	3.37E-07	3.36E-07	2.49E-07	1.51E-07	6.21E-06	2.02E-06	1.55E-06	2.61E-07	2.61E-07	2.61E-07	1.74E-07	7.61E-08	4.60E-06
792	560901.29	4192270.06	2.83E-06	2.00E-06	3.38E-07	3.39E-07	3.38E-07	2.51E-07	1.52E-07	6.25E-06	2.03E-06	1.56E-06	2.62E-07	2.63E-07	2.62E-07	1.75E-07	7.66E-08	4.62E-06
793	560899.01	4192279.45	2.85E-06	2.01E-06	3.40E-07	3.40E-07	3.40E-07	2.52E-07	1.53E-07	6.28E-06	2.04E-06	1.56E-06	2.63E-07	2.64E-07	2.63E-07	1.76E-07	7.69E-08	4.64E-06
794	560896.73	4192288.84	2.85E-06	2.01E-06	3.40E-07	3.41E-07	3.40E-07	2.52E-07	1.53E-07	6.29E-06	2.04E-06	1.57E-06	2.64E-07	2.65E-07	2.64E-07	1.76E-07	7.70E-08	4.65E-06
795	560894.44	4192298.23	2.85E-06	2.01E-06	3.40E-07	3.41E-07	3.40E-07	2.52E-07	1.53E-07	6.29E-06	2.04E-06	1.57E-06	2.64E-07	2.65E-07	2.64E-07	1.76E-07	7.70E-08	4.65E-06
796	560900.71	4192230.13	2.55E-06	1.79E-06	3.04E-07	3.05E-07	3.04E-07	2.25E-07	1.37E-07	5.61E-06	1.82E-06	1.40E-06	2.36E-07	2.36E-07	2.36E-07	1.57E-07	6.88E-08	4.15E-06
797	560898.43	4192239.52	2.58E-06	1.82E-06	3.08E-07	3.09E-07	3.08E-07	2.28E-07	1.38E-07	5.69E-06	1.84E-06	1.42E-06	2.39E-07	2.39E-07	2.39E-07	1.59E-07	6.96E-08	4.21E-06
798	560896.14	4192248.91	2.60E-06	1.84E-06	3.11E-07	3.12E-07	3.11E-07	2.30E-07	1.40E-07	5.74E-06	1.86E-06	1.43E-06	2.41E-07	2.42E-07	2.41E-07	1.61E-07	7.03E-08	4.25E-06
799	560893.86	4192258.3	2.62E-06	1.85E-06	3.13E-07	3.14E-07	3.13E-07	2.32E-07	1.41E-07	5.79E-06	1.88E-06	1.44E-06	2.43E-07	2.44E-07	2.43E-07	1.62E-07	7.09E-08	4.28E-06
800	560891.58	4192267.7	2.64E-06	1.86E-06	3.15E-07	3.16E-07	3.15E-07	2.34E-07	1.42E-07	5.82E-06	1.89E-06	1.45E-06	2.44E-07	2.45E-07	2.44E-07	1.63E-07	7.13E-08	4.31E-06
801	560889.29	4192277.09	2.65E-06	1.87E-06	3.16E-07	3.17E-07	3.16E-07	2.34E-07	1.42E-07	5.84E-06	1.89E-06	1.46E-06	2.45E-07	2.46E-07	2.45E-07	1.63E-07	7.16E-08	4.32E-06
802	560887.01	4192286.48	2.65E-06	1.87E-06	3.17E-07	3.18E-07	3.17E-07	2.35E-07	1.42E-07	5.85E-06	1.90E-06	1.46E-06	2.46E-07	2.46E-07	2.46E-07	1.64E-07	7.17E-08	4.33E-06
803	560884.72	4192295.87	2.65E-06	1.87E-06	3.17E-07	3.18E-07	3.17E-07	2.35E-07	1.42E-07	5.85E-06	1.90E-06	1.46E-06	2.46E-07	2.46E-07	2.46E-07	1.64E-07	7.17E-08	4.33E-06
804	560890.99	4192227.77	2.38E-06	1.68E-06	2.84E-07	2.85E-07	2.84E-07	2.11E-07	1.28E-07	5.25E-06	1.70E-06	1.31E-06	2.20E-07	2.21E-07	2.20E-07	1.47E-07	6.43E-08	3.88E-06
805	560888.71	4192237.16	2.41E-06	1.70E-06	2.87E-07	2.88E-07	2.87E-07	2.13E-07	1.29E-07	5.31E-06	1.72E-06	1.32E-06	2.23E-07	2.24E-07	2.23E-07	1.49E-07	6.51E-08	3.93E-06
806	560886.43	4192246.55	2.43E-06	1.71E-06	2.90E-07	2.91E-07	2.90E-07	2.15E-07	1.30E-07	5.36E-06	1.74E-06	1.34E-06	2.25E-07	2.26E-07	2.25E-07	1.50E-07	6.57E-08	3.97E-06
807	560884.14	4192255.94	2.45E-06	1.73E-06	2.92E-07	2.93E-07	2.92E-07	2.17E-07	1.31E-07	5.41E-06	1.75E-06	1.35E-06	2.27E-07	2.27E-07	2.27E-07	1.51E-07	6.62E-08	4.00E-06
808	560881.86	4192265.33	2.47E-06	1.74E-06	2.94E-07	2.95E-07	2.94E-07	2.18E-07	1.32E-07	5.44E-06	1.76E-06	1.35E-06	2.28E-07	2.29E-07	2.28E-07	1.52E-07	6.66E-08	4.02E-06
809	560879.58	4192274.72	2.47E-06	1.74E-06	2.95E-07	2.96E-07	2.95E-07	2.19E-07	1.33E-07	5.46E-06	1.77E-06	1.36E-06	2.29E-07	2.30E-07	2.29E-07	1.53E-07	6.68E-08	4.04E-06
810	560877.29	4192284.11	2.48E-06	1.75E-06	2.96E-07	2.97E-07	2.96E-07	2.19E-07	1.33E-07	5.47E-06	1.77E-06	1.36E-06	2.29E-07	2.30E-07	2.29E-07	1.53E-07	6.69E-08	4.04E-06
811	560875.01	4192293.51	2.48E-06	1.75E-06	2.96E-07	2.97E-07	2.96E-07	2.19E-07	1.33E-07	5.47E-06	1.77E-06	1.36E-06	2.29E-07	2.30E-07	2.29E-07	1.53E-07	6.69E-08	4.04E-06
812	560881.28	4192225.4	2.23E-06	1.57E-06	2.66E-07	2.67E-07	2.66E-07	1.98E-07	1.20E-07	4.92E-06	1.60E-06	1.23E-06	2.07E-07	2.07E-07	2.07E-07	1.38E-07	6.03E-08	3.64E-06
813	560878.99	4192234.8	2.26E-06	1.59E-06	2.69E-07	2.70E-07	2.69E-07	2.00E-07	1.21E-07	4.98E-06	1.61E-06	1.24E-06	2.09E-07	2.09E-07	2.09E-07	1.39E-07	6.10E-08	3.68E-06
814	560876.71	4192244.19	2.28E-06	1.61E-06	2.72E-07	2.72E-07	2.72E-07	2.02E-07	1.22E-07	5.02E-06	1.63E-06	1.25E-06	2.11E-07	2.11E-07	2.11E-07	1.40E-07	6.15E-08	3.71E-06
815	560874.43	4192253.58	2.30E-06	1.62E-06	2.74E-07	2.75E-07	2.74E-07	2.03E-07	1.23E-07	5.06E-06	1.64E-06	1.26E-06	2.12E-07	2.13E-07	2.12E-07	1.42E-07	6.20E-08	3.74E-06
816	560872.14	4192262.97	2.31E-06	1.63E-06	2.76E-07	2.76E-07	2.76E-07	2.04E-07	1.24E-07	5.09E-06	1.65E-06	1.27E-06	2.14E-07	2.14E-07	2.14E-07	1.42E-07	6.24E-08	3.77E-06
817	560869.86	4192272.36	2.32E-06	1.63E-06	2.77E-07	2.77E-07	2.77E-07	2.05E-07	1.24E-07	5.11E-06	1.66E-06	1.27E-06	2.14E-07	2.15E-07	2.14E-07	1.43E-07	6.26E-08	3.78E-06
818	560867.57	4192281.75	2.32E-06	1.64E-06	2.77E-07	2.78E-07	2.77E-07	2.05E-07	1.25E-07	5.12E-06	1.66E-06	1.27E-06	2.15E-07	2.15E-07	2.15E-07	1.43E-07	6.27E-08	3.79E-06
819	560865.29	4192291.14	2.32E-06	1.64E-06	2.77E-07	2.78E-07	2.77E-07	2.05E-07	1.24E-07	5.12E-06	1.66E-06	1.27E-06	2.15E-07	2.15E-07	2.15E-07	1.43E-07	6.27E-08	3.78E-06
820	560871.56	4192223.04	2.10E-06	1.48E-06	2.50E-07	2.51E-07	2.50E-07	1.86E-07	1.13E-07	4.63E-06	1.50E-06	1.15E-06	1.94E-07	1.95E-07	1.94E-07	1.29E-07	5.67E-08	3.42E-06
821	560869.28	4192232.43	2.12E-06	1.50E-06	2.53E-07	2.54E-07	2.53E-07	1.88E-07	1.14E-07	4.68E-06	1.52E-06	1.17E-06	1.96E-07	1.97E-07	1.96E-07	1.31E-07	5.73E-08	3.46E-06
822	560866.99	4192241.82	2.14E-06	1.51E-06	2.55E-07	2.56E-07	2.55E-07	1.89E-07	1.15E-07	4.72E-06	1.53E-06	1.18E-06	1.98E-07	1.99E-07	1.98E-07	1.32E-07	5.78E-08	3.49E-06
823	560864.71	4192251.22	2.16E-06	1.52E-06	2.57E-07	2.58E-07	2.57E-07	1.91E-07	1.16E-07	4.75E-06	1.54E-06	1.18E-06	1.99E-07	2.00E-07	1.99E-07	1.33E-07	5.82E-08	3.52E-06
824	560862.43	4192260.61	2.17E-06	1.53E-06	2.59E-07	2.59E-07	2.59E-07	1.92E-07	1.16E-07	4.78E-06	1.55E-06	1.19E-06	2.01E-07	2.01E-07	2.01E-07	1.34E-07	5.86E-08	3.54E-06

825	560860.14	4192270	2.18E-06	1.53E-06	2.60E-07	2.60E-07	2.60E-07	1.92E-07	1.17E-07	4.80E-06	1.56E-06	1.19E-06	2.01E-07	2.02E-07	2.01E-07	1.34E-07	5.88E-08	3.55E-06
826	560857.86	4192279.39	2.18E-06	1.54E-06	2.60E-07	2.61E-07	2.60E-07	1.93E-07	1.17E-07	4.80E-06	1.56E-06	1.20E-06	2.02E-07	2.02E-07	2.02E-07	1.34E-07	5.88E-08	3.55E-06
827	560855.57	4192288.78	2.18E-06	1.53E-06	2.60E-07	2.60E-07	2.60E-07	1.93E-07	1.17E-07	4.80E-06	1.56E-06	1.20E-06	2.01E-07	2.02E-07	2.01E-07	1.34E-07	5.88E-08	3.55E-06
828	560861.84	4192220.68	1.98E-06	1.40E-06	2.36E-07	2.37E-07	2.36E-07	1.75E-07	1.06E-07	4.36E-06	1.42E-06	1.09E-06	1.83E-07	1.84E-07	1.83E-07	1.22E-07	5.35E-08	3.23E-06
829	560859.56	4192230.07	2.00E-06	1.41E-06	2.39E-07	2.39E-07	2.39E-07	1.77E-07	1.07E-07	4.41E-06	1.43E-06	1.10E-06	1.85E-07	1.86E-07	1.85E-07	1.23E-07	5.40E-08	3.26E-06
830	560857.28	4192239.46	2.02E-06	1.42E-06	2.41E-07	2.41E-07	2.41E-07	1.79E-07	1.08E-07	4.45E-06	1.44E-06	1.11E-06	1.87E-07	1.87E-07	1.87E-07	1.24E-07	5.45E-08	3.29E-06
831	560854.99	4192248.85	2.03E-06	1.43E-06	2.42E-07	2.43E-07	2.42E-07	1.80E-07	1.09E-07	4.48E-06	1.45E-06	1.12E-06	1.88E-07	1.88E-07	1.88E-07	1.25E-07	5.48E-08	3.31E-06
832	560852.71	4192258.24	2.04E-06	1.44E-06	2.44E-07	2.44E-07	2.44E-07	1.81E-07	1.09E-07	4.50E-06	1.46E-06	1.12E-06	1.89E-07	1.89E-07	1.89E-07	1.26E-07	5.51E-08	3.33E-06
833	560850.42	4192267.63	2.05E-06	1.44E-06	2.44E-07	2.45E-07	2.44E-07	1.81E-07	1.10E-07	4.51E-06	1.46E-06	1.12E-06	1.89E-07	1.90E-07	1.89E-07	1.26E-07	5.53E-08	3.34E-06
834	560848.14	4192277.03	2.05E-06	1.44E-06	2.44E-07	2.45E-07	2.44E-07	1.81E-07	1.10E-07	4.52E-06	1.47E-06	1.13E-06	1.90E-07	1.90E-07	1.90E-07	1.26E-07	5.53E-08	3.34E-06
835	560845.86	4192286.42	2.05E-06	1.44E-06	2.44E-07	2.45E-07	2.44E-07	1.81E-07	1.10E-07	4.51E-06	1.46E-06	1.12E-06	1.89E-07	1.90E-07	1.89E-07	1.26E-07	5.53E-08	3.34E-06
836	560852.13	4192218.32	1.87E-06	1.32E-06	2.23E-07	2.24E-07	2.23E-07	1.66E-07	1.00E-07	4.13E-06	1.34E-06	1.03E-06	1.73E-07	1.74E-07	1.73E-07	1.15E-07	5.05E-08	3.05E-06
837	560849.84	4192227.71	1.89E-06	1.33E-06	2.26E-07	2.26E-07	2.26E-07	1.67E-07	1.01E-07	4.17E-06	1.35E-06	1.04E-06	1.75E-07	1.75E-07	1.75E-07	1.17E-07	5.11E-08	3.08E-06
838	560847.56	4192237.1	1.91E-06	1.34E-06	2.27E-07	2.28E-07	2.27E-07	1.69E-07	1.02E-07	4.20E-06	1.36E-06	1.05E-06	1.76E-07	1.77E-07	1.76E-07	1.18E-07	5.15E-08	3.11E-06
839	560845.28	4192246.49	1.92E-06	1.35E-06	2.29E-07	2.29E-07	2.29E-07	1.70E-07	1.03E-07	4.23E-06	1.37E-06	1.05E-06	1.77E-07	1.78E-07	1.77E-07	1.18E-07	5.18E-08	3.13E-06
840	560842.99	4192255.88	1.93E-06	1.36E-06	2.30E-07	2.30E-07	2.30E-07	1.70E-07	1.03E-07	4.25E-06	1.38E-06	1.06E-06	1.78E-07	1.79E-07	1.78E-07	1.19E-07	5.20E-08	3.14E-06
841	560840.71	4192265.27	1.93E-06	1.36E-06	2.30E-07	2.31E-07	2.30E-07	1.71E-07	1.04E-07	4.26E-06	1.38E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.19E-07	5.22E-08	3.15E-06
842	560838.42	4192274.66	1.93E-06	1.36E-06	2.31E-07	2.31E-07	2.31E-07	1.71E-07	1.04E-07	4.26E-06	1.38E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.19E-07	5.22E-08	3.15E-06
843	560836.14	4192284.05	1.93E-06	1.36E-06	2.30E-07	2.31E-07	2.30E-07	1.71E-07	1.04E-07	4.26E-06	1.38E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.19E-07	5.22E-08	3.15E-06
844	560842.41	4192215.95	1.77E-06	1.25E-06	2.11E-07	2.12E-07	2.11E-07	1.57E-07	9.51E-08	3.91E-06	1.27E-06	9.73E-07	1.64E-07	1.64E-07	1.64E-07	1.09E-07	4.79E-08	2.89E-06
845	560840.13	4192225.34	1.79E-06	1.26E-06	2.14E-07	2.14E-07	2.14E-07	1.58E-07	9.60E-08	3.95E-06	1.28E-06	9.83E-07	1.66E-07	1.66E-07	1.66E-07	1.10E-07	4.83E-08	2.92E-06
846	560837.84	4192234.74	1.80E-06	1.27E-06	2.15E-07	2.16E-07	2.15E-07	1.60E-07	9.68E-08	3.98E-06	1.29E-06	9.91E-07	1.67E-07	1.67E-07	1.67E-07	1.11E-07	4.87E-08	2.94E-06
847	560835.56	4192244.13	1.81E-06	1.28E-06	2.17E-07	2.17E-07	2.17E-07	1.61E-07	9.73E-08	4.00E-06	1.30E-06	9.97E-07	1.68E-07	1.68E-07	1.68E-07	1.12E-07	4.90E-08	2.96E-06
848	560833.27	4192253.52	1.82E-06	1.28E-06	2.17E-07	2.18E-07	2.17E-07	1.61E-07	9.78E-08	4.02E-06	1.30E-06	1.00E-06	1.69E-07	1.69E-07	1.69E-07	1.12E-07	4.92E-08	2.97E-06
849	560830.99	4192262.91	1.83E-06	1.29E-06	2.18E-07	2.19E-07	2.18E-07	1.62E-07	9.80E-08	4.03E-06	1.31E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.13E-07	4.93E-08	2.98E-06
850	560828.71	4192272.3	1.83E-06	1.29E-06	2.18E-07	2.19E-07	2.18E-07	1.62E-07	9.81E-08	4.03E-06	1.31E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.13E-07	4.94E-08	2.98E-06
851	560826.42	4192281.69	1.83E-06	1.29E-06	2.18E-07	2.19E-07	2.18E-07	1.62E-07	9.80E-08	4.03E-06	1.31E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.13E-07	4.93E-08	2.98E-06
852	560832.69	4192213.59	1.68E-06	1.19E-06	2.01E-07	2.01E-07	2.01E-07	1.49E-07	9.02E-08	3.71E-06	1.20E-06	9.24E-07	1.56E-07	1.56E-07	1.56E-07	1.04E-07	4.54E-08	2.74E-06
853	560830.41	4192222.98	1.70E-06	1.20E-06	2.03E-07	2.03E-07	2.03E-07	1.50E-07	9.11E-08	3.74E-06	1.21E-06	9.33E-07	1.57E-07	1.58E-07	1.57E-07	1.05E-07	4.59E-08	2.77E-06
854	560828.13	4192232.37	1.71E-06	1.21E-06	2.04E-07	2.05E-07	2.04E-07	1.51E-07	9.18E-08	3.77E-06	1.22E-06	9.40E-07	1.58E-07	1.59E-07	1.58E-07	1.06E-07	4.62E-08	2.79E-06
855	560825.84	4192241.76	1.72E-06	1.21E-06	2.05E-07	2.06E-07	2.05E-07	1.52E-07	9.23E-08	3.79E-06	1.23E-06	9.45E-07	1.59E-07	1.60E-07	1.59E-07	1.06E-07	4.65E-08	2.81E-06
856	560823.56	4192251.15	1.73E-06	1.22E-06	2.06E-07	2.07E-07	2.06E-07	1.53E-07	9.27E-08	3.81E-06	1.24E-06	9.49E-07	1.60E-07	1.60E-07	1.60E-07	1.07E-07	4.67E-08	2.82E-06
857	560821.27	4192260.55	1.73E-06	1.22E-06	2.07E-07	2.07E-07	2.07E-07	1.53E-07	9.29E-08	3.82E-06	1.24E-06	9.51E-07	1.60E-07	1.61E-07	1.60E-07	1.07E-07	4.68E-08	2.82E-06
858	560818.99	4192269.94	1.73E-06	1.22E-06	2.07E-07	2.07E-07	2.07E-07	1.53E-07	9.30E-08	3.82E-06	1.24E-06	9.52E-07	1.60E-07	1.61E-07	1.60E-07	1.07E-07	4.68E-08	2.83E-06
859	560816.71	4192279.33	1.73E-06	1.22E-06	2.07E-07	2.07E-07	2.07E-07	1.53E-07	9.29E-08	3.82E-06	1.24E-06	9.51E-07	1.60E-07	1.61E-07	1.60E-07	1.07E-07	4.68E-08	2.82E-06
860	560822.98	4192211.23	1.60E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.42E-07	8.58E-08	3.53E-06	1.14E-06	8.78E-07	1.48E-07	1.48E-07	1.48E-07	9.87E-08	4.32E-08	2.61E-06
861	560820.69	4192220.62	1.61E-06	1.14E-06	1.93E-07	1.93E-07	1.93E-07	1.43E-07	8.66E-08	3.56E-06	1.15E-06	8.86E-07	1.49E-07	1.50E-07	1.49E-07	9.95E-08	4.36E-08	2.63E-06
862	560818.41	4192230.01	1.63E-06	1.15E-06	1.94E-07	1.94E-07	1.94E-07	1.44E-07	8.72E-08	3.58E-06	1.16E-06	8.93E-07	1.50E-07	1.51E-07	1.50E-07	1.00E-07	4.39E-08	2.65E-06
863	560816.12	4192239.4	1.63E-06	1.15E-06	1.95E-07	1.96E-07	1.95E-07	1.45E-07	8.77E-08	3.60E-06	1.17E-06	8.98E-07	1.51E-07	1.52E-07	1.51E-07	1.01E-07	4.41E-08	2.67E-06
864	560813.84	4192248.79	1.64E-06	1.16E-06	1.96E-07	1.96E-07	1.96E-07	1.45E-07	8.80E-08	3.62E-06	1.17E-06	9.01E-07	1.52E-07	1.52E-07	1.52E-07	1.01E-07	4.43E-08	2.68E-06
865	560811.56	4192258.18	1.64E-06	1.16E-06	1.96E-07	1.97E-07	1.96E-07	1.46E-07	8.82E-08	3.63E-06	1.18E-06	9.03E-07	1.52E-07	1.53E-07	1.52E-07	1.01E-07	4.44E-08	2.68E-06
866	560809.27	4192267.57	1.65E-06	1.16E-06	1.96E-07	1.97E-07	1.96E-07	1.46E-07	8.83E-08	3.63E-06	1.18E-06	9.04E-07	1.52E-07	1.53E-07	1.52E-07	1.02E-07	4.44E-08	2.68E-06
867	560806.99	4192276.97	1.64E-06	1.16E-06	1.96E-07	1.97E-07	1.96E-07	1.45E-07	8.82E-08	3.63E-06	1.18E-06	9.03E-07	1.52E-07	1.53E-07	1.52E-07	1.01E-07	4.44E-08	2.68E-06
868	560813.26	4192208.86	1.52E-06	1.07E-06	1.82E-07	1.82E-07	1.82E-07	1.35E-07	8.17E-08	3.36E-06	1.09E-06	8.36E-07	1.41E-07	1.41E-07	1.41E-07	9.39E-08	4.11E-08	2.48E-06
869	560810.98	4192218.26	1.54E-06	1.08E-06	1.83E-07	1.84E-07	1.83E-07	1.36E-07	8.24E-08	3.39E-06	1.10E-06	8.44E-07	1.42E-07	1.43E-07	1.42E-07	9.48E-08	4.15E-08	2.51E-06
870	560808.69	4192227.65	1.55E-06	1.09E-06	1.85E-07	1.85E-07	1.85E-07	1.37E-07	8.30E-08	3.41E-06	1.11E-06	8.50E-07	1.43E-07	1.44E-07	1.43E-07	9.54E-08	4.18E-08	2.52E-06
871	560806.41	4192237.04	1.56E-06	1.10E-06	1.86E-07	1.86E-07	1.86E-07	1.38E-07	8.34E-08	3.43E-06	1.11E-06	8.54E-07	1.44E-07	1.44E-07	1.44E-07	9.59E-08	4.20E-08	2.54E-06
872	560804.12	4192246.43	1.56E-06	1.10E-06	1.86E-07	1.87E-07	1.86E-07	1.38E-07	8.37E-08	3.44E-06	1.12E-06	8.57E-07	1.44E-07	1.45E-07	1.44E-07	9.63E-08	4.22E-08	2.55E-06
873	560801.84	4192255.82	1.56E-06	1.10E-06	1.87E-07	1.87E-07	1.87E-07	1.38E-07	8.39E-08	3.45E-06	1.12E-06	8.59E-07	1.45E-07	1.45E-07	1.45E-07	9.65E-08	4.22E-08	2.55E-06
874	560799.56	4192265.21	1.56E-06	1.10E-06	1.87E-07	1.87E-07	1.87E-07	1.38E-07	8.39E-08	3.45E-06	1.12E-06	8.60E-07	1.45E-07	1.45E-07	1.45E-07	9.65E-08	4.23E-08	2.55E-06
875	560797.27	4192274.6	1.56E-06	1.10E-06	1.87E-07	1.87E-07	1.87E-07	1.38E-07	8.39E-08	3.45E-06	1.12E-06	8.59E-07	1.45E-07	1.45E-07	1.45E-07	9.64E-08	4.22E-08	2.55E-06
876	560803.54	4192206.5	1.45E-06	1.02E-06	1.73E-07	1.74E-07	1.73E-07	1.29E-07	7.79E-08	3.20E-06	1.04E-06	7.98E-07	1.34E-07	1.35E-07	1.34E-07	8.96E-08	3.92E-08	2.37E-06
877	560801.26	4192215.89	1.46E-06	1.03E-06	1.75E-07	1.75E-07	1.75E-07	1.30E-07	7.86E-08	3.23E-06	1.05E-06	8.04E-07	1.36E-07	1.36E-07	1.36E-07	9.04E-08	3.96E-08	2.39E-06
878	560798.98	4192225.28	1.47E-06	1.04E-06	1.76E-07	1.76E-07	1.76E-07	1.30E-07	7.91E-08	3.25E-06	1.05E-06	8.10E-07	1.36E-07	1.37E-07	1.36E-07	9.10E-08	3.98E-08	2.40E-06
879	560796.69	4192234.67	1.48E-06	1.04E-06	1.77E-07	1.77E-07	1.77E-07	1.31E-07	7.95E-08	3.27E-06	1.06E-06	8.14E-07	1.37E-07	1.37E-07	1.37E-07	9.14E-08	4.00E-08	2.42E-06
880	560794.41	4192244.07	1.49E-06	1.05E-06	1.77E-07	1.78E-07	1.77E-07	1.32E-07	7.98E-08	3.28E-06	1.06E-06	8.17E-07	1.38E-07	1.38E-07	1.38E-07	9.17E-08	4.02E-08	2.43E-06
881	560792.12	4192253.46	1.49E-06	1.05E-06	1.78E-07	1.78E-07	1.78E-07	1.32E-07	7.99E-08	3.29E-06	1.07E-06	8.18E-07	1.38E-07	1.38E-07	1.38E-07	9.19E-08	4.02E-08	2.43E-06
882	560789.84	4192262.85	1.49E-06	1.05E-06	1.78E-07	1.78E-07	1.78E-07	1.32E-07	8.00E-08	3.29E-06	1.07E-06	8.19E-07	1.38E-07	1.38E-07	1.38E-07	9.20E-08	4.03E-08	2.43E-06
883	560787.56	4192272.24	1.49E-06	1.05E-06	1.78E-07	1.78E-07	1.78E-07	1.32E-07	7.99E-08	3.28E-06	1.06E-06	8.18E-07	1.38E-07	1.38E-07	1.38E-07	9.19E-08	4.02E-08	2.43E-06
884	560793.83	4192204.14	1.39E-06	9.78E-07	1.66E-07	1.66E-07	1.66E-07	1.23E-07	7.44E-08	3.06E-06	9.92E-07	7.62E-07	1.28E-07	1.29E-07	1.28E-07	8.56E-08	3.75E-08	2.26E-06
885	560791.54	4192213.53	1.40E-06	9.86E-07	1.67E-07	1.67E-07	1.67E-07	1.24E-07	7.50E-08	3.08E-06	1.00E-06	7.68E-07	1.29E-07	1.30E-07	1.29E-07	8.63E-08	3.78E-08	2.28E-06
886	560789.26	4192222.92	1.41E-06	9.92E-07	1.68E-07	1.68E-07	1.68E-07	1.25E-07	7.55E-08	3.10E-06	1.01E-06	7.73E-07	1.30E-07	1.31E-07	1.30E-07	8.68E-08	3.80E-08	2.30E-06
887	560786.97	4192232.31	1.41E-06	9.97E-07	1.69E-07	1.69E-07	1.69E-07	1.25E-07	7.59E-08	3.12E-06	1.01E-06	7.77E-07	1.31E-07	1.31E-07	1.31E-07	8.73E-08	3.82E-08	2.31E-06
888	560784.69	4192241.7	1.42E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.26E-07	7.61E-08	3.13E-06	1.01E-06	7.79E-07	1.31E-07	1.32E-07	1.31E-07	8.75E-08	3.83E-08	2.31E-06
889	560782.41	4192251.09	1.42E-06	1.00E-06	1.70E-07	1.70E-07	1.70E-07	1.26E-07	7.63E-08	3.14E-06	1.02E-06	7.81E-07	1.32E-07	1.32E-07	1.32E-07	8.77E-08	3.84E-08	2.32E-06
890	560780.12	4192260.49	1.42E-06	1.00E-06	1.70E-07	1.70E-07	1.70E-07	1.26E-07	7.63E-08	3.14E-06	1.02E-06	7.81E-07	1.32E-07	1.32E-07	1.32E-07	8.77E-08	3.84E-08	2.32E-06
891	560777.84	4192269.88	1.42E-06	1.00E-06	1.69E-07	1.70E-07	1.69E-07	1.26E-07	7.62E-08	3.13E-06	1.02E-06	7.80E-07	1.31E-07	1.32E-07	1.31E-07	8.76E-08	3.84E-08	2.32E-06
892	560781.83	4192211.17	1.34E-06	9.42E-07	1.59E-07	1.60E-07	1.59E-07	1.18E-07	7.17E-08	2.95E-06	9.56E-07	7.34E-07	1.24E-07	1.24E-07	1.24E-07	8.25E-08	3.61E-08	2.18E-06
893	560779.54	4192220.56	1.34E-06	9.48E-07	1.60E-07	1.61E-07	1.60E-07	1.19E-07	7.21E-08	2.96E-06	9.61E-07	7.38E-07	1.24E-07	1.25E-07	1.24E-07	8.29E-08	3.63E-08	2.19E-06
894	560777.26	4192229.95	1.35E-06	9.52E-07	1.61E-07	1.62E-07	1.61E-07	1.20E-07	7.25E-08	2.98E-06	9.66E-07	7.42E-07	1.25E-07	1.25E-07	1.25E-07	8.33E-08	3.65E-08	2.20E-06
895	560774.97	4192239.34	1.36E-06	9.55E-07	1.62E-07	1.62E-07	1.62E-07	1.20E-07	7.27E-08	2.99E-06	9.69E-07	7.44E-07	1.25E-07	1.26E-07	1.25E-07	8.36E-08	3.66E-08	2.21E-06
896	560772.69	4192248.73	1.36E-06	9.57E-07	1.62E-07	1.63E-07	1.62E-07	1.20E-07	7.29E-08	3.00E-06	9.71E-07	7.46E-07	1.26E-07	1.26E-07	1.26E-07	8.38E-08	3.67E-08	2.22E-06
897	560770.41	4192258.12	1.36E-06	9.58E-07	1.62E-07	1.63E-07	1.62E-07	1.20E-07	7.29E-08	3.00E-06	9.72E-07	7.46E-07	1.26E-07	1.26E-07	1.26E-07	8.38E-08	3.67E-08	2.22E-06
898	560768.12	4192267.51	1.36E-06	9.56E-07	1.62E-07	1.62E-07	1.62E-07	1.20E-07	7.28E-08	2.99E-06	9.70E-07	7.45E-07	1.26E-07	1.26E-07	1.26E-07	8.37E-08	3.66E-08	2.21E-06
899	560772.11	4192208.8	1.28E-06	9.00E-07	1.52E-07	1.53E-07	1.52E-07	1.13E-07	6.85E-08	2.82E-06	9.13E-07	7.01E-07	1.18E-07	1.18E-07	1.18E-07	7.88E-08	3.45E-08	2.08E-06
900	560769.82	4192218.19	1.28E-06	9.05E-07	1.53E-07	1.54E-07	1.53E-07	1.14E-07	6.89E-08	2.83E-06	9.18E-07	7.05E-07	1.19E-07	1.19E-07	1.19E-07	7.92E-08	3.47E-08	2.09E-06
901	560767.54	4192227.59	1.29E-06	9.10E-07	1.54E-07	1.54E-07	1.54E-07	1.14E-07	6.92E-08	2.85E-06	9.23E-07	7.09E-07	1.19E-07	1.20E-07	1.19E-07	7.96E-08	3.49E-08	2.11E-06
902	560765.26	4192236.98	1.30E-06	9.13E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.95E-08	2.86E-06	9.27E-07	7.12E-07	1.20E-07	1.20E-07	1.20E-07	7.99E-08	3.50E-08	2.11E-06
903	560762.97	4192246.37	1.30E-06	9.16E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.97E-08	2.87E-06	9.29E-07	7.14E-07	1.20E-07	1.21E-07	1.20E-07	8.02E-08	3.51E-08	2.12E-06
904	560760.69	4192255.76	1.30E-06	9.16E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.97E-08	2.87E-06	9.29E-07	7.14E-07	1.20E-07	1.21E-07	1.20E-07	8.02E-08	3.51E-08	2.12E-06
905	560758.41	4192265.15	1.30E-06	9.15E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.96E-08	2.86E-06	9.28E-07	7.13E-07	1.20E-07	1.20E-07	1.20E-07	8.01E-08	3.50E-08	2.12E-06
906	560762.39	4192206.44	1.22E-06	8.61E-07	1.46E-07	1.46E-07	1.46E-07	1.08E-07	6.55E-08	2.69E-06	8.73E-07	6.71E-07	1.13E-07	1.13E-07	1.13E-07	7.53E-08	3.30E-08	1.99E-06
907	560760.11	4192215.83	1.23E-06	8.65E-07	1.46E-07	1.47E-07	1.46E-07	1.09E-07	6.58E-08	2.71E-06	8.78E-07	6.74E-07	1.14E-07	1.14E-07	1.14E-07	7.57E-08	3.31E-08	2.00E-06
908	560757.82	4192225.22	1.23E-06	8.70E-07	1.47E-07	1.48E-07	1.47E-07	1.09E-07	6.62E-08	2.72E-06	8.83E-07	6.78E-07	1.14E-07	1.15E-07	1.14E-07	7.61E-08	3.33E-08	2.01E-06
909	560755.54	4192234.61	1.24E-06	8.74E-07	1.48E-07	1.48E-07	1.48E-07	1.10E-07	6.65E-08	2.73E-06	8.87E-07	6.81E-07	1.15E-07	1.15E-07	1.15E-07	7.65E-08	3.35E-08	2.02E-06
910	560753.26	4192244.01	1.24E-06	8.77E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.67E-08	2.74E-06	8.89E-07	6.83E-07	1.15E-07	1.15E-07	1.15E-07	7.67E-08	3.36E-08	2.03E-06
911	560750.97	4192253.4	1.24E-06	8.77E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.67E-08	2.74E-06	8.89E-07	6.83E-07	1.15E-07	1.15E-07	1.15E-07	7.67E-08	3.36E-08	2.03E-06
912	560748.69	4192262.79	1.24E-06	8.75E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.66E-08	2.74E-06	8.88E-07	6.82E-07	1.15E-07	1.15E-07	1.15E-07	7.66E-08	3.35E-08	2.02E-06
913	560752.67	4192204.08	1.17E-06	8.24E-07	1.39E-07	1.40E-07	1.39E-07	1.03E-07	6.27E-08	2.58E-06	8.36E-07	6.42E-07	1.08E-07	1.08E-07	1.08E-07	7.21E-08	3.16E-08	1.91E-06
914	560750.39	4192213.47	1.18E-06	8.29E-07	1.40E-07	1.41E-07	1.40E-07	1.04E-07	6.30E-08	2.59E-06	8.41E-07	6.46E-07	1.09E-07	1.09E-07	1.09E-07	7.25E-08	3.17E-08	1.92E-06
915	560748.11	4192222.86	1.18E-06	8.33E-07	1.41E-07	1.41E-07	1.41E-07	1.05E-07	6.34E-08	2.61E-06	8.45E-07	6.49E-07	1.09E-07	1.10E-07	1.09E-07	7.29E-08	3.19E-08	1.93E-06
916	560745.82	4192232.25	1.19E-06	8.37E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.37E-08	2.62E-06	8.49E-07	6.52E-07	1.10E-07	1.10E-07	1.10E-07	7.32E-08	3.21E-08	1.94E-06

917	560743.54	4192241.64	1.19E-06	8.39E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.38E-08	2.62E-06	8.51E-07	6.54E-07	1.10E-07	1.10E-07	1.10E-07	7.34E-08	3.21E-08	1.94E-06
918	560741.26	4192251.03	1.19E-06	8.39E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.38E-08	2.62E-06	8.51E-07	6.54E-07	1.10E-07	1.10E-07	1.10E-07	7.34E-08	3.21E-08	1.94E-06
919	560738.97	4192260.43	1.19E-06	8.37E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.37E-08	2.62E-06	8.49E-07	6.52E-07	1.10E-07	1.10E-07	1.10E-07	7.33E-08	3.21E-08	1.94E-06
920	560742.96	4192201.71	1.12E-06	7.92E-07	1.34E-07	1.34E-07	1.34E-07	9.94E-08	6.03E-08	2.48E-06	8.03E-07	6.17E-07	1.04E-07	1.04E-07	1.04E-07	6.93E-08	3.03E-08	1.83E-06
921	560740.67	4192211.11	1.13E-06	7.96E-07	1.35E-07	1.35E-07	1.35E-07	9.99E-08	6.06E-08	2.49E-06	8.07E-07	6.20E-07	1.04E-07	1.05E-07	1.04E-07	6.97E-08	3.05E-08	1.84E-06
922	560738.39	4192220.5	1.13E-06	7.99E-07	1.35E-07	1.36E-07	1.35E-07	1.00E-07	6.08E-08	2.50E-06	8.11E-07	6.23E-07	1.05E-07	1.05E-07	1.05E-07	7.00E-08	3.06E-08	1.85E-06
923	560736.11	4192229.89	1.14E-06	8.02E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.11E-08	2.51E-06	8.14E-07	6.25E-07	1.05E-07	1.06E-07	1.05E-07	7.02E-08	3.07E-08	1.86E-06
924	560733.82	4192239.28	1.14E-06	8.04E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.11E-08	2.51E-06	8.15E-07	6.26E-07	1.05E-07	1.06E-07	1.05E-07	7.03E-08	3.08E-08	1.86E-06
925	560731.54	4192248.67	1.14E-06	8.03E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.11E-08	2.51E-06	8.15E-07	6.26E-07	1.05E-07	1.06E-07	1.05E-07	7.03E-08	3.08E-08	1.86E-06
926	560729.26	4192258.06	1.14E-06	8.01E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.10E-08	2.51E-06	8.13E-07	6.25E-07	1.05E-07	1.05E-07	1.05E-07	7.01E-08	3.07E-08	1.85E-06
927	560733.24	4192199.35	1.08E-06	7.61E-07	1.29E-07	1.29E-07	1.29E-07	9.56E-08	5.79E-08	2.38E-06	7.73E-07	5.93E-07	1.00E-07	1.00E-07	1.00E-07	6.66E-08	2.92E-08	1.76E-06
928	560730.96	4192208.74	1.09E-06	7.65E-07	1.30E-07	1.30E-07	1.30E-07	9.61E-08	5.82E-08	2.39E-06	7.77E-07	5.96E-07	1.00E-07	1.01E-07	1.00E-07	6.70E-08	2.93E-08	1.77E-06
929	560728.67	4192218.13	1.09E-06	7.68E-07	1.30E-07	1.30E-07	1.30E-07	9.64E-08	5.85E-08	2.40E-06	7.79E-07	5.99E-07	1.01E-07	1.01E-07	1.01E-07	6.72E-08	2.94E-08	1.78E-06
930	560726.39	4192227.53	1.09E-06	7.70E-07	1.30E-07	1.31E-07	1.30E-07	9.67E-08	5.86E-08	2.41E-06	7.81E-07	6.00E-07	1.01E-07	1.01E-07	1.01E-07	6.74E-08	2.95E-08	1.78E-06
931	560724.11	4192236.92	1.09E-06	7.71E-07	1.30E-07	1.31E-07	1.30E-07	9.67E-08	5.86E-08	2.41E-06	7.82E-07	6.01E-07	1.01E-07	1.01E-07	1.01E-07	6.74E-08	2.95E-08	1.78E-06
932	560721.82	4192246.31	1.09E-06	7.70E-07	1.30E-07	1.31E-07	1.30E-07	9.67E-08	5.86E-08	2.41E-06	7.81E-07	6.00E-07	1.01E-07	1.01E-07	1.01E-07	6.74E-08	2.95E-08	1.78E-06
933	560719.54	4192255.7	1.09E-06	7.69E-07	1.30E-07	1.31E-07	1.30E-07	9.65E-08	5.85E-08	2.41E-06	7.80E-07	5.99E-07	1.01E-07	1.01E-07	1.01E-07	6.73E-08	2.95E-08	1.78E-06
934	560891.64	4192311.4	2.85E-06	2.01E-06	3.40E-07	3.41E-07	3.40E-07	2.52E-07	1.53E-07	6.29E-06	2.04E-06	1.57E-06	2.64E-07	2.65E-07	2.64E-07	1.76E-07	7.70E-08	4.65E-06
935	560888.03	4192328.88	2.84E-06	2.00E-06	3.39E-07	3.40E-07	3.39E-07	2.51E-07	1.52E-07	6.26E-06	2.03E-06	1.56E-06	2.63E-07	2.64E-07	2.63E-07	1.75E-07	7.67E-08	4.63E-06
936	560884.42	4192346.37	2.81E-06	1.98E-06	3.36E-07	3.37E-07	3.36E-07	2.49E-07	1.51E-07	6.20E-06	2.01E-06	1.54E-06	2.60E-07	2.61E-07	2.60E-07	1.74E-07	7.60E-08	4.59E-06
937	560880.81	4192363.85	2.77E-06	1.95E-06	3.30E-07	3.31E-07	3.30E-07	2.45E-07	1.49E-07	6.11E-06	1.98E-06	1.52E-06	2.56E-07	2.57E-07	2.56E-07	1.71E-07	7.48E-08	4.52E-06
938	560877.2	4192381.34	2.71E-06	1.91E-06	3.23E-07	3.24E-07	3.23E-07	2.40E-07	1.45E-07	5.97E-06	1.94E-06	1.49E-06	2.50E-07	2.51E-07	2.50E-07	1.67E-07	7.31E-08	4.41E-06
939	560881.85	4192309.38	2.65E-06	1.87E-06	3.17E-07	3.17E-07	3.17E-07	2.35E-07	1.42E-07	5.85E-06	1.90E-06	1.46E-06	2.45E-07	2.46E-07	2.45E-07	1.64E-07	7.17E-08	4.33E-06
940	560878.24	4192326.86	2.64E-06	1.86E-06	3.15E-07	3.16E-07	3.15E-07	2.34E-07	1.42E-07	5.82E-06	1.89E-06	1.45E-06	2.44E-07	2.45E-07	2.44E-07	1.63E-07	7.13E-08	4.31E-06
941	560874.63	4192344.34	2.61E-06	1.84E-06	3.12E-07	3.13E-07	3.12E-07	2.31E-07	1.40E-07	5.76E-06	1.87E-06	1.44E-06	2.42E-07	2.42E-07	2.42E-07	1.61E-07	7.06E-08	4.26E-06
942	560871.01	4192361.83	2.57E-06	1.81E-06	3.07E-07	3.08E-07	3.07E-07	2.27E-07	1.38E-07	5.67E-06	1.84E-06	1.41E-06	2.38E-07	2.38E-07	2.38E-07	1.59E-07	6.94E-08	4.19E-06
943	560867.4	4192379.31	2.51E-06	1.77E-06	3.00E-07	3.00E-07	3.00E-07	2.22E-07	1.35E-07	5.54E-06	1.80E-06	1.38E-06	2.32E-07	2.33E-07	2.32E-07	1.55E-07	6.78E-08	4.10E-06
944	560872.05	4192307.35	2.48E-06	1.75E-06	2.95E-07	2.96E-07	2.95E-07	2.19E-07	1.33E-07	5.46E-06	1.77E-06	1.36E-06	2.29E-07	2.30E-07	2.29E-07	1.53E-07	6.69E-08	4.04E-06
945	560868.44	4192324.84	2.46E-06	1.74E-06	2.94E-07	2.95E-07	2.94E-07	2.18E-07	1.32E-07	5.43E-06	1.76E-06	1.35E-06	2.28E-07	2.29E-07	2.28E-07	1.52E-07	6.65E-08	4.02E-06
946	560864.83	4192342.32	2.44E-06	1.72E-06	2.91E-07	2.91E-07	2.91E-07	2.15E-07	1.31E-07	5.37E-06	1.74E-06	1.34E-06	2.25E-07	2.26E-07	2.25E-07	1.50E-07	6.58E-08	3.97E-06
947	560861.22	4192359.81	2.39E-06	1.69E-06	2.86E-07	2.86E-07	2.86E-07	2.12E-07	1.28E-07	5.28E-06	1.71E-06	1.31E-06	2.21E-07	2.22E-07	2.21E-07	1.48E-07	6.46E-08	3.90E-06
948	560857.61	4192377.29	2.34E-06	1.65E-06	2.79E-07	2.80E-07	2.79E-07	2.07E-07	1.25E-07	5.15E-06	1.67E-06	1.28E-06	2.16E-07	2.17E-07	2.16E-07	1.44E-07	6.31E-08	3.81E-06
949	560862.26	4192305.33	2.32E-06	1.63E-06	2.76E-07	2.77E-07	2.76E-07	2.05E-07	1.24E-07	5.11E-06	1.66E-06	1.27E-06	2.14E-07	2.15E-07	2.14E-07	1.43E-07	6.26E-08	3.78E-06
950	560858.65	4192322.81	2.30E-06	1.62E-06	2.75E-07	2.76E-07	2.75E-07	2.04E-07	1.24E-07	5.08E-06	1.65E-06	1.26E-06	2.13E-07	2.14E-07	2.13E-07	1.42E-07	6.22E-08	3.76E-06
951	560855.04	4192340.3	2.28E-06	1.60E-06	2.71E-07	2.72E-07	2.71E-07	2.01E-07	1.22E-07	5.02E-06	1.63E-06	1.25E-06	2.11E-07	2.11E-07	2.11E-07	1.40E-07	6.15E-08	3.71E-06
952	560851.43	4192357.78	2.23E-06	1.58E-06	2.67E-07	2.67E-07	2.67E-07	1.98E-07	1.20E-07	4.93E-06	1.60E-06	1.23E-06	2.07E-07	2.07E-07	2.07E-07	1.38E-07	6.04E-08	3.64E-06
953	560847.82	4192375.27	2.18E-06	1.54E-06	2.60E-07	2.61E-07	2.60E-07	1.93E-07	1.17E-07	4.81E-06	1.56E-06	1.20E-06	2.02E-07	2.02E-07	2.02E-07	1.35E-07	5.89E-08	3.56E-06
954	560852.47	4192303.31	2.17E-06	1.53E-06	2.59E-07	2.60E-07	2.59E-07	1.92E-07	1.17E-07	4.79E-06	1.55E-06	1.19E-06	2.01E-07	2.02E-07	2.01E-07	1.34E-07	5.87E-08	3.54E-06
955	560848.86	4192320.79	2.16E-06	1.52E-06	2.58E-07	2.58E-07	2.58E-07	1.91E-07	1.16E-07	4.76E-06	1.54E-06	1.19E-06	2.00E-07	2.00E-07	2.00E-07	1.33E-07	5.83E-08	3.52E-06
956	560845.25	4192338.28	2.13E-06	1.50E-06	2.54E-07	2.55E-07	2.54E-07	1.89E-07	1.14E-07	4.70E-06	1.52E-06	1.17E-06	1.97E-07	1.98E-07	1.97E-07	1.32E-07	5.76E-08	3.48E-06
957	560841.63	4192355.76	2.09E-06	1.48E-06	2.50E-07	2.50E-07	2.50E-07	1.85E-07	1.12E-07	4.62E-06	1.50E-06	1.15E-06	1.94E-07	1.94E-07	1.94E-07	1.29E-07	5.65E-08	3.41E-06
958	560838.02	4192373.25	2.04E-06	1.44E-06	2.44E-07	2.45E-07	2.44E-07	1.81E-07	1.10E-07	4.51E-06	1.46E-06	1.12E-06	1.89E-07	1.90E-07	1.89E-07	1.26E-07	5.52E-08	3.33E-06
959	560842.67	4192301.28	2.04E-06	1.44E-06	2.44E-07	2.44E-07	2.44E-07	1.81E-07	1.10E-07	4.51E-06	1.46E-06	1.12E-06	1.89E-07	1.90E-07	1.89E-07	1.26E-07	5.52E-08	3.33E-06
960	560839.06	4192318.77	2.03E-06	1.43E-06	2.42E-07	2.43E-07	2.42E-07	1.80E-07	1.09E-07	4.48E-06	1.45E-06	1.11E-06	1.88E-07	1.88E-07	1.88E-07	1.25E-07	5.48E-08	3.31E-06
961	560835.45	4192336.25	2.01E-06	1.41E-06	2.39E-07	2.40E-07	2.39E-07	1.77E-07	1.08E-07	4.42E-06	1.43E-06	1.10E-06	1.86E-07	1.86E-07	1.86E-07	1.24E-07	5.42E-08	3.27E-06
962	560831.84	4192353.74	1.97E-06	1.39E-06	2.35E-07	2.36E-07	2.35E-07	1.74E-07	1.06E-07	4.34E-06	1.41E-06	1.08E-06	1.82E-07	1.83E-07	1.82E-07	1.21E-07	5.32E-08	3.21E-06
963	560828.23	4192371.22	1.92E-06	1.35E-06	2.29E-07	2.30E-07	2.29E-07	1.70E-07	1.03E-07	4.24E-06	1.37E-06	1.06E-06	1.78E-07	1.78E-07	1.78E-07	1.19E-07	5.19E-08	3.13E-06
964	560832.88	4192299.26	1.93E-06	1.36E-06	2.30E-07	2.31E-07	2.30E-07	1.71E-07	1.03E-07	4.25E-06	1.38E-06	1.06E-06	1.78E-07	1.79E-07	1.78E-07	1.19E-07	5.21E-08	3.14E-06
965	560829.27	4192316.75	1.91E-06	1.35E-06	2.28E-07	2.29E-07	2.28E-07	1.69E-07	1.03E-07	4.22E-06	1.37E-06	1.05E-06	1.77E-07	1.78E-07	1.77E-07	1.18E-07	5.17E-08	3.12E-06
966	560825.66	4192334.23	1.89E-06	1.33E-06	2.26E-07	2.26E-07	2.26E-07	1.67E-07	1.01E-07	4.17E-06	1.35E-06	1.04E-06	1.75E-07	1.75E-07	1.75E-07	1.17E-07	5.11E-08	3.08E-06
967	560822.05	4192351.72	1.86E-06	1.31E-06	2.22E-07	2.22E-07	2.22E-07	1.64E-07	9.96E-08	4.09E-06	1.33E-06	1.02E-06	1.72E-07	1.72E-07	1.72E-07	1.15E-07	5.01E-08	3.03E-06
968	560818.44	4192369.2	1.81E-06	1.28E-06	2.16E-07	2.17E-07	2.16E-07	1.60E-07	9.71E-08	3.99E-06	1.29E-06	9.94E-07	1.68E-07	1.68E-07	1.68E-07	1.12E-07	4.89E-08	2.95E-06
969	560823.09	4192297.24	1.82E-06	1.28E-06	2.18E-07	2.18E-07	2.18E-07	1.61E-07	9.78E-08	4.02E-06	1.30E-06	1.00E-06	1.69E-07	1.69E-07	1.69E-07	1.12E-07	4.92E-08	2.97E-06
970	560819.48	4192314.72	1.81E-06	1.28E-06	2.16E-07	2.17E-07	2.16E-07	1.60E-07	9.71E-08	3.99E-06	1.29E-06	9.94E-07	1.67E-07	1.68E-07	1.67E-07	1.12E-07	4.89E-08	2.95E-06
971	560815.87	4192332.21	1.79E-06	1.26E-06	2.13E-07	2.14E-07	2.13E-07	1.58E-07	9.59E-08	3.94E-06	1.28E-06	9.82E-07	1.65E-07	1.66E-07	1.65E-07	1.10E-07	4.83E-08	2.92E-06
972	560812.25	4192349.69	1.75E-06	1.24E-06	2.09E-07	2.10E-07	2.09E-07	1.55E-07	9.41E-08	3.87E-06	1.25E-06	9.63E-07	1.62E-07	1.63E-07	1.62E-07	1.08E-07	4.74E-08	2.86E-06
973	560808.64	4192367.18	1.71E-06	1.21E-06	2.04E-07	2.05E-07	2.04E-07	1.51E-07	9.18E-08	3.77E-06	1.22E-06	9.39E-07	1.58E-07	1.59E-07	1.58E-07	1.06E-07	4.62E-08	2.79E-06
974	560813.29	4192295.22	1.73E-06	1.22E-06	2.06E-07	2.07E-07	2.06E-07	1.53E-07	9.26E-08	3.81E-06	1.24E-06	9.49E-07	1.60E-07	1.60E-07	1.60E-07	1.07E-07	4.66E-08	2.82E-06
975	560809.68	4192312.7	1.71E-06	1.21E-06	2.05E-07	2.05E-07	2.05E-07	1.52E-07	9.20E-08	3.78E-06	1.23E-06	9.42E-07	1.59E-07	1.59E-07	1.59E-07	1.06E-07	4.63E-08	2.80E-06
976	560806.07	4192330.19	1.69E-06	1.19E-06	2.02E-07	2.03E-07	2.02E-07	1.50E-07	9.08E-08	3.73E-06	1.21E-06	9.30E-07	1.57E-07	1.57E-07	1.57E-07	1.04E-07	4.57E-08	2.76E-06
977	560802.46	4192347.67	1.66E-06	1.17E-06	1.98E-07	1.99E-07	1.98E-07	1.47E-07	8.91E-08	3.66E-06	1.19E-06	9.12E-07	1.54E-07	1.54E-07	1.54E-07	1.02E-07	4.49E-08	2.71E-06
978	560798.85	4192365.15	1.62E-06	1.14E-06	1.93E-07	1.94E-07	1.93E-07	1.43E-07	8.69E-08	3.57E-06	1.16E-06	8.89E-07	1.50E-07	1.50E-07	1.50E-07	9.99E-08	4.37E-08	2.64E-06
979	560803.5	4192293.19	1.64E-06	1.16E-06	1.96E-07	1.96E-07	1.96E-07	1.45E-07	8.79E-08	3.61E-06	1.17E-06	9.00E-07	1.52E-07	1.52E-07	1.52E-07	1.01E-07	4.43E-08	2.67E-06
980	560799.89	4192310.68	1.63E-06	1.15E-06	1.94E-07	1.95E-07	1.94E-07	1.44E-07	8.73E-08	3.59E-06	1.16E-06	8.94E-07	1.51E-07	1.51E-07	1.51E-07	1.00E-07	4.39E-08	2.65E-06
981	560796.28	4192328.16	1.61E-06	1.13E-06	1.92E-07	1.92E-07	1.92E-07	1.42E-07	8.61E-08	3.54E-06	1.15E-06	8.82E-07	1.49E-07	1.49E-07	1.49E-07	9.91E-08	4.34E-08	2.62E-06
982	560792.67	4192345.65	1.58E-06	1.11E-06	1.88E-07	1.89E-07	1.88E-07	1.39E-07	8.45E-08	3.47E-06	1.13E-06	8.65E-07	1.46E-07	1.46E-07	1.46E-07	9.72E-08	4.26E-08	2.57E-06
983	560789.06	4192363.13	1.54E-06	1.08E-06	1.83E-07	1.84E-07	1.83E-07	1.36E-07	8.24E-08	3.39E-06	1.10E-06	8.44E-07	1.42E-07	1.43E-07	1.42E-07	9.48E-08	4.15E-08	2.51E-06
984	560793.71	4192291.17	1.56E-06	1.10E-06	1.86E-07	1.86E-07	1.86E-07	1.38E-07	8.36E-08	3.44E-06	1.11E-06	8.56E-07	1.44E-07	1.45E-07	1.44E-07	9.61E-08	4.21E-08	2.54E-06
985	560790.1	4192308.66	1.55E-06	1.09E-06	1.85E-07	1.85E-07	1.85E-07	1.37E-07	8.30E-08	3.41E-06	1.11E-06	8.49E-07	1.43E-07	1.43E-07	1.43E-07	9.54E-08	4.18E-08	2.52E-06
986	560786.49	4192326.14	1.53E-06	1.08E-06	1.82E-07	1.83E-07	1.82E-07	1.35E-07	8.19E-08	3.37E-06	1.09E-06	8.38E-07	1.41E-07	1.42E-07	1.41E-07	9.41E-08	4.12E-08	2.49E-06
987	560782.87	4192343.62	1.50E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.32E-07	8.03E-08	3.30E-06	1.07E-06	8.22E-07	1.39E-07	1.39E-07	1.39E-07	9.23E-08	4.04E-08	2.44E-06
988	560779.26	4192361.11	1.46E-06	1.03E-06	1.74E-07	1.75E-07	1.74E-07	1.29E-07	7.83E-08	3.22E-06	1.04E-06	8.02E-07	1.35E-07	1.35E-07	1.35E-07	9.00E-08	3.94E-08	2.38E-06
989	560783.91	4192289.15	1.48E-06	1.05E-06	1.77E-07	1.78E-07	1.77E-07	1.31E-07	7.96E-08	3.27E-06	1.06E-06	8.15E-07	1.37E-07	1.38E-07	1.37E-07	9.15E-08	4.01E-08	2.42E-06
990	560780.3	4192306.63	1.47E-06	1.04E-06	1.76E-07	1.76E-07	1.76E-07	1.30E-07	7.90E-08	3.25E-06	1.05E-06	8.09E-07	1.36E-07	1.37E-07	1.36E-07	9.08E-08	3.98E-08	2.40E-06
991	560776.69	4192324.12	1.45E-06	1.02E-06	1.73E-07	1.74E-07	1.73E-07	1.29E-07	7.79E-08	3.20E-06	1.04E-06	7.98E-07	1.34E-07	1.35E-07	1.34E-07	8.96E-08	3.92E-08	2.37E-06
992	560773.08	4192341.6	1.42E-06	1.00E-06	1.70E-07	1.70E-07	1.70E-07	1.26E-07	7.64E-08	3.14E-06	1.02E-06	7.83E-07	1.32E-07	1.32E-07	1.32E-07	8.79E-08	3.85E-08	2.32E-06
993	560769.47	4192359.09	1.39E-06	9.79E-07	1.66E-07	1.66E-07	1.66E-07	1.23E-07	7.45E-08	3.06E-06	9.93E-07	7.63E-07	1.29E-07	1.29E-07	1.29E-07	8.57E-08	3.75E-08	2.27E-06
994	560774.12	4192287.13	1.42E-06	9.97E-07	1.69E-07	1.69E-07	1.69E-07	1.25E-07	7.59E-08	3.12E-06	1.01E-06	7.77E-07	1.31E-07	1.31E-07	1.31E-07	8.73E-08	3.82E-08	2.31E-06
995	560770.51	4192304.61	1.40E-06	9.89E-07	1.67E-07	1.68E-07	1.67E-07	1.24E-07	7.53E-08	3.10E-06	1.00E-06	7.71E-07	1.30E-07	1.30E-07	1.30E-07	8.66E-08	3.79E-08	2.29E-06
996	560766.9	4192322.1	1.38E-06	9.76E-07	1.65E-07	1.66E-07	1.65E-07	1.23E-07	7.43E-08	3.05E-06	9.90E-07	7.60E-07	1.28E-07	1.28E-07	1.28E-07	8.54E-08	3.74E-08	2.26E-06
997	560763.29	4192339.58	1.36E-06	9.57E-07	1.62E-07	1.62E-07	1.62E-07	1.20E-07	7.28E-08	2.99E-06	9.71E-07	7.46E-07	1.26E-07	1.26E-07	1.26E-07	8.38E-08	3.67E-08	2.21E-06
998	560759.68	4192357.06	1.32E-06	9.33E-07	1.58E-07	1.58E-07	1.58E-07	1.17E-07	7.10E-08	2.92E-06	9.47E-07	7.27E-07	1.22E-07	1.23E-07	1.22E-07	8.17E-08	3.58E-08	2.16E-06
999	560764.33	4192285.1	1.35E-06	9.52E-07	1.61E-07	1.62E-07	1.61E-07	1.20E-07	7.25E-08	2.98E-06	9.66E-07	7.42E-07	1.25E-07	1.25E-07	1.25E-07	8.34E-08	3.65E-08	2.20E-06
1000	560760.72	4192302.59	1.34E-06	9.44E-07	1.60E-07	1.60E-07	1.60E-07	1.19E-07	7.19E-08	2.95E-06	9.58E-07	7.36E-07	1.24E-07	1.24E-07	1.24E-07	8.27E-08	3.62E-08	2.19E-06
1001	560757.11	4192320.07	1.32E-06	9.32E-07	1.58E-07	1.58E-07	1.58E-07	1.17E-07	7.09E-08	2.91E-06	9.45E-07	7.26E-07	1.22E-07	1.23E-07	1.22E-07	8.15E-08	3.57E-08	2.16E-06
1002	560753.5	4192337.56	1.30E-06	9.14E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.95E-08	2.86E-06	9.27E-07	7.12E-07	1.20E-07	1.20E-07	1.20E-07	8.00E-08	3.50E-08	2.11E-06
1003	560749.88	4192355.04	1.26E-06	8.90E-07	1.51E-07	1.51E-07	1.51E-07	1.12E-07	6.78E-08	2.79E-06	9.03E-07	6.94E-07	1.17E-07	1.17E-07	1.17E-07	7.79E-08	3.41E-08	2.06E-06
1004	560756.34	4192274.34	1.30E-06	9.13E-07	1.55E-07	1.55E-07	1.55E-07	1.15E-07	6.95E-08	2.86E-06	9.26E-07	7.11E-07	1.20E-07	1.20E-07	1.20E-07	7.99E-08	3.50E-08	2.11E-06
1005	560752.73	4192291.82	1.29E-06	9.07E-07	1.54E-07	1.54E-07	1.54E-07	1.14E-07	6.90E-08	2.84E-06	9.20E-07	7.07E-07	1.19E-07	1.19E-07	1.19E-07	7.94E-08	3.48E-08	2.10E-06
1006	560749.12	4192309.31	1.27E-06	8.96E-07	1.52E-07	1.52E-07	1.52E-07	1.13E-07	6.82E-08	2.80E-06	9.09E-07	6.98E-07	1.18E-07	1.18E-07	1.18E-07	7.84E-08	3.43E-08	2.07E-06
1007	560745.51	4192326.79	1.25E-06	8.81E-07	1.49E-07	1.50E-07	1.49E-07	1.11E-07	6.70E-08	2.76E-06	8.93E-07	6.86E-07	1.16E-07	1.16E-07	1.16E-07	7.71E-08	3.37E-08	2.04E-06
1008	560741.9	4192344.28	1.22E-06	8.61E-07	1.46E-07	1.46E-07	1.46E-07	1.08E-07	6.55E-08	2.69E-06	8.74E-07	6.71E-07	1.13E-07	1.13E-07	1.13E-07	7.54E-08	3.30E-08	1.99E-06

1009	560746.55	4192272.32	1.24E-06	8.73E-07	1.48E-07	1.48E-07	1.48E-07	1.10E-07	6.64E-08	2.73E-06	8.85E-07	6.80E-07	1.15E-07	1.15E-07	1.15E-07	7.64E-08	3.34E-08	2.02E-06
1010	560742.94	4192289.8	1.23E-06	8.66E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.59E-08	2.71E-06	8.79E-07	6.75E-07	1.14E-07	1.14E-07	1.14E-07	7.58E-08	3.32E-08	2.00E-06
1011	560739.33	4192307.28	1.21E-06	8.56E-07	1.45E-07	1.45E-07	1.45E-07	1.07E-07	6.51E-08	2.68E-06	8.68E-07	6.67E-07	1.12E-07	1.13E-07	1.12E-07	7.49E-08	3.28E-08	1.98E-06
1012	560735.71	4192324.77	1.19E-06	8.41E-07	1.42E-07	1.43E-07	1.42E-07	1.06E-07	6.40E-08	2.63E-06	8.53E-07	6.55E-07	1.10E-07	1.11E-07	1.10E-07	7.36E-08	3.22E-08	1.95E-06
1013	560732.1	4192342.25	1.17E-06	8.22E-07	1.39E-07	1.40E-07	1.39E-07	1.03E-07	6.26E-08	2.57E-06	8.34E-07	6.41E-07	1.08E-07	1.08E-07	1.08E-07	7.20E-08	3.15E-08	1.90E-06
1014	560736.75	4192270.29	1.18E-06	8.35E-07	1.41E-07	1.42E-07	1.41E-07	1.05E-07	6.35E-08	2.61E-06	8.47E-07	6.50E-07	1.10E-07	1.10E-07	1.10E-07	7.30E-08	3.20E-08	1.93E-06
1015	560733.14	4192287.78	1.18E-06	8.28E-07	1.40E-07	1.41E-07	1.40E-07	1.04E-07	6.30E-08	2.59E-06	8.40E-07	6.45E-07	1.09E-07	1.09E-07	1.09E-07	7.25E-08	3.17E-08	1.92E-06
1016	560729.53	4192305.26	1.16E-06	8.18E-07	1.38E-07	1.39E-07	1.38E-07	1.03E-07	6.22E-08	2.56E-06	8.30E-07	6.37E-07	1.07E-07	1.08E-07	1.07E-07	7.16E-08	3.13E-08	1.89E-06
1017	560725.92	4192322.75	1.14E-06	8.03E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.11E-08	2.51E-06	8.15E-07	6.26E-07	1.05E-07	1.06E-07	1.05E-07	7.03E-08	3.08E-08	1.86E-06
1018	560722.31	4192340.23	1.11E-06	7.86E-07	1.33E-07	1.33E-07	1.33E-07	9.86E-08	5.98E-08	2.46E-06	7.97E-07	6.12E-07	1.03E-07	1.03E-07	1.03E-07	6.88E-08	3.01E-08	1.82E-06
1019	560726.96	4192268.27	1.13E-06	7.99E-07	1.35E-07	1.36E-07	1.35E-07	1.00E-07	6.08E-08	2.50E-06	8.10E-07	6.22E-07	1.05E-07	1.05E-07	1.05E-07	6.99E-08	3.06E-08	1.85E-06
1020	560723.35	4192285.76	1.12E-06	7.92E-07	1.34E-07	1.35E-07	1.34E-07	9.95E-08	6.03E-08	2.48E-06	8.04E-07	6.17E-07	1.04E-07	1.04E-07	1.04E-07	6.94E-08	3.04E-08	1.83E-06
1021	560719.74	4192303.24	1.11E-06	7.83E-07	1.33E-07	1.33E-07	1.33E-07	9.83E-08	5.96E-08	2.45E-06	7.94E-07	6.10E-07	1.03E-07	1.03E-07	1.03E-07	6.85E-08	3.00E-08	1.81E-06
1022	560716.13	4192320.72	1.09E-06	7.70E-07	1.30E-07	1.31E-07	1.30E-07	9.66E-08	5.86E-08	2.41E-06	7.81E-07	6.00E-07	1.01E-07	1.01E-07	1.01E-07	6.74E-08	2.95E-08	1.78E-06
1023	560712.52	4192338.21	1.07E-06	7.53E-07	1.27E-07	1.28E-07	1.27E-07	9.45E-08	5.73E-08	2.36E-06	7.64E-07	5.87E-07	9.89E-08	9.91E-08	9.89E-08	6.59E-08	2.89E-08	1.74E-06
1024	560717.17	4192266.25	1.09E-06	7.67E-07	1.30E-07	1.30E-07	1.30E-07	9.62E-08	5.83E-08	2.40E-06	7.78E-07	5.97E-07	1.01E-07	1.01E-07	1.01E-07	6.71E-08	2.94E-08	1.77E-06
1025	560713.56	4192283.73	1.08E-06	7.61E-07	1.29E-07	1.29E-07	1.29E-07	9.55E-08	5.79E-08	2.38E-06	7.72E-07	5.93E-07	9.99E-08	1.00E-07	9.99E-08	6.66E-08	2.92E-08	1.76E-06
1026	560709.95	4192301.22	1.07E-06	7.52E-07	1.27E-07	1.28E-07	1.27E-07	9.44E-08	5.72E-08	2.35E-06	7.63E-07	5.86E-07	9.87E-08	9.90E-08	9.87E-08	6.58E-08	2.88E-08	1.74E-06
1027	560706.33	4192318.7	1.05E-06	7.39E-07	1.25E-07	1.25E-07	1.25E-07	9.28E-08	5.62E-08	2.31E-06	7.50E-07	5.76E-07	9.70E-08	9.73E-08	9.70E-08	6.47E-08	2.83E-08	1.71E-06
1028	560702.72	4192336.19	1.03E-06	7.23E-07	1.22E-07	1.23E-07	1.22E-07	9.07E-08	5.50E-08	2.26E-06	7.33E-07	5.63E-07	9.49E-08	9.51E-08	9.49E-08	6.33E-08	2.77E-08	1.67E-06
1029	560873.71	4192396.88	2.63E-06	1.85E-06	3.14E-07	3.15E-07	3.14E-07	2.33E-07	1.41E-07	5.80E-06	1.88E-06	1.44E-06	2.43E-07	2.44E-07	2.43E-07	1.62E-07	7.10E-08	4.29E-06
1030	560863.95	4192394.71	2.44E-06	1.72E-06	2.91E-07	2.92E-07	2.91E-07	2.16E-07	1.31E-07	5.38E-06	1.75E-06	1.34E-06	2.26E-07	2.26E-07	2.26E-07	1.51E-07	6.59E-08	3.98E-06
1031	560860.04	4192412.26	2.34E-06	1.65E-06	2.80E-07	2.80E-07	2.80E-07	2.07E-07	1.26E-07	5.17E-06	1.68E-06	1.29E-06	2.17E-07	2.17E-07	2.17E-07	1.45E-07	6.33E-08	3.82E-06
1032	560856.12	4192429.81	2.23E-06	1.57E-06	2.66E-07	2.67E-07	2.66E-07	1.97E-07	1.20E-07	4.92E-06	1.60E-06	1.23E-06	2.06E-07	2.07E-07	2.06E-07	1.38E-07	6.03E-08	3.64E-06
1033	560854.19	4192392.53	2.27E-06	1.60E-06	2.71E-07	2.72E-07	2.71E-07	2.01E-07	1.22E-07	5.01E-06	1.63E-06	1.25E-06	2.10E-07	2.11E-07	2.10E-07	1.40E-07	6.14E-08	3.71E-06
1034	560850.28	4192410.08	2.18E-06	1.54E-06	2.60E-07	2.61E-07	2.60E-07	1.93E-07	1.17E-07	4.81E-06	1.56E-06	1.20E-06	2.02E-07	2.03E-07	2.02E-07	1.35E-07	5.90E-08	3.56E-06
1035	560846.36	4192427.63	2.08E-06	1.47E-06	2.48E-07	2.49E-07	2.48E-07	1.84E-07	1.12E-07	4.58E-06	1.49E-06	1.14E-06	1.92E-07	1.93E-07	1.92E-07	1.28E-07	5.61E-08	3.39E-06
1036	560844.43	4192390.35	2.12E-06	1.50E-06	2.53E-07	2.54E-07	2.53E-07	1.88E-07	1.14E-07	4.68E-06	1.52E-06	1.17E-06	1.97E-07	1.97E-07	1.97E-07	1.31E-07	5.74E-08	3.46E-06
1037	560842.48	4192399.13	2.08E-06	1.47E-06	2.49E-07	2.49E-07	2.49E-07	1.84E-07	1.12E-07	4.60E-06	1.49E-06	1.14E-06	1.93E-07	1.93E-07	1.93E-07	1.29E-07	5.63E-08	3.40E-06
1038	560838.56	4192416.68	1.99E-06	1.41E-06	2.38E-07	2.39E-07	2.38E-07	1.76E-07	1.07E-07	4.40E-06	1.43E-06	1.09E-06	1.84E-07	1.85E-07	1.84E-07	1.23E-07	5.38E-08	3.25E-06
1039	560834.65	4192434.23	1.89E-06	1.33E-06	2.26E-07	2.26E-07	2.26E-07	1.67E-07	1.01E-07	4.17E-06	1.35E-06	1.04E-06	1.75E-07	1.75E-07	1.75E-07	1.17E-07	5.11E-08	3.08E-06
1040	560834.67	4192388.18	1.99E-06	1.40E-06	2.37E-07	2.38E-07	2.37E-07	1.76E-07	1.07E-07	4.39E-06	1.42E-06	1.09E-06	1.84E-07	1.85E-07	1.84E-07	1.23E-07	5.37E-08	3.25E-06
1041	560830.76	4192405.73	1.91E-06	1.35E-06	2.28E-07	2.29E-07	2.28E-07	1.69E-07	1.03E-07	4.22E-06	1.37E-06	1.05E-06	1.77E-07	1.77E-07	1.77E-07	1.18E-07	5.16E-08	3.12E-06
1042	560826.84	4192423.28	1.82E-06	1.28E-06	2.17E-07	2.18E-07	2.17E-07	1.61E-07	9.77E-08	4.02E-06	1.30E-06	1.00E-06	1.68E-07	1.69E-07	1.68E-07	1.12E-07	4.92E-08	2.97E-06
1043	560824.91	4192386	1.87E-06	1.32E-06	2.23E-07	2.24E-07	2.23E-07	1.65E-07	1.00E-07	4.12E-06	1.34E-06	1.03E-06	1.73E-07	1.73E-07	1.73E-07	1.15E-07	5.05E-08	3.05E-06
1044	560821	4192403.55	1.80E-06	1.27E-06	2.14E-07	2.15E-07	2.14E-07	1.59E-07	9.63E-08	3.96E-06	1.28E-06	9.86E-07	1.66E-07	1.67E-07	1.66E-07	1.11E-07	4.85E-08	2.93E-06
1045	560817.08	4192421.1	1.71E-06	1.21E-06	2.04E-07	2.05E-07	2.04E-07	1.51E-07	9.18E-08	3.77E-06	1.22E-06	9.40E-07	1.58E-07	1.59E-07	1.58E-07	1.06E-07	4.62E-08	2.79E-06
1046	560815.13	4192429.88	1.67E-06	1.17E-06	1.99E-07	1.99E-07	1.99E-07	1.47E-07	8.94E-08	3.67E-06	1.19E-06	9.15E-07	1.54E-07	1.55E-07	1.54E-07	1.03E-07	4.50E-08	2.72E-06
1047	560815.15	4192383.82	1.76E-06	1.24E-06	2.10E-07	2.11E-07	2.10E-07	1.56E-07	9.45E-08	3.88E-06	1.26E-06	9.67E-07	1.63E-07	1.63E-07	1.63E-07	1.09E-07	4.76E-08	2.87E-06
1048	560811.24	4192401.38	1.69E-06	1.19E-06	2.02E-07	2.02E-07	2.02E-07	1.50E-07	9.07E-08	3.73E-06	1.21E-06	9.29E-07	1.57E-07	1.57E-07	1.57E-07	1.04E-07	4.57E-08	2.76E-06
1049	560807.32	4192418.93	1.61E-06	1.14E-06	1.93E-07	1.93E-07	1.93E-07	1.43E-07	8.66E-08	3.56E-06	1.15E-06	8.86E-07	1.49E-07	1.50E-07	1.49E-07	9.95E-08	4.36E-08	2.63E-06
1050	560805.39	4192381.65	1.66E-06	1.17E-06	1.99E-07	1.99E-07	1.99E-07	1.47E-07	8.93E-08	3.67E-06	1.19E-06	9.14E-07	1.54E-07	1.54E-07	1.54E-07	1.03E-07	4.49E-08	2.71E-06
1051	560801.48	4192399.2	1.60E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.42E-07	8.58E-08	3.53E-06	1.14E-06	8.78E-07	1.48E-07	1.48E-07	1.48E-07	9.87E-08	4.32E-08	2.61E-06
1052	560797.56	4192416.75	1.53E-06	1.08E-06	1.82E-07	1.83E-07	1.82E-07	1.35E-07	8.19E-08	3.37E-06	1.09E-06	8.38E-07	1.41E-07	1.42E-07	1.41E-07	9.41E-08	4.12E-08	2.49E-06
1053	560795.63	4192379.47	1.58E-06	1.11E-06	1.88E-07	1.89E-07	1.88E-07	1.39E-07	8.45E-08	3.48E-06	1.13E-06	8.66E-07	1.46E-07	1.46E-07	1.46E-07	9.72E-08	4.26E-08	2.57E-06
1054	560791.72	4192397.02	1.51E-06	1.07E-06	1.81E-07	1.81E-07	1.81E-07	1.34E-07	8.13E-08	3.34E-06	1.08E-06	8.32E-07	1.40E-07	1.41E-07	1.40E-07	9.35E-08	4.09E-08	2.47E-06
1055	560787.8	4192414.57	1.45E-06	1.02E-06	1.73E-07	1.73E-07	1.73E-07	1.28E-07	7.76E-08	3.19E-06	1.03E-06	7.94E-07	1.34E-07	1.34E-07	1.34E-07	8.92E-08	3.91E-08	2.36E-06
1056	560785.87	4192377.29	1.50E-06	1.05E-06	1.78E-07	1.79E-07	1.78E-07	1.32E-07	8.02E-08	3.30E-06	1.07E-06	8.21E-07	1.38E-07	1.39E-07	1.38E-07	9.22E-08	4.04E-08	2.44E-06
1057	560781.96	4192394.85	1.44E-06	1.01E-06	1.72E-07	1.72E-07	1.72E-07	1.27E-07	7.71E-08	3.17E-06	1.03E-06	7.90E-07	1.33E-07	1.33E-07	1.33E-07	8.87E-08	3.88E-08	2.35E-06
1058	560778.04	4192412.4	1.37E-06	9.68E-07	1.64E-07	1.64E-07	1.64E-07	1.22E-07	7.37E-08	3.03E-06	9.82E-07	7.54E-07	1.27E-07	1.27E-07	1.27E-07	8.47E-08	3.71E-08	2.24E-06
1059	560776.11	4192375.12	1.42E-06	1.00E-06	1.70E-07	1.70E-07	1.70E-07	1.26E-07	7.62E-08	3.13E-06	1.02E-06	7.81E-07	1.32E-07	1.32E-07	1.32E-07	8.77E-08	3.84E-08	2.32E-06
1060	560774.15	4192383.89	1.40E-06	9.83E-07	1.66E-07	1.67E-07	1.66E-07	1.23E-07	7.48E-08	3.08E-06	9.98E-07	7.66E-07	1.29E-07	1.29E-07	1.29E-07	8.61E-08	3.77E-08	2.28E-06
1061	560770.24	4192401.44	1.34E-06	9.43E-07	1.60E-07	1.60E-07	1.60E-07	1.18E-07	7.18E-08	2.95E-06	9.57E-07	7.35E-07	1.24E-07	1.24E-07	1.24E-07	8.25E-08	3.61E-08	2.18E-06
1062	560766.32	4192419	1.28E-06	8.99E-07	1.52E-07	1.53E-07	1.52E-07	1.13E-07	6.84E-08	2.81E-06	9.12E-07	7.00E-07	1.18E-07	1.18E-07	1.18E-07	7.87E-08	3.44E-08	2.08E-06
1063	560766.35	4192372.94	1.35E-06	9.54E-07	1.61E-07	1.62E-07	1.61E-07	1.20E-07	7.26E-08	2.98E-06	9.68E-07	7.43E-07	1.25E-07	1.26E-07	1.25E-07	8.35E-08	3.66E-08	2.21E-06
1064	560762.44	4192390.49	1.30E-06	9.18E-07	1.55E-07	1.56E-07	1.55E-07	1.15E-07	6.99E-08	2.87E-06	9.31E-07	7.15E-07	1.20E-07	1.21E-07	1.20E-07	8.03E-08	3.52E-08	2.12E-06
1065	560758.52	4192408.04	1.25E-06	8.78E-07	1.49E-07	1.49E-07	1.49E-07	1.10E-07	6.68E-08	2.75E-06	8.91E-07	6.84E-07	1.15E-07	1.16E-07	1.15E-07	7.68E-08	3.36E-08	2.03E-06
1066	560756.59	4192370.76	1.29E-06	9.10E-07	1.54E-07	1.54E-07	1.54E-07	1.14E-07	6.92E-08	2.85E-06	9.23E-07	7.09E-07	1.19E-07	1.20E-07	1.19E-07	7.96E-08	3.49E-08	2.10E-06
1067	560752.68	4192388.32	1.24E-06	8.76E-07	1.48E-07	1.49E-07	1.48E-07	1.10E-07	6.66E-08	2.74E-06	8.88E-07	6.82E-07	1.15E-07	1.15E-07	1.15E-07	7.66E-08	3.36E-08	2.03E-06
1068	560748.76	4192405.87	1.19E-06	8.38E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.38E-08	2.62E-06	8.50E-07	6.53E-07	1.10E-07	1.10E-07	1.10E-07	7.34E-08	3.21E-08	1.94E-06
1069	560746.8	4192414.64	1.16E-06	8.18E-07	1.39E-07	1.39E-07	1.39E-07	1.03E-07	6.23E-08	2.56E-06	8.30E-07	6.38E-07	1.07E-07	1.08E-07	1.07E-07	7.16E-08	3.14E-08	1.89E-06
1070	560746.83	4192368.59	1.23E-06	8.69E-07	1.47E-07	1.47E-07	1.47E-07	1.09E-07	6.61E-08	2.72E-06	8.81E-07	6.77E-07	1.14E-07	1.14E-07	1.14E-07	7.60E-08	3.33E-08	2.01E-06
1071	560742.92	4192386.14	1.19E-06	8.37E-07	1.42E-07	1.42E-07	1.42E-07	1.05E-07	6.37E-08	2.62E-06	8.49E-07	6.52E-07	1.10E-07	1.10E-07	1.10E-07	7.32E-08	3.21E-08	1.94E-06
1072	560739	4192403.69	1.14E-06	8.01E-07	1.36E-07	1.36E-07	1.36E-07	1.01E-07	6.10E-08	2.51E-06	8.13E-07	6.24E-07	1.05E-07	1.05E-07	1.05E-07	7.01E-08	3.07E-08	1.85E-06
1073	560739.03	4192357.63	1.20E-06	8.44E-07	1.43E-07	1.43E-07	1.43E-07	1.06E-07	6.42E-08	2.64E-06	8.56E-07	6.57E-07	1.11E-07	1.11E-07	1.11E-07	7.38E-08	3.23E-08	1.95E-06
1074	560735.11	4192375.19	1.16E-06	8.16E-07	1.38E-07	1.39E-07	1.38E-07	1.02E-07	6.21E-08	2.55E-06	8.28E-07	6.36E-07	1.07E-07	1.07E-07	1.07E-07	7.14E-08	3.13E-08	1.89E-06
1075	560731.2	4192392.74	1.11E-06	7.84E-07	1.33E-07	1.33E-07	1.33E-07	9.84E-08	5.97E-08	2.45E-06	7.95E-07	6.11E-07	1.03E-07	1.03E-07	1.03E-07	6.86E-08	3.00E-08	1.81E-06
1076	560727.28	4192410.29	1.06E-06	7.49E-07	1.27E-07	1.27E-07	1.27E-07	9.41E-08	5.70E-08	2.34E-06	7.60E-07	5.84E-07	9.84E-08	9.87E-08	9.84E-08	6.56E-08	2.87E-08	1.73E-06
1077	560729.27	4192355.46	1.14E-06	8.07E-07	1.37E-07	1.37E-07	1.37E-07	1.01E-07	6.14E-08	2.52E-06	8.18E-07	6.29E-07	1.06E-07	1.06E-07	1.06E-07	7.06E-08	3.09E-08	1.87E-06
1078	560725.35	4192373.01	1.11E-06	7.81E-07	1.32E-07	1.33E-07	1.32E-07	9.81E-08	5.95E-08	2.44E-06	7.93E-07	6.09E-07	1.03E-07	1.03E-07	1.03E-07	6.84E-08	2.99E-08	1.81E-06
1079	560721.44	4192390.56	1.07E-06	7.51E-07	1.27E-07	1.27E-07	1.27E-07	9.43E-08	5.71E-08	2.35E-06	7.62E-07	5.85E-07	9.86E-08	9.88E-08	9.86E-08	6.57E-08	2.88E-08	1.74E-06
1080	560717.52	4192408.11	1.02E-06	7.18E-07	1.22E-07	1.22E-07	1.22E-07	9.01E-08	5.46E-08	2.25E-06	7.29E-07	5.60E-07	9.43E-08	9.45E-08	9.43E-08	6.28E-08	2.75E-08	1.66E-06
1081	560719.51	4192353.28	1.10E-06	7.72E-07	1.31E-07	1.31E-07	1.31E-07	9.69E-08	5.87E-08	2.42E-06	7.83E-07	6.01E-07	1.01E-07	1.02E-07	1.01E-07	6.76E-08	2.96E-08	1.79E-06
1082	560715.59	4192370.83	1.06E-06	7.48E-07	1.27E-07	1.27E-07	1.27E-07	9.39E-08	5.69E-08	2.34E-06	7.59E-07	5.83E-07	9.82E-08	9.84E-08	9.82E-08	6.55E-08	2.87E-08	1.73E-06
1083	560711.68	4192388.38	1.02E-06	7.19E-07	1.22E-07	1.22E-07	1.22E-07	9.02E-08	5.47E-08	2.25E-06	7.29E-07	5.60E-07	9.43E-08	9.46E-08	9.43E-08	6.29E-08	2.75E-08	1.66E-06
1084	560707.76	4192405.94	9.76E-07	6.88E-07	1.17E-07	1.17E-07	1.17E-07	8.64E-08	5.24E-08	2.15E-06	6.98E-07	5.36E-07	9.03E-08	9.06E-08	9.03E-08	6.02E-08	2.64E-08	1.59E-06
1085	560709.75	4192351.1	1.05E-06	7.39E-07	1.25E-07	1.26E-07	1.25E-07	9.28E-08	5.63E-08	2.31E-06	7.50E-07	5.76E-07	9.70E-08	9.73E-08	9.70E-08	6.47E-08	2.83E-08	1.71E-06
1086	560707.79	4192359.88	1.03E-06	7.28E-07	1.23E-07	1.24E-07	1.23E-07	9.14E-08	5.54E-08	2.28E-06	7.39E-07	5.68E-07	9.56E-08	9.59E-08	9.56E-08	6.37E-08	2.79E-08	1.69E-06
1087	560703.87	4192377.43	9.97E-07	7.03E-07	1.19E-07	1.19E-07	1.19E-07	8.82E-08	5.35E-08	2.20E-06	7.13E-07	5.47E-07	9.22E-08	9.25E-08	9.22E-08	6.15E-08	2.69E-08	1.63E-06
1088	560699.96	4192394.98	9.56E-07	6.74E-07	1.14E-07	1.14E-07	1.14E-07	8.46E-08	5.13E-08	2.11E-06	6.84E-07	5.25E-07	8.85E-08	8.87E-08	8.85E-08	5.90E-08	2.58E-08	1.56E-06
1089	560699.99	4192348.93	1.01E-06	7.09E-07	1.20E-07	1.20E-07	1.20E-07	8.90E-08	5.40E-08	2.22E-06	7.19E-07	5.53E-07	9.31E-08	9.33E-08	9.31E-08	6.21E-08	2.72E-08	1.64E-06
1090	560696.07	4192366.48	9.74E-07	6.86E-07	1.16E-07	1.16E-07	1.16E-07	8.62E-08	5.22E-08	2.15E-06	6.96E-07	5.35E-07	9.01E-08	9.03E-08	9.01E-08	6.01E-08	2.63E-08	1.59E-06
1091	560692.16	4192384.03	9.37E-07	6.60E-07	1.12E-07	1.12E-07	1.12E-07	8.29E-08	5.03E-08	2.07E-06	6.70E-07	5.15E-07	8.67E-08	8.69E-08	8.67E-08	5.78E-08	2.53E-08	1.53E-06
1092	560688.24	4192401.58	8.99E-07	6.34E-07	1.07E-07	1.08E-07	1.07E-07	7.96E-08	4.82E-08	1.98E-06	6.43E-07	4.94E-07	8.32E-08	8.35E-08	8.32E-08	5.55E-08	2.43E-08	1.47E-06
1093	560852.07	4192453.7	2.08E-06	1.46E-06	2.48E-07	2.49E-07	2.48E-07	1.84E-07	1.11E-07	4.58E-06	1.49E-06	1.14E-06	1.92E-07	1.93E-07	1.92E-07	1.28E-07	5.61E-08	3.39E-06
1094	560842.16	4192452.6	1.93E-06	1.36E-06	2.30E-07	2.31E-07	2.30E-07	1.71E-07	1.04E-07	4.26E-06	1.38E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.19E-07	5.22E-08	3.15E-06
1095	560840.53	4192469.82	1.84E-06	1.30E-06	2.19E-07	2.20E-07	2.19E-07	1.63E-07	9.86E-08	4.05E-06	1.31E-06	1.01E-06	1.70E-07	1.71E-07	1.70E-07	1.13E-07	4.96E-08	3.00E-06
1096	560832.25	4192451.5	1.80E-06	1.27E-06	2.15E-07	2.15E-07	2.15E-07	1.59E-07	9.66E-08	3.97E-06	1.29E-06	9.89E-07	1.67E-07	1.67E-07	1.67E-07	1.11E-07	4.86E-08	2.94E-06
1097	560830.55	4192469.27	1.71E-06	1.21E-06	2.04E-07	2.05E-07	2.04E-07	1.51E-07	9.18E-08	3.77E-06	1.22E-06	9.40E-07	1.58E-07	1.59E-07	1.58E-07	1.06E-07	4.62E-08	2.79E-06
1098	560822.03	4192452.7	1.67E-06	1.18E-06	1.99E-07	2.00E-07	1.99E-07	1.48E-07	8.97E-08	3.69E-06	1.20E-06	9.18E-07	1.55E-07	1.55E-07	1.55E-07	1.03E-07	4.51E-08	2.73E-06
1099	560823.93	4192438.94	1.74E-06	1.23E-06	2.08E-07	2.08E-07	2.08E-07	1.54E-07	9.33E-08	3.84E-06	1.24E-06	9.55E-07	1.61E-07	1.61E-07	1.61E-07	1.07E-07	4.70E-08	2.84E-06
1100	560820.56	4192468.71	1.60E-06	1.13E-06	1.91E-07	1.91E-07	1.91E-07	1.41E-07	8.57E-08	3.52E-06	1.14E-06	8.78E-07	1.48E-07	1.48E-07	1.48E-07	9.86E-08	4.32E-08	2.61E-06

1101	560812.1	4192451.74	1.57E-06	1.10E-06	1.87E-07	1.88E-07	1.87E-07	1.39E-07	8.41E-08	3.46E-06	1.12E-06	8.61E-07	1.45E-07	1.45E-07	1.45E-07	9.67E-08	4.23E-08	2.56E-06
1102	560810.58	4192468.15	1.50E-06	1.06E-06	1.79E-07	1.79E-07	1.79E-07	1.32E-07	8.03E-08	3.30E-06	1.07E-06	8.22E-07	1.39E-07	1.39E-07	1.39E-07	9.24E-08	4.04E-08	2.44E-06
1103	560802.17	4192450.77	1.48E-06	1.04E-06	1.76E-07	1.76E-07	1.76E-07	1.31E-07	7.91E-08	3.25E-06	1.05E-06	8.10E-07	1.36E-07	1.37E-07	1.36E-07	9.10E-08	3.98E-08	2.41E-06
1104	560804.3	4192435.39	1.54E-06	1.09E-06	1.84E-07	1.84E-07	1.84E-07	1.36E-07	8.26E-08	3.40E-06	1.10E-06	8.46E-07	1.43E-07	1.43E-07	1.43E-07	9.50E-08	4.16E-08	2.51E-06
1105	560800.6	4192467.59	1.41E-06	9.93E-07	1.68E-07	1.69E-07	1.68E-07	1.25E-07	7.55E-08	3.11E-06	1.01E-06	7.74E-07	1.30E-07	1.31E-07	1.30E-07	8.69E-08	3.80E-08	2.30E-06
1106	560792.24	4192449.81	1.39E-06	9.81E-07	1.66E-07	1.67E-07	1.66E-07	1.23E-07	7.47E-08	3.07E-06	9.95E-07	7.64E-07	1.29E-07	1.29E-07	1.29E-07	8.59E-08	3.76E-08	2.27E-06
1107	560794.48	4192433.62	1.46E-06	1.03E-06	1.74E-07	1.74E-07	1.74E-07	1.29E-07	7.81E-08	3.21E-06	1.04E-06	8.00E-07	1.35E-07	1.35E-07	1.35E-07	8.98E-08	3.93E-08	2.37E-06
1108	560782.31	4192448.85	1.32E-06	9.28E-07	1.57E-07	1.57E-07	1.57E-07	1.16E-07	7.06E-08	2.90E-06	9.41E-07	7.23E-07	1.22E-07	1.22E-07	1.22E-07	8.12E-08	3.56E-08	2.15E-06
1109	560784.67	4192431.85	1.38E-06	9.73E-07	1.65E-07	1.65E-07	1.65E-07	1.22E-07	7.40E-08	3.04E-06	9.87E-07	7.58E-07	1.28E-07	1.28E-07	1.28E-07	8.51E-08	3.73E-08	2.25E-06
1110	560772.39	4192447.89	1.25E-06	8.79E-07	1.49E-07	1.49E-07	1.49E-07	1.10E-07	6.69E-08	2.75E-06	8.92E-07	6.85E-07	1.15E-07	1.16E-07	1.15E-07	7.70E-08	3.37E-08	2.03E-06
1111	560773.62	4192438.98	1.28E-06	9.02E-07	1.53E-07	1.53E-07	1.53E-07	1.13E-07	6.86E-08	2.82E-06	9.15E-07	7.02E-07	1.18E-07	1.19E-07	1.18E-07	7.89E-08	3.45E-08	2.09E-06
1112	560774.85	4192430.08	1.31E-06	9.23E-07	1.56E-07	1.57E-07	1.56E-07	1.16E-07	7.03E-08	2.89E-06	9.37E-07	7.19E-07	1.21E-07	1.22E-07	1.21E-07	8.08E-08	3.54E-08	2.14E-06
1113	560762.2	4192448.78	1.18E-06	8.31E-07	1.41E-07	1.41E-07	1.41E-07	1.04E-07	6.32E-08	2.60E-06	8.43E-07	6.47E-07	1.09E-07	1.09E-07	1.09E-07	7.27E-08	3.18E-08	1.92E-06
1114	560764.26	4192433.89	1.23E-06	8.65E-07	1.46E-07	1.47E-07	1.46E-07	1.09E-07	6.59E-08	2.71E-06	8.78E-07	6.74E-07	1.14E-07	1.14E-07	1.14E-07	7.57E-08	3.32E-08	2.00E-06
1115	560752.26	4192447.9	1.12E-06	7.90E-07	1.34E-07	1.34E-07	1.34E-07	9.92E-08	6.01E-08	2.47E-06	8.02E-07	6.16E-07	1.04E-07	1.04E-07	1.04E-07	6.92E-08	3.03E-08	1.83E-06
1116	560754.41	4192432.36	1.17E-06	8.24E-07	1.40E-07	1.40E-07	1.40E-07	1.03E-07	6.27E-08	2.58E-06	8.36E-07	6.42E-07	1.08E-07	1.08E-07	1.08E-07	7.21E-08	3.16E-08	1.91E-06
1117	560742.32	4192447.02	1.07E-06	7.53E-07	1.27E-07	1.28E-07	1.27E-07	9.45E-08	5.73E-08	2.36E-06	7.64E-07	5.87E-07	9.88E-08	9.91E-08	9.88E-08	6.59E-08	2.89E-08	1.74E-06
1118	560744.56	4192430.83	1.12E-06	7.86E-07	1.33E-07	1.33E-07	1.33E-07	9.87E-08	5.98E-08	2.46E-06	7.98E-07	6.13E-07	1.03E-07	1.03E-07	1.03E-07	6.88E-08	3.01E-08	1.82E-06
1119	560732.38	4192446.14	1.02E-06	7.19E-07	1.22E-07	1.22E-07	1.22E-07	9.02E-08	5.47E-08	2.25E-06	7.29E-07	5.60E-07	9.43E-08	9.46E-08	9.43E-08	6.29E-08	2.75E-08	1.66E-06
1120	560734.71	4192429.3	1.07E-06	7.51E-07	1.27E-07	1.27E-07	1.27E-07	9.43E-08	5.72E-08	2.35E-06	7.62E-07	5.85E-07	9.86E-08	9.89E-08	9.86E-08	6.57E-08	2.88E-08	1.74E-06
1121	560722.44	4192445.26	9.74E-07	6.87E-07	1.16E-07	1.17E-07	1.16E-07	8.62E-08	5.23E-08	2.15E-06	6.97E-07	5.35E-07	9.01E-08	9.04E-08	9.01E-08	6.01E-08	2.63E-08	1.59E-06
1122	560724.86	4192427.77	1.02E-06	7.19E-07	1.22E-07	1.22E-07	1.22E-07	9.02E-08	5.47E-08	2.25E-06	7.29E-07	5.60E-07	9.43E-08	9.46E-08	9.43E-08	6.29E-08	2.75E-08	1.66E-06
1123	560712.29	4192445.89	9.29E-07	6.55E-07	1.11E-07	1.11E-07	1.11E-07	8.22E-08	4.98E-08	2.05E-06	6.64E-07	5.10E-07	8.59E-08	8.62E-08	8.59E-08	5.73E-08	2.51E-08	1.51E-06
1124	560714.38	4192430.78	9.66E-07	6.81E-07	1.15E-07	1.16E-07	1.15E-07	8.54E-08	5.18E-08	2.13E-06	6.90E-07	5.30E-07	8.93E-08	8.96E-08	8.93E-08	5.96E-08	2.61E-08	1.57E-06
1125	560702.35	4192445.06	8.90E-07	6.27E-07	1.06E-07	1.06E-07	1.06E-07	7.87E-08	4.77E-08	1.96E-06	6.36E-07	4.89E-07	8.23E-08	8.26E-08	8.23E-08	5.49E-08	2.40E-08	1.45E-06
1126	560704.51	4192429.41	9.26E-07	6.53E-07	1.10E-07	1.11E-07	1.10E-07	8.19E-08	4.97E-08	2.04E-06	6.62E-07	5.09E-07	8.57E-08	8.59E-08	8.57E-08	5.71E-08	2.50E-08	1.51E-06
1127	560692.4	4192444.23	8.54E-07	6.02E-07	1.02E-07	1.02E-07	1.02E-07	7.55E-08	4.58E-08	1.88E-06	6.10E-07	4.69E-07	7.90E-08	7.92E-08	7.90E-08	5.27E-08	2.31E-08	1.39E-06
1128	560694.64	4192428.04	8.89E-07	6.27E-07	1.06E-07	1.06E-07	1.06E-07	7.87E-08	4.77E-08	1.96E-06	6.36E-07	4.88E-07	8.22E-08	8.25E-08	8.22E-08	5.48E-08	2.40E-08	1.45E-06
1129	560696.88	4192411.85	9.21E-07	6.49E-07	1.10E-07	1.10E-07	1.10E-07	8.15E-08	4.94E-08	2.03E-06	6.59E-07	5.06E-07	8.52E-08	8.55E-08	8.52E-08	5.68E-08	2.49E-08	1.50E-06
1130	560682.45	4192443.41	8.19E-07	5.77E-07	9.77E-08	9.80E-08	9.77E-08	7.25E-08	4.39E-08	1.81E-06	5.86E-07	4.50E-07	7.58E-08	7.60E-08	7.58E-08	5.05E-08	2.21E-08	1.34E-06
1131	560684.77	4192426.68	8.53E-07	6.01E-07	1.02E-07	1.02E-07	1.02E-07	7.55E-08	4.58E-08	1.88E-06	6.10E-07	4.68E-07	7.89E-08	7.91E-08	7.89E-08	5.26E-08	2.30E-08	1.39E-06
1132	561570.52	4192469.82	3.47E-07	2.45E-07	4.14E-08	4.15E-08	4.14E-08	3.07E-08	1.86E-08	7.66E-07	2.48E-07	1.91E-07	3.21E-08	3.22E-08	3.21E-08	2.14E-08	9.38E-09	5.66E-07
1133	561116.53	4192515.88	1.73E-05	1.22E-05	2.07E-06	2.07E-06	2.07E-06	1.53E-06	9.29E-07	3.82E-05	1.24E-05	9.51E-06	1.60E-06	1.61E-06	1.60E-06	1.07E-06	4.68E-07	2.82E-05
1134	561122.24	4192517.22	1.69E-05	1.19E-05	2.02E-06	2.02E-06	2.02E-06	1.49E-06	9.06E-07	3.72E-05	1.21E-05	9.28E-06	1.56E-06	1.57E-06	1.56E-06	1.04E-06	4.56E-07	2.75E-05
1135	561127.38	4192518.55	1.63E-05	1.15E-05	1.95E-06	1.95E-06	1.95E-06	1.45E-06	8.76E-07	3.60E-05	1.17E-05	8.97E-06	1.51E-06	1.52E-06	1.51E-06	1.01E-06	4.41E-07	2.66E-05
1136	561132.34	4192519.69	1.57E-05	1.10E-05	1.87E-06	1.88E-06	1.87E-06	1.39E-06	8.41E-07	3.46E-05	1.12E-05	8.61E-06	1.45E-06	1.45E-06	1.45E-06	9.67E-07	4.23E-07	2.56E-05
1137	561136.53	4192520.84	1.50E-05	1.06E-05	1.79E-06	1.80E-06	1.79E-06	1.33E-06	8.05E-07	3.31E-05	1.07E-05	8.25E-06	1.39E-06	1.39E-06	1.39E-06	9.26E-07	4.06E-07	2.45E-05
1138	561141.67	4192521.79	1.41E-05	9.94E-06	1.68E-06	1.69E-06	1.68E-06	1.25E-06	7.56E-07	3.11E-05	1.01E-05	7.74E-06	1.30E-06	1.31E-06	1.30E-06	8.70E-07	3.81E-07	2.30E-05
1139	561146.43	4192522.74	1.31E-05	9.24E-06	1.56E-06	1.57E-06	1.56E-06	1.16E-06	7.03E-07	2.89E-05	9.38E-06	7.20E-06	1.21E-06	1.22E-06	1.21E-06	8.09E-07	3.54E-07	2.14E-05
1140	561149.48	4192523.69	1.24E-05	8.74E-06	1.48E-06	1.48E-06	1.48E-06	1.10E-06	6.65E-07	2.73E-05	8.87E-06	6.81E-06	1.15E-06	1.15E-06	1.15E-06	7.65E-07	3.35E-07	2.02E-05

			T4iRev							T4fRev						
			3.90E-04	2.98E-04	2.90E-04	2.91E-04	2.90E-04	2.15E-04	1.31E-04	2.79E-04	2.32E-04	2.25E-04	2.26E-04	2.25E-04	1.50E-04	6.57E-05
	UTM X	UTM Y	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
1	561383.48	4192287.53	1.00E-03	7.65E-04	7.45E-04	7.47E-04	7.45E-04	5.53E-04	3.35E-04	7.16E-04	5.96E-04	5.78E-04	5.80E-04	5.78E-04	3.85E-04	1.69E-04
2	561389.35	4192262.71	9.38E-04	7.16E-04	6.98E-04	7.00E-04	6.98E-04	5.18E-04	3.14E-04	6.71E-04	5.58E-04	5.41E-04	5.43E-04	5.41E-04	3.61E-04	1.58E-04
3	561390.63	4192271.92	9.45E-04	7.21E-04	7.03E-04	7.05E-04	7.03E-04	5.21E-04	3.16E-04	6.75E-04	5.62E-04	5.45E-04	5.46E-04	5.45E-04	3.63E-04	1.59E-04
4	561391.9	4192281.12	9.48E-04	7.24E-04	7.06E-04	7.08E-04	7.06E-04	5.23E-04	3.17E-04	6.78E-04	5.64E-04	5.47E-04	5.49E-04	5.47E-04	3.65E-04	1.60E-04
5	561393.17	4192290.32	9.50E-04	7.25E-04	7.07E-04	7.09E-04	7.07E-04	5.24E-04	3.18E-04	6.80E-04	5.65E-04	5.48E-04	5.50E-04	5.48E-04	3.65E-04	1.60E-04
6	561395.97	4192243.3	8.73E-04	6.67E-04	6.50E-04	6.52E-04	6.50E-04	4.82E-04	2.92E-04	6.25E-04	5.19E-04	5.04E-04	5.05E-04	5.04E-04	3.36E-04	1.47E-04
7	561397.32	4192253.01	8.84E-04	6.75E-04	6.58E-04	6.60E-04	6.58E-04	4.88E-04	2.96E-04	6.32E-04	5.26E-04	5.10E-04	5.12E-04	5.10E-04	3.40E-04	1.49E-04
8	561398.66	4192262.73	8.92E-04	6.81E-04	6.64E-04	6.66E-04	6.64E-04	4.92E-04	2.98E-04	6.38E-04	5.31E-04	5.15E-04	5.16E-04	5.15E-04	3.43E-04	1.50E-04
9	561400.01	4192272.44	8.98E-04	6.85E-04	6.68E-04	6.70E-04	6.68E-04	4.95E-04	3.00E-04	6.42E-04	5.34E-04	5.18E-04	5.20E-04	5.18E-04	3.45E-04	1.51E-04
10	561401.35	4192282.16	9.01E-04	6.88E-04	6.71E-04	6.72E-04	6.71E-04	4.97E-04	3.01E-04	6.45E-04	5.36E-04	5.20E-04	5.21E-04	5.20E-04	3.47E-04	1.52E-04
11	561402.69	4192291.87	9.03E-04	6.89E-04	6.72E-04	6.74E-04	6.72E-04	4.98E-04	3.02E-04	6.46E-04	5.37E-04	5.21E-04	5.22E-04	5.21E-04	3.47E-04	1.52E-04
12	561404.44	4192237.18	8.25E-04	6.30E-04	6.14E-04	6.16E-04	6.14E-04	4.55E-04	2.76E-04	5.90E-04	4.91E-04	4.76E-04	4.78E-04	4.76E-04	3.17E-04	1.39E-04
13	561405.76	4192246.77	8.37E-04	6.39E-04	6.23E-04	6.24E-04	6.23E-04	4.62E-04	2.80E-04	5.98E-04	4.98E-04	4.83E-04	4.84E-04	4.83E-04	3.22E-04	1.41E-04
14	561407.09	4192256.35	8.46E-04	6.45E-04	6.29E-04	6.31E-04	6.29E-04	4.66E-04	2.83E-04	6.05E-04	5.03E-04	4.88E-04	4.89E-04	4.88E-04	3.25E-04	1.42E-04
15	561408.41	4192265.94	8.52E-04	6.50E-04	6.34E-04	6.36E-04	6.34E-04	4.70E-04	2.85E-04	6.09E-04	5.07E-04	4.91E-04	4.93E-04	4.91E-04	3.28E-04	1.43E-04
16	561409.74	4192275.53	8.56E-04	6.53E-04	6.37E-04	6.39E-04	6.37E-04	4.72E-04	2.86E-04	6.12E-04	5.09E-04	4.94E-04	4.95E-04	4.94E-04	3.29E-04	1.44E-04
17	561411.07	4192285.11	8.59E-04	6.55E-04	6.39E-04	6.40E-04	6.39E-04	4.74E-04	2.87E-04	6.14E-04	5.11E-04	4.95E-04	4.97E-04	4.95E-04	3.30E-04	1.45E-04
18	561412.39	4192294.7	8.59E-04	6.56E-04	6.39E-04	6.41E-04	6.39E-04	4.74E-04	2.87E-04	6.15E-04	5.11E-04	4.96E-04	4.97E-04	4.96E-04	3.31E-04	1.45E-04
19	561414.22	4192240.65	7.93E-04	6.05E-04	5.90E-04	5.92E-04	5.90E-04	4.37E-04	2.65E-04	5.67E-04	4.72E-04	4.57E-04	4.59E-04	4.57E-04	3.05E-04	1.34E-04
20	561415.54	4192250.13	8.02E-04	6.12E-04	5.97E-04	5.98E-04	5.97E-04	4.43E-04	2.68E-04	5.74E-04	4.77E-04	4.63E-04	4.64E-04	4.63E-04	3.09E-04	1.35E-04
21	561416.85	4192259.6	8.09E-04	6.18E-04	6.02E-04	6.04E-04	6.02E-04	4.47E-04	2.71E-04	5.79E-04	4.81E-04	4.67E-04	4.68E-04	4.67E-04	3.11E-04	1.36E-04
22	561418.16	4192269.07	8.14E-04	6.22E-04	6.06E-04	6.08E-04	6.06E-04	4.49E-04	2.72E-04	5.82E-04	4.84E-04	4.70E-04	4.71E-04	4.70E-04	3.13E-04	1.37E-04
23	561419.47	4192278.55	8.18E-04	6.24E-04	6.08E-04	6.10E-04	6.08E-04	4.51E-04	2.73E-04	5.85E-04	4.86E-04	4.72E-04	4.73E-04	4.72E-04	3.14E-04	1.38E-04
24	561420.78	4192288.02	8.19E-04	6.25E-04	6.09E-04	6.11E-04	6.09E-04	4.52E-04	2.74E-04	5.86E-04	4.87E-04	4.73E-04	4.74E-04	4.73E-04	3.15E-04	1.38E-04
25	561424	4192244.03	7.62E-04	5.82E-04	5.67E-04	5.69E-04	5.67E-04	4.21E-04	2.55E-04	5.45E-04	4.53E-04	4.40E-04	4.41E-04	4.40E-04	2.93E-04	1.28E-04
26	561425.3	4192253.4	7.70E-04	5.88E-04	5.73E-04	5.74E-04	5.73E-04	4.25E-04	2.58E-04	5.51E-04	4.58E-04	4.44E-04	4.45E-04	4.44E-04	2.96E-04	1.30E-04
27	561426.59	4192262.77	7.76E-04	5.92E-04	5.77E-04	5.79E-04	5.77E-04	4.28E-04	2.59E-04	5.55E-04	4.61E-04	4.48E-04	4.49E-04	4.48E-04	2.98E-04	1.31E-04
28	561356.27	4192417.52	1.30E-03	9.88E-04	9.63E-04	9.66E-04	9.63E-04	7.14E-04	4.33E-04	9.26E-04	7.70E-04	7.47E-04	7.49E-04	7.47E-04	4.98E-04	2.18E-04
29	561366.04	4192419.68	1.20E-03	9.19E-04	8.96E-04	8.99E-04	8.96E-04	6.65E-04	4.03E-04	8.61E-04	7.16E-04	6.95E-04	6.97E-04	6.95E-04	4.63E-04	2.03E-04
30	561375.8	4192421.84	1.12E-03	8.57E-04	8.35E-04	8.38E-04	8.35E-04	6.20E-04	3.76E-04	8.03E-04	6.68E-04	6.48E-04	6.50E-04	6.48E-04	4.32E-04	1.89E-04
31	561385.56	4192424.01	1.05E-03	8.01E-04	7.81E-04	7.83E-04	7.81E-04	5.79E-04	3.51E-04	7.51E-04	6.24E-04	6.06E-04	6.07E-04	6.06E-04	4.04E-04	1.77E-04
32	561405.09	4192428.33	9.24E-04	7.06E-04	6.88E-04	6.90E-04	6.88E-04	5.10E-04	3.09E-04	6.61E-04	5.50E-04	5.33E-04	5.35E-04	5.33E-04	3.56E-04	1.56E-04
33	561116.02	4192791.18	1.65E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	9.12E-04	5.53E-04	1.18E-03	9.84E-04	9.54E-04	9.57E-04	9.54E-04	6.36E-04	2.79E-04
34	561414.85	4192430.5	8.70E-04	6.64E-04	6.47E-04	6.49E-04	6.47E-04	4.80E-04	2.91E-04	6.22E-04	5.17E-04	5.02E-04	5.03E-04	5.02E-04	3.35E-04	1.46E-04
35	561122.51	4192799.55	1.57E-03	1.20E-03	1.17E-03	1.17E-03	1.17E-03	8.68E-04	5.26E-04	1.13E-03	9.36E-04	9.08E-04	9.11E-04	9.08E-04	6.05E-04	2.65E-04
36	561424.61	4192432.66	8.19E-04	6.25E-04	6.09E-04	6.11E-04	6.09E-04	4.52E-04	2.74E-04	5.86E-04	4.87E-04	4.72E-04	4.74E-04	4.72E-04	3.15E-04	1.38E-04
37	561150.66	4192804.85	1.47E-03	1.12E-03	1.10E-03	1.10E-03	1.10E-03	8.12E-04	4.92E-04	1.05E-03	8.76E-04	8.49E-04	8.52E-04	8.49E-04	5.66E-04	2.48E-04
38	561140.93	4192806.23	1.49E-03	1.13E-03	1.11E-03	1.11E-03	1.11E-03	8.20E-04	4.97E-04	1.06E-03	8.84E-04	8.58E-04	8.60E-04	8.58E-04	5.72E-04	2.50E-04
39	561131.19	4192807.61	1.50E-03	1.14E-03	1.11E-03	1.12E-03	1.11E-03	8.26E-04	5.01E-04	1.07E-03	8.91E-04	8.64E-04	8.66E-04	8.64E-04	5.76E-04	2.52E-04
40	561121.46	4192808.98	1.50E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	1.08E-03	8.95E-04	8.68E-04	8.71E-04	8.68E-04	5.79E-04	2.53E-04
41	561111.73	4192810.36	1.51E-03	1.15E-03	1.12E-03	1.13E-03	1.12E-03	8.33E-04	5.05E-04	1.08E-03	8.97E-04	8.71E-04	8.73E-04	8.71E-04	5.80E-04	2.54E-04
42	561432.25	4192444.45	7.77E-04	5.93E-04	5.78E-04	5.79E-04	5.78E-04	4.28E-04	2.60E-04	5.55E-04	4.62E-04	4.48E-04	4.49E-04	4.48E-04	2.99E-04	1.31E-04
43	561434.38	4192434.83	7.72E-04	5.89E-04	5.74E-04	5.76E-04	5.74E-04	4.26E-04	2.58E-04	5.52E-04	4.59E-04	4.45E-04	4.47E-04	4.45E-04	2.97E-04	1.30E-04
44	561166.68	4192811.87	1.38E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	7.63E-04	4.63E-04	9.89E-04	8.23E-04	7.98E-04	8.00E-04	7.98E-04	5.32E-04	2.33E-04
45	561157.04	4192813.24	1.40E-03	1.07E-03	1.04E-03	1.05E-03	1.04E-03	7.73E-04	4.69E-04	1.00E-03	8.33E-04	8.08E-04	8.11E-04	8.08E-04	5.39E-04	2.36E-04
46	561147.4	4192814.6	1.42E-03	1.08E-03	1.05E-03	1.06E-03	1.05E-03	7.81E-04	4.74E-04	1.01E-03	8.42E-04	8.17E-04	8.19E-04	8.17E-04	5.45E-04	2.38E-04
47	561137.76	4192815.96	1.43E-03	1.09E-03	1.06E-03	1.06E-03	1.06E-03	7.88E-04	4.77E-04	1.02E-03	8.49E-04	8.23E-04	8.26E-04	8.23E-04	5.49E-04	2.40E-04
48	561128.12	4192817.33	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.92E-04	4.80E-04	1.03E-03	8.54E-04	8.28E-04	8.31E-04	8.28E-04	5.52E-04	2.42E-04
49	561118.49	4192818.69	1.44E-03	1.10E-03	1.07E-03	1.08E-03	1.07E-03	7.95E-04	4.82E-04	1.03E-03	8.57E-04	8.31E-04	8.34E-04	8.31E-04	5.54E-04	2.43E-04
50	561422.82	4192533.18	7.48E-04	5.71E-04	5.56E-04	5.58E-04	5.56E-04	4.13E-04	2.50E-04	5.35E-04	4.45E-04	4.31E-04	4.33E-04	4.31E-04	2.88E-04	1.26E-04
51	561424.95	4192523.56	7.47E-04	5.70E-04	5.56E-04	5.57E-04	5.56E-04	4.12E-04	2.50E-04	5.34E-04	4.44E-04	4.31E-04	4.32E-04	4.31E-04	2.87E-04	1.26E-04
52	561442.01	4192446.61	7.33E-04	5.59E-04	5.45E-04	5.47E-04	5.45E-04	4.04E-04	2.45E-04	5.24E-04	4.36E-04	4.23E-04	4.24E-04	4.23E-04	2.82E-04	1.23E-04
53	561444.14	4192436.99	7.29E-04	5.57E-04	5.42E-04	5.44E-04	5.42E-04	4.02E-04	2.44E-04	5.21E-04	4.34E-04	4.21E-04	4.22E-04	4.21E-04	2.80E-04	1.23E-04
54	561182.43	4192818.93	1.30E-03	9.89E-04	9.64E-04	9.67E-04	9.64E-04	7.15E-04	4.33E-04	9.27E-04	7.71E-04	7.48E-04	7.50E-04	7.48E-04	4.98E-04	2.18E-04
55	561172.87	4192820.28	1.32E-03	1.01E-03	9.80E-04	9.83E-04	9.80E-04	7.27E-04	4.40E-04	9.42E-04	7.83E-04	7.60E-04	7.62E-04	7.60E-04	5.07E-04	2.22E-04
56	561163.32	4192821.63	1.34E-03	1.02E-03	9.93E-04	9.96E-04	9.93E-04	7.37E-04	4.47E-04	9.55E-04	7.94E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
57	561153.76	4192822.99	1.35E-03	1.03E-03	1.00E-03	1.01E-03	1.00E-03	7.45E-04	4.51E-04	9.65E-04	8.03E-04	7.79E-04	7.81E-04	7.79E-04	5.19E-04	2.27E-04
58	561144.21	4192824.34	1.36E-03	1.04E-03	1.01E-03	1.02E-03	1.01E-03	7.51E-04	4.55E-04	9.74E-04	8.10E-04	7.86E-04	7.88E-04	7.86E-04	5.24E-04	2.29E-04
59	561134.65	4192825.69	1.37E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	7.56E-04	4.59E-04	9.80E-04	8.15E-04	7.91E-04	7.93E-04	7.91E-04	5.27E-04	2.31E-04
60	561125.1	4192827.04	1.38E-03	1.05E-03	1.02E-03	1.03E-03	1.02E-03	7.60E-04	4.61E-04	9.85E-04	8.19E-04	7.95E-04	7.97E-04	7.95E-04	5.30E-04	2.32E-04
61	561115.54	4192828.39	1.38E-03	1.05E-03	1.03E-03	1.03E-03	1.03E-03	7.62E-04	4.62E-04	9.88E-04	8.21E-04	7.97E-04	7.99E-04	7.97E-04	5.31E-04	2.33E-04
62	561432.58	4192535.35	7.08E-04	5.41E-04	5.27E-04	5.28E-04	5.27E-04	3.91E-04	2.37E-04	5.06E-04	4.21E-04	4.09E-04	4.10E-04	4.09E-04	2.72E-04	1.19E-04
63	561434.72	4192525.73	7.07E-04	5.40E-04	5.26E-04	5.27E-04	5.26E-04	3.90E-04	2.36E-04	5.05E-04	4.20E-04	4.08E-04	4.09E-04	4.08E-04	2.72E-04	1.19E-04
64	561451.77	4192448.77	6.93E-04	5.29E-04	5.16E-04	5.17E-04	5.16E-04	3.83E-04	2.32E-04	4.96E-04	4.12E-04	4.00E-04	4.01E-04	4.00E-04	2.67E-04	1.17E-04
65	561453.9	4192439.15	6.90E-04	5.27E-04	5.14E-04	5.15E-04	5.14E-04	3.81E-04	2.31E-04	4.94E-04	4.11E-04	3.98E-04	3.99E-04	3.98E-04	2.66E-04	1.16E-04
66	561216.89	4192823.34	1.16E-03	8.83E-04	8.61E-04	8.63E-04	8.61E-04	6.38E-04	3.87E-04	8.27E-04	6.88E-04	6.67E-04	6.69E-04	6.67E-04	4.45E-04	1.95E-04
67	561207.41	4192824.68	1.18E-03	9.04E-04	8.81E-04	8.84E-04	8.81E-04	6.54E-04	3.96E-04	8.47E-04	7.05E-04	6.83E-04	6.85E-04	6.83E-04	4.56E-04	2.00E-04
68	561197.93	4192826.02	1.21E-03	9.24E-04	9.01E-04	9.03E-04	9.01E-04	6.68E-04	4.05E-04	8.66E-04	7.20E-04	6.99E-04	7.00E-04	6.99E-04	4.66E-04	2.04E-04
69	561178.98	4192828.71	1.26E-03	9.58E-04	9.34E-04	9.37E-04	9.34E-04	6.93E-04	4.20E-04	8.98E-04	7.47E-04	7.24E-04	7.26E-04	7.24E-04	4.83E-04	2.11E-04
70	561169.5	4192830.05	1.27E-03	9.72E-04	9.47E-04	9.50E-04	9.47E-04	7.02E-04	4.26E-04	9.11E-04	7.57E-04	7.35E-04	7.37E-04	7.35E-04	4.90E-04	2.14E-04
71	561160.02	4192831.39	1.29E-03	9.83E-04	9.58E-04	9.61E-04	9.58E-04	7.11E-04	4.31E-04	9.21E-04	7.66E-04	7.43E-04	7.45E-04	7.43E-04	4.96E-04	2.17E-04
72	561150.54	4192832.73	1.30E-03	9.93E-04	9.68E-04	9.70E-04	9.68E-04	7.18E-04	4.35E-04	9.30E-04	7.74E-04	7.50E-04	7.52E-04	7.50E-04	5.00E-04	2.19E-04
73	561141.06	4192834.07	1.31E-03	1.00E-03	9.75E-04	9.77E-04	9.75E-04	7.23E-04	4.38E-04	9.37E-04	7.79E-04	7.56E-04	7.58E-04	7.56E-04	5.04E-04	2.21E-04
74	561131.59	4192835.41	1.32E-03	1.01E-03	9.80E-04	9.83E-04	9.80E-04	7.27E-04	4.41E-04	9.42E-04	7.83E-04	7.60E-04	7.62E-04	7.60E-04	5.07E-04	2.22E-04
75	561122.11	4192836.75	1.32E-03	1.01E-03	9.83E-04	9.86E-04	9.83E-04	7.29E-04	4.42E-04	9.45E-04	7.86E-04	7.63E-04	7.65E-04	7.63E-04	5.08E-04	2.23E-04
76	561112.63	4192838.09	1.32E-03	1.01E-03	9.85E-04	9.88E-04	9.85E-04	7.31E-04	4.43E-04	9.47E-04	7.88E-04	7.64E-04	7.66E-04	7.64E-04	5.09E-04	2.23E-04
77	561442.35	4192537.51	6.72E-04	5.13E-04	5.00E-04	5.01E-04	5.00E-04	3.71E-04	2.25E-04	4.80E-04	3.99E-04	3.87E-04	3.88E-04	3.87E-04	2.58E-04	1.13E-04
78	561444.48	4192527.89	6.70E-04	5.11E-04	4.99E-04	5.00E-04	4.99E-04	3.70E-04	2.24E-04	4.79E-04	3.99E-04	3.87E-04	3.88E-04	3.87E-04	2.58E-04	1.13E-04
79	561461.53	4192450.94	6.57E-04	5.02E-04	4.89E-04	4.90E-04	4.89E-04	3.63E-04	2.20E-04	4.70E-04	3.91E-04	3.79E-04	3.80E-04	3.79E-04	2.53E-04	1.11E-04

80	561463.67	4192441.32	6.55E-04	5.00E-04	4.87E-04	4.88E-04	4.87E-04	3.61E-04	2.19E-04	4.68E-04	3.89E-04	3.78E-04	3.79E-04	3.78E-04	2.52E-04	1.10E-04
81	561241.45	4192829.16	1.05E-03	7.98E-04	7.78E-04	7.80E-04	7.78E-04	5.77E-04	3.50E-04	7.47E-04	6.22E-04	6.03E-04	6.05E-04	6.03E-04	4.02E-04	1.76E-04
82	561232.04	4192830.49	1.07E-03	8.20E-04	8.00E-04	8.02E-04	8.00E-04	5.93E-04	3.59E-04	7.69E-04	6.39E-04	6.20E-04	6.22E-04	6.20E-04	4.13E-04	1.81E-04
83	561222.63	4192831.82	1.10E-03	8.42E-04	8.21E-04	8.23E-04	8.21E-04	6.09E-04	3.69E-04	7.89E-04	6.56E-04	6.36E-04	6.38E-04	6.36E-04	4.24E-04	1.86E-04
84	561213.23	4192833.15	1.13E-03	8.62E-04	8.40E-04	8.43E-04	8.40E-04	6.23E-04	3.78E-04	8.08E-04	6.72E-04	6.52E-04	6.53E-04	6.52E-04	4.35E-04	1.90E-04
85	561203.82	4192834.48	1.15E-03	8.81E-04	8.59E-04	8.61E-04	8.59E-04	6.37E-04	3.86E-04	8.26E-04	6.87E-04	6.66E-04	6.68E-04	6.66E-04	4.44E-04	1.94E-04
86	561185	4192837.14	1.20E-03	9.14E-04	8.91E-04	8.94E-04	8.91E-04	6.61E-04	4.01E-04	8.57E-04	7.12E-04	6.91E-04	6.93E-04	6.91E-04	4.61E-04	2.02E-04
87	561175.6	4192838.47	1.22E-03	9.28E-04	9.04E-04	9.07E-04	9.04E-04	6.71E-04	4.07E-04	8.69E-04	7.23E-04	7.01E-04	7.03E-04	7.01E-04	4.68E-04	2.05E-04
88	561166.19	4192839.8	1.23E-03	9.39E-04	9.16E-04	9.18E-04	9.16E-04	6.79E-04	4.12E-04	8.80E-04	7.32E-04	7.10E-04	7.12E-04	7.10E-04	4.73E-04	2.07E-04
89	561156.78	4192841.13	1.24E-03	9.49E-04	9.25E-04	9.27E-04	9.25E-04	6.86E-04	4.16E-04	8.89E-04	7.39E-04	7.17E-04	7.19E-04	7.17E-04	4.78E-04	2.09E-04
90	561147.37	4192842.46	1.25E-03	9.57E-04	9.32E-04	9.35E-04	9.32E-04	6.91E-04	4.19E-04	8.96E-04	7.45E-04	7.23E-04	7.25E-04	7.23E-04	4.82E-04	2.11E-04
91	561137.97	4192843.79	1.26E-03	9.62E-04	9.38E-04	9.41E-04	9.38E-04	6.96E-04	4.22E-04	9.02E-04	7.50E-04	7.27E-04	7.29E-04	7.27E-04	4.85E-04	2.12E-04
92	561128.56	4192845.12	1.27E-03	9.67E-04	9.42E-04	9.45E-04	9.42E-04	6.99E-04	4.24E-04	9.06E-04	7.53E-04	7.30E-04	7.33E-04	7.30E-04	4.87E-04	2.13E-04
93	561119.15	4192846.45	1.27E-03	9.69E-04	9.44E-04	9.47E-04	9.44E-04	7.00E-04	4.25E-04	9.08E-04	7.55E-04	7.32E-04	7.34E-04	7.32E-04	4.88E-04	2.14E-04
94	561109.74	4192847.78	1.27E-03	9.70E-04	9.45E-04	9.48E-04	9.45E-04	7.01E-04	4.25E-04	9.09E-04	7.56E-04	7.33E-04	7.35E-04	7.33E-04	4.89E-04	2.14E-04
95	561452.11	4192539.68	6.38E-04	4.87E-04	4.74E-04	4.76E-04	4.74E-04	3.52E-04	2.13E-04	4.56E-04	3.79E-04	3.68E-04	3.69E-04	3.68E-04	2.45E-04	1.07E-04
96	561454.24	4192530.06	6.36E-04	4.86E-04	4.73E-04	4.75E-04	4.73E-04	3.51E-04	2.13E-04	4.55E-04	3.78E-04	3.67E-04	3.68E-04	3.67E-04	2.45E-04	1.07E-04
97	561471.3	4192453.1	6.24E-04	4.76E-04	4.64E-04	4.65E-04	4.64E-04	3.44E-04	2.09E-04	4.46E-04	3.71E-04	3.60E-04	3.61E-04	3.60E-04	2.40E-04	1.05E-04
98	561473.43	4192443.48	6.21E-04	4.74E-04	4.62E-04	4.64E-04	4.62E-04	3.43E-04	2.08E-04	4.44E-04	3.70E-04	3.58E-04	3.59E-04	3.58E-04	2.39E-04	1.05E-04
99	561264.15	4192835.23	9.45E-04	7.21E-04	7.03E-04	7.05E-04	7.03E-04	5.21E-04	3.16E-04	6.76E-04	5.62E-04	5.45E-04	5.47E-04	5.45E-04	3.63E-04	1.59E-04
100	561254.42	4192836.61	9.75E-04	7.44E-04	7.26E-04	7.28E-04	7.26E-04	5.38E-04	3.26E-04	6.97E-04	5.80E-04	5.63E-04	5.64E-04	5.63E-04	3.75E-04	1.64E-04
101	561244.68	4192837.98	1.01E-03	7.67E-04	7.48E-04	7.50E-04	7.48E-04	5.55E-04	3.36E-04	7.19E-04	5.98E-04	5.80E-04	5.82E-04	5.80E-04	3.87E-04	1.69E-04
102	561234.95	4192839.36	1.03E-03	7.89E-04	7.69E-04	7.71E-04	7.69E-04	5.71E-04	3.46E-04	7.40E-04	6.15E-04	5.97E-04	5.98E-04	5.97E-04	3.98E-04	1.74E-04
103	561225.22	4192840.74	1.06E-03	8.10E-04	7.90E-04	7.92E-04	7.90E-04	5.86E-04	3.55E-04	7.59E-04	6.31E-04	6.12E-04	6.14E-04	6.12E-04	4.08E-04	1.79E-04
104	561215.49	4192842.11	1.09E-03	8.30E-04	8.09E-04	8.11E-04	8.09E-04	6.00E-04	3.64E-04	7.78E-04	6.47E-04	6.27E-04	6.29E-04	6.27E-04	4.18E-04	1.83E-04
105	561205.76	4192843.49	1.11E-03	8.48E-04	8.27E-04	8.29E-04	8.27E-04	6.13E-04	3.72E-04	7.95E-04	6.61E-04	6.41E-04	6.43E-04	6.41E-04	4.28E-04	1.87E-04
106	561196.02	4192844.87	1.13E-03	8.65E-04	8.43E-04	8.46E-04	8.43E-04	6.25E-04	3.79E-04	8.11E-04	6.74E-04	6.54E-04	6.56E-04	6.54E-04	4.36E-04	1.91E-04
107	561176.56	4192847.62	1.17E-03	8.93E-04	8.71E-04	8.73E-04	8.71E-04	6.46E-04	3.91E-04	8.37E-04	6.96E-04	6.75E-04	6.77E-04	6.75E-04	4.50E-04	1.97E-04
108	561166.83	4192849	1.18E-03	9.04E-04	8.81E-04	8.84E-04	8.81E-04	6.54E-04	3.96E-04	8.47E-04	7.04E-04	6.83E-04	6.85E-04	6.83E-04	4.56E-04	1.99E-04
109	561157.1	4192850.37	1.20E-03	9.13E-04	8.90E-04	8.92E-04	8.90E-04	6.60E-04	4.00E-04	8.55E-04	7.11E-04	6.90E-04	6.92E-04	6.90E-04	4.60E-04	2.01E-04
110	561147.36	4192851.75	1.21E-03	9.20E-04	8.97E-04	8.99E-04	8.97E-04	6.65E-04	4.03E-04	8.62E-04	7.17E-04	6.95E-04	6.97E-04	6.95E-04	4.64E-04	2.03E-04
111	561137.63	4192853.13	1.21E-03	9.25E-04	9.02E-04	9.04E-04	9.02E-04	6.69E-04	4.05E-04	8.67E-04	7.21E-04	6.99E-04	7.01E-04	6.99E-04	4.66E-04	2.04E-04
112	561127.9	4192854.5	1.22E-03	9.29E-04	9.05E-04	9.08E-04	9.05E-04	6.71E-04	4.07E-04	8.70E-04	7.24E-04	7.02E-04	7.04E-04	7.02E-04	4.68E-04	2.05E-04
113	561118.17	4192855.88	1.22E-03	9.31E-04	9.07E-04	9.10E-04	9.07E-04	6.73E-04	4.08E-04	8.72E-04	7.25E-04	7.04E-04	7.06E-04	7.04E-04	4.69E-04	2.05E-04
114	561461.87	4192541.84	6.07E-04	4.63E-04	4.51E-04	4.52E-04	4.51E-04	3.35E-04	2.03E-04	4.34E-04	3.61E-04	3.50E-04	3.51E-04	3.50E-04	2.33E-04	1.02E-04
115	561464	4192532.22	6.05E-04	4.62E-04	4.50E-04	4.51E-04	4.50E-04	3.34E-04	2.02E-04	4.32E-04	3.60E-04	3.49E-04	3.50E-04	3.49E-04	2.33E-04	1.02E-04
116	561476.8	4192474.5	5.96E-04	4.55E-04	4.43E-04	4.44E-04	4.43E-04	3.29E-04	1.99E-04	4.26E-04	3.54E-04	3.44E-04	3.45E-04	3.44E-04	2.29E-04	1.00E-04
117	561481.06	4192455.26	5.92E-04	4.52E-04	4.41E-04	4.42E-04	4.41E-04	3.27E-04	1.98E-04	4.24E-04	3.52E-04	3.42E-04	3.43E-04	3.42E-04	2.28E-04	9.98E-05
118	561483.19	4192445.64	5.91E-04	4.51E-04	4.39E-04	4.41E-04	4.39E-04	3.26E-04	1.98E-04	4.22E-04	3.51E-04	3.41E-04	3.42E-04	3.41E-04	2.27E-04	9.95E-05
119	561269.64	4192843.74	9.04E-04	6.90E-04	6.72E-04	6.74E-04	6.72E-04	4.99E-04	3.02E-04	6.46E-04	5.37E-04	5.21E-04	5.23E-04	5.21E-04	3.48E-04	1.52E-04
120	561259.99	4192845.11	9.32E-04	7.12E-04	6.94E-04	6.96E-04	6.94E-04	5.14E-04	3.12E-04	6.67E-04	5.55E-04	5.38E-04	5.39E-04	5.38E-04	3.59E-04	1.57E-04
121	561250.33	4192846.47	9.61E-04	7.33E-04	7.15E-04	7.17E-04	7.15E-04	5.30E-04	3.21E-04	6.87E-04	5.71E-04	5.54E-04	5.56E-04	5.54E-04	3.70E-04	1.62E-04
122	561240.68	4192847.84	9.88E-04	7.54E-04	7.35E-04	7.37E-04	7.35E-04	5.45E-04	3.30E-04	7.07E-04	5.88E-04	5.70E-04	5.72E-04	5.70E-04	3.80E-04	1.66E-04
123	561231.02	4192849.2	1.01E-03	7.74E-04	7.55E-04	7.57E-04	7.55E-04	5.60E-04	3.39E-04	7.25E-04	6.03E-04	5.85E-04	5.87E-04	5.85E-04	3.90E-04	1.71E-04
124	561221.37	4192850.57	1.04E-03	7.93E-04	7.73E-04	7.75E-04	7.73E-04	5.73E-04	3.47E-04	7.43E-04	6.18E-04	5.99E-04	6.01E-04	5.99E-04	4.00E-04	1.75E-04
125	561211.71	4192851.93	1.06E-03	8.11E-04	7.90E-04	7.92E-04	7.90E-04	5.86E-04	3.55E-04	7.59E-04	6.32E-04	6.13E-04	6.14E-04	6.13E-04	4.09E-04	1.79E-04
126	561202.06	4192853.3	1.08E-03	8.27E-04	8.06E-04	8.08E-04	8.06E-04	5.98E-04	3.62E-04	7.75E-04	6.44E-04	6.25E-04	6.27E-04	6.25E-04	4.17E-04	1.82E-04
127	561173.1	4192857.4	1.13E-03	8.65E-04	8.43E-04	8.46E-04	8.43E-04	6.25E-04	3.79E-04	8.11E-04	6.74E-04	6.54E-04	6.56E-04	6.54E-04	4.36E-04	1.91E-04
128	561163.44	4192858.76	1.15E-03	8.74E-04	8.52E-04	8.55E-04	8.52E-04	6.32E-04	3.83E-04	8.19E-04	6.81E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
129	561153.79	4192860.13	1.16E-03	8.82E-04	8.59E-04	8.62E-04	8.59E-04	6.37E-04	3.86E-04	8.26E-04	6.87E-04	6.66E-04	6.68E-04	6.66E-04	4.44E-04	1.95E-04
130	561144.14	4192861.49	1.16E-03	8.87E-04	8.65E-04	8.67E-04	8.65E-04	6.41E-04	3.89E-04	8.31E-04	6.91E-04	6.71E-04	6.73E-04	6.71E-04	4.47E-04	1.96E-04
131	561134.48	4192862.86	1.17E-03	8.91E-04	8.69E-04	8.71E-04	8.69E-04	6.44E-04	3.91E-04	8.35E-04	6.95E-04	6.74E-04	6.76E-04	6.74E-04	4.49E-04	1.97E-04
132	561325.61	4192377.76	1.64E-03	1.25E-03	1.22E-03	1.22E-03	1.22E-03	9.03E-04	5.48E-04	1.17E-03	9.74E-04	9.45E-04	9.47E-04	9.45E-04	6.30E-04	2.76E-04
133	561328.03	4192368.66	1.59E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.79E-04	5.33E-04	1.14E-03	9.48E-04	9.19E-04	9.22E-04	9.19E-04	6.13E-04	2.68E-04
134	561330.45	4192359.56	1.55E-03	1.18E-03	1.15E-03	1.16E-03	1.15E-03	8.55E-04	5.19E-04	1.11E-03	9.22E-04	8.94E-04	8.97E-04	8.94E-04	5.96E-04	2.61E-04
135	561335.28	4192380.33	1.51E-03	1.16E-03	1.13E-03	1.13E-03	1.13E-03	8.36E-04	5.07E-04	1.08E-03	9.01E-04	8.74E-04	8.76E-04	8.74E-04	5.83E-04	2.55E-04
136	561337.7	4192371.23	1.48E-03	1.13E-03	1.10E-03	1.10E-03	1.10E-03	8.14E-04	4.94E-04	1.06E-03	8.78E-04	8.52E-04	8.54E-04	8.52E-04	5.68E-04	2.49E-04
137	561340.12	4192362.14	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.93E-04	4.81E-04	1.03E-03	8.55E-04	8.29E-04	8.32E-04	8.29E-04	5.53E-04	2.42E-04
138	561344.94	4192382.9	1.41E-03	1.07E-03	1.05E-03	1.05E-03	1.05E-03	7.76E-04	4.70E-04	1.01E-03	8.36E-04	8.11E-04	8.13E-04	8.11E-04	5.41E-04	2.37E-04
139	561347.36	4192373.81	1.37E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	7.57E-04	4.59E-04	9.81E-04	8.16E-04	7.92E-04	7.94E-04	7.92E-04	5.28E-04	2.31E-04
140	561349.78	4192364.71	1.34E-03	1.02E-03	9.96E-04	9.99E-04	9.96E-04	7.39E-04	4.48E-04	9.57E-04	7.96E-04	7.72E-04	7.74E-04	7.72E-04	5.15E-04	2.25E-04
141	561354.6	4192385.48	1.31E-03	9.99E-04	9.74E-04	9.76E-04	9.74E-04	7.22E-04	4.38E-04	9.36E-04	7.78E-04	7.55E-04	7.57E-04	7.55E-04	5.03E-04	2.20E-04
142	561357.02	4192376.38	1.28E-03	9.77E-04	9.52E-04	9.55E-04	9.52E-04	7.06E-04	4.28E-04	9.15E-04	7.61E-04	7.38E-04	7.40E-04	7.38E-04	4.92E-04	2.15E-04
143	561359.45	4192367.28	1.25E-03	9.54E-04	9.30E-04	9.33E-04	9.30E-04	6.90E-04	4.18E-04	8.94E-04	7.43E-04	7.21E-04	7.23E-04	7.21E-04	4.81E-04	2.10E-04
144	561361.87	4192358.18	1.22E-03	9.32E-04	9.08E-04	9.10E-04	9.08E-04	6.73E-04	4.08E-04	8.73E-04	7.26E-04	7.04E-04	7.06E-04	7.04E-04	4.69E-04	2.06E-04
145	561359.43	4192406.24	1.27E-03	9.68E-04	9.43E-04	9.46E-04	9.43E-04	6.99E-04	4.24E-04	9.07E-04	7.54E-04	7.31E-04	7.33E-04	7.31E-04	4.88E-04	2.13E-04
146	561361.85	4192397.14	1.24E-03	9.50E-04	9.26E-04	9.28E-04	9.26E-04	6.87E-04	4.16E-04	8.90E-04	7.40E-04	7.18E-04	7.20E-04	7.18E-04	4.79E-04	2.10E-04
147	561364.27	4192388.05	1.22E-03	9.32E-04	9.08E-04	9.10E-04	9.08E-04	6.73E-04	4.08E-04	8.73E-04	7.26E-04	7.04E-04	7.06E-04	7.04E-04	4.69E-04	2.06E-04
148	561366.69	4192378.95	1.20E-03	9.13E-04	8.89E-04	8.92E-04	8.89E-04	6.60E-04	4.00E-04	8.55E-04	7.11E-04	6.90E-04	6.92E-04	6.90E-04	4.60E-04	2.01E-04
149	561369.11	4192369.85	1.17E-03	8.93E-04	8.71E-04	8.73E-04	8.71E-04	6.46E-04	3.91E-04	8.37E-04	6.96E-04	6.75E-04	6.77E-04	6.75E-04	4.50E-04	1.97E-04
150	561371.53	4192360.75	1.14E-03	8.74E-04	8.52E-04	8.54E-04	8.52E-04	6.31E-04	3.83E-04	8.19E-04	6.81E-04	6.60E-04	6.62E-04	6.60E-04	4.40E-04	1.93E-04
151	561373.95	4192351.65	1.12E-03	8.54E-04	8.32E-04	8.35E-04	8.32E-04	6.17E-04	3.74E-04	8.00E-04	6.65E-04	6.46E-04	6.47E-04	6.46E-04	4.30E-04	1.88E-04
152	561376.37	4192342.55	1.09E-03	8.35E-04	8.14E-04	8.16E-04	8.14E-04	6.04E-04	3.66E-04	7.82E-04	6.51E-04	6.31E-04	6.33E-04	6.31E-04	4.21E-04	1.84E-04
153	561378.79	4192333.46	1.07E-03	8.17E-04	7.96E-04	7.98E-04	7.96E-04	5.90E-04	3.58E-04	7.65E-04	6.36E-04	6.17E-04	6.19E-04	6.17E-04	4.12E-04	1.80E-04
154	561381.21	4192324.36	1.05E-03	7.99E-04	7.79E-04	7.81E-04	7.79E-04	5.77E-04	3.50E-04	7.49E-04	6.23E-04	6.04E-04	6.06E-04	6.04E-04	4.03E-04	1.76E-04
155	561383.63	4192315.26	1.02E-03	7.82E-04	7.62E-04	7.64E-04	7.62E-04	5.65E-04	3.43E-04	7.32E-04	6.09E-04	5.91E-04	5.92E-04	5.91E-04	3.94E-04	1.72E-04
156	561369.09	4192408.81	1.18E-03	9.02E-04	8.79E-04	8.81E-04	8.79E-04	6.52E-04	3.95E-04	8.45E-04	7.03E-04	6.82E-04	6.83E-04	6.82E-04	4.54E-04	1.99E-04
157	561371.51	4192399.72	1.16E-03	8.87E-04	8.64E-04	8.66E-04	8.64E-04	6.41E-04	3.88E-04	8.31E-04	6.91E-04	6.70E-04	6.72E-04	6.70E-04	4.47E-04	1.96E-04
158	561373.93	4192390.62	1.14E-03	8.71E-04	8.49E-04	8.51E-04	8.49E-04	6.29E-04	3.82E-04	8.16E-04	6.78E-04	6.58E-04	6.60E-04	6.58E-04	4.39E-04	1.92E-04
159	561376.35	4192381.52	1.12E-03	8.55E-04	8.33E-04	8.35E-04	8.33E-04	6.18E-04	3.74E-04	8.01E-04	6.66E-04	6.46E-04	6.48E-04	6.46E-04	4.31E-04	1.89E-04
160	561378.77	4192372.42	1.10E-03	8.38E-04	8.17E-04	8.19E-04	8.17E-04	6.06E-04	3.67E-04	7.85E-04	6.53E-04	6.33E-04	6.35E-04	6.33E-04	4.22E-04	1.85E-04
161	561381.19	4192363.32	1.08E-03	8.21E-04	8.00E-04	8.03E-04	8.00E-04	5.94E-04	3.60E-04	7.69E-04	6.40E-04	6.21E-04	6.22E-04	6.21E-04	4.14E-04	1.81E-04
162	561383.61	4192354.22	1.05E-03	8.04E-04	7.84E-04	7.86E-04	7.84E-04	5.81E-04	3.52E-04	7.53E-04	6.27E-04	6.08E-04	6.09E-04	6.08E-04	4.05E-04	1.77E-04

163	561386.04	4192345.13	1.03E-03	7.87E-04	7.67E-04	7.69E-04	7.67E-04	5.69E-04	3.45E-04	7.38E-04	6.13E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
164	561388.46	4192336.03	1.01E-03	7.71E-04	7.51E-04	7.54E-04	7.51E-04	5.57E-04	3.38E-04	7.22E-04	6.01E-04	5.83E-04	5.84E-04	5.83E-04	3.89E-04	1.70E-04
165	561390.88	4192326.93	9.90E-04	7.55E-04	7.36E-04	7.38E-04	7.36E-04	5.46E-04	3.31E-04	7.08E-04	5.88E-04	5.71E-04	5.72E-04	5.71E-04	3.81E-04	1.67E-04
166	561393.3	4192317.83	9.70E-04	7.40E-04	7.21E-04	7.23E-04	7.21E-04	5.35E-04	3.24E-04	6.93E-04	5.77E-04	5.59E-04	5.61E-04	5.59E-04	3.73E-04	1.63E-04
167	561378.75	4192411.39	1.10E-03	8.42E-04	8.21E-04	8.23E-04	8.21E-04	6.09E-04	3.69E-04	7.89E-04	6.56E-04	6.37E-04	6.38E-04	6.37E-04	4.25E-04	1.86E-04
168	561381.17	4192402.29	1.09E-03	8.29E-04	8.08E-04	8.10E-04	8.08E-04	5.99E-04	3.63E-04	7.77E-04	6.46E-04	6.27E-04	6.28E-04	6.27E-04	4.18E-04	1.83E-04
169	561383.6	4192393.19	1.07E-03	8.15E-04	7.95E-04	7.97E-04	7.95E-04	5.89E-04	3.57E-04	7.64E-04	6.35E-04	6.16E-04	6.18E-04	6.16E-04	4.11E-04	1.80E-04
170	561386.02	4192384.09	1.05E-03	8.02E-04	7.82E-04	7.84E-04	7.82E-04	5.80E-04	3.51E-04	7.51E-04	6.25E-04	6.06E-04	6.08E-04	6.06E-04	4.04E-04	1.77E-04
171	561388.44	4192374.99	1.03E-03	7.88E-04	7.68E-04	7.70E-04	7.68E-04	5.69E-04	3.45E-04	7.38E-04	6.14E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
172	561390.86	4192365.89	1.01E-03	7.73E-04	7.54E-04	7.56E-04	7.54E-04	5.59E-04	3.39E-04	7.25E-04	6.03E-04	5.85E-04	5.86E-04	5.85E-04	3.90E-04	1.71E-04
173	561393.28	4192356.79	9.94E-04	7.58E-04	7.39E-04	7.41E-04	7.39E-04	5.48E-04	3.32E-04	7.11E-04	5.91E-04	5.73E-04	5.75E-04	5.73E-04	3.82E-04	1.67E-04
174	561395.7	4192347.7	9.74E-04	7.44E-04	7.25E-04	7.27E-04	7.25E-04	5.38E-04	3.26E-04	6.97E-04	5.79E-04	5.62E-04	5.64E-04	5.62E-04	3.75E-04	1.64E-04
175	561398.12	4192338.6	9.56E-04	7.29E-04	7.11E-04	7.13E-04	7.11E-04	5.27E-04	3.20E-04	6.83E-04	5.68E-04	5.51E-04	5.53E-04	5.51E-04	3.68E-04	1.61E-04
176	561400.54	4192329.5	9.37E-04	7.15E-04	6.97E-04	6.99E-04	6.97E-04	5.17E-04	3.13E-04	6.70E-04	5.57E-04	5.41E-04	5.42E-04	5.41E-04	3.61E-04	1.58E-04
177	561402.96	4192320.4	9.20E-04	7.02E-04	6.84E-04	6.86E-04	6.84E-04	5.07E-04	3.08E-04	6.58E-04	5.47E-04	5.31E-04	5.32E-04	5.31E-04	3.54E-04	1.55E-04
178	561407.75	4192419.1	9.13E-04	6.97E-04	6.79E-04	6.81E-04	6.79E-04	5.04E-04	3.05E-04	6.53E-04	5.43E-04	5.27E-04	5.28E-04	5.27E-04	3.51E-04	1.54E-04
179	561410.17	4192410	9.02E-04	6.89E-04	6.71E-04	6.73E-04	6.71E-04	4.98E-04	3.02E-04	6.45E-04	5.37E-04	5.20E-04	5.22E-04	5.20E-04	3.47E-04	1.52E-04
180	561412.59	4192400.9	8.91E-04	6.80E-04	6.63E-04	6.64E-04	6.63E-04	4.91E-04	2.98E-04	6.37E-04	5.30E-04	5.14E-04	5.15E-04	5.14E-04	3.43E-04	1.50E-04
181	561415.01	4192391.8	8.79E-04	6.71E-04	6.54E-04	6.56E-04	6.54E-04	4.85E-04	2.94E-04	6.28E-04	5.23E-04	5.07E-04	5.08E-04	5.07E-04	3.38E-04	1.48E-04
182	561417.43	4192382.71	8.67E-04	6.62E-04	6.45E-04	6.47E-04	6.45E-04	4.78E-04	2.90E-04	6.20E-04	5.15E-04	5.00E-04	5.01E-04	5.00E-04	3.33E-04	1.46E-04
183	561419.85	4192373.61	8.54E-04	6.52E-04	6.36E-04	6.37E-04	6.36E-04	4.71E-04	2.86E-04	6.11E-04	5.08E-04	4.93E-04	4.94E-04	4.93E-04	3.29E-04	1.44E-04
184	561422.27	4192364.51	8.42E-04	6.42E-04	6.26E-04	6.28E-04	6.26E-04	4.64E-04	2.81E-04	6.02E-04	5.00E-04	4.85E-04	4.87E-04	4.85E-04	3.24E-04	1.42E-04
185	561424.69	4192355.41	8.28E-04	6.32E-04	6.16E-04	6.18E-04	6.16E-04	4.57E-04	2.77E-04	5.92E-04	4.93E-04	4.78E-04	4.79E-04	4.78E-04	3.19E-04	1.40E-04
186	561427.11	4192346.31	8.16E-04	6.22E-04	6.07E-04	6.08E-04	6.07E-04	4.50E-04	2.73E-04	5.83E-04	4.85E-04	4.70E-04	4.72E-04	4.70E-04	3.14E-04	1.37E-04
187	561429.53	4192337.21	8.03E-04	6.13E-04	5.97E-04	5.99E-04	5.97E-04	4.43E-04	2.69E-04	5.74E-04	4.78E-04	4.63E-04	4.64E-04	4.63E-04	3.09E-04	1.35E-04
188	561431.95	4192328.11	7.91E-04	6.04E-04	5.88E-04	5.90E-04	5.88E-04	4.36E-04	2.65E-04	5.66E-04	4.70E-04	4.56E-04	4.58E-04	4.56E-04	3.04E-04	1.33E-04
189	561417.41	4192421.67	8.60E-04	6.56E-04	6.40E-04	6.42E-04	6.40E-04	4.75E-04	2.88E-04	6.15E-04	5.11E-04	4.96E-04	4.98E-04	4.96E-04	3.31E-04	1.45E-04
190	561419.83	4192412.57	8.51E-04	6.49E-04	6.33E-04	6.35E-04	6.33E-04	4.69E-04	2.85E-04	6.08E-04	5.06E-04	4.91E-04	4.92E-04	4.91E-04	3.27E-04	1.43E-04
191	561422.25	4192403.47	8.41E-04	6.42E-04	6.25E-04	6.27E-04	6.25E-04	4.64E-04	2.81E-04	6.01E-04	5.00E-04	4.85E-04	4.86E-04	4.85E-04	3.23E-04	1.42E-04
192	561424.67	4192394.37	8.30E-04	6.34E-04	6.18E-04	6.20E-04	6.18E-04	4.58E-04	2.78E-04	5.94E-04	4.94E-04	4.79E-04	4.80E-04	4.79E-04	3.19E-04	1.40E-04
193	561427.09	4192385.28	8.20E-04	6.26E-04	6.10E-04	6.12E-04	6.10E-04	4.52E-04	2.74E-04	5.86E-04	4.88E-04	4.73E-04	4.74E-04	4.73E-04	3.15E-04	1.38E-04
194	561429.51	4192376.18	8.09E-04	6.18E-04	6.02E-04	6.04E-04	6.02E-04	4.46E-04	2.71E-04	5.79E-04	4.81E-04	4.67E-04	4.68E-04	4.67E-04	3.11E-04	1.36E-04
195	561431.93	4192367.08	7.98E-04	6.09E-04	5.94E-04	5.95E-04	5.94E-04	4.40E-04	2.67E-04	5.71E-04	4.75E-04	4.60E-04	4.62E-04	4.60E-04	3.07E-04	1.34E-04
196	561434.35	4192357.98	7.87E-04	6.00E-04	5.85E-04	5.87E-04	5.85E-04	4.34E-04	2.63E-04	5.63E-04	4.68E-04	4.54E-04	4.55E-04	4.54E-04	3.03E-04	1.32E-04
197	561436.78	4192348.88	7.75E-04	5.92E-04	5.77E-04	5.78E-04	5.77E-04	4.28E-04	2.59E-04	5.54E-04	4.61E-04	4.47E-04	4.48E-04	4.47E-04	2.98E-04	1.31E-04
198	561439.2	4192339.78	7.64E-04	5.83E-04	5.69E-04	5.70E-04	5.69E-04	4.22E-04	2.56E-04	5.46E-04	4.54E-04	4.41E-04	4.42E-04	4.41E-04	2.94E-04	1.29E-04
199	561441.62	4192330.69	7.54E-04	5.75E-04	5.61E-04	5.62E-04	5.61E-04	4.16E-04	2.52E-04	5.39E-04	4.48E-04	4.35E-04	4.36E-04	4.35E-04	2.90E-04	1.27E-04
200	561429.49	4192415.14	8.03E-04	6.13E-04	5.97E-04	5.99E-04	5.97E-04	4.43E-04	2.69E-04	5.74E-04	4.78E-04	4.63E-04	4.64E-04	4.63E-04	3.09E-04	1.35E-04
201	561431.91	4192406.04	7.95E-04	6.07E-04	5.91E-04	5.93E-04	5.91E-04	4.38E-04	2.66E-04	5.68E-04	4.73E-04	4.58E-04	4.60E-04	4.58E-04	3.06E-04	1.34E-04
202	561434.34	4192396.95	7.86E-04	6.00E-04	5.85E-04	5.86E-04	5.85E-04	4.34E-04	2.63E-04	5.62E-04	4.67E-04	4.53E-04	4.55E-04	4.53E-04	3.02E-04	1.32E-04
203	561436.76	4192387.85	7.77E-04	5.93E-04	5.78E-04	5.79E-04	5.78E-04	4.29E-04	2.60E-04	5.56E-04	4.62E-04	4.48E-04	4.49E-04	4.48E-04	2.99E-04	1.31E-04
204	561439.18	4192378.75	7.67E-04	5.86E-04	5.71E-04	5.72E-04	5.71E-04	4.23E-04	2.57E-04	5.49E-04	4.56E-04	4.43E-04	4.44E-04	4.43E-04	2.95E-04	1.29E-04
205	561441.6	4192369.65	7.57E-04	5.78E-04	5.64E-04	5.65E-04	5.64E-04	4.18E-04	2.53E-04	5.42E-04	4.50E-04	4.37E-04	4.38E-04	4.37E-04	2.91E-04	1.28E-04
206	561444.02	4192360.55	7.48E-04	5.71E-04	5.56E-04	5.58E-04	5.56E-04	4.12E-04	2.50E-04	5.35E-04	4.45E-04	4.31E-04	4.32E-04	4.31E-04	2.88E-04	1.26E-04
207	561446.44	4192351.45	7.38E-04	5.63E-04	5.49E-04	5.50E-04	5.49E-04	4.07E-04	2.47E-04	5.28E-04	4.39E-04	4.26E-04	4.27E-04	4.26E-04	2.84E-04	1.24E-04
208	561448.86	4192342.36	7.28E-04	5.56E-04	5.42E-04	5.43E-04	5.42E-04	4.02E-04	2.44E-04	5.21E-04	4.33E-04	4.20E-04	4.21E-04	4.20E-04	2.80E-04	1.23E-04
209	561451.28	4192333.26	7.19E-04	5.49E-04	5.35E-04	5.37E-04	5.35E-04	3.97E-04	2.41E-04	5.14E-04	4.28E-04	4.15E-04	4.16E-04	4.15E-04	2.77E-04	1.21E-04
210	561439.16	4192417.71	7.59E-04	5.79E-04	5.64E-04	5.66E-04	5.64E-04	4.19E-04	2.54E-04	5.43E-04	4.51E-04	4.38E-04	4.39E-04	4.38E-04	2.92E-04	1.28E-04
211	561441.58	4192408.62	7.52E-04	5.74E-04	5.59E-04	5.61E-04	5.59E-04	4.15E-04	2.51E-04	5.38E-04	4.47E-04	4.34E-04	4.35E-04	4.34E-04	2.89E-04	1.27E-04
212	561444	4192399.52	7.45E-04	5.69E-04	5.54E-04	5.56E-04	5.54E-04	4.11E-04	2.49E-04	5.33E-04	4.43E-04	4.30E-04	4.31E-04	4.30E-04	2.86E-04	1.25E-04
213	561446.42	4192390.42	7.37E-04	5.62E-04	5.48E-04	5.50E-04	5.48E-04	4.07E-04	2.46E-04	5.27E-04	4.38E-04	4.25E-04	4.26E-04	4.25E-04	2.83E-04	1.24E-04
214	561448.84	4192381.32	7.28E-04	5.56E-04	5.42E-04	5.43E-04	5.42E-04	4.02E-04	2.44E-04	5.21E-04	4.33E-04	4.20E-04	4.21E-04	4.20E-04	2.80E-04	1.23E-04
215	561451.26	4192372.22	7.20E-04	5.49E-04	5.36E-04	5.37E-04	5.36E-04	3.97E-04	2.41E-04	5.15E-04	4.28E-04	4.15E-04	4.16E-04	4.15E-04	2.77E-04	1.21E-04
216	561453.68	4192363.12	7.11E-04	5.43E-04	5.29E-04	5.31E-04	5.29E-04	3.92E-04	2.38E-04	5.09E-04	4.23E-04	4.10E-04	4.12E-04	4.10E-04	2.74E-04	1.20E-04
217	561456.1	4192354.03	7.03E-04	5.37E-04	5.23E-04	5.25E-04	5.23E-04	3.88E-04	2.35E-04	5.03E-04	4.18E-04	4.06E-04	4.07E-04	4.06E-04	2.70E-04	1.18E-04
218	561458.52	4192344.93	6.95E-04	5.31E-04	5.17E-04	5.19E-04	5.17E-04	3.84E-04	2.32E-04	4.97E-04	4.13E-04	4.01E-04	4.02E-04	4.01E-04	2.67E-04	1.17E-04
219	561460.94	4192335.83	6.87E-04	5.25E-04	5.11E-04	5.13E-04	5.11E-04	3.79E-04	2.30E-04	4.91E-04	4.09E-04	3.96E-04	3.98E-04	3.96E-04	2.64E-04	1.16E-04
220	561448.82	4192420.29	7.18E-04	5.48E-04	5.34E-04	5.36E-04	5.34E-04	3.96E-04	2.40E-04	5.14E-04	4.27E-04	4.14E-04	4.15E-04	4.14E-04	2.76E-04	1.21E-04
221	561451.24	4192411.19	7.12E-04	5.44E-04	5.30E-04	5.31E-04	5.30E-04	3.93E-04	2.38E-04	5.09E-04	4.24E-04	4.11E-04	4.12E-04	4.11E-04	2.74E-04	1.20E-04
222	561453.66	4192402.09	7.06E-04	5.39E-04	5.25E-04	5.27E-04	5.25E-04	3.90E-04	2.36E-04	5.05E-04	4.20E-04	4.07E-04	4.08E-04	4.07E-04	2.72E-04	1.19E-04
223	561456.08	4192392.99	6.99E-04	5.34E-04	5.20E-04	5.22E-04	5.20E-04	3.86E-04	2.34E-04	5.00E-04	4.16E-04	4.03E-04	4.05E-04	4.03E-04	2.69E-04	1.18E-04
224	561458.5	4192383.89	6.92E-04	5.28E-04	5.15E-04	5.16E-04	5.15E-04	3.82E-04	2.31E-04	4.95E-04	4.12E-04	3.99E-04	4.00E-04	3.99E-04	2.66E-04	1.17E-04
225	561460.92	4192374.79	6.85E-04	5.23E-04	5.09E-04	5.11E-04	5.09E-04	3.78E-04	2.29E-04	4.90E-04	4.07E-04	3.95E-04	3.96E-04	3.95E-04	2.63E-04	1.15E-04
226	561463.35	4192365.69	6.78E-04	5.17E-04	5.04E-04	5.05E-04	5.04E-04	3.74E-04	2.27E-04	4.85E-04	4.03E-04	3.91E-04	3.92E-04	3.91E-04	2.61E-04	1.14E-04
227	561465.77	4192356.6	6.71E-04	5.12E-04	4.99E-04	5.00E-04	4.99E-04	3.70E-04	2.24E-04	4.80E-04	3.99E-04	3.87E-04	3.88E-04	3.87E-04	2.58E-04	1.13E-04
228	561468.19	4192347.5	6.64E-04	5.07E-04	4.94E-04	4.95E-04	4.94E-04	3.66E-04	2.22E-04	4.75E-04	3.95E-04	3.83E-04	3.84E-04	3.83E-04	2.55E-04	1.12E-04
229	561470.61	4192338.4	6.57E-04	5.02E-04	4.89E-04	4.90E-04	4.89E-04	3.63E-04	2.20E-04	4.70E-04	3.91E-04	3.79E-04	3.80E-04	3.79E-04	2.53E-04	1.11E-04
230	561458.48	4192422.86	6.81E-04	5.20E-04	5.06E-04	5.08E-04	5.06E-04	3.76E-04	2.28E-04	4.87E-04	4.05E-04	3.93E-04	3.94E-04	3.93E-04	2.62E-04	1.15E-04
231	561460.91	4192413.76	6.76E-04	5.16E-04	5.03E-04	5.04E-04	5.03E-04	3.73E-04	2.26E-04	4.83E-04	4.02E-04	3.90E-04	3.91E-04	3.90E-04	2.60E-04	1.14E-04
232	561463.33	4192404.66	6.70E-04	5.12E-04	4.99E-04	5.00E-04	4.99E-04	3.70E-04	2.24E-04	4.79E-04	3.99E-04	3.87E-04	3.88E-04	3.87E-04	2.58E-04	1.13E-04
233	561465.75	4192395.56	6.64E-04	5.07E-04	4.94E-04	4.96E-04	4.94E-04	3.67E-04	2.22E-04	4.75E-04	3.95E-04	3.83E-04	3.84E-04	3.83E-04	2.56E-04	1.12E-04
234	561468.17	4192386.46	6.58E-04	5.02E-04	4.90E-04	4.91E-04	4.90E-04	3.63E-04	2.20E-04	4.71E-04	3.91E-04	3.80E-04	3.81E-04	3.80E-04	2.53E-04	1.11E-04
235	561470.59	4192377.36	6.52E-04	4.98E-04	4.85E-04	4.86E-04	4.85E-04	3.60E-04	2.18E-04	4.66E-04	3.88E-04	3.76E-04	3.77E-04	3.76E-04	2.51E-04	1.10E-04
236	561473.01	4192368.27	6.46E-04	4.93E-04	4.80E-04	4.82E-04	4.80E-04	3.56E-04	2.16E-04	4.62E-04	3.84E-04	3.73E-04	3.74E-04	3.73E-04	2.48E-04	1.09E-04
237	561475.43	4192359.17	6.40E-04	4.89E-04	4.76E-04	4.78E-04	4.76E-04	3.53E-04	2.14E-04	4.58E-04	3.81E-04	3.69E-04	3.70E-04	3.69E-04	2.46E-04	1.08E-04
238	561477.85	4192350.07	6.34E-04	4.84E-04	4.72E-04	4.73E-04	4.72E-04	3.50E-04	2.12E-04	4.54E-04	3.77E-04	3.66E-04	3.67E-04	3.66E-04	2.44E-04	1.07E-04
239	561480.27	4192340.97	6.29E-04	4.80E-04	4.68E-04	4.69E-04	4.68E-04	3.47E-04	2.10E-04	4.50E-04	3.74E-04	3.63E-04	3.64E-04	3.63E-04	2.42E-04	1.06E-04
240	561468.15	4192425.43	6.46E-04	4.93E-04	4.81E-04	4.82E-04	4.81E-04	3.57E-04	2.16E-04	4.62E-04	3.84E-04	3.73E-04	3.74E-04	3.73E-04	2.49E-04	1.09E-04
241	561470.57	4192416.33	6.42E-04	4.90E-04	4.77E-04	4.79E-04	4.77E-04	3.54E-04	2.15E-04	4.59E-04	3.82E-04	3.70E-04	3.71E-04	3.70E-04	2.47E-04	1.08E-04
242	561472.99	4192407.23	6.37E-04	4.86E-04	4.74E-04	4.75E-04	4.74E-04	3.51E-04	2.13E-04	4.56E-04	3.79E-04	3.67E-04	3.68E-04	3.67E-04	2.45E-04	1.07E-04
243	561475.41	4192398.13	6.32E-04	4.82E-04	4.70E-04	4.72E-04	4.70E-04	3.49E-04	2.11E-04	4.52E-04	3.76E-04	3.65E-04	3.66E-04	3.65E-04	2.43E-04	1.06E-04
244	561477.83	4192389.03	6.27E-04	4.79E-04	4.66E-04	4.68E-04	4.66E-04	3.46E-04	2.10E-04	4.48E-04	3.73E-04	3.62E-04	3.63E-04	3.62E-04	2.41E-04	1.06E-04
245	561480.25	4192379.94	6.22E-04	4.75E-04	4.63E-04	4.64E-04	4.63E-04	3.43E-04	2.08E-04	4.45E-04	3.70E-04	3.59E-04	3.60E-04	3.59E-04	2.39E-04	1.05E-04

246	561482.67	4192370.84	6.17E-04	4.71E-04	4.59E-04	4.60E-04	4.59E-04	3.40E-04	2.06E-04	4.41E-04	3.67E-04	3.56E-04	3.57E-04	3.56E-04	2.37E-04	1.04E-04
247	561485.09	4192361.74	6.12E-04	4.67E-04	4.55E-04	4.56E-04	4.55E-04	3.38E-04	2.05E-04	4.37E-04	3.64E-04	3.53E-04	3.54E-04	3.53E-04	2.35E-04	1.03E-04
248	561487.51	4192352.64	6.07E-04	4.63E-04	4.51E-04	4.53E-04	4.51E-04	3.35E-04	2.03E-04	4.34E-04	3.61E-04	3.50E-04	3.51E-04	3.50E-04	2.33E-04	1.02E-04
249	561489.94	4192343.54	6.02E-04	4.59E-04	4.48E-04	4.49E-04	4.48E-04	3.32E-04	2.01E-04	4.30E-04	3.58E-04	3.47E-04	3.48E-04	3.47E-04	2.31E-04	1.01E-04
250	561477.81	4192428	6.14E-04	4.69E-04	4.57E-04	4.58E-04	4.57E-04	3.39E-04	2.05E-04	4.39E-04	3.65E-04	3.54E-04	3.55E-04	3.54E-04	2.36E-04	1.03E-04
251	561480.23	4192418.9	6.10E-04	4.66E-04	4.54E-04	4.55E-04	4.54E-04	3.37E-04	2.04E-04	4.37E-04	3.63E-04	3.52E-04	3.53E-04	3.52E-04	2.35E-04	1.03E-04
252	561482.65	4192409.8	6.06E-04	4.63E-04	4.51E-04	4.52E-04	4.51E-04	3.35E-04	2.03E-04	4.34E-04	3.61E-04	3.50E-04	3.51E-04	3.50E-04	2.33E-04	1.02E-04
253	561485.07	4192400.7	6.02E-04	4.60E-04	4.48E-04	4.49E-04	4.48E-04	3.32E-04	2.01E-04	4.31E-04	3.58E-04	3.47E-04	3.48E-04	3.47E-04	2.32E-04	1.01E-04
254	561487.5	4192391.61	5.98E-04	4.57E-04	4.45E-04	4.46E-04	4.45E-04	3.30E-04	2.00E-04	4.28E-04	3.56E-04	3.45E-04	3.46E-04	3.45E-04	2.30E-04	1.01E-04
255	561489.92	4192382.51	5.94E-04	4.53E-04	4.42E-04	4.43E-04	4.42E-04	3.28E-04	1.99E-04	4.25E-04	3.53E-04	3.43E-04	3.44E-04	3.43E-04	2.28E-04	1.00E-04
256	561492.34	4192373.41	5.89E-04	4.50E-04	4.39E-04	4.40E-04	4.39E-04	3.25E-04	1.97E-04	4.22E-04	3.51E-04	3.40E-04	3.41E-04	3.40E-04	2.27E-04	9.93E-05
257	561494.76	4192364.31	5.85E-04	4.47E-04	4.35E-04	4.37E-04	4.35E-04	3.23E-04	1.96E-04	4.18E-04	3.48E-04	3.38E-04	3.38E-04	3.38E-04	2.25E-04	9.85E-05
258	561497.18	4192355.21	5.81E-04	4.43E-04	4.32E-04	4.33E-04	4.32E-04	3.20E-04	1.94E-04	4.15E-04	3.45E-04	3.35E-04	3.36E-04	3.35E-04	2.23E-04	9.78E-05
259	561499.6	4192346.11	5.76E-04	4.40E-04	4.29E-04	4.30E-04	4.29E-04	3.18E-04	1.93E-04	4.12E-04	3.43E-04	3.32E-04	3.33E-04	3.32E-04	2.22E-04	9.71E-05
260	561487.48	4192430.57	5.85E-04	4.46E-04	4.35E-04	4.36E-04	4.35E-04	3.23E-04	1.96E-04	4.18E-04	3.48E-04	3.37E-04	3.38E-04	3.37E-04	2.25E-04	9.84E-05
261	561489.9	4192421.47	5.81E-04	4.44E-04	4.33E-04	4.34E-04	4.33E-04	3.21E-04	1.94E-04	4.16E-04	3.46E-04	3.35E-04	3.36E-04	3.35E-04	2.24E-04	9.79E-05
262	561492.32	4192412.37	5.78E-04	4.41E-04	4.30E-04	4.31E-04	4.30E-04	3.19E-04	1.93E-04	4.13E-04	3.44E-04	3.33E-04	3.34E-04	3.33E-04	2.22E-04	9.73E-05
263	561494.74	4192403.27	5.75E-04	4.39E-04	4.27E-04	4.29E-04	4.27E-04	3.17E-04	1.92E-04	4.11E-04	3.42E-04	3.31E-04	3.32E-04	3.31E-04	2.21E-04	9.68E-05
264	561497.16	4192394.18	5.71E-04	4.36E-04	4.25E-04	4.26E-04	4.25E-04	3.15E-04	1.91E-04	4.08E-04	3.40E-04	3.29E-04	3.30E-04	3.29E-04	2.20E-04	9.62E-05
265	561499.58	4192385.08	5.67E-04	4.33E-04	4.22E-04	4.23E-04	4.22E-04	3.13E-04	1.90E-04	4.06E-04	3.37E-04	3.27E-04	3.28E-04	3.27E-04	2.18E-04	9.56E-05
266	561502	4192375.98	5.64E-04	4.30E-04	4.19E-04	4.21E-04	4.19E-04	3.11E-04	1.89E-04	4.03E-04	3.35E-04	3.25E-04	3.26E-04	3.25E-04	2.17E-04	9.50E-05
267	561504.42	4192366.88	5.60E-04	4.28E-04	4.17E-04	4.18E-04	4.17E-04	3.09E-04	1.87E-04	4.01E-04	3.33E-04	3.23E-04	3.24E-04	3.23E-04	2.15E-04	9.43E-05
268	561506.84	4192357.78	5.56E-04	4.25E-04	4.14E-04	4.15E-04	4.14E-04	3.07E-04	1.86E-04	3.98E-04	3.31E-04	3.21E-04	3.22E-04	3.21E-04	2.14E-04	9.37E-05
269	561509.26	4192348.68	5.53E-04	4.22E-04	4.11E-04	4.12E-04	4.11E-04	3.05E-04	1.85E-04	3.95E-04	3.29E-04	3.19E-04	3.20E-04	3.19E-04	2.13E-04	9.31E-05
270	561401.78	4192218.01	7.95E-04	6.07E-04	5.92E-04	5.93E-04	5.92E-04	4.39E-04	2.66E-04	5.69E-04	4.73E-04	4.59E-04	4.60E-04	4.59E-04	3.06E-04	1.34E-04
271	561403.11	4192227.59	8.12E-04	6.19E-04	6.04E-04	6.05E-04	6.04E-04	4.48E-04	2.71E-04	5.80E-04	4.83E-04	4.68E-04	4.70E-04	4.68E-04	3.12E-04	1.37E-04
272	561410.29	4192212.23	7.52E-04	5.74E-04	5.59E-04	5.61E-04	5.59E-04	4.15E-04	2.51E-04	5.38E-04	4.47E-04	4.34E-04	4.35E-04	4.34E-04	2.89E-04	1.27E-04
273	561411.6	4192221.7	7.67E-04	5.86E-04	5.71E-04	5.73E-04	5.71E-04	4.23E-04	2.57E-04	5.49E-04	4.56E-04	4.43E-04	4.44E-04	4.43E-04	2.95E-04	1.29E-04
274	561412.91	4192231.18	7.81E-04	5.96E-04	5.81E-04	5.83E-04	5.81E-04	4.31E-04	2.61E-04	5.59E-04	4.65E-04	4.51E-04	4.52E-04	4.51E-04	3.01E-04	1.32E-04
275	561417.52	4192197.16	6.95E-04	5.30E-04	5.17E-04	5.18E-04	5.17E-04	3.83E-04	2.32E-04	4.97E-04	4.13E-04	4.01E-04	4.02E-04	4.01E-04	2.67E-04	1.17E-04
276	561418.81	4192206.53	7.12E-04	5.43E-04	5.30E-04	5.31E-04	5.30E-04	3.93E-04	2.38E-04	5.09E-04	4.23E-04	4.11E-04	4.12E-04	4.11E-04	2.74E-04	1.20E-04
277	561420.11	4192215.9	7.27E-04	5.55E-04	5.41E-04	5.43E-04	5.41E-04	4.01E-04	2.43E-04	5.20E-04	4.33E-04	4.20E-04	4.21E-04	4.20E-04	2.80E-04	1.22E-04
278	561421.41	4192225.28	7.41E-04	5.66E-04	5.51E-04	5.53E-04	5.51E-04	4.09E-04	2.48E-04	5.30E-04	4.41E-04	4.27E-04	4.29E-04	4.27E-04	2.85E-04	1.25E-04
279	561422.7	4192234.65	7.53E-04	5.75E-04	5.60E-04	5.62E-04	5.60E-04	4.15E-04	2.52E-04	5.38E-04	4.48E-04	4.34E-04	4.35E-04	4.34E-04	2.90E-04	1.27E-04
280	561424.77	4192182.33	6.42E-04	4.90E-04	4.78E-04	4.79E-04	4.78E-04	3.54E-04	2.15E-04	4.59E-04	3.82E-04	3.70E-04	3.71E-04	3.70E-04	2.47E-04	1.08E-04
281	561426.06	4192191.61	6.59E-04	5.03E-04	4.90E-04	4.92E-04	4.90E-04	3.64E-04	2.20E-04	4.71E-04	3.92E-04	3.80E-04	3.81E-04	3.80E-04	2.54E-04	1.11E-04
282	561427.34	4192200.89	6.75E-04	5.15E-04	5.02E-04	5.04E-04	5.02E-04	3.73E-04	2.26E-04	4.83E-04	4.02E-04	3.90E-04	3.91E-04	3.90E-04	2.60E-04	1.14E-04
283	561428.62	4192210.18	6.90E-04	5.27E-04	5.14E-04	5.15E-04	5.14E-04	3.81E-04	2.31E-04	4.94E-04	4.11E-04	3.98E-04	3.99E-04	3.98E-04	2.66E-04	1.16E-04
284	561429.91	4192219.46	7.04E-04	5.37E-04	5.24E-04	5.25E-04	5.24E-04	3.88E-04	2.35E-04	5.03E-04	4.19E-04	4.06E-04	4.07E-04	4.06E-04	2.71E-04	1.19E-04
285	561431.19	4192228.75	7.16E-04	5.46E-04	5.32E-04	5.34E-04	5.32E-04	3.95E-04	2.39E-04	5.12E-04	4.26E-04	4.13E-04	4.14E-04	4.13E-04	2.75E-04	1.20E-04
286	561432.48	4192238.03	7.25E-04	5.54E-04	5.40E-04	5.41E-04	5.40E-04	4.00E-04	2.43E-04	5.19E-04	4.31E-04	4.19E-04	4.20E-04	4.19E-04	2.79E-04	1.22E-04
287	561434.94	4192188.53	6.30E-04	4.81E-04	4.69E-04	4.70E-04	4.69E-04	3.48E-04	2.11E-04	4.51E-04	3.75E-04	3.64E-04	3.65E-04	3.64E-04	2.42E-04	1.06E-04
288	561436.28	4192198.22	6.46E-04	4.93E-04	4.81E-04	4.82E-04	4.81E-04	3.57E-04	2.16E-04	4.62E-04	3.84E-04	3.73E-04	3.74E-04	3.73E-04	2.49E-04	1.09E-04
289	561437.62	4192207.91	6.61E-04	5.05E-04	4.92E-04	4.93E-04	4.92E-04	3.65E-04	2.21E-04	4.73E-04	3.93E-04	3.81E-04	3.82E-04	3.81E-04	2.54E-04	1.11E-04
290	561438.96	4192217.59	6.74E-04	5.15E-04	5.02E-04	5.03E-04	5.02E-04	3.72E-04	2.26E-04	4.82E-04	4.01E-04	3.89E-04	3.90E-04	3.89E-04	2.59E-04	1.14E-04
291	561445.66	4192266.03	7.13E-04	5.45E-04	5.31E-04	5.32E-04	5.31E-04	3.94E-04	2.39E-04	5.10E-04	4.24E-04	4.12E-04	4.13E-04	4.12E-04	2.74E-04	1.20E-04
292	561429.07	4192129.23	5.20E-04	3.97E-04	3.87E-04	3.88E-04	3.87E-04	2.87E-04	1.74E-04	3.72E-04	3.10E-04	3.00E-04	3.01E-04	3.00E-04	2.00E-04	8.76E-05
293	561438.17	4192144.58	5.34E-04	4.08E-04	3.97E-04	3.98E-04	3.97E-04	2.95E-04	1.79E-04	3.82E-04	3.18E-04	3.08E-04	3.09E-04	3.08E-04	2.05E-04	8.99E-05
294	561439.49	4192154.17	5.50E-04	4.20E-04	4.10E-04	4.11E-04	4.10E-04	3.04E-04	1.84E-04	3.94E-04	3.27E-04	3.18E-04	3.18E-04	3.18E-04	2.12E-04	9.27E-05
295	561440.82	4192163.75	5.67E-04	4.33E-04	4.22E-04	4.23E-04	4.22E-04	3.13E-04	1.90E-04	4.06E-04	3.37E-04	3.27E-04	3.28E-04	3.27E-04	2.18E-04	9.55E-05
296	561444.8	4192192.51	6.15E-04	4.69E-04	4.57E-04	4.59E-04	4.57E-04	3.39E-04	2.06E-04	4.40E-04	3.66E-04	3.55E-04	3.56E-04	3.55E-04	2.36E-04	1.04E-04
297	561452.75	4192250.04	6.78E-04	5.17E-04	5.04E-04	5.06E-04	5.04E-04	3.74E-04	2.27E-04	4.85E-04	4.03E-04	3.91E-04	3.92E-04	3.91E-04	2.61E-04	1.14E-04
298	561454.08	4192259.62	6.82E-04	5.21E-04	5.08E-04	5.09E-04	5.08E-04	3.76E-04	2.28E-04	4.88E-04	4.06E-04	3.94E-04	3.95E-04	3.94E-04	2.62E-04	1.15E-04
299	561455.41	4192269.21	6.85E-04	5.23E-04	5.10E-04	5.11E-04	5.10E-04	3.78E-04	2.29E-04	4.90E-04	4.08E-04	3.95E-04	3.96E-04	3.95E-04	2.64E-04	1.15E-04
300	561459.39	4192297.97	6.87E-04	5.24E-04	5.11E-04	5.12E-04	5.11E-04	3.79E-04	2.30E-04	4.91E-04	4.08E-04	3.96E-04	3.97E-04	3.96E-04	2.64E-04	1.16E-04
301	561460.71	4192307.56	6.85E-04	5.23E-04	5.10E-04	5.11E-04	5.10E-04	3.78E-04	2.29E-04	4.90E-04	4.07E-04	3.95E-04	3.96E-04	3.95E-04	2.63E-04	1.15E-04
302	561430.05	4192118.47	4.99E-04	3.81E-04	3.71E-04	3.72E-04	3.71E-04	2.75E-04	1.67E-04	3.57E-04	2.97E-04	2.88E-04	2.89E-04	2.88E-04	1.92E-04	8.40E-05
303	561437.74	4192124.18	4.96E-04	3.79E-04	3.69E-04	3.70E-04	3.69E-04	2.74E-04	1.66E-04	3.55E-04	2.95E-04	2.86E-04	2.87E-04	2.86E-04	1.91E-04	8.36E-05
304	561446.76	4192139.39	5.09E-04	3.89E-04	3.79E-04	3.80E-04	3.79E-04	2.81E-04	1.70E-04	3.64E-04	3.03E-04	2.94E-04	2.95E-04	2.94E-04	1.96E-04	8.58E-05
305	561448.07	4192148.89	5.25E-04	4.00E-04	3.90E-04	3.91E-04	3.90E-04	2.89E-04	1.75E-04	3.75E-04	3.12E-04	3.03E-04	3.03E-04	3.03E-04	2.02E-04	8.83E-05
306	561449.38	4192158.38	5.40E-04	4.12E-04	4.02E-04	4.03E-04	4.02E-04	2.98E-04	1.81E-04	3.86E-04	3.21E-04	3.12E-04	3.12E-04	3.12E-04	2.08E-04	9.10E-05
307	561450.7	4192167.88	5.56E-04	4.24E-04	4.13E-04	4.15E-04	4.13E-04	3.07E-04	1.86E-04	3.97E-04	3.30E-04	3.21E-04	3.21E-04	3.21E-04	2.14E-04	9.36E-05
308	561462.52	4192253.34	6.53E-04	4.98E-04	4.86E-04	4.87E-04	4.86E-04	3.60E-04	2.18E-04	4.67E-04	3.88E-04	3.77E-04	3.78E-04	3.77E-04	2.51E-04	1.10E-04
309	561463.83	4192262.83	6.57E-04	5.01E-04	4.88E-04	4.90E-04	4.88E-04	3.62E-04	2.20E-04	4.70E-04	3.91E-04	3.79E-04	3.80E-04	3.79E-04	2.53E-04	1.11E-04
310	561465.15	4192272.33	6.59E-04	5.03E-04	4.90E-04	4.91E-04	4.90E-04	3.63E-04	2.20E-04	4.71E-04	3.92E-04	3.80E-04	3.81E-04	3.80E-04	2.53E-04	1.11E-04
311	561466.46	4192281.82	6.60E-04	5.04E-04	4.91E-04	4.92E-04	4.91E-04	3.64E-04	2.21E-04	4.72E-04	3.92E-04	3.81E-04	3.82E-04	3.81E-04	2.54E-04	1.11E-04
312	561467.77	4192291.32	6.59E-04	5.03E-04	4.91E-04	4.92E-04	4.91E-04	3.64E-04	2.21E-04	4.72E-04	3.92E-04	3.80E-04	3.81E-04	3.80E-04	2.54E-04	1.11E-04
313	561469.09	4192300.81	6.58E-04	5.02E-04	4.90E-04	4.91E-04	4.90E-04	3.63E-04	2.20E-04	4.71E-04	3.91E-04	3.80E-04	3.81E-04	3.80E-04	2.53E-04	1.11E-04
314	561470.4	4192310.31	6.56E-04	5.01E-04	4.88E-04	4.90E-04	4.88E-04	3.62E-04	2.19E-04	4.69E-04	3.90E-04	3.79E-04	3.80E-04	3.79E-04	2.52E-04	1.10E-04
315	561431.15	4192107.81	4.79E-04	3.65E-04	3.56E-04	3.57E-04	3.56E-04	2.64E-04	1.60E-04	3.42E-04	2.85E-04	2.76E-04	2.77E-04	2.76E-04	1.84E-04	8.06E-05
316	561438.78	4192113.47	4.76E-04	3.63E-04	3.54E-04	3.55E-04	3.54E-04	2.63E-04	1.59E-04	3.40E-04	2.83E-04	2.75E-04	2.75E-04	2.75E-04	1.83E-04	8.02E-05
317	561446.41	4192119.14	4.74E-04	3.62E-04	3.53E-04	3.54E-04	3.53E-04	2.62E-04	1.59E-04	3.39E-04	2.82E-04	2.73E-04	2.74E-04	2.73E-04	1.82E-04	7.98E-05
318	561455.35	4192134.21	4.86E-04	3.71E-04	3.62E-04	3.63E-04	3.62E-04	2.68E-04	1.63E-04	3.48E-04	2.89E-04	2.81E-04	2.81E-04	2.81E-04	1.87E-04	8.19E-05
319	561456.65	4192143.62	5.01E-04	3.82E-04	3.72E-04	3.74E-04	3.72E-04	2.76E-04	1.67E-04	3.58E-04	2.98E-04	2.89E-04	2.90E-04	2.89E-04	1.93E-04	8.43E-05
320	561457.95	4192153.03	5.15E-04	3.93E-04	3.83E-04	3.84E-04	3.83E-04	2.84E-04	1.72E-04	3.68E-04	3.06E-04	2.97E-04	2.98E-04	2.97E-04	1.98E-04	8.68E-05
321	561464.46	4192200.1	5.84E-04	4.46E-04	4.35E-04	4.36E-04	4.35E-04	3.22E-04	1.95E-04	4.18E-04	3.47E-04	3.37E-04	3.38E-04	3.37E-04	2.25E-04	9.84E-05
322	561465.76	4192209.51	5.95E-04	4.54E-04	4.43E-04	4.44E-04	4.43E-04	3.28E-04	1.99E-04	4.26E-04	3.54E-04	3.43E-04	3.44E-04	3.43E-04	2.29E-04	1.00E-04
323	561467.07	4192218.92	6.05E-04	4.62E-04	4.50E-04	4.51E-04	4.50E-04	3.34E-04	2.02E-04	4.33E-04	3.60E-04	3.49E-04	3.50E-04	3.49E-04	2.33E-04	1.02E-04
324	561472.28	4192256.57	6.29E-04	4.80E-04	4.68E-04	4.70E-04	4.68E-04	3.47E-04	2.11E-04	4.50E-04	3.74E-04	3.63E-04	3.64E-04	3.63E-04	2.42E-04	1.06E-04
325	561473.58	4192265.98	6.32E-04	4.82E-04	4.70E-04	4.72E-04	4.70E-04	3.49E-04	2.11E-04	4.52E-04	3.76E-04	3.65E-04	3.66E-04	3.65E-04	2.43E-04	1.06E-04
326	561474.88	4192275.4	6.34E-04	4.84E-04	4.71E-04	4.73E-04	4.71E-04	3.50E-04	2.12E-04	4.53E-04	3.77E-04	3.66E-04	3.67E-04	3.66E-04	2.44E-04	1.07E-04
327	561476.18	4192284.81	6.34E-04	4.84E-04	4.72E-04	4.73E-04	4.72E-04	3.50E-04	2.12E-04	4.53E-04	3.77E-04	3.66E-04	3.67E-04	3.66E-04	2.44E-04	1.07E-04
328	561477.48	4192294.22	6.33E-04	4.83E-04	4.71E-04	4.72E-04	4.71E-04	3.49E-04	2.12E-04	4.53E-04	3.77E-04	3.65E-04	3.66E-04	3.65E-04	2.44E-04	1.07E-04

329	561478.79	4192303.63	6.31E-04	4.82E-04	4.70E-04	4.71E-04	4.70E-04	3.48E-04	2.11E-04	4.52E-04	3.76E-04	3.64E-04	3.65E-04	3.64E-04	2.43E-04	1.06E-04
330	561480.09	4192313.05	6.29E-04	4.80E-04	4.68E-04	4.69E-04	4.68E-04	3.47E-04	2.10E-04	4.50E-04	3.74E-04	3.63E-04	3.64E-04	3.63E-04	2.42E-04	1.06E-04
331	561432.37	4192097.23	4.60E-04	3.51E-04	3.42E-04	3.43E-04	3.42E-04	2.54E-04	1.54E-04	3.29E-04	2.73E-04	2.65E-04	2.66E-04	2.65E-04	1.77E-04	7.74E-05
332	561439.94	4192102.85	4.57E-04	3.49E-04	3.40E-04	3.41E-04	3.40E-04	2.52E-04	1.53E-04	3.27E-04	2.72E-04	2.64E-04	2.64E-04	2.64E-04	1.76E-04	7.70E-05
333	561447.51	4192108.47	4.55E-04	3.47E-04	3.38E-04	3.39E-04	3.38E-04	2.51E-04	1.52E-04	3.25E-04	2.71E-04	2.62E-04	2.63E-04	2.62E-04	1.75E-04	7.66E-05
334	561455.08	4192114.08	4.53E-04	3.46E-04	3.37E-04	3.38E-04	3.37E-04	2.50E-04	1.52E-04	3.24E-04	2.70E-04	2.61E-04	2.62E-04	2.61E-04	1.74E-04	7.63E-05
335	561463.94	4192129.04	4.65E-04	3.55E-04	3.46E-04	3.47E-04	3.46E-04	2.57E-04	1.56E-04	3.33E-04	2.77E-04	2.68E-04	2.69E-04	2.68E-04	1.79E-04	7.83E-05
336	561470.4	4192175.72	5.34E-04	4.07E-04	3.97E-04	3.98E-04	3.97E-04	2.94E-04	1.78E-04	3.82E-04	3.17E-04	3.08E-04	3.09E-04	3.08E-04	2.05E-04	8.98E-05
337	561472.98	4192194.39	5.58E-04	4.26E-04	4.15E-04	4.16E-04	4.15E-04	3.08E-04	1.87E-04	3.99E-04	3.32E-04	3.22E-04	3.23E-04	3.22E-04	2.15E-04	9.40E-05
338	561474.27	4192203.73	5.69E-04	4.34E-04	4.23E-04	4.25E-04	4.23E-04	3.14E-04	1.90E-04	4.07E-04	3.38E-04	3.28E-04	3.29E-04	3.28E-04	2.19E-04	9.58E-05
339	561475.56	4192213.07	5.79E-04	4.42E-04	4.31E-04	4.32E-04	4.31E-04	3.19E-04	1.94E-04	4.14E-04	3.44E-04	3.34E-04	3.35E-04	3.34E-04	2.23E-04	9.75E-05
340	561476.86	4192222.4	5.87E-04	4.48E-04	4.37E-04	4.38E-04	4.37E-04	3.24E-04	1.96E-04	4.20E-04	3.49E-04	3.39E-04	3.40E-04	3.39E-04	2.26E-04	9.89E-05
341	561482.02	4192259.75	6.07E-04	4.63E-04	4.52E-04	4.53E-04	4.52E-04	3.35E-04	2.03E-04	4.34E-04	3.61E-04	3.50E-04	3.51E-04	3.50E-04	2.34E-04	1.02E-04
342	561483.31	4192269.09	6.09E-04	4.65E-04	4.53E-04	4.54E-04	4.53E-04	3.36E-04	2.04E-04	4.36E-04	3.62E-04	3.51E-04	3.52E-04	3.51E-04	2.34E-04	1.03E-04
343	561484.61	4192278.42	6.10E-04	4.65E-04	4.54E-04	4.55E-04	4.54E-04	3.36E-04	2.04E-04	4.36E-04	3.63E-04	3.52E-04	3.53E-04	3.52E-04	2.34E-04	1.03E-04
344	561485.9	4192287.76	6.09E-04	4.65E-04	4.53E-04	4.55E-04	4.53E-04	3.36E-04	2.04E-04	4.36E-04	3.62E-04	3.52E-04	3.53E-04	3.52E-04	2.34E-04	1.03E-04
345	561487.19	4192297.1	6.08E-04	4.64E-04	4.52E-04	4.54E-04	4.52E-04	3.36E-04	2.03E-04	4.35E-04	3.62E-04	3.51E-04	3.52E-04	3.51E-04	2.34E-04	1.02E-04
346	561488.48	4192306.43	6.06E-04	4.63E-04	4.51E-04	4.52E-04	4.51E-04	3.34E-04	2.03E-04	4.33E-04	3.61E-04	3.50E-04	3.51E-04	3.50E-04	2.33E-04	1.02E-04
347	561489.77	4192315.77	6.03E-04	4.61E-04	4.49E-04	4.50E-04	4.49E-04	3.33E-04	2.02E-04	4.32E-04	3.59E-04	3.48E-04	3.49E-04	3.48E-04	2.32E-04	1.02E-04
348	561439.89	4192091.33	4.40E-04	3.36E-04	3.27E-04	3.28E-04	3.27E-04	2.43E-04	1.47E-04	3.14E-04	2.62E-04	2.54E-04	2.54E-04	2.54E-04	1.69E-04	7.40E-05
349	561447.73	4192097.15	4.37E-04	3.34E-04	3.25E-04	3.26E-04	3.25E-04	2.41E-04	1.46E-04	3.13E-04	2.60E-04	2.52E-04	2.53E-04	2.52E-04	1.68E-04	7.36E-05
350	561455.57	4192102.97	4.35E-04	3.32E-04	3.24E-04	3.25E-04	3.24E-04	2.40E-04	1.46E-04	3.11E-04	2.59E-04	2.51E-04	2.52E-04	2.51E-04	1.67E-04	7.33E-05
351	561463.41	4192108.78	4.34E-04	3.31E-04	3.23E-04	3.24E-04	3.23E-04	2.39E-04	1.45E-04	3.10E-04	2.58E-04	2.50E-04	2.51E-04	2.50E-04	1.67E-04	7.31E-05
352	561476.6	4192153.28	4.86E-04	3.71E-04	3.61E-04	3.62E-04	3.61E-04	2.68E-04	1.62E-04	3.47E-04	2.89E-04	2.80E-04	2.81E-04	2.80E-04	1.87E-04	8.18E-05
353	561477.94	4192162.95	4.99E-04	3.81E-04	3.71E-04	3.72E-04	3.71E-04	2.75E-04	1.67E-04	3.57E-04	2.97E-04	2.88E-04	2.89E-04	2.88E-04	1.92E-04	8.41E-05
354	561479.28	4192172.62	5.13E-04	3.92E-04	3.82E-04	3.83E-04	3.82E-04	2.83E-04	1.72E-04	3.67E-04	3.05E-04	2.96E-04	2.97E-04	2.96E-04	1.97E-04	8.64E-05
355	561483.29	4192201.63	5.48E-04	4.18E-04	4.08E-04	4.09E-04	4.08E-04	3.02E-04	1.83E-04	3.92E-04	3.26E-04	3.16E-04	3.17E-04	3.16E-04	2.11E-04	9.23E-05
356	561484.63	4192211.3	5.58E-04	4.26E-04	4.15E-04	4.16E-04	4.15E-04	3.08E-04	1.87E-04	3.99E-04	3.32E-04	3.22E-04	3.23E-04	3.22E-04	2.15E-04	9.39E-05
357	561485.97	4192220.97	5.66E-04	4.32E-04	4.21E-04	4.22E-04	4.21E-04	3.12E-04	1.89E-04	4.05E-04	3.37E-04	3.27E-04	3.27E-04	3.27E-04	2.18E-04	9.53E-05
358	561487.3	4192230.64	5.73E-04	4.37E-04	4.26E-04	4.27E-04	4.26E-04	3.16E-04	1.92E-04	4.10E-04	3.41E-04	3.31E-04	3.31E-04	3.31E-04	2.20E-04	9.65E-05
359	561491.32	4192259.65	5.85E-04	4.47E-04	4.35E-04	4.37E-04	4.35E-04	3.23E-04	1.96E-04	4.19E-04	3.48E-04	3.38E-04	3.39E-04	3.38E-04	2.25E-04	9.86E-05
360	561492.66	4192269.32	5.87E-04	4.48E-04	4.36E-04	4.38E-04	4.36E-04	3.24E-04	1.96E-04	4.20E-04	3.49E-04	3.38E-04	3.39E-04	3.38E-04	2.26E-04	9.88E-05
361	561493.99	4192278.99	5.87E-04	4.48E-04	4.37E-04	4.38E-04	4.37E-04	3.24E-04	1.96E-04	4.20E-04	3.49E-04	3.39E-04	3.40E-04	3.39E-04	2.26E-04	9.89E-05
362	561495.33	4192288.66	5.86E-04	4.48E-04	4.36E-04	4.38E-04	4.36E-04	3.24E-04	1.96E-04	4.19E-04	3.49E-04	3.38E-04	3.39E-04	3.38E-04	2.26E-04	9.88E-05
363	561496.67	4192298.33	5.85E-04	4.46E-04	4.35E-04	4.36E-04	4.35E-04	3.23E-04	1.96E-04	4.18E-04	3.48E-04	3.37E-04	3.38E-04	3.37E-04	2.25E-04	9.85E-05
364	561498.01	4192308	5.83E-04	4.45E-04	4.33E-04	4.35E-04	4.33E-04	3.21E-04	1.95E-04	4.17E-04	3.46E-04	3.36E-04	3.37E-04	3.36E-04	2.24E-04	9.81E-05
365	561499.34	4192317.67	5.80E-04	4.42E-04	4.31E-04	4.32E-04	4.31E-04	3.20E-04	1.94E-04	4.14E-04	3.45E-04	3.34E-04	3.35E-04	3.34E-04	2.23E-04	9.76E-05
366	561409.9	4192057.6	4.43E-04	3.38E-04	3.29E-04	3.30E-04	3.29E-04	2.44E-04	1.48E-04	3.17E-04	2.63E-04	2.55E-04	2.56E-04	2.55E-04	1.70E-04	7.45E-05
367	561433.22	4192074.9	4.27E-04	3.26E-04	3.17E-04	3.18E-04	3.17E-04	2.35E-04	1.43E-04	3.05E-04	2.54E-04	2.46E-04	2.47E-04	2.46E-04	1.64E-04	7.19E-05
368	561440.99	4192080.67	4.23E-04	3.23E-04	3.15E-04	3.16E-04	3.15E-04	2.34E-04	1.42E-04	3.03E-04	2.52E-04	2.44E-04	2.45E-04	2.44E-04	1.63E-04	7.13E-05
369	561448.76	4192086.44	4.21E-04	3.21E-04	3.13E-04	3.14E-04	3.13E-04	2.32E-04	1.41E-04	3.01E-04	2.50E-04	2.43E-04	2.43E-04	2.43E-04	1.62E-04	7.08E-05
370	561456.54	4192092.2	4.19E-04	3.19E-04	3.11E-04	3.12E-04	3.11E-04	2.31E-04	1.40E-04	2.99E-04	2.49E-04	2.41E-04	2.42E-04	2.41E-04	1.61E-04	7.05E-05
371	561464.31	4192097.97	4.17E-04	3.18E-04	3.10E-04	3.11E-04	3.10E-04	2.30E-04	1.39E-04	2.98E-04	2.48E-04	2.41E-04	2.41E-04	2.41E-04	1.60E-04	7.02E-05
372	561482.51	4192128.68	4.40E-04	3.36E-04	3.27E-04	3.28E-04	3.27E-04	2.43E-04	1.47E-04	3.14E-04	2.62E-04	2.54E-04	2.54E-04	2.54E-04	1.69E-04	7.40E-05
373	561483.83	4192138.26	4.52E-04	3.45E-04	3.37E-04	3.37E-04	3.37E-04	2.50E-04	1.51E-04	3.24E-04	2.69E-04	2.61E-04	2.62E-04	2.61E-04	1.74E-04	7.62E-05
374	561485.16	4192147.85	4.65E-04	3.55E-04	3.46E-04	3.47E-04	3.46E-04	2.57E-04	1.56E-04	3.33E-04	2.77E-04	2.68E-04	2.69E-04	2.68E-04	1.79E-04	7.83E-05
375	561486.48	4192157.44	4.78E-04	3.65E-04	3.55E-04	3.56E-04	3.55E-04	2.64E-04	1.60E-04	3.42E-04	2.84E-04	2.76E-04	2.76E-04	2.76E-04	1.84E-04	8.05E-05
376	561487.81	4192167.02	4.90E-04	3.74E-04	3.65E-04	3.66E-04	3.65E-04	2.71E-04	1.64E-04	3.51E-04	2.92E-04	2.83E-04	2.84E-04	2.83E-04	1.89E-04	8.26E-05
377	561489.14	4192176.61	5.03E-04	3.84E-04	3.74E-04	3.75E-04	3.74E-04	2.77E-04	1.68E-04	3.60E-04	2.99E-04	2.90E-04	2.91E-04	2.90E-04	1.93E-04	8.47E-05
378	561493.12	4192205.37	5.34E-04	4.08E-04	3.97E-04	3.99E-04	3.97E-04	2.95E-04	1.79E-04	3.82E-04	3.18E-04	3.08E-04	3.09E-04	3.08E-04	2.05E-04	9.00E-05
379	561494.44	4192214.96	5.43E-04	4.14E-04	4.04E-04	4.05E-04	4.04E-04	2.99E-04	1.81E-04	3.88E-04	3.23E-04	3.13E-04	3.14E-04	3.13E-04	2.09E-04	9.14E-05
380	561495.77	4192224.54	5.50E-04	4.20E-04	4.09E-04	4.10E-04	4.09E-04	3.03E-04	1.84E-04	3.93E-04	3.27E-04	3.17E-04	3.18E-04	3.17E-04	2.11E-04	9.26E-05
381	561497.09	4192234.13	5.56E-04	4.24E-04	4.13E-04	4.14E-04	4.13E-04	3.07E-04	1.86E-04	3.97E-04	3.30E-04	3.21E-04	3.21E-04	3.21E-04	2.14E-04	9.36E-05
382	561498.42	4192243.72	5.60E-04	4.28E-04	4.17E-04	4.18E-04	4.17E-04	3.09E-04	1.87E-04	4.01E-04	3.33E-04	3.23E-04	3.24E-04	3.23E-04	2.15E-04	9.43E-05
383	561499.75	4192253.3	5.63E-04	4.30E-04	4.19E-04	4.20E-04	4.19E-04	3.11E-04	1.88E-04	4.03E-04	3.35E-04	3.25E-04	3.26E-04	3.25E-04	2.17E-04	9.49E-05
384	561501.07	4192262.89	5.65E-04	4.31E-04	4.20E-04	4.22E-04	4.20E-04	3.12E-04	1.89E-04	4.04E-04	3.36E-04	3.26E-04	3.27E-04	3.26E-04	2.17E-04	9.52E-05
385	561502.4	4192272.48	5.66E-04	4.32E-04	4.21E-04	4.22E-04	4.21E-04	3.12E-04	1.89E-04	4.05E-04	3.37E-04	3.26E-04	3.27E-04	3.26E-04	2.18E-04	9.53E-05
386	561503.73	4192282.06	5.66E-04	4.32E-04	4.21E-04	4.22E-04	4.21E-04	3.12E-04	1.89E-04	4.04E-04	3.36E-04	3.26E-04	3.27E-04	3.26E-04	2.18E-04	9.52E-05
387	561505.05	4192291.65	5.65E-04	4.31E-04	4.20E-04	4.21E-04	4.20E-04	3.11E-04	1.89E-04	4.04E-04	3.36E-04	3.26E-04	3.27E-04	3.26E-04	2.17E-04	9.51E-05
388	561506.38	4192301.24	5.63E-04	4.30E-04	4.19E-04	4.20E-04	4.19E-04	3.10E-04	1.88E-04	4.02E-04	3.35E-04	3.25E-04	3.26E-04	3.25E-04	2.16E-04	9.48E-05
389	561507.71	4192310.83	5.60E-04	4.28E-04	4.17E-04	4.18E-04	4.17E-04	3.09E-04	1.87E-04	4.01E-04	3.33E-04	3.23E-04	3.24E-04	3.23E-04	2.15E-04	9.43E-05
390	561509.03	4192320.41	5.57E-04	4.25E-04	4.14E-04	4.15E-04	4.14E-04	3.07E-04	1.86E-04	3.98E-04	3.31E-04	3.21E-04	3.22E-04	3.21E-04	2.14E-04	9.38E-05
391	561411.35	4192047.2	4.28E-04	3.27E-04	3.19E-04	3.20E-04	3.19E-04	2.36E-04	1.43E-04	3.06E-04	2.55E-04	2.47E-04	2.48E-04	2.47E-04	1.65E-04	7.22E-05
392	561419.06	4192052.92	4.22E-04	3.22E-04	3.14E-04	3.15E-04	3.14E-04	2.33E-04	1.41E-04	3.02E-04	2.51E-04	2.43E-04	2.44E-04	2.43E-04	1.62E-04	7.10E-05
393	561426.77	4192058.64	4.16E-04	3.18E-04	3.10E-04	3.11E-04	3.10E-04	2.30E-04	1.39E-04	2.98E-04	2.48E-04	2.40E-04	2.41E-04	2.40E-04	1.60E-04	7.01E-05
394	561434.48	4192064.36	4.12E-04	3.14E-04	3.06E-04	3.07E-04	3.06E-04	2.27E-04	1.38E-04	2.94E-04	2.45E-04	2.38E-04	2.38E-04	2.38E-04	1.58E-04	6.93E-05
395	561442.19	4192070.08	4.08E-04	3.11E-04	3.04E-04	3.04E-04	3.04E-04	2.25E-04	1.36E-04	2.92E-04	2.43E-04	2.35E-04	2.36E-04	2.35E-04	1.57E-04	6.87E-05
396	561449.9	4192075.8	4.05E-04	3.09E-04	3.01E-04	3.02E-04	3.01E-04	2.23E-04	1.35E-04	2.90E-04	2.41E-04	2.34E-04	2.34E-04	2.34E-04	1.56E-04	6.82E-05
397	561457.61	4192081.52	4.03E-04	3.07E-04	3.00E-04	3.01E-04	3.00E-04	2.22E-04	1.35E-04	2.88E-04	2.40E-04	2.32E-04	2.33E-04	2.32E-04	1.55E-04	6.78E-05
398	561465.32	4192087.24	4.01E-04	3.06E-04	2.98E-04	2.99E-04	2.98E-04	2.21E-04	1.34E-04	2.87E-04	2.39E-04	2.31E-04	2.32E-04	2.31E-04	1.54E-04	6.75E-05
399	561473.04	4192092.96	4.00E-04	3.05E-04	2.97E-04	2.98E-04	2.97E-04	2.21E-04	1.34E-04	2.86E-04	2.38E-04	2.31E-04	2.31E-04	2.31E-04	1.54E-04	6.73E-05
400	561489.77	4192113.91	4.10E-04	3.13E-04	3.05E-04	3.06E-04	3.05E-04	2.26E-04	1.37E-04	2.93E-04	2.44E-04	2.36E-04	2.37E-04	2.36E-04	1.58E-04	6.90E-05
401	561491.09	4192123.42	4.21E-04	3.22E-04	3.14E-04	3.14E-04	3.14E-04	2.33E-04	1.41E-04	3.01E-04	2.51E-04	2.43E-04	2.44E-04	2.43E-04	1.62E-04	7.10E-05
402	561492.4	4192132.93	4.34E-04	3.31E-04	3.23E-04	3.23E-04	3.23E-04	2.39E-04	1.45E-04	3.10E-04	2.58E-04	2.50E-04	2.51E-04	2.50E-04	1.67E-04	7.30E-05
403	561493.72	4192142.44	4.46E-04	3.40E-04	3.32E-04	3.33E-04	3.32E-04	2.46E-04	1.49E-04	3.19E-04	2.65E-04	2.57E-04	2.58E-04	2.57E-04	1.71E-04	7.51E-05
404	561495.03	4192151.95	4.58E-04	3.49E-04	3.41E-04	3.42E-04	3.41E-04	2.53E-04	1.53E-04	3.27E-04	2.72E-04	2.64E-04	2.65E-04	2.64E-04	1.76E-04	7.71E-05
405	561496.35	4192161.46	4.70E-04	3.59E-04	3.49E-04	3.50E-04	3.49E-04	2.59E-04	1.57E-04	3.36E-04	2.79E-04	2.71E-04	2.72E-04	2.71E-04	1.81E-04	7.91E-05
406	561497.67	4192170.97	4.81E-04	3.68E-04	3.58E-04	3.59E-04	3.58E-04	2.66E-04	1.61E-04	3.44E-04	2.86E-04	2.78E-04	2.79E-04	2.78E-04	1.85E-04	8.11E-05
407	561498.98	4192180.48	4.92E-04	3.76E-04	3.66E-04	3.67E-04	3.66E-04	2.72E-04	1.65E-04	3.52E-04	2.93E-04	2.84E-04	2.85E-04	2.84E-04	1.89E-04	8.29E-05
408	561502.93	4192209.02	5.20E-04	3.97E-04	3.87E-04	3.88E-04	3.87E-04	2.87E-04	1.74E-04	3.72E-04	3.10E-04	3.00E-04	3.01E-04	3.00E-04	2.00E-04	8.76E-05
409	561504.24	4192218.53	5.28E-04	4.03E-04	3.93E-04	3.94E-04	3.93E-04	2.91E-04	1.77E-04	3.77E-04	3.14E-04	3.04E-04	3.05E-04	3.04E-04	2.03E-04	8.89E-05
410	561505.56	4192228.04	5.34E-04	4.07E-04	3.97E-04	3.98E-04	3.97E-04	2.95E-04	1.79E-04	3.82E-04	3.18E-04	3.08E-04	3.09E-04	3.08E-04	2.05E-04	8.99E-05
411	561506.88	4192237.55	5.39E-04	4.11E-04	4.01E-04	4.02E-04	4.01E-04	2.97E-04	1.80E-04	3.85E-04	3.20E-04	3.11E-04	3.12E-04	3.11E-04	2.07E-04	9.07E-05

412	561508.19	4192247.06	5.42E-04	4.14E-04	4.04E-04	4.05E-04	4.04E-04	2.99E-04	1.81E-04	3.88E-04	3.23E-04	3.13E-04	3.14E-04	3.13E-04	2.09E-04	9.14E-05
413	561509.51	4192256.57	5.45E-04	4.16E-04	4.05E-04	4.06E-04	4.05E-04	3.01E-04	1.82E-04	3.90E-04	3.24E-04	3.14E-04	3.15E-04	3.14E-04	2.10E-04	9.17E-05
414	561510.82	4192266.08	5.46E-04	4.17E-04	4.06E-04	4.07E-04	4.06E-04	3.01E-04	1.83E-04	3.90E-04	3.25E-04	3.15E-04	3.16E-04	3.15E-04	2.10E-04	9.19E-05
415	561512.14	4192275.59	5.46E-04	4.17E-04	4.06E-04	4.07E-04	4.06E-04	3.01E-04	1.83E-04	3.91E-04	3.25E-04	3.15E-04	3.16E-04	3.15E-04	2.10E-04	9.20E-05
416	561513.45	4192285.1	5.46E-04	4.16E-04	4.06E-04	4.07E-04	4.06E-04	3.01E-04	1.82E-04	3.90E-04	3.24E-04	3.15E-04	3.16E-04	3.15E-04	2.10E-04	9.19E-05
417	561514.77	4192294.61	5.44E-04	4.15E-04	4.05E-04	4.06E-04	4.05E-04	3.00E-04	1.82E-04	3.89E-04	3.24E-04	3.14E-04	3.15E-04	3.14E-04	2.09E-04	9.16E-05
418	561516.09	4192304.12	5.42E-04	4.14E-04	4.03E-04	4.04E-04	4.03E-04	2.99E-04	1.81E-04	3.88E-04	3.22E-04	3.13E-04	3.14E-04	3.13E-04	2.08E-04	9.13E-05
419	561517.4	4192313.63	5.39E-04	4.11E-04	4.01E-04	4.02E-04	4.01E-04	2.97E-04	1.80E-04	3.86E-04	3.21E-04	3.11E-04	3.12E-04	3.11E-04	2.07E-04	9.08E-05
420	561518.72	4192323.14	5.36E-04	4.09E-04	3.98E-04	4.00E-04	3.98E-04	2.96E-04	1.79E-04	3.83E-04	3.19E-04	3.09E-04	3.10E-04	3.09E-04	2.06E-04	9.02E-05
421	560985.67	4192041.55	1.66E-03	1.27E-03	1.24E-03	1.24E-03	1.24E-03	9.18E-04	5.57E-04	1.19E-03	9.90E-04	9.60E-04	9.63E-04	9.60E-04	6.40E-04	2.80E-04
422	560991.7	4192030.36	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.81E-04	5.34E-04	1.14E-03	9.49E-04	9.21E-04	9.23E-04	9.21E-04	6.14E-04	2.69E-04
423	560982.51	4192032.06	1.58E-03	1.21E-03	1.18E-03	1.18E-03	1.18E-03	8.73E-04	5.29E-04	1.13E-03	9.41E-04	9.13E-04	9.15E-04	9.13E-04	6.09E-04	2.66E-04
424	560988.58	4192020.87	1.52E-03	1.16E-03	1.13E-03	1.13E-03	1.13E-03	8.39E-04	5.08E-04	1.09E-03	9.04E-04	8.77E-04	8.79E-04	8.77E-04	5.85E-04	2.56E-04
425	560979.35	4192022.57	1.51E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	1.08E-03	8.96E-04	8.69E-04	8.72E-04	8.69E-04	5.80E-04	2.54E-04
426	560985.46	4192011.38	1.45E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	8.00E-04	4.85E-04	1.04E-03	8.62E-04	8.36E-04	8.39E-04	8.36E-04	5.58E-04	2.44E-04
427	560994.83	4192011	1.47E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.10E-04	4.91E-04	1.05E-03	8.73E-04	8.47E-04	8.49E-04	8.47E-04	5.65E-04	2.47E-04
428	560976.2	4192013.08	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.93E-04	4.81E-04	1.03E-03	8.55E-04	8.29E-04	8.32E-04	8.29E-04	5.53E-04	2.42E-04
429	560982.33	4192001.89	1.38E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	7.64E-04	4.63E-04	9.90E-04	8.23E-04	7.99E-04	8.01E-04	7.99E-04	5.33E-04	2.33E-04
430	560991.77	4192001.51	1.40E-03	1.07E-03	1.04E-03	1.05E-03	1.04E-03	7.73E-04	4.69E-04	1.00E-03	8.34E-04	8.09E-04	8.11E-04	8.09E-04	5.39E-04	2.36E-04
431	561001.21	4192001.13	1.42E-03	1.08E-03	1.05E-03	1.06E-03	1.05E-03	7.81E-04	4.74E-04	1.01E-03	8.42E-04	8.17E-04	8.19E-04	8.17E-04	5.45E-04	2.38E-04
432	560973.04	4192003.6	1.37E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	7.58E-04	4.59E-04	9.82E-04	8.17E-04	7.92E-04	7.94E-04	7.92E-04	5.28E-04	2.31E-04
433	560979.2	4191992.4	1.32E-03	1.01E-03	9.85E-04	9.88E-04	9.85E-04	7.31E-04	4.43E-04	9.47E-04	7.88E-04	7.64E-04	7.66E-04	7.64E-04	5.09E-04	2.23E-04
434	560988.7	4191992.01	1.34E-03	1.02E-03	9.97E-04	1.00E-03	9.97E-04	7.39E-04	4.48E-04	9.59E-04	7.97E-04	7.73E-04	7.75E-04	7.73E-04	5.16E-04	2.26E-04
435	560998.2	4191991.63	1.35E-03	1.03E-03	1.01E-03	1.01E-03	1.01E-03	7.47E-04	4.53E-04	9.68E-04	8.05E-04	7.81E-04	7.83E-04	7.81E-04	5.21E-04	2.28E-04
436	560969.88	4191994.11	1.31E-03	1.00E-03	9.77E-04	9.80E-04	9.77E-04	7.25E-04	4.39E-04	9.40E-04	7.81E-04	7.58E-04	7.60E-04	7.58E-04	5.05E-04	2.21E-04
437	560976.08	4191982.91	1.27E-03	9.68E-04	9.44E-04	9.46E-04	9.44E-04	7.00E-04	4.24E-04	9.07E-04	7.54E-04	7.32E-04	7.34E-04	7.32E-04	4.88E-04	2.14E-04
438	560985.63	4191982.52	1.28E-03	9.80E-04	9.55E-04	9.57E-04	9.55E-04	7.08E-04	4.29E-04	9.18E-04	7.63E-04	7.40E-04	7.42E-04	7.40E-04	4.94E-04	2.16E-04
439	560995.18	4191982.14	1.30E-03	9.89E-04	9.64E-04	9.67E-04	9.64E-04	7.15E-04	4.34E-04	9.27E-04	7.71E-04	7.48E-04	7.50E-04	7.48E-04	4.99E-04	2.18E-04
440	561004.73	4191981.75	1.31E-03	9.97E-04	9.72E-04	9.75E-04	9.72E-04	7.21E-04	4.37E-04	9.34E-04	7.77E-04	7.54E-04	7.56E-04	7.54E-04	5.03E-04	2.20E-04
441	560966.73	4191984.62	1.26E-03	9.61E-04	9.36E-04	9.39E-04	9.36E-04	6.94E-04	4.21E-04	9.00E-04	7.48E-04	7.26E-04	7.28E-04	7.26E-04	4.84E-04	2.12E-04
442	560972.94	4191973.42	1.22E-03	9.28E-04	9.05E-04	9.07E-04	9.05E-04	6.71E-04	4.07E-04	8.70E-04	7.23E-04	7.02E-04	7.04E-04	7.02E-04	4.68E-04	2.05E-04
443	560982.55	4191973.03	1.23E-03	9.39E-04	9.15E-04	9.18E-04	9.15E-04	6.79E-04	4.11E-04	8.80E-04	7.32E-04	7.10E-04	7.12E-04	7.10E-04	4.73E-04	2.07E-04
444	560992.15	4191972.64	1.24E-03	9.48E-04	9.24E-04	9.27E-04	9.24E-04	6.85E-04	4.16E-04	8.88E-04	7.39E-04	7.17E-04	7.19E-04	7.17E-04	4.78E-04	2.09E-04
445	561001.76	4191972.26	1.25E-03	9.56E-04	9.32E-04	9.34E-04	9.32E-04	6.91E-04	4.19E-04	8.96E-04	7.45E-04	7.22E-04	7.24E-04	7.22E-04	4.82E-04	2.11E-04
446	561011.36	4191971.87	1.26E-03	9.62E-04	9.37E-04	9.40E-04	9.37E-04	6.95E-04	4.21E-04	9.01E-04	7.49E-04	7.27E-04	7.29E-04	7.27E-04	4.85E-04	2.12E-04
447	560963.57	4191975.13	1.21E-03	9.21E-04	8.98E-04	9.00E-04	8.98E-04	6.66E-04	4.04E-04	8.63E-04	7.18E-04	6.96E-04	6.98E-04	6.96E-04	4.64E-04	2.03E-04
448	560969.66	4191963.93	1.17E-03	8.91E-04	8.68E-04	8.71E-04	8.68E-04	6.44E-04	3.90E-04	8.35E-04	6.94E-04	6.73E-04	6.75E-04	6.73E-04	4.49E-04	1.97E-04
449	560979.01	4191963.56	1.18E-03	9.01E-04	8.78E-04	8.80E-04	8.78E-04	6.51E-04	3.95E-04	8.44E-04	7.02E-04	6.81E-04	6.83E-04	6.81E-04	4.54E-04	1.99E-04
450	560988.36	4191963.18	1.19E-03	9.09E-04	8.86E-04	8.89E-04	8.86E-04	6.57E-04	3.98E-04	8.52E-04	7.09E-04	6.87E-04	6.89E-04	6.87E-04	4.58E-04	2.01E-04
451	560997.71	4191962.8	1.20E-03	9.16E-04	8.93E-04	8.96E-04	8.93E-04	6.62E-04	4.02E-04	8.59E-04	7.14E-04	6.93E-04	6.95E-04	6.93E-04	4.62E-04	2.02E-04
452	561007.06	4191962.43	1.21E-03	9.22E-04	8.99E-04	9.01E-04	8.99E-04	6.67E-04	4.04E-04	8.64E-04	7.18E-04	6.97E-04	6.99E-04	6.97E-04	4.65E-04	2.03E-04
453	560960.42	4191965.64	1.16E-03	8.84E-04	8.62E-04	8.64E-04	8.62E-04	6.39E-04	3.88E-04	8.29E-04	6.89E-04	6.68E-04	6.70E-04	6.68E-04	4.46E-04	1.95E-04
454	560966.53	4191954.44	1.12E-03	8.56E-04	8.35E-04	8.37E-04	8.35E-04	6.19E-04	3.75E-04	8.02E-04	6.67E-04	6.47E-04	6.49E-04	6.47E-04	4.31E-04	1.89E-04
455	560975.93	4191954.06	1.13E-03	8.66E-04	8.44E-04	8.46E-04	8.44E-04	6.26E-04	3.79E-04	8.11E-04	6.74E-04	6.54E-04	6.56E-04	6.54E-04	4.36E-04	1.91E-04
456	560985.34	4191953.69	1.14E-03	8.74E-04	8.52E-04	8.54E-04	8.52E-04	6.32E-04	3.83E-04	8.19E-04	6.81E-04	6.60E-04	6.62E-04	6.60E-04	4.40E-04	1.93E-04
457	560994.74	4191953.31	1.15E-03	8.80E-04	8.58E-04	8.61E-04	8.58E-04	6.36E-04	3.86E-04	8.25E-04	6.86E-04	6.65E-04	6.67E-04	6.65E-04	4.44E-04	1.94E-04
458	561004.14	4191952.93	1.16E-03	8.86E-04	8.63E-04	8.66E-04	8.63E-04	6.40E-04	3.88E-04	8.30E-04	6.90E-04	6.69E-04	6.71E-04	6.69E-04	4.46E-04	1.95E-04
459	561013.54	4191952.55	1.17E-03	8.90E-04	8.67E-04	8.69E-04	8.67E-04	6.43E-04	3.90E-04	8.33E-04	6.93E-04	6.72E-04	6.74E-04	6.72E-04	4.48E-04	1.96E-04
460	560957.26	4191956.15	1.11E-03	8.50E-04	8.29E-04	8.31E-04	8.29E-04	6.14E-04	3.72E-04	7.96E-04	6.62E-04	6.42E-04	6.44E-04	6.42E-04	4.28E-04	1.88E-04
461	560963.4	4191944.95	1.08E-03	8.24E-04	8.03E-04	8.05E-04	8.03E-04	5.95E-04	3.61E-04	7.72E-04	6.42E-04	6.23E-04	6.24E-04	6.23E-04	4.15E-04	1.82E-04
462	560972.85	4191944.57	1.09E-03	8.33E-04	8.11E-04	8.14E-04	8.11E-04	6.02E-04	3.65E-04	7.80E-04	6.49E-04	6.29E-04	6.31E-04	6.29E-04	4.20E-04	1.84E-04
463	560982.3	4191944.19	1.10E-03	8.40E-04	8.19E-04	8.21E-04	8.19E-04	6.07E-04	3.68E-04	7.87E-04	6.55E-04	6.35E-04	6.37E-04	6.35E-04	4.23E-04	1.85E-04
464	560991.76	4191943.81	1.11E-03	8.47E-04	8.25E-04	8.27E-04	8.25E-04	6.12E-04	3.71E-04	7.93E-04	6.60E-04	6.40E-04	6.42E-04	6.40E-04	4.27E-04	1.87E-04
465	561001.21	4191943.43	1.12E-03	8.52E-04	8.30E-04	8.32E-04	8.30E-04	6.16E-04	3.73E-04	7.98E-04	6.64E-04	6.44E-04	6.45E-04	6.44E-04	4.29E-04	1.88E-04
466	561010.66	4191943.05	1.12E-03	8.55E-04	8.34E-04	8.36E-04	8.34E-04	6.18E-04	3.75E-04	8.01E-04	6.66E-04	6.46E-04	6.48E-04	6.46E-04	4.31E-04	1.89E-04
467	561020.11	4191942.67	1.12E-03	8.58E-04	8.36E-04	8.38E-04	8.36E-04	6.20E-04	3.76E-04	8.03E-04	6.68E-04	6.48E-04	6.50E-04	6.48E-04	4.32E-04	1.89E-04
468	560954.1	4191946.66	1.07E-03	8.18E-04	7.97E-04	7.99E-04	7.97E-04	5.91E-04	3.58E-04	7.66E-04	6.37E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.80E-04
469	560960.27	4191935.46	1.04E-03	7.93E-04	7.73E-04	7.75E-04	7.73E-04	5.73E-04	3.48E-04	7.43E-04	6.18E-04	5.99E-04	6.01E-04	5.99E-04	4.00E-04	1.75E-04
470	560969.77	4191935.08	1.05E-03	8.01E-04	7.81E-04	7.83E-04	7.81E-04	5.79E-04	3.51E-04	7.51E-04	6.25E-04	6.06E-04	6.07E-04	6.06E-04	4.04E-04	1.77E-04
471	560979.26	4191934.7	1.06E-03	8.09E-04	7.88E-04	7.90E-04	7.88E-04	5.85E-04	3.54E-04	7.58E-04	6.30E-04	6.11E-04	6.13E-04	6.11E-04	4.08E-04	1.78E-04
472	560988.76	4191934.32	1.07E-03	8.15E-04	7.94E-04	7.96E-04	7.94E-04	5.89E-04	3.57E-04	7.63E-04	6.35E-04	6.16E-04	6.18E-04	6.16E-04	4.11E-04	1.80E-04
473	560998.26	4191933.94	1.07E-03	8.20E-04	7.99E-04	8.01E-04	7.99E-04	5.93E-04	3.59E-04	7.68E-04	6.39E-04	6.20E-04	6.21E-04	6.20E-04	4.13E-04	1.81E-04
474	561007.76	4191933.55	1.08E-03	8.23E-04	8.02E-04	8.05E-04	8.02E-04	5.95E-04	3.61E-04	7.71E-04	6.41E-04	6.22E-04	6.24E-04	6.22E-04	4.15E-04	1.82E-04
475	561017.26	4191933.17	1.08E-03	8.25E-04	8.05E-04	8.07E-04	8.05E-04	5.97E-04	3.62E-04	7.73E-04	6.43E-04	6.24E-04	6.26E-04	6.24E-04	4.16E-04	1.82E-04
476	560950.95	4191937.17	1.03E-03	7.88E-04	7.68E-04	7.70E-04	7.68E-04	5.69E-04	3.45E-04	7.38E-04	6.14E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
477	560957.13	4191925.97	1.00E-03	7.64E-04	7.45E-04	7.47E-04	7.45E-04	5.53E-04	3.35E-04	7.16E-04	5.96E-04	5.78E-04	5.79E-04	5.78E-04	3.85E-04	1.69E-04
478	560966.68	4191925.59	1.01E-03	7.72E-04	7.53E-04	7.55E-04	7.53E-04	5.58E-04	3.38E-04	7.24E-04	6.02E-04	5.84E-04	5.85E-04	5.84E-04	3.89E-04	1.70E-04
479	560976.22	4191925.21	1.02E-03	7.79E-04	7.60E-04	7.62E-04	7.60E-04	5.63E-04	3.41E-04	7.30E-04	6.07E-04	5.89E-04	5.91E-04	5.89E-04	3.93E-04	1.72E-04
480	560985.76	4191924.82	1.03E-03	7.85E-04	7.65E-04	7.67E-04	7.65E-04	5.67E-04	3.44E-04	7.36E-04	6.12E-04	5.93E-04	5.95E-04	5.93E-04	3.96E-04	1.73E-04
481	560995.3	4191924.44	1.03E-03	7.90E-04	7.70E-04	7.72E-04	7.70E-04	5.71E-04	3.46E-04	7.40E-04	6.15E-04	5.97E-04	5.99E-04	5.97E-04	3.98E-04	1.74E-04
482	561004.85	4191924.06	1.04E-03	7.93E-04	7.73E-04	7.75E-04	7.73E-04	5.73E-04	3.48E-04	7.43E-04	6.18E-04	5.99E-04	6.01E-04	5.99E-04	4.00E-04	1.75E-04
483	561014.39	4191923.67	1.04E-03	7.95E-04	7.75E-04	7.77E-04	7.75E-04	5.75E-04	3.48E-04	7.45E-04	6.20E-04	6.01E-04	6.03E-04	6.01E-04	4.01E-04	1.75E-04
484	561023.93	4191923.29	1.04E-03	7.96E-04	7.76E-04	7.78E-04	7.76E-04	5.75E-04	3.49E-04	7.46E-04	6.20E-04	6.02E-04	6.03E-04	6.02E-04	4.01E-04	1.76E-04
485	560947.79	4191927.68	9.95E-04	7.59E-04	7.40E-04	7.42E-04	7.40E-04	5.49E-04	3.33E-04	7.11E-04	5.91E-04	5.74E-04	5.75E-04	5.74E-04	3.83E-04	1.67E-04
486	560941.54	4192192.34	3.16E-03	2.41E-03	2.35E-03	2.36E-03	2.35E-03	1.74E-03	1.06E-03	2.26E-03	1.88E-03	1.82E-03	1.83E-03	1.82E-03	1.21E-03	5.32E-04
487	560936.25	4192207.6	3.29E-03	2.51E-03	2.45E-03	2.45E-03	2.45E-03	1.81E-03	1.10E-03	2.35E-03	1.96E-03	1.90E-03	1.90E-03	1.90E-03	1.27E-03	5.54E-04
488	560932.95	4192223.59	3.45E-03	2.63E-03	2.57E-03	2.57E-03	2.57E-03	1.90E-03	1.15E-03	2.47E-03	2.05E-03	1.99E-03	2.00E-03	1.99E-03	1.33E-03	5.81E-04
489	560931.59	4192190.65	2.95E-03	2.25E-03	2.20E-03	2.20E-03	2.20E-03	1.63E-03	9.87E-04	2.11E-03	1.76E-03	1.70E-03	1.71E-03	1.70E-03	1.14E-03	4.97E-04
490	560938.54	4192176.79	2.86E-03	2.18E-03	2.13E-03	2.13E-03	2.13E-03	1.58E-03	9.57E-04	2.05E-03	1.70E-03	1.65E-03	1.66E-03	1.65E-03	1.10E-03	4.82E-04
491	560945.5	4192162.92	2.75E-03	2.10E-03	2.05E-03	2.05E-03	2.05E-03	1.52E-03	9.21E-04	1.97E-03	1.64E-03	1.59E-03	1.59E-03	1.59E-03	1.06E-03	4.64E-04
492	560952.46	4192149.05	2.63E-03	2.01E-03	1.96E-03	1.96E-03	1.96E-03	1.45E-03	8.80E-04	1.88E-03	1.57E-03	1.52E-03	1.52E-03	1.52E-03	1.01E-03	4.43E-04
493	560926.46	4192205.58	3.07E-03	2.34E-03	2.28E-03	2.29E-03	2.28E-03	1.69E-03	1.03E-03	2.19E-03	1.82E-03	1.77E-03	1.77E-03	1.77E-03	1.18E-03	5.17E-04
494	560923.16	4192221.57	3.21E-03	2.45E-03	2.39E-03	2.39E-03	2.39E-03	1.77E-03	1.07E-03	2.29E-03	1.91E-03	1.85E-03	1.86E-03	1.85E-03	1.23E-03	5.40E-04

495	560921.66	4192188.89	2.77E-03	2.12E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.27E-04	1.98E-03	1.65E-03	1.60E-03	1.60E-03	1.60E-03	1.07E-03	4.67E-04
496	560928.36	4192175.53	2.69E-03	2.06E-03	2.00E-03	2.01E-03	2.00E-03	1.49E-03	9.01E-04	1.93E-03	1.60E-03	1.55E-03	1.56E-03	1.55E-03	1.04E-03	4.54E-04
497	560935.06	4192162.18	2.60E-03	1.99E-03	1.94E-03	1.94E-03	1.94E-03	1.44E-03	8.70E-04	1.86E-03	1.55E-03	1.50E-03	1.50E-03	1.50E-03	1.00E-03	4.38E-04
498	560941.76	4192148.83	2.50E-03	1.91E-03	1.86E-03	1.87E-03	1.86E-03	1.38E-03	8.37E-04	1.79E-03	1.49E-03	1.44E-03	1.45E-03	1.44E-03	9.63E-04	4.22E-04
499	560954.7	4192131.37	2.41E-03	1.84E-03	1.79E-03	1.80E-03	1.79E-03	1.33E-03	8.05E-04	1.72E-03	1.43E-03	1.39E-03	1.39E-03	1.39E-03	9.26E-04	4.05E-04
500	560916.66	4192203.56	2.87E-03	2.19E-03	2.14E-03	2.14E-03	2.14E-03	1.58E-03	9.60E-04	2.05E-03	1.71E-03	1.66E-03	1.66E-03	1.66E-03	1.10E-03	4.83E-04
501	560913.36	4192219.55	2.99E-03	2.28E-03	2.23E-03	2.23E-03	2.23E-03	1.65E-03	1.00E-03	2.14E-03	1.78E-03	1.73E-03	1.73E-03	1.73E-03	1.15E-03	5.04E-04
502	560912.13	4192186.35	2.60E-03	1.99E-03	1.94E-03	1.94E-03	1.94E-03	1.44E-03	8.71E-04	1.86E-03	1.55E-03	1.50E-03	1.51E-03	1.50E-03	1.00E-03	4.39E-04
503	560919.34	4192171.97	2.53E-03	1.93E-03	1.88E-03	1.89E-03	1.88E-03	1.40E-03	8.47E-04	1.81E-03	1.51E-03	1.46E-03	1.46E-03	1.46E-03	9.74E-04	4.26E-04
504	560926.56	4192157.59	2.44E-03	1.86E-03	1.81E-03	1.82E-03	1.81E-03	1.35E-03	8.16E-04	1.74E-03	1.45E-03	1.41E-03	1.41E-03	1.41E-03	9.38E-04	4.11E-04
505	560933.77	4192143.21	2.35E-03	1.79E-03	1.74E-03	1.75E-03	1.74E-03	1.29E-03	7.84E-04	1.68E-03	1.39E-03	1.35E-03	1.36E-03	1.35E-03	9.02E-04	3.95E-04
506	560947.71	4192124.41	2.25E-03	1.72E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.54E-04	1.61E-03	1.34E-03	1.30E-03	1.30E-03	1.30E-03	8.67E-04	3.80E-04
507	560961.14	4192115.55	2.26E-03	1.73E-03	1.68E-03	1.69E-03	1.68E-03	1.25E-03	7.56E-04	1.62E-03	1.35E-03	1.30E-03	1.31E-03	1.30E-03	8.70E-04	3.81E-04
508	560906.87	4192201.54	2.69E-03	2.06E-03	2.00E-03	2.01E-03	2.00E-03	1.49E-03	9.01E-04	1.93E-03	1.60E-03	1.55E-03	1.56E-03	1.55E-03	1.04E-03	4.53E-04
509	560903.57	4192217.53	2.80E-03	2.14E-03	2.08E-03	2.09E-03	2.08E-03	1.54E-03	9.36E-04	2.00E-03	1.66E-03	1.61E-03	1.62E-03	1.61E-03	1.08E-03	4.71E-04
510	560902.2	4192184.59	2.45E-03	1.87E-03	1.83E-03	1.83E-03	1.83E-03	1.35E-03	8.21E-04	1.76E-03	1.46E-03	1.42E-03	1.42E-03	1.42E-03	9.44E-04	4.13E-04
511	560909.16	4192170.72	2.40E-03	1.83E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.01E-04	1.71E-03	1.42E-03	1.38E-03	1.39E-03	1.38E-03	9.21E-04	4.03E-04
512	560916.12	4192156.86	2.32E-03	1.77E-03	1.72E-03	1.73E-03	1.72E-03	1.28E-03	7.75E-04	1.66E-03	1.38E-03	1.34E-03	1.34E-03	1.34E-03	8.91E-04	3.90E-04
513	560923.08	4192142.99	2.24E-03	1.71E-03	1.66E-03	1.67E-03	1.66E-03	1.23E-03	7.48E-04	1.60E-03	1.33E-03	1.29E-03	1.29E-03	1.29E-03	8.60E-04	3.77E-04
514	560930.04	4192129.12	2.15E-03	1.64E-03	1.60E-03	1.61E-03	1.60E-03	1.19E-03	7.20E-04	1.54E-03	1.28E-03	1.24E-03	1.25E-03	1.24E-03	8.28E-04	3.62E-04
515	560939.99	4192117.92	2.12E-03	1.61E-03	1.57E-03	1.58E-03	1.57E-03	1.17E-03	7.08E-04	1.51E-03	1.26E-03	1.22E-03	1.22E-03	1.22E-03	8.14E-04	3.56E-04
516	560952.95	4192109.38	2.13E-03	1.62E-03	1.58E-03	1.59E-03	1.58E-03	1.17E-03	7.11E-04	1.52E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	8.17E-04	3.58E-04
517	560965.9	4192100.85	2.13E-03	1.62E-03	1.58E-03	1.59E-03	1.58E-03	1.17E-03	7.11E-04	1.52E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	8.18E-04	3.58E-04
518	560897.08	4192199.52	2.53E-03	1.93E-03	1.88E-03	1.89E-03	1.88E-03	1.40E-03	8.46E-04	1.81E-03	1.50E-03	1.46E-03	1.46E-03	1.46E-03	9.73E-04	4.26E-04
519	560893.78	4192215.51	2.62E-03	2.00E-03	1.95E-03	1.96E-03	1.95E-03	1.45E-03	8.77E-04	1.88E-03	1.56E-03	1.51E-03	1.52E-03	1.51E-03	1.01E-03	4.42E-04
520	560892.31	4192182.78	2.32E-03	1.77E-03	1.72E-03	1.73E-03	1.72E-03	1.28E-03	7.74E-04	1.66E-03	1.38E-03	1.34E-03	1.34E-03	1.34E-03	8.91E-04	3.90E-04
521	560899.05	4192169.33	2.27E-03	1.73E-03	1.69E-03	1.69E-03	1.69E-03	1.25E-03	7.58E-04	1.62E-03	1.35E-03	1.31E-03	1.31E-03	1.31E-03	8.72E-04	3.82E-04
522	560905.8	4192155.88	2.20E-03	1.68E-03	1.64E-03	1.64E-03	1.64E-03	1.21E-03	7.36E-04	1.57E-03	1.31E-03	1.27E-03	1.27E-03	1.27E-03	8.46E-04	3.71E-04
523	560912.55	4192142.44	2.13E-03	1.63E-03	1.59E-03	1.59E-03	1.59E-03	1.18E-03	7.13E-04	1.52E-03	1.27E-03	1.23E-03	1.23E-03	1.23E-03	8.20E-04	3.59E-04
524	560919.29	4192128.99	2.06E-03	1.57E-03	1.53E-03	1.54E-03	1.53E-03	1.14E-03	6.89E-04	1.47E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	7.92E-04	3.47E-04
525	560932.32	4192111.41	1.99E-03	1.52E-03	1.48E-03	1.49E-03	1.48E-03	1.10E-03	6.66E-04	1.42E-03	1.18E-03	1.15E-03	1.15E-03	1.15E-03	7.66E-04	3.35E-04
526	560944.88	4192103.13	2.00E-03	1.53E-03	1.49E-03	1.49E-03	1.49E-03	1.10E-03	6.69E-04	1.43E-03	1.19E-03	1.15E-03	1.16E-03	1.15E-03	7.70E-04	3.37E-04
527	560957.45	4192094.85	2.00E-03	1.53E-03	1.49E-03	1.50E-03	1.49E-03	1.11E-03	6.70E-04	1.43E-03	1.19E-03	1.16E-03	1.16E-03	1.16E-03	7.71E-04	3.38E-04
528	560970.01	4192086.57	2.00E-03	1.53E-03	1.49E-03	1.49E-03	1.49E-03	1.10E-03	6.69E-04	1.43E-03	1.19E-03	1.15E-03	1.16E-03	1.15E-03	7.69E-04	3.37E-04
529	560887.28	4192197.5	2.38E-03	1.82E-03	1.77E-03	1.78E-03	1.77E-03	1.31E-03	7.96E-04	1.70E-03	1.42E-03	1.37E-03	1.38E-03	1.37E-03	9.16E-04	4.01E-04
530	560883.98	4192213.49	2.46E-03	1.88E-03	1.83E-03	1.84E-03	1.83E-03	1.36E-03	8.24E-04	1.76E-03	1.46E-03	1.42E-03	1.42E-03	1.42E-03	9.47E-04	4.15E-04
531	560882.72	4192180.34	2.19E-03	1.67E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.31E-04	1.56E-03	1.30E-03	1.26E-03	1.26E-03	1.26E-03	8.41E-04	3.68E-04
532	560889.89	4192166.05	2.14E-03	1.63E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.16E-04	1.53E-03	1.27E-03	1.24E-03	1.24E-03	1.24E-03	8.24E-04	3.61E-04
533	560897.06	4192151.76	2.08E-03	1.59E-03	1.55E-03	1.55E-03	1.55E-03	1.15E-03	6.96E-04	1.49E-03	1.24E-03	1.20E-03	1.20E-03	1.20E-03	8.00E-04	3.50E-04
534	560904.23	4192137.48	2.01E-03	1.54E-03	1.50E-03	1.50E-03	1.50E-03	1.11E-03	6.73E-04	1.44E-03	1.20E-03	1.16E-03	1.16E-03	1.16E-03	7.74E-04	3.39E-04
535	560911.4	4192123.19	1.94E-03	1.48E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.50E-04	1.39E-03	1.16E-03	1.12E-03	1.12E-03	1.12E-03	7.47E-04	3.27E-04
536	560925.24	4192104.5	1.88E-03	1.43E-03	1.40E-03	1.40E-03	1.40E-03	1.04E-03	6.28E-04	1.34E-03	1.12E-03	1.08E-03	1.09E-03	1.08E-03	7.22E-04	3.16E-04
537	560938.59	4192095.71	1.89E-03	1.44E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.32E-04	1.35E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	7.27E-04	3.18E-04
538	560951.94	4192086.91	1.89E-03	1.45E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.35E-03	1.13E-03	1.09E-03	1.10E-03	1.09E-03	7.28E-04	3.19E-04
539	560965.28	4192078.12	1.89E-03	1.44E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.32E-04	1.35E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	7.27E-04	3.18E-04
540	560978.63	4192069.32	1.88E-03	1.43E-03	1.40E-03	1.40E-03	1.40E-03	1.03E-03	6.27E-04	1.34E-03	1.12E-03	1.08E-03	1.09E-03	1.08E-03	7.21E-04	3.16E-04
541	560877.49	4192195.47	2.24E-03	1.71E-03	1.67E-03	1.67E-03	1.67E-03	1.24E-03	7.51E-04	1.61E-03	1.34E-03	1.30E-03	1.30E-03	1.30E-03	8.63E-04	3.78E-04
542	560874.19	4192211.46	2.32E-03	1.77E-03	1.72E-03	1.73E-03	1.72E-03	1.28E-03	7.75E-04	1.66E-03	1.38E-03	1.34E-03	1.34E-03	1.34E-03	8.92E-04	3.90E-04
543	560872.82	4192178.53	2.07E-03	1.58E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.92E-04	1.48E-03	1.23E-03	1.19E-03	1.20E-03	1.19E-03	7.96E-04	3.49E-04
544	560879.78	4192164.66	2.03E-03	1.55E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.80E-04	1.45E-03	1.21E-03	1.17E-03	1.18E-03	1.17E-03	7.82E-04	3.42E-04
545	560886.74	4192150.79	1.98E-03	1.51E-03	1.48E-03	1.48E-03	1.48E-03	1.09E-03	6.64E-04	1.42E-03	1.18E-03	1.14E-03	1.15E-03	1.14E-03	7.63E-04	3.34E-04
546	560893.7	4192136.93	1.92E-03	1.47E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.44E-04	1.38E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	7.40E-04	3.24E-04
547	560900.66	4192123.06	1.86E-03	1.42E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.23E-04	1.33E-03	1.11E-03	1.07E-03	1.08E-03	1.07E-03	7.16E-04	3.14E-04
548	560907.61	4192109.19	1.80E-03	1.37E-03	1.34E-03	1.34E-03	1.34E-03	9.93E-04	6.02E-04	1.29E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
549	560917.57	4192097.99	1.78E-03	1.35E-03	1.32E-03	1.32E-03	1.32E-03	9.79E-04	5.94E-04	1.27E-03	1.06E-03	1.02E-03	1.03E-03	1.02E-03	6.83E-04	2.99E-04
550	560930.52	4192089.45	1.79E-03	1.36E-03	1.33E-03	1.33E-03	1.33E-03	9.85E-04	5.97E-04	1.28E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	6.87E-04	3.01E-04
551	560943.48	4192080.92	1.79E-03	1.37E-03	1.33E-03	1.34E-03	1.33E-03	9.88E-04	5.99E-04	1.28E-03	1.07E-03	1.03E-03	1.04E-03	1.03E-03	6.89E-04	3.02E-04
552	560956.43	4192072.38	1.79E-03	1.37E-03	1.33E-03	1.34E-03	1.33E-03	9.88E-04	5.99E-04	1.28E-03	1.07E-03	1.03E-03	1.04E-03	1.03E-03	6.89E-04	3.02E-04
553	560969.39	4192063.84	1.78E-03	1.36E-03	1.33E-03	1.33E-03	1.33E-03	9.84E-04	5.96E-04	1.27E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	6.86E-04	3.00E-04
554	560867.7	4192193.45	2.12E-03	1.62E-03	1.58E-03	1.58E-03	1.58E-03	1.17E-03	7.10E-04	1.52E-03	1.26E-03	1.22E-03	1.23E-03	1.22E-03	8.16E-04	3.57E-04
555	560864.4	4192209.44	2.19E-03	1.67E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.32E-04	1.57E-03	1.30E-03	1.26E-03	1.27E-03	1.26E-03	8.42E-04	3.69E-04
556	560862.94	4192176.68	1.97E-03	1.50E-03	1.46E-03	1.47E-03	1.46E-03	1.08E-03	6.57E-04	1.41E-03	1.17E-03	1.13E-03	1.14E-03	1.13E-03	7.56E-04	3.31E-04
557	560869.72	4192163.17	1.94E-03	1.48E-03	1.44E-03	1.44E-03	1.44E-03	1.07E-03	6.47E-04	1.38E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	7.45E-04	3.26E-04
558	560876.5	4192149.66	1.89E-03	1.44E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.35E-03	1.13E-03	1.09E-03	1.09E-03	1.09E-03	7.28E-04	3.19E-04
559	560883.28	4192136.15	1.84E-03	1.41E-03	1.37E-03	1.37E-03	1.37E-03	1.02E-03	6.16E-04	1.32E-03	1.10E-03	1.06E-03	1.07E-03	1.06E-03	7.08E-04	3.10E-04
560	560890.06	4192122.64	1.79E-03	1.36E-03	1.33E-03	1.33E-03	1.33E-03	9.86E-04	5.98E-04	1.28E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	6.87E-04	3.01E-04
561	560896.84	4192109.13	1.73E-03	1.32E-03	1.29E-03	1.29E-03	1.29E-03	9.55E-04	5.79E-04	1.24E-03	1.03E-03	9.98E-04	1.00E-03	9.98E-04	6.66E-04	2.91E-04
562	560909.93	4192091.46	1.68E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	9.27E-04	5.62E-04	1.20E-03	1.00E-03	9.70E-04	9.72E-04	9.70E-04	6.47E-04	2.83E-04
563	560922.55	4192083.14	1.69E-03	1.29E-03	1.26E-03	1.26E-03	1.26E-03	9.33E-04	5.66E-04	1.21E-03	1.01E-03	9.76E-04	9.78E-04	9.76E-04	6.51E-04	2.85E-04
564	560935.17	4192074.82	1.70E-03	1.30E-03	1.26E-03	1.27E-03	1.26E-03	9.37E-04	5.68E-04	1.21E-03	1.01E-03	9.80E-04	9.82E-04	9.80E-04	6.53E-04	2.86E-04
565	560947.8	4192066.5	1.70E-03	1.30E-03	1.26E-03	1.27E-03	1.26E-03	9.38E-04	5.69E-04	1.22E-03	1.01E-03	9.81E-04	9.83E-04	9.81E-04	6.54E-04	2.86E-04
566	560960.42	4192058.19	1.70E-03	1.29E-03	1.26E-03	1.26E-03	1.26E-03	9.36E-04	5.67E-04	1.21E-03	1.01E-03	9.78E-04	9.81E-04	9.78E-04	6.52E-04	2.86E-04
567	560973.04	4192049.87	1.68E-03	1.29E-03	1.25E-03	1.26E-03	1.25E-03	9.29E-04	5.63E-04	1.20E-03	1.00E-03	9.71E-04	9.74E-04	9.71E-04	6.48E-04	2.84E-04
568	560857.9	4192191.43	2.01E-03	1.54E-03	1.50E-03	1.50E-03	1.50E-03	1.11E-03	6.73E-04	1.44E-03	1.20E-03	1.16E-03	1.16E-03	1.16E-03	7.74E-04	3.39E-04
569	560854.6	4192207.42	2.07E-03	1.58E-03	1.54E-03	1.55E-03	1.54E-03	1.14E-03	6.93E-04	1.48E-03	1.23E-03	1.20E-03	1.20E-03	1.20E-03	7.97E-04	3.49E-04
570	560853.33	4192174.3	1.87E-03	1.43E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.34E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	7.18E-04	3.14E-04
571	560860.46	4192160.08	1.84E-03	1.40E-03	1.37E-03	1.37E-03	1.37E-03	1.01E-03	6.15E-04	1.32E-03	1.09E-03	1.06E-03	1.06E-03	1.06E-03	7.07E-04	3.10E-04
572	560867.6	4192145.86	1.80E-03	1.37E-03	1.34E-03	1.34E-03	1.34E-03	9.92E-04	6.01E-04	1.29E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
573	560874.74	4192131.64	1.75E-03	1.34E-03	1.30E-03	1.31E-03	1.30E-03	9.65E-04	5.85E-04	1.25E-03	1.04E-03	1.01E-03	1.01E-03	1.01E-03	6.73E-04	2.95E-04
574	560881.87	4192117.42	1.70E-03	1.30E-03	1.26E-03	1.27E-03	1.26E-03	9.36E-04	5.68E-04	1.21E-03	1.01E-03	9.79E-04	9.82E-04	9.79E-04	6.53E-04	2.86E-04
575	560889.01	4192103.19	1.64E-03	1.25E-03	1.22E-03	1.23E-03	1.22E-03	9.06E-04	5.49E-04	1.17E-03	9.77E-04	9.48E-04	9.50E-04	9.48E-04	6.32E-04	2.77E-04
576	560902.79	4192084.59	1.59E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.80E-04	5.33E-04	1.14E-03	9.48E-04	9.20E-04	9.23E-04	9.20E-04	6.13E-04	2.69E-04
577	560916.07	4192075.84	1.61E-03	1.23E-03	1.19E-03	1.20E-03	1.19E-03	8.86E-04	5.37E-04	1.15E-03	9.55E-04	9.26E-04	9.29E-04	9.26E-04	6.18E-04	2.70E-04

578	560929.36	4192067.08	1.61E-03	1.23E-03	1.20E-03	1.20E-03	1.20E-03	8.90E-04	5.39E-04	1.15E-03	9.59E-04	9.30E-04	9.33E-04	9.30E-04	6.20E-04	2.72E-04
579	560942.65	4192058.33	1.62E-03	1.23E-03	1.20E-03	1.21E-03	1.20E-03	8.91E-04	5.40E-04	1.16E-03	9.61E-04	9.32E-04	9.35E-04	9.32E-04	6.21E-04	2.72E-04
580	560955.94	4192049.57	1.61E-03	1.23E-03	1.20E-03	1.20E-03	1.20E-03	8.89E-04	5.39E-04	1.15E-03	9.59E-04	9.30E-04	9.33E-04	9.30E-04	6.20E-04	2.71E-04
581	560969.22	4192040.82	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.83E-04	5.36E-04	1.15E-03	9.52E-04	9.24E-04	9.26E-04	9.24E-04	6.16E-04	2.70E-04
582	560848.11	4192189.41	1.91E-03	1.46E-03	1.42E-03	1.43E-03	1.42E-03	1.05E-03	6.39E-04	1.37E-03	1.14E-03	1.10E-03	1.11E-03	1.10E-03	7.35E-04	3.22E-04
583	560844.81	4192205.4	1.97E-03	1.50E-03	1.46E-03	1.47E-03	1.46E-03	1.08E-03	6.57E-04	1.41E-03	1.17E-03	1.13E-03	1.14E-03	1.13E-03	7.56E-04	3.31E-04
584	560843.44	4192172.46	1.78E-03	1.36E-03	1.32E-03	1.33E-03	1.32E-03	9.81E-04	5.95E-04	1.27E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	6.84E-04	3.00E-04
585	560850.4	4192158.59	1.75E-03	1.34E-03	1.31E-03	1.31E-03	1.31E-03	9.68E-04	5.87E-04	1.25E-03	1.04E-03	1.01E-03	1.01E-03	1.01E-03	6.75E-04	2.95E-04
586	560857.36	4192144.73	1.72E-03	1.31E-03	1.28E-03	1.28E-03	1.28E-03	9.48E-04	5.75E-04	1.23E-03	1.02E-03	9.91E-04	9.94E-04	9.91E-04	6.61E-04	2.89E-04
587	560864.32	4192130.86	1.68E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	9.25E-04	5.61E-04	1.20E-03	9.97E-04	9.67E-04	9.70E-04	9.67E-04	6.45E-04	2.82E-04
588	560871.27	4192116.99	1.63E-03	1.24E-03	1.21E-03	1.22E-03	1.21E-03	8.99E-04	5.45E-04	1.17E-03	9.69E-04	9.40E-04	9.43E-04	9.40E-04	6.27E-04	2.75E-04
589	560878.23	4192103.13	1.58E-03	1.21E-03	1.18E-03	1.18E-03	1.18E-03	8.73E-04	5.29E-04	1.13E-03	9.41E-04	9.13E-04	9.15E-04	9.13E-04	6.08E-04	2.66E-04
590	560885.19	4192089.26	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.46E-04	5.13E-04	1.10E-03	9.12E-04	8.84E-04	8.87E-04	8.84E-04	5.90E-04	2.58E-04
591	560895.15	4192078.06	1.52E-03	1.16E-03	1.13E-03	1.13E-03	1.13E-03	8.36E-04	5.07E-04	1.08E-03	9.01E-04	8.74E-04	8.76E-04	8.74E-04	5.83E-04	2.55E-04
592	560908.1	4192069.52	1.53E-03	1.16E-03	1.14E-03	1.14E-03	1.14E-03	8.42E-04	5.10E-04	1.09E-03	9.07E-04	8.80E-04	8.83E-04	8.80E-04	5.87E-04	2.57E-04
593	560921.06	4192060.99	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.46E-04	5.13E-04	1.10E-03	9.12E-04	8.85E-04	8.87E-04	8.85E-04	5.90E-04	2.58E-04
594	560934.01	4192052.45	1.54E-03	1.17E-03	1.14E-03	1.15E-03	1.14E-03	8.48E-04	5.14E-04	1.10E-03	9.14E-04	8.87E-04	8.89E-04	8.87E-04	5.91E-04	2.59E-04
595	560946.97	4192043.91	1.54E-03	1.17E-03	1.14E-03	1.15E-03	1.14E-03	8.48E-04	5.14E-04	1.10E-03	9.14E-04	8.86E-04	8.89E-04	8.86E-04	5.91E-04	2.59E-04
596	560959.92	4192035.38	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.44E-04	5.12E-04	1.09E-03	9.10E-04	8.83E-04	8.85E-04	8.83E-04	5.88E-04	2.58E-04
597	560838.31	4192187.39	1.82E-03	1.39E-03	1.35E-03	1.36E-03	1.35E-03	1.00E-03	6.08E-04	1.30E-03	1.08E-03	1.05E-03	1.05E-03	1.05E-03	6.99E-04	3.06E-04
598	560835.01	4192203.38	1.87E-03	1.42E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.24E-04	1.33E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	7.18E-04	3.14E-04
599	560833.82	4192170.11	1.70E-03	1.29E-03	1.26E-03	1.27E-03	1.26E-03	9.36E-04	5.67E-04	1.21E-03	1.01E-03	9.78E-04	9.81E-04	9.78E-04	6.52E-04	2.86E-04
600	560841.1	4192155.58	1.67E-03	1.28E-03	1.24E-03	1.25E-03	1.24E-03	9.23E-04	5.59E-04	1.20E-03	9.95E-04	9.65E-04	9.67E-04	9.65E-04	6.43E-04	2.82E-04
601	560848.39	4192141.06	1.64E-03	1.25E-03	1.22E-03	1.22E-03	1.22E-03	9.04E-04	5.48E-04	1.17E-03	9.74E-04	9.45E-04	9.48E-04	9.45E-04	6.30E-04	2.76E-04
602	560855.68	4192126.53	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.81E-04	5.34E-04	1.14E-03	9.50E-04	9.21E-04	9.24E-04	9.21E-04	6.14E-04	2.69E-04
603	560862.97	4192112	1.55E-03	1.18E-03	1.15E-03	1.16E-03	1.15E-03	8.57E-04	5.19E-04	1.11E-03	9.23E-04	8.96E-04	8.98E-04	8.96E-04	5.97E-04	2.61E-04
604	560870.26	4192097.48	1.51E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	1.08E-03	8.96E-04	8.69E-04	8.71E-04	8.69E-04	5.79E-04	2.54E-04
605	560877.55	4192082.95	1.46E-03	1.11E-03	1.09E-03	1.09E-03	1.09E-03	8.05E-04	4.88E-04	1.04E-03	8.68E-04	8.42E-04	8.44E-04	8.42E-04	5.61E-04	2.46E-04
606	560887.98	4192071.21	1.44E-03	1.10E-03	1.07E-03	1.08E-03	1.07E-03	7.96E-04	4.82E-04	1.03E-03	8.58E-04	8.32E-04	8.34E-04	8.32E-04	5.55E-04	2.43E-04
607	560901.55	4192062.27	1.45E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	8.02E-04	4.86E-04	1.04E-03	8.64E-04	8.38E-04	8.40E-04	8.38E-04	5.59E-04	2.45E-04
608	560915.12	4192053.33	1.46E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.06E-04	4.89E-04	1.04E-03	8.69E-04	8.43E-04	8.45E-04	8.43E-04	5.62E-04	2.46E-04
609	560928.7	4192044.38	1.47E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.09E-04	4.90E-04	1.05E-03	8.72E-04	8.45E-04	8.48E-04	8.45E-04	5.64E-04	2.47E-04
610	560942.27	4192035.44	1.47E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.09E-04	4.90E-04	1.05E-03	8.72E-04	8.45E-04	8.48E-04	8.45E-04	5.64E-04	2.47E-04
611	560955.84	4192026.5	1.46E-03	1.11E-03	1.09E-03	1.09E-03	1.09E-03	8.05E-04	4.88E-04	1.04E-03	8.68E-04	8.42E-04	8.44E-04	8.42E-04	5.61E-04	2.46E-04
612	560828.52	4192185.37	1.73E-03	1.32E-03	1.29E-03	1.29E-03	1.29E-03	9.55E-04	5.79E-04	1.24E-03	1.03E-03	9.99E-04	1.00E-03	9.99E-04	6.66E-04	2.92E-04
613	560825.22	4192201.36	1.78E-03	1.36E-03	1.32E-03	1.33E-03	1.32E-03	9.80E-04	5.94E-04	1.27E-03	1.06E-03	1.02E-03	1.03E-03	1.02E-03	6.83E-04	2.99E-04
614	560823.93	4192168.27	1.62E-03	1.24E-03	1.21E-03	1.21E-03	1.21E-03	8.94E-04	5.42E-04	1.16E-03	9.63E-04	9.34E-04	9.37E-04	9.34E-04	6.23E-04	2.73E-04
615	560831.05	4192154.09	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	1.14E-03	9.51E-04	9.22E-04	9.25E-04	9.22E-04	6.15E-04	2.69E-04
616	560838.16	4192139.92	1.57E-03	1.20E-03	1.17E-03	1.17E-03	1.17E-03	8.66E-04	5.25E-04	1.12E-03	9.33E-04	9.05E-04	9.08E-04	9.05E-04	6.04E-04	2.64E-04
617	560845.27	4192125.74	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.46E-04	5.13E-04	1.10E-03	9.12E-04	8.85E-04	8.87E-04	8.85E-04	5.90E-04	2.58E-04
618	560852.38	4192111.57	1.49E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	4.99E-04	1.07E-03	8.88E-04	8.62E-04	8.64E-04	8.62E-04	5.74E-04	2.51E-04
619	560859.5	4192097.39	1.45E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	8.01E-04	4.85E-04	1.04E-03	8.63E-04	8.37E-04	8.40E-04	8.37E-04	5.58E-04	2.44E-04
620	560866.61	4192083.22	1.41E-03	1.08E-03	1.05E-03	1.05E-03	1.05E-03	7.78E-04	4.72E-04	1.01E-03	8.39E-04	8.13E-04	8.16E-04	8.13E-04	5.42E-04	2.37E-04
621	560880.34	4192064.68	1.37E-03	1.05E-03	1.02E-03	1.03E-03	1.02E-03	7.58E-04	4.60E-04	9.83E-04	8.17E-04	7.93E-04	7.95E-04	7.93E-04	5.29E-04	2.31E-04
622	560893.59	4192055.95	1.38E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	7.64E-04	4.63E-04	9.90E-04	8.23E-04	7.99E-04	8.01E-04	7.99E-04	5.33E-04	2.33E-04
623	560906.83	4192047.23	1.39E-03	1.06E-03	1.04E-03	1.04E-03	1.04E-03	7.68E-04	4.66E-04	9.96E-04	8.28E-04	8.03E-04	8.06E-04	8.03E-04	5.36E-04	2.35E-04
624	560920.07	4192038.5	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.68E-04	1.00E-03	8.32E-04	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.35E-04
625	560933.31	4192029.77	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	1.00E-03	8.33E-04	8.08E-04	8.10E-04	8.08E-04	5.38E-04	2.36E-04
626	560946.56	4192021.05	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.67E-04	9.99E-04	8.31E-04	8.06E-04	8.08E-04	8.06E-04	5.37E-04	2.35E-04
627	560959.8	4192012.32	1.39E-03	1.06E-03	1.03E-03	1.04E-03	1.03E-03	7.66E-04	4.64E-04	9.93E-04	8.26E-04	8.01E-04	8.03E-04	8.01E-04	5.34E-04	2.34E-04
628	560818.73	4192183.35	1.65E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	9.11E-04	5.52E-04	1.18E-03	9.82E-04	9.53E-04	9.56E-04	9.53E-04	6.35E-04	2.78E-04
629	560815.43	4192199.34	1.69E-03	1.29E-03	1.26E-03	1.26E-03	1.26E-03	9.34E-04	5.66E-04	1.21E-03	1.01E-03	9.77E-04	9.79E-04	9.77E-04	6.51E-04	2.85E-04
630	560814.06	4192166.4	1.55E-03	1.18E-03	1.15E-03	1.16E-03	1.15E-03	8.55E-04	5.18E-04	1.11E-03	9.21E-04	8.94E-04	8.96E-04	8.94E-04	5.96E-04	2.61E-04
631	560821.02	4192152.53	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.44E-04	5.12E-04	1.09E-03	9.10E-04	8.82E-04	8.85E-04	8.82E-04	5.88E-04	2.58E-04
632	560827.98	4192138.66	1.50E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	1.08E-03	8.94E-04	8.68E-04	8.70E-04	8.68E-04	5.78E-04	2.53E-04
633	560834.94	4192124.8	1.47E-03	1.12E-03	1.10E-03	1.10E-03	1.10E-03	8.13E-04	4.93E-04	1.05E-03	8.76E-04	8.50E-04	8.52E-04	8.50E-04	5.67E-04	2.48E-04
634	560841.89	4192110.93	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.93E-04	4.81E-04	1.03E-03	8.55E-04	8.29E-04	8.31E-04	8.29E-04	5.53E-04	2.42E-04
635	560848.85	4192097.06	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	1.00E-03	8.32E-04	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
636	560855.81	4192083.2	1.36E-03	1.04E-03	1.01E-03	1.02E-03	1.01E-03	7.51E-04	4.55E-04	9.74E-04	8.10E-04	7.85E-04	7.88E-04	7.85E-04	5.24E-04	2.29E-04
637	560862.77	4192069.33	1.32E-03	1.01E-03	9.85E-04	9.88E-04	9.85E-04	7.30E-04	4.43E-04	9.47E-04	7.87E-04	7.64E-04	7.66E-04	7.64E-04	5.09E-04	2.23E-04
638	560872.72	4192058.13	1.31E-03	1.00E-03	9.75E-04	9.78E-04	9.75E-04	7.23E-04	4.38E-04	9.37E-04	7.80E-04	7.56E-04	7.58E-04	7.56E-04	5.04E-04	2.21E-04
639	560885.68	4192049.59	1.32E-03	1.01E-03	9.83E-04	9.85E-04	9.83E-04	7.29E-04	4.42E-04	9.44E-04	7.85E-04	7.62E-04	7.64E-04	7.62E-04	5.08E-04	2.22E-04
640	560898.63	4192041.06	1.33E-03	1.01E-03	9.89E-04	9.92E-04	9.89E-04	7.33E-04	4.45E-04	9.51E-04	7.91E-04	7.67E-04	7.69E-04	7.67E-04	5.11E-04	2.24E-04
641	560911.59	4192032.52	1.34E-03	1.02E-03	9.93E-04	9.96E-04	9.93E-04	7.37E-04	4.47E-04	9.55E-04	7.94E-04	7.70E-04	7.73E-04	7.70E-04	5.14E-04	2.25E-04
642	560924.54	4192023.98	1.34E-03	1.02E-03	9.96E-04	9.98E-04	9.96E-04	7.38E-04	4.48E-04	9.57E-04	7.96E-04	7.72E-04	7.74E-04	7.72E-04	5.15E-04	2.25E-04
643	560937.5	4192015.45	1.34E-03	1.02E-03	9.95E-04	9.98E-04	9.95E-04	7.38E-04	4.47E-04	9.57E-04	7.95E-04	7.72E-04	7.74E-04	7.72E-04	5.14E-04	2.25E-04
644	560950.45	4192006.91	1.33E-03	1.02E-03	9.91E-04	9.94E-04	9.91E-04	7.35E-04	4.45E-04	9.53E-04	7.92E-04	7.68E-04	7.71E-04	7.68E-04	5.12E-04	2.24E-04
645	560808.93	4192181.33	1.58E-03	1.20E-03	1.17E-03	1.18E-03	1.17E-03	8.71E-04	5.28E-04	1.13E-03	9.39E-04	9.10E-04	9.13E-04	9.10E-04	6.07E-04	2.66E-04
646	560805.63	4192197.32	1.62E-03	1.23E-03	1.20E-03	1.21E-03	1.20E-03	8.92E-04	5.40E-04	1.16E-03	9.61E-04	9.32E-04	9.35E-04	9.32E-04	6.22E-04	2.72E-04
647	560804.41	4192164.09	1.48E-03	1.13E-03	1.10E-03	1.11E-03	1.10E-03	8.18E-04	4.96E-04	1.06E-03	8.82E-04	8.55E-04	8.58E-04	8.55E-04	5.70E-04	2.50E-04
648	560811.66	4192149.64	1.46E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.07E-04	4.89E-04	1.05E-03	8.70E-04	8.44E-04	8.47E-04	8.44E-04	5.63E-04	2.46E-04
649	560818.91	4192135.2	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.94E-04	4.81E-04	1.03E-03	8.56E-04	8.30E-04	8.32E-04	8.30E-04	5.53E-04	2.42E-04
650	560826.16	4192120.75	1.41E-03	1.07E-03	1.05E-03	1.05E-03	1.05E-03	7.77E-04	4.71E-04	1.01E-03	8.38E-04	8.12E-04	8.15E-04	8.12E-04	5.42E-04	2.37E-04
651	560833.41	4192106.31	1.37E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	7.58E-04	4.59E-04	9.82E-04	8.17E-04	7.93E-04	7.95E-04	7.93E-04	5.28E-04	2.31E-04
652	560840.65	4192091.87	1.34E-03	1.02E-03	9.95E-04	9.97E-04	9.95E-04	7.38E-04	4.47E-04	9.56E-04	7.95E-04	7.71E-04	7.73E-04	7.71E-04	5.14E-04	2.25E-04
653	560847.9	4192077.42	1.30E-03	9.93E-04	9.68E-04	9.70E-04	9.68E-04	7.18E-04	4.35E-04	9.30E-04	7.73E-04	7.50E-04	7.52E-04	7.50E-04	5.00E-04	2.19E-04
654	560855.15	4192062.98	1.26E-03	9.65E-04	9.41E-04	9.43E-04	9.41E-04	6.98E-04	4.23E-04	9.04E-04	7.52E-04	7.29E-04	7.32E-04	7.29E-04	4.86E-04	2.13E-04
655	560865.52	4192051.31	1.25E-03	9.56E-04	9.31E-04	9.34E-04	9.31E-04	6.91E-04	4.19E-04	8.95E-04	7.45E-04	7.22E-04	7.24E-04	7.22E-04	4.82E-04	2.11E-04
656	560879.01	4192042.42	1.26E-03	9.63E-04	9.39E-04	9.41E-04	9.39E-04	6.96E-04	4.22E-04	9.02E-04	7.51E-04	7.28E-04	7.30E-04	7.28E-04	4.85E-04	2.13E-04
657	560892.51	4192033.52	1.27E-03	9.70E-04	9.46E-04	9.48E-04	9.46E-04	7.01E-04	4.25E-04	9.09E-04	7.56E-04	7.33E-04	7.35E-04	7.33E-04	4.89E-04	2.14E-04
658	560906	4192024.63	1.28E-03	9.75E-04	9.51E-04	9.53E-04	9.51E-04	7.05E-04	4.27E-04	9.14E-04	7.60E-04	7.37E-04	7.39E-04	7.37E-04	4.91E-04	2.15E-04
659	560919.5	4192015.74	1.28E-03	9.78E-04	9.53E-04	9.56E-04	9.53E-04	7.07E-04	4.29E-04	9.16E-04	7.62E-04	7.39E-04	7.41E-04	7.39E-04	4.93E-04	2.16E-04
660	560932.99	4192006.85	1.28E-03	9.78E-04	9.53E-04	9.56E-04	9.53E-04	7.07E-04	4.28E-04	9.16E-04	7.62E-04	7.39E-04	7.41E-04	7.39E-04	4.93E-04	2.16E-04

661	560946.49	4191997.96	1.28E-03	9.74E-04	9.49E-04	9.52E-04	9.49E-04	7.04E-04	4.27E-04	9.12E-04	7.59E-04	7.36E-04	7.38E-04	7.36E-04	4.91E-04	2.15E-04
662	560799.14	4192179.31	1.51E-03	1.15E-03	1.12E-03	1.13E-03	1.12E-03	8.33E-04	5.05E-04	1.08E-03	8.98E-04	8.71E-04	8.73E-04	8.71E-04	5.81E-04	2.54E-04
663	560795.84	4192195.3	1.54E-03	1.18E-03	1.15E-03	1.15E-03	1.15E-03	8.52E-04	5.17E-04	1.10E-03	9.19E-04	8.91E-04	8.94E-04	8.91E-04	5.94E-04	2.60E-04
664	560794.54	4192162.22	1.42E-03	1.09E-03	1.06E-03	1.06E-03	1.06E-03	7.84E-04	4.76E-04	1.02E-03	8.46E-04	8.20E-04	8.22E-04	8.20E-04	5.47E-04	2.39E-04
665	560801.64	4192148.08	1.40E-03	1.07E-03	1.04E-03	1.05E-03	1.04E-03	7.75E-04	4.70E-04	1.00E-03	8.35E-04	8.10E-04	8.13E-04	8.10E-04	5.40E-04	2.37E-04
666	560808.73	4192133.94	1.38E-03	1.05E-03	1.03E-03	1.03E-03	1.03E-03	7.62E-04	4.62E-04	9.88E-04	8.22E-04	7.97E-04	7.99E-04	7.97E-04	5.32E-04	2.33E-04
667	560815.83	4192119.8	1.35E-03	1.03E-03	1.01E-03	1.01E-03	1.01E-03	7.47E-04	4.53E-04	9.69E-04	8.06E-04	7.82E-04	7.84E-04	7.82E-04	5.21E-04	2.28E-04
668	560822.92	4192105.67	1.32E-03	1.01E-03	9.85E-04	9.88E-04	9.85E-04	7.31E-04	4.43E-04	9.47E-04	7.88E-04	7.64E-04	7.66E-04	7.64E-04	5.09E-04	2.23E-04
669	560830.02	4192091.53	1.29E-03	9.86E-04	9.61E-04	9.63E-04	9.61E-04	7.12E-04	4.32E-04	9.24E-04	7.68E-04	7.45E-04	7.47E-04	7.45E-04	4.97E-04	2.17E-04
670	560837.11	4192077.39	1.26E-03	9.60E-04	9.36E-04	9.38E-04	9.36E-04	6.94E-04	4.21E-04	9.00E-04	7.48E-04	7.26E-04	7.28E-04	7.26E-04	4.84E-04	2.12E-04
671	560844.2	4192063.25	1.22E-03	9.35E-04	9.11E-04	9.13E-04	9.11E-04	6.76E-04	4.10E-04	8.76E-04	7.28E-04	7.06E-04	7.08E-04	7.06E-04	4.71E-04	2.06E-04
672	560857.9	4192044.76	1.20E-03	9.14E-04	8.91E-04	8.93E-04	8.91E-04	6.60E-04	4.00E-04	8.56E-04	7.12E-04	6.91E-04	6.92E-04	6.91E-04	4.60E-04	2.02E-04
673	560871.11	4192036.06	1.21E-03	9.21E-04	8.97E-04	9.00E-04	8.97E-04	6.65E-04	4.03E-04	8.63E-04	7.17E-04	6.96E-04	6.98E-04	6.96E-04	4.64E-04	2.03E-04
674	560884.32	4192027.35	1.22E-03	9.28E-04	9.04E-04	9.07E-04	9.04E-04	6.71E-04	4.06E-04	8.69E-04	7.23E-04	7.01E-04	7.03E-04	7.01E-04	4.67E-04	2.05E-04
675	560897.53	4192018.65	1.22E-03	9.33E-04	9.10E-04	9.12E-04	9.10E-04	6.75E-04	4.09E-04	8.74E-04	7.27E-04	7.05E-04	7.07E-04	7.05E-04	4.70E-04	2.06E-04
676	560910.74	4192009.94	1.23E-03	9.37E-04	9.13E-04	9.15E-04	9.13E-04	6.77E-04	4.10E-04	8.78E-04	7.30E-04	7.08E-04	7.10E-04	7.08E-04	4.72E-04	2.07E-04
677	560923.95	4192001.24	1.23E-03	9.38E-04	9.14E-04	9.16E-04	9.14E-04	6.78E-04	4.11E-04	8.78E-04	7.31E-04	7.09E-04	7.11E-04	7.09E-04	4.72E-04	2.07E-04
678	560937.16	4191992.54	1.23E-03	9.36E-04	9.12E-04	9.14E-04	9.12E-04	6.76E-04	4.10E-04	8.77E-04	7.29E-04	7.07E-04	7.09E-04	7.07E-04	4.71E-04	2.06E-04
679	560950.36	4191983.83	1.22E-03	9.30E-04	9.07E-04	9.09E-04	9.07E-04	6.72E-04	4.08E-04	8.72E-04	7.25E-04	7.03E-04	7.05E-04	7.03E-04	4.69E-04	2.05E-04
680	560789.35	4192177.28	1.45E-03	1.10E-03	1.08E-03	1.08E-03	1.08E-03	7.98E-04	4.84E-04	1.03E-03	8.60E-04	8.34E-04	8.37E-04	8.34E-04	5.56E-04	2.44E-04
681	560786.05	4192193.27	1.48E-03	1.13E-03	1.10E-03	1.10E-03	1.10E-03	8.16E-04	4.94E-04	1.06E-03	8.79E-04	8.53E-04	8.55E-04	8.53E-04	5.69E-04	2.49E-04
682	560784.68	4192160.33	1.36E-03	1.04E-03	1.02E-03	1.02E-03	1.02E-03	7.53E-04	4.56E-04	9.76E-04	8.12E-04	7.87E-04	7.89E-04	7.87E-04	5.25E-04	2.30E-04
683	560791.64	4192146.47	1.35E-03	1.03E-03	1.00E-03	1.01E-03	1.00E-03	7.44E-04	4.51E-04	9.65E-04	8.03E-04	7.78E-04	7.81E-04	7.78E-04	5.19E-04	2.27E-04
684	560798.6	4192132.6	1.33E-03	1.01E-03	9.89E-04	9.92E-04	9.89E-04	7.33E-04	4.45E-04	9.51E-04	7.91E-04	7.67E-04	7.69E-04	7.67E-04	5.11E-04	2.24E-04
685	560805.56	4192118.73	1.30E-03	9.96E-04	9.71E-04	9.73E-04	9.71E-04	7.20E-04	4.36E-04	9.33E-04	7.76E-04	7.53E-04	7.55E-04	7.53E-04	5.02E-04	2.20E-04
686	560812.51	4192104.87	1.28E-03	9.75E-04	9.50E-04	9.53E-04	9.50E-04	7.05E-04	4.27E-04	9.13E-04	7.60E-04	7.37E-04	7.39E-04	7.37E-04	4.91E-04	2.15E-04
687	560819.47	4192091	1.25E-03	9.52E-04	9.28E-04	9.31E-04	9.28E-04	6.88E-04	4.17E-04	8.92E-04	7.42E-04	7.20E-04	7.22E-04	7.20E-04	4.80E-04	2.10E-04
688	560826.43	4192077.13	1.22E-03	9.29E-04	9.05E-04	9.08E-04	9.05E-04	6.71E-04	4.07E-04	8.70E-04	7.24E-04	7.02E-04	7.04E-04	7.02E-04	4.68E-04	2.05E-04
689	560833.39	4192063.27	1.19E-03	9.06E-04	8.83E-04	8.85E-04	8.83E-04	6.55E-04	3.97E-04	8.48E-04	7.06E-04	6.84E-04	6.86E-04	6.84E-04	4.56E-04	2.00E-04
690	560840.35	4192049.4	1.16E-03	8.82E-04	8.60E-04	8.63E-04	8.60E-04	6.38E-04	3.87E-04	8.27E-04	6.88E-04	6.67E-04	6.69E-04	6.67E-04	4.45E-04	1.95E-04
691	560850.3	4192038.2	1.15E-03	8.75E-04	8.53E-04	8.55E-04	8.53E-04	6.32E-04	3.83E-04	8.20E-04	6.82E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
692	560863.26	4192029.66	1.16E-03	8.82E-04	8.59E-04	8.62E-04	8.59E-04	6.37E-04	3.86E-04	8.26E-04	6.87E-04	6.66E-04	6.68E-04	6.66E-04	4.44E-04	1.95E-04
693	560876.21	4192021.13	1.16E-03	8.88E-04	8.65E-04	8.68E-04	8.65E-04	6.42E-04	3.89E-04	8.32E-04	6.92E-04	6.71E-04	6.73E-04	6.71E-04	4.47E-04	1.96E-04
694	560889.17	4192012.59	1.17E-03	8.94E-04	8.71E-04	8.74E-04	8.71E-04	6.46E-04	3.92E-04	8.38E-04	6.96E-04	6.76E-04	6.77E-04	6.76E-04	4.50E-04	1.97E-04
695	560902.12	4192004.05	1.18E-03	8.98E-04	8.75E-04	8.78E-04	8.75E-04	6.49E-04	3.93E-04	8.41E-04	7.00E-04	6.79E-04	6.81E-04	6.79E-04	4.52E-04	1.98E-04
696	560915.08	4191995.52	1.18E-03	9.00E-04	8.77E-04	8.79E-04	8.77E-04	6.50E-04	3.94E-04	8.43E-04	7.01E-04	6.80E-04	6.82E-04	6.80E-04	4.53E-04	1.99E-04
697	560928.03	4191986.98	1.18E-03	8.99E-04	8.76E-04	8.79E-04	8.76E-04	6.50E-04	3.94E-04	8.42E-04	7.01E-04	6.80E-04	6.81E-04	6.80E-04	4.53E-04	1.98E-04
698	560940.98	4191978.44	1.17E-03	8.96E-04	8.73E-04	8.75E-04	8.73E-04	6.47E-04	3.92E-04	8.39E-04	6.98E-04	6.77E-04	6.79E-04	6.77E-04	4.51E-04	1.98E-04
699	560779.55	4192175.26	1.39E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	7.65E-04	4.64E-04	9.91E-04	8.24E-04	8.00E-04	8.02E-04	8.00E-04	5.33E-04	2.33E-04
700	560776.25	4192191.25	1.41E-03	1.08E-03	1.05E-03	1.06E-03	1.05E-03	7.80E-04	4.73E-04	1.01E-03	8.41E-04	8.16E-04	8.18E-04	8.16E-04	5.44E-04	2.38E-04
701	560775.02	4192158.06	1.31E-03	9.99E-04	9.74E-04	9.76E-04	9.74E-04	7.22E-04	4.38E-04	9.36E-04	7.78E-04	7.55E-04	7.57E-04	7.55E-04	5.03E-04	2.20E-04
702	560782.23	4192143.68	1.30E-03	9.89E-04	9.64E-04	9.67E-04	9.64E-04	7.15E-04	4.33E-04	9.27E-04	7.71E-04	7.48E-04	7.50E-04	7.48E-04	4.98E-04	2.18E-04
703	560789.45	4192129.3	1.28E-03	9.74E-04	9.50E-04	9.52E-04	9.50E-04	7.04E-04	4.27E-04	9.13E-04	7.59E-04	7.36E-04	7.39E-04	7.36E-04	4.91E-04	2.15E-04
704	560796.66	4192114.92	1.25E-03	9.56E-04	9.32E-04	9.35E-04	9.32E-04	6.91E-04	4.19E-04	8.96E-04	7.45E-04	7.23E-04	7.25E-04	7.23E-04	4.82E-04	2.11E-04
705	560803.88	4192100.54	1.23E-03	9.36E-04	9.12E-04	9.15E-04	9.12E-04	6.76E-04	4.10E-04	8.77E-04	7.29E-04	7.07E-04	7.09E-04	7.07E-04	4.72E-04	2.06E-04
706	560811.09	4192086.16	1.20E-03	9.14E-04	8.91E-04	8.93E-04	8.91E-04	6.60E-04	4.00E-04	8.56E-04	7.12E-04	6.91E-04	6.93E-04	6.91E-04	4.60E-04	2.02E-04
707	560818.31	4192071.78	1.17E-03	8.91E-04	8.69E-04	8.71E-04	8.69E-04	6.44E-04	3.91E-04	8.35E-04	6.94E-04	6.74E-04	6.75E-04	6.74E-04	4.49E-04	1.97E-04
708	560825.53	4192057.39	1.14E-03	8.68E-04	8.47E-04	8.49E-04	8.47E-04	6.28E-04	3.81E-04	8.14E-04	6.77E-04	6.56E-04	6.58E-04	6.56E-04	4.38E-04	1.92E-04
709	560832.74	4192043.01	1.11E-03	8.46E-04	8.25E-04	8.27E-04	8.25E-04	6.12E-04	3.71E-04	7.93E-04	6.59E-04	6.40E-04	6.41E-04	6.40E-04	4.26E-04	1.87E-04
710	560843.07	4192031.4	1.10E-03	8.39E-04	8.18E-04	8.20E-04	8.18E-04	6.06E-04	3.68E-04	7.86E-04	6.54E-04	6.34E-04	6.36E-04	6.34E-04	4.23E-04	1.85E-04
711	560856.5	4192022.55	1.11E-03	8.46E-04	8.24E-04	8.27E-04	8.24E-04	6.11E-04	3.71E-04	7.92E-04	6.59E-04	6.39E-04	6.41E-04	6.39E-04	4.26E-04	1.87E-04
712	560869.94	4192013.69	1.12E-03	8.52E-04	8.30E-04	8.33E-04	8.30E-04	6.16E-04	3.73E-04	7.98E-04	6.64E-04	6.44E-04	6.46E-04	6.44E-04	4.29E-04	1.88E-04
713	560883.37	4192004.84	1.12E-03	8.58E-04	8.36E-04	8.38E-04	8.36E-04	6.20E-04	3.76E-04	8.04E-04	6.68E-04	6.48E-04	6.50E-04	6.48E-04	4.32E-04	1.89E-04
714	560896.81	4191995.99	1.13E-03	8.62E-04	8.40E-04	8.43E-04	8.40E-04	6.23E-04	3.78E-04	8.08E-04	6.72E-04	6.52E-04	6.53E-04	6.52E-04	4.34E-04	1.90E-04
715	560910.24	4191987.13	1.13E-03	8.64E-04	8.42E-04	8.45E-04	8.42E-04	6.25E-04	3.79E-04	8.10E-04	6.73E-04	6.53E-04	6.55E-04	6.53E-04	4.36E-04	1.91E-04
716	560923.67	4191978.28	1.13E-03	8.64E-04	8.42E-04	8.44E-04	8.42E-04	6.24E-04	3.79E-04	8.09E-04	6.73E-04	6.53E-04	6.55E-04	6.53E-04	4.35E-04	1.91E-04
717	560937.11	4191969.43	1.13E-03	8.61E-04	8.39E-04	8.41E-04	8.39E-04	6.22E-04	3.77E-04	8.06E-04	6.71E-04	6.51E-04	6.52E-04	6.51E-04	4.34E-04	1.90E-04
718	560769.76	4192173.24	1.33E-03	1.01E-03	9.88E-04	9.91E-04	9.88E-04	7.33E-04	4.44E-04	9.50E-04	7.90E-04	7.66E-04	7.68E-04	7.66E-04	5.11E-04	2.24E-04
719	560766.46	4192189.23	1.35E-03	1.03E-03	1.01E-03	1.01E-03	1.01E-03	7.47E-04	4.53E-04	9.68E-04	8.05E-04	7.81E-04	7.83E-04	7.81E-04	5.21E-04	2.28E-04
720	560765.16	4192156.17	1.26E-03	9.59E-04	9.35E-04	9.37E-04	9.35E-04	6.93E-04	4.20E-04	8.98E-04	7.47E-04	7.25E-04	7.27E-04	7.25E-04	4.83E-04	2.12E-04
721	560772.24	4192142.06	1.25E-03	9.51E-04	9.26E-04	9.29E-04	9.26E-04	6.87E-04	4.17E-04	8.91E-04	7.41E-04	7.18E-04	7.20E-04	7.18E-04	4.79E-04	2.10E-04
722	560779.32	4192127.95	1.23E-03	9.38E-04	9.15E-04	9.17E-04	9.15E-04	6.78E-04	4.11E-04	8.79E-04	7.31E-04	7.09E-04	7.11E-04	7.09E-04	4.73E-04	2.07E-04
723	560786.4	4192113.84	1.21E-03	9.23E-04	8.99E-04	9.02E-04	8.99E-04	6.67E-04	4.04E-04	8.65E-04	7.19E-04	6.97E-04	6.99E-04	6.97E-04	4.65E-04	2.04E-04
724	560793.48	4192099.73	1.18E-03	9.04E-04	8.81E-04	8.84E-04	8.81E-04	6.54E-04	3.96E-04	8.47E-04	7.05E-04	6.83E-04	6.85E-04	6.83E-04	4.56E-04	1.99E-04
725	560800.56	4192085.62	1.16E-03	8.84E-04	8.61E-04	8.64E-04	8.61E-04	6.39E-04	3.87E-04	8.28E-04	6.88E-04	6.68E-04	6.70E-04	6.68E-04	4.45E-04	1.95E-04
726	560807.64	4192071.51	1.13E-03	8.63E-04	8.41E-04	8.43E-04	8.41E-04	6.24E-04	3.78E-04	8.08E-04	6.72E-04	6.52E-04	6.54E-04	6.52E-04	4.35E-04	1.90E-04
727	560814.72	4192057.4	1.10E-03	8.42E-04	8.21E-04	8.23E-04	8.21E-04	6.09E-04	3.69E-04	7.89E-04	6.56E-04	6.37E-04	6.39E-04	6.37E-04	4.25E-04	1.86E-04
728	560821.8	4192043.29	1.08E-03	8.22E-04	8.01E-04	8.03E-04	8.01E-04	5.94E-04	3.60E-04	7.70E-04	6.40E-04	6.21E-04	6.23E-04	6.21E-04	4.14E-04	1.81E-04
729	560835.47	4192024.84	1.05E-03	8.05E-04	7.85E-04	7.87E-04	7.85E-04	5.82E-04	3.53E-04	7.54E-04	6.27E-04	6.08E-04	6.10E-04	6.08E-04	4.06E-04	1.78E-04
730	560848.65	4192016.15	1.06E-03	8.11E-04	7.91E-04	7.93E-04	7.91E-04	5.87E-04	3.56E-04	7.60E-04	6.32E-04	6.13E-04	6.15E-04	6.13E-04	4.09E-04	1.79E-04
731	560861.83	4192007.47	1.07E-03	8.17E-04	7.97E-04	7.99E-04	7.97E-04	5.91E-04	3.58E-04	7.66E-04	6.37E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.80E-04
732	560875.01	4191998.78	1.08E-03	8.23E-04	8.02E-04	8.04E-04	8.02E-04	5.95E-04	3.61E-04	7.71E-04	6.41E-04	6.22E-04	6.24E-04	6.22E-04	4.15E-04	1.82E-04
733	560888.19	4191990.09	1.08E-03	8.28E-04	8.07E-04	8.09E-04	8.07E-04	5.98E-04	3.63E-04	7.75E-04	6.45E-04	6.25E-04	6.27E-04	6.25E-04	4.17E-04	1.83E-04
734	560901.38	4191981.41	1.09E-03	8.31E-04	8.10E-04	8.12E-04	8.10E-04	6.00E-04	3.64E-04	7.78E-04	6.47E-04	6.28E-04	6.30E-04	6.28E-04	4.19E-04	1.83E-04
735	560914.56	4191972.72	1.09E-03	8.31E-04	8.10E-04	8.12E-04	8.10E-04	6.01E-04	3.64E-04	7.79E-04	6.48E-04	6.28E-04	6.30E-04	6.28E-04	4.19E-04	1.83E-04
736	560927.74	4191964.03	1.09E-03	8.30E-04	8.09E-04	8.11E-04	8.09E-04	6.00E-04	3.63E-04	7.77E-04	6.46E-04	6.27E-04	6.29E-04	6.27E-04	4.18E-04	1.83E-04
737	560940.92	4191955.35	1.08E-03	8.25E-04	8.04E-04	8.06E-04	8.04E-04	5.96E-04	3.62E-04	7.73E-04	6.43E-04	6.24E-04	6.25E-04	6.24E-04	4.16E-04	1.82E-04
738	560759.97	4192171.22	1.27E-03	9.72E-04	9.48E-04	9.50E-04	9.48E-04	7.03E-04	4.26E-04	9.11E-04	7.57E-04	7.35E-04	7.37E-04	7.35E-04	4.90E-04	2.14E-04
739	560756.67	4192187.21	1.30E-03	9.90E-04	9.65E-04	9.68E-04	9.65E-04	7.16E-04	4.34E-04	9.28E-04	7.72E-04	7.48E-04	7.51E-04	7.48E-04	4.99E-04	2.18E-04
740	560755.3	4192154.27	1.21E-03	9.21E-04	8.98E-04	9.00E-04	8.98E-04	6.66E-04	4.04E-04	8.63E-04	7.18E-04	6.96E-04	6.98E-04	6.96E-04	4.64E-04	2.03E-04
741	560762.26	4192140.4	1.20E-03	9.14E-04	8.91E-04	8.93E-04	8.91E-04	6.61E-04	4.00E-04	8.56E-04	7.12E-04	6.91E-04	6.93E-04	6.91E-04	4.60E-04	2.02E-04
742	560769.22	4192126.54	1.18E-03	9.03E-04	8.80E-04	8.83E-04	8.80E-04	6.53E-04	3.96E-04	8.46E-04	7.04E-04	6.83E-04	6.85E-04	6.83E-04	4.55E-04	1.99E-04
743	560776.17	4192112.67	1.17E-03	8.90E-04	8.67E-04	8.70E-04	8.67E-04	6.43E-04	3.90E-04	8.34E-04	6.93E-04	6.73E-04	6.74E-04	6.73E-04	4.48E-04	1.96E-04

744	560783.13	4192098.8	1.15E-03	8.74E-04	8.52E-04	8.54E-04	8.52E-04	6.32E-04	3.83E-04	8.19E-04	6.81E-04	6.61E-04	6.62E-04	6.61E-04	4.40E-04	1.93E-04
745	560790.09	4192084.94	1.12E-03	8.55E-04	8.33E-04	8.35E-04	8.33E-04	6.18E-04	3.74E-04	8.01E-04	6.66E-04	6.46E-04	6.48E-04	6.46E-04	4.31E-04	1.89E-04
746	560797.05	4192071.07	1.09E-03	8.35E-04	8.14E-04	8.16E-04	8.14E-04	6.03E-04	3.66E-04	7.82E-04	6.50E-04	6.31E-04	6.33E-04	6.31E-04	4.21E-04	1.84E-04
747	560804.01	4192057.2	1.07E-03	8.16E-04	7.95E-04	7.98E-04	7.95E-04	5.90E-04	3.58E-04	7.65E-04	6.36E-04	6.17E-04	6.19E-04	6.17E-04	4.11E-04	1.80E-04
748	560810.96	4192043.34	1.05E-03	7.98E-04	7.78E-04	7.80E-04	7.78E-04	5.77E-04	3.50E-04	7.48E-04	6.22E-04	6.03E-04	6.05E-04	6.03E-04	4.02E-04	1.76E-04
749	560817.92	4192029.47	1.02E-03	7.79E-04	7.60E-04	7.62E-04	7.60E-04	5.63E-04	3.42E-04	7.30E-04	6.07E-04	5.89E-04	5.91E-04	5.89E-04	3.93E-04	1.72E-04
750	560827.88	4192018.27	1.01E-03	7.73E-04	7.54E-04	7.56E-04	7.54E-04	5.59E-04	3.39E-04	7.25E-04	6.03E-04	5.84E-04	5.86E-04	5.84E-04	3.90E-04	1.71E-04
751	560840.83	4192009.73	1.02E-03	7.79E-04	7.60E-04	7.62E-04	7.60E-04	5.63E-04	3.42E-04	7.30E-04	6.07E-04	5.89E-04	5.91E-04	5.89E-04	3.93E-04	1.72E-04
752	560853.79	4192001.2	1.03E-03	7.85E-04	7.65E-04	7.67E-04	7.65E-04	5.68E-04	3.44E-04	7.36E-04	6.12E-04	5.93E-04	5.95E-04	5.93E-04	3.96E-04	1.73E-04
753	560866.74	4191992.66	1.04E-03	7.90E-04	7.70E-04	7.72E-04	7.70E-04	5.71E-04	3.46E-04	7.41E-04	6.16E-04	5.97E-04	5.99E-04	5.97E-04	3.98E-04	1.74E-04
754	560879.7	4191984.12	1.04E-03	7.95E-04	7.75E-04	7.77E-04	7.75E-04	5.75E-04	3.48E-04	7.45E-04	6.19E-04	6.01E-04	6.03E-04	6.01E-04	4.01E-04	1.75E-04
755	560892.65	4191975.59	1.05E-03	7.99E-04	7.78E-04	7.80E-04	7.78E-04	5.77E-04	3.50E-04	7.48E-04	6.22E-04	6.04E-04	6.05E-04	6.04E-04	4.02E-04	1.76E-04
756	560905.61	4191967.05	1.05E-03	8.00E-04	7.80E-04	7.82E-04	7.80E-04	5.78E-04	3.51E-04	7.50E-04	6.23E-04	6.05E-04	6.06E-04	6.05E-04	4.03E-04	1.77E-04
757	560918.56	4191958.51	1.05E-03	8.00E-04	7.79E-04	7.81E-04	7.79E-04	5.78E-04	3.50E-04	7.49E-04	6.23E-04	6.04E-04	6.06E-04	6.04E-04	4.03E-04	1.76E-04
758	560931.52	4191949.98	1.04E-03	7.97E-04	7.77E-04	7.79E-04	7.77E-04	5.76E-04	3.49E-04	7.46E-04	6.21E-04	6.02E-04	6.04E-04	6.02E-04	4.01E-04	1.76E-04
759	560750.17	4192169.2	1.22E-03	9.34E-04	9.10E-04	9.13E-04	9.10E-04	6.75E-04	4.09E-04	8.75E-04	7.28E-04	7.06E-04	7.08E-04	7.06E-04	4.71E-04	2.06E-04
760	560746.87	4192185.19	1.25E-03	9.51E-04	9.27E-04	9.30E-04	9.27E-04	6.88E-04	4.17E-04	8.91E-04	7.41E-04	7.19E-04	7.21E-04	7.19E-04	4.79E-04	2.10E-04
761	560745.62	4192152.02	1.16E-03	8.87E-04	8.65E-04	8.67E-04	8.65E-04	6.41E-04	3.89E-04	8.31E-04	6.91E-04	6.70E-04	6.72E-04	6.70E-04	4.47E-04	1.96E-04
762	560752.81	4192137.69	1.15E-03	8.79E-04	8.56E-04	8.59E-04	8.56E-04	6.35E-04	3.85E-04	8.23E-04	6.85E-04	6.64E-04	6.66E-04	6.64E-04	4.43E-04	1.94E-04
763	560760	4192123.36	1.14E-03	8.68E-04	8.46E-04	8.49E-04	8.46E-04	6.28E-04	3.81E-04	8.14E-04	6.77E-04	6.56E-04	6.58E-04	6.56E-04	4.38E-04	1.92E-04
764	560767.19	4192109.03	1.12E-03	8.56E-04	8.34E-04	8.36E-04	8.34E-04	6.18E-04	3.75E-04	8.02E-04	6.67E-04	6.47E-04	6.48E-04	6.47E-04	4.31E-04	1.89E-04
765	560774.38	4192094.7	1.10E-03	8.40E-04	8.19E-04	8.21E-04	8.19E-04	6.07E-04	3.68E-04	7.87E-04	6.55E-04	6.35E-04	6.37E-04	6.35E-04	4.23E-04	1.85E-04
766	560781.57	4192080.37	1.08E-03	8.21E-04	8.01E-04	8.03E-04	8.01E-04	5.94E-04	3.60E-04	7.70E-04	6.40E-04	6.21E-04	6.23E-04	6.21E-04	4.14E-04	1.81E-04
767	560788.76	4192066.05	1.05E-03	8.01E-04	7.81E-04	7.83E-04	7.81E-04	5.79E-04	3.51E-04	7.51E-04	6.24E-04	6.06E-04	6.07E-04	6.06E-04	4.04E-04	1.77E-04
768	560795.95	4192051.72	1.03E-03	7.84E-04	7.64E-04	7.66E-04	7.64E-04	5.67E-04	3.44E-04	7.35E-04	6.11E-04	5.93E-04	5.94E-04	5.93E-04	3.95E-04	1.73E-04
769	560803.14	4192037.39	1.00E-03	7.66E-04	7.47E-04	7.49E-04	7.47E-04	5.54E-04	3.36E-04	7.18E-04	5.97E-04	5.79E-04	5.81E-04	5.79E-04	3.86E-04	1.69E-04
770	560810.33	4192023.06	9.82E-04	7.49E-04	7.30E-04	7.32E-04	7.30E-04	5.42E-04	3.28E-04	7.02E-04	5.84E-04	5.66E-04	5.68E-04	5.66E-04	3.78E-04	1.65E-04
771	560820.62	4192011.48	9.74E-04	7.44E-04	7.25E-04	7.27E-04	7.25E-04	5.38E-04	3.26E-04	6.97E-04	5.79E-04	5.62E-04	5.64E-04	5.62E-04	3.75E-04	1.64E-04
772	560834.01	4192002.66	9.82E-04	7.50E-04	7.31E-04	7.33E-04	7.31E-04	5.42E-04	3.28E-04	7.02E-04	5.84E-04	5.67E-04	5.68E-04	5.67E-04	3.78E-04	1.65E-04
773	560847.39	4191993.84	9.90E-04	7.55E-04	7.36E-04	7.38E-04	7.36E-04	5.46E-04	3.31E-04	7.08E-04	5.89E-04	5.71E-04	5.73E-04	5.71E-04	3.81E-04	1.67E-04
774	560860.78	4191985.02	9.97E-04	7.61E-04	7.41E-04	7.44E-04	7.41E-04	5.50E-04	3.33E-04	7.13E-04	5.93E-04	5.75E-04	5.77E-04	5.75E-04	3.83E-04	1.68E-04
775	560874.17	4191976.2	1.00E-03	7.65E-04	7.46E-04	7.48E-04	7.46E-04	5.53E-04	3.35E-04	7.17E-04	5.96E-04	5.78E-04	5.80E-04	5.78E-04	3.86E-04	1.69E-04
776	560887.55	4191967.38	1.01E-03	7.69E-04	7.49E-04	7.52E-04	7.49E-04	5.56E-04	3.37E-04	7.20E-04	5.99E-04	5.81E-04	5.83E-04	5.81E-04	3.87E-04	1.70E-04
777	560900.94	4191958.56	1.01E-03	7.71E-04	7.51E-04	7.53E-04	7.51E-04	5.57E-04	3.38E-04	7.22E-04	6.01E-04	5.83E-04	5.84E-04	5.83E-04	3.88E-04	1.70E-04
778	560914.33	4191949.74	1.01E-03	7.71E-04	7.51E-04	7.53E-04	7.51E-04	5.57E-04	3.38E-04	7.22E-04	6.00E-04	5.82E-04	5.84E-04	5.82E-04	3.88E-04	1.70E-04
779	560927.71	4191940.92	1.01E-03	7.68E-04	7.48E-04	7.51E-04	7.48E-04	5.55E-04	3.36E-04	7.20E-04	5.98E-04	5.80E-04	5.82E-04	5.80E-04	3.87E-04	1.69E-04
780	560740.38	4192167.18	1.18E-03	8.99E-04	8.77E-04	8.79E-04	8.77E-04	6.50E-04	3.94E-04	8.43E-04	7.01E-04	6.80E-04	6.82E-04	6.80E-04	4.53E-04	1.98E-04
781	560737.08	4192183.17	1.20E-03	9.16E-04	8.93E-04	8.95E-04	8.93E-04	6.62E-04	4.01E-04	8.58E-04	7.14E-04	6.92E-04	6.94E-04	6.92E-04	4.62E-04	2.02E-04
782	560929.86	4192237.22	3.56E-03	2.72E-03	2.65E-03	2.65E-03	2.65E-03	1.96E-03	1.19E-03	2.55E-03	2.12E-03	2.05E-03	2.06E-03	2.05E-03	1.37E-03	5.99E-04
783	560920.14	4192234.86	3.30E-03	2.52E-03	2.45E-03	2.46E-03	2.45E-03	1.82E-03	1.10E-03	2.36E-03	1.96E-03	1.90E-03	1.91E-03	1.90E-03	1.27E-03	5.55E-04
784	560917.86	4192244.25	3.35E-03	2.55E-03	2.49E-03	2.50E-03	2.49E-03	1.85E-03	1.12E-03	2.39E-03	1.99E-03	1.93E-03	1.94E-03	1.93E-03	1.29E-03	5.63E-04
785	560915.58	4192253.64	3.38E-03	2.58E-03	2.52E-03	2.52E-03	2.52E-03	1.87E-03	1.13E-03	2.42E-03	2.01E-03	1.95E-03	1.96E-03	1.95E-03	1.30E-03	5.70E-04
786	560913.29	4192263.03	3.41E-03	2.61E-03	2.54E-03	2.55E-03	2.54E-03	1.88E-03	1.14E-03	2.44E-03	2.03E-03	1.97E-03	1.97E-03	1.97E-03	1.31E-03	5.75E-04
787	560911.01	4192272.42	3.44E-03	2.62E-03	2.56E-03	2.56E-03	2.56E-03	1.90E-03	1.15E-03	2.46E-03	2.04E-03	1.98E-03	1.99E-03	1.98E-03	1.32E-03	5.78E-04
788	560910.43	4192232.49	3.07E-03	2.34E-03	2.28E-03	2.29E-03	2.28E-03	1.69E-03	1.03E-03	2.19E-03	1.82E-03	1.77E-03	1.77E-03	1.77E-03	1.18E-03	5.17E-04
789	560908.14	4192241.88	3.11E-03	2.37E-03	2.31E-03	2.32E-03	2.31E-03	1.72E-03	1.04E-03	2.22E-03	1.85E-03	1.79E-03	1.80E-03	1.79E-03	1.20E-03	5.24E-04
790	560905.86	4192251.28	3.14E-03	2.40E-03	2.34E-03	2.34E-03	2.34E-03	1.73E-03	1.05E-03	2.25E-03	1.87E-03	1.81E-03	1.82E-03	1.81E-03	1.21E-03	5.29E-04
791	560903.58	4192260.67	3.17E-03	2.42E-03	2.36E-03	2.36E-03	2.36E-03	1.75E-03	1.06E-03	2.27E-03	1.88E-03	1.83E-03	1.83E-03	1.83E-03	1.22E-03	5.34E-04
792	560901.29	4192270.06	3.19E-03	2.43E-03	2.37E-03	2.38E-03	2.37E-03	1.76E-03	1.07E-03	2.28E-03	1.90E-03	1.84E-03	1.84E-03	1.84E-03	1.23E-03	5.37E-04
793	560899.01	4192279.45	3.20E-03	2.44E-03	2.38E-03	2.39E-03	2.38E-03	1.77E-03	1.07E-03	2.29E-03	1.90E-03	1.85E-03	1.85E-03	1.85E-03	1.23E-03	5.39E-04
794	560896.73	4192288.84	3.21E-03	2.45E-03	2.39E-03	2.39E-03	2.39E-03	1.77E-03	1.07E-03	2.29E-03	1.91E-03	1.85E-03	1.85E-03	1.85E-03	1.23E-03	5.40E-04
795	560894.44	4192298.23	3.21E-03	2.45E-03	2.39E-03	2.39E-03	2.39E-03	1.77E-03	1.07E-03	2.29E-03	1.91E-03	1.85E-03	1.85E-03	1.85E-03	1.23E-03	5.40E-04
796	560900.71	4192230.13	2.86E-03	2.19E-03	2.13E-03	2.14E-03	2.13E-03	1.58E-03	9.57E-04	2.05E-03	1.70E-03	1.65E-03	1.66E-03	1.65E-03	1.10E-03	4.82E-04
797	560898.43	4192239.52	2.90E-03	2.21E-03	2.16E-03	2.16E-03	2.16E-03	1.60E-03	9.70E-04	2.07E-03	1.72E-03	1.67E-03	1.68E-03	1.67E-03	1.12E-03	4.88E-04
798	560896.14	4192248.91	2.93E-03	2.24E-03	2.18E-03	2.18E-03	2.18E-03	1.62E-03	9.79E-04	2.09E-03	1.74E-03	1.69E-03	1.69E-03	1.69E-03	1.13E-03	4.93E-04
799	560893.86	4192258.3	2.95E-03	2.25E-03	2.20E-03	2.20E-03	2.20E-03	1.63E-03	9.87E-04	2.11E-03	1.76E-03	1.70E-03	1.71E-03	1.70E-03	1.14E-03	4.97E-04
800	560891.58	4192267.7	2.97E-03	2.27E-03	2.21E-03	2.21E-03	2.21E-03	1.64E-03	9.93E-04	2.12E-03	1.77E-03	1.71E-03	1.72E-03	1.71E-03	1.14E-03	5.00E-04
801	560889.29	4192277.09	2.98E-03	2.27E-03	2.22E-03	2.22E-03	2.22E-03	1.64E-03	9.97E-04	2.13E-03	1.77E-03	1.72E-03	1.72E-03	1.72E-03	1.15E-03	5.02E-04
802	560887.01	4192286.48	2.98E-03	2.28E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	9.98E-04	2.13E-03	1.78E-03	1.72E-03	1.73E-03	1.72E-03	1.15E-03	5.03E-04
803	560884.72	4192295.87	2.98E-03	2.28E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	9.98E-04	2.13E-03	1.77E-03	1.72E-03	1.73E-03	1.72E-03	1.15E-03	5.03E-04
804	560890.99	4192227.77	2.68E-03	2.04E-03	1.99E-03	2.00E-03	1.99E-03	1.48E-03	8.95E-04	1.91E-03	1.59E-03	1.54E-03	1.55E-03	1.54E-03	1.03E-03	4.51E-04
805	560888.71	4192237.16	2.71E-03	2.07E-03	2.02E-03	2.02E-03	2.02E-03	1.49E-03	9.06E-04	1.94E-03	1.61E-03	1.56E-03	1.57E-03	1.56E-03	1.04E-03	4.56E-04
806	560886.43	4192246.55	2.73E-03	2.09E-03	2.03E-03	2.04E-03	2.03E-03	1.51E-03	9.15E-04	1.96E-03	1.63E-03	1.58E-03	1.58E-03	1.58E-03	1.05E-03	4.61E-04
807	560884.14	4192255.94	2.76E-03	2.10E-03	2.05E-03	2.06E-03	2.05E-03	1.52E-03	9.22E-04	1.97E-03	1.64E-03	1.59E-03	1.59E-03	1.59E-03	1.06E-03	4.64E-04
808	560881.86	4192265.33	2.77E-03	2.12E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.27E-04	1.98E-03	1.65E-03	1.60E-03	1.60E-03	1.60E-03	1.07E-03	4.67E-04
809	560879.58	4192274.72	2.78E-03	2.12E-03	2.07E-03	2.08E-03	2.07E-03	1.54E-03	9.31E-04	1.99E-03	1.66E-03	1.61E-03	1.61E-03	1.61E-03	1.07E-03	4.69E-04
810	560877.29	4192284.11	2.79E-03	2.13E-03	2.07E-03	2.08E-03	2.07E-03	1.54E-03	9.32E-04	1.99E-03	1.66E-03	1.61E-03	1.61E-03	1.61E-03	1.07E-03	4.69E-04
811	560875.01	4192293.51	2.79E-03	2.13E-03	2.07E-03	2.08E-03	2.07E-03	1.54E-03	9.32E-04	1.99E-03	1.66E-03	1.61E-03	1.61E-03	1.61E-03	1.07E-03	4.69E-04
812	560881.28	4192225.4	2.51E-03	1.92E-03	1.87E-03	1.87E-03	1.87E-03	1.38E-03	8.39E-04	1.80E-03	1.49E-03	1.45E-03	1.45E-03	1.45E-03	9.65E-04	4.23E-04
813	560878.99	4192234.8	2.54E-03	1.94E-03	1.89E-03	1.89E-03	1.89E-03	1.40E-03	8.49E-04	1.82E-03	1.51E-03	1.46E-03	1.47E-03	1.46E-03	9.76E-04	4.27E-04
814	560876.71	4192244.19	2.56E-03	1.95E-03	1.91E-03	1.91E-03	1.91E-03	1.41E-03	8.57E-04	1.83E-03	1.52E-03	1.48E-03	1.48E-03	1.48E-03	9.85E-04	4.31E-04
815	560874.43	4192253.58	2.58E-03	1.97E-03	1.92E-03	1.93E-03	1.92E-03	1.42E-03	8.63E-04	1.85E-03	1.53E-03	1.49E-03	1.49E-03	1.49E-03	9.93E-04	4.35E-04
816	560872.14	4192262.97	2.60E-03	1.98E-03	1.93E-03	1.94E-03	1.93E-03	1.43E-03	8.68E-04	1.86E-03	1.54E-03	1.50E-03	1.50E-03	1.50E-03	9.99E-04	4.37E-04
817	560869.86	4192272.36	2.61E-03	1.99E-03	1.94E-03	1.94E-03	1.94E-03	1.44E-03	8.72E-04	1.86E-03	1.55E-03	1.50E-03	1.51E-03	1.50E-03	1.00E-03	4.39E-04
818	560867.57	4192281.75	2.61E-03	1.99E-03	1.94E-03	1.95E-03	1.94E-03	1.44E-03	8.73E-04	1.87E-03	1.55E-03	1.51E-03	1.51E-03	1.51E-03	1.00E-03	4.40E-04
819	560865.29	4192291.14	2.61E-03	1.99E-03	1.94E-03	1.95E-03	1.94E-03	1.44E-03	8.73E-04	1.87E-03	1.55E-03	1.51E-03	1.51E-03	1.51E-03	1.00E-03	4.39E-04
820	560871.56	4192223.04	2.36E-03	1.80E-03	1.76E-03	1.76E-03	1.76E-03	1.30E-03	7.89E-04	1.69E-03	1.40E-03	1.36E-03	1.37E-03	1.36E-03	9.08E-04	3.97E-04
821	560869.28	4192232.43	2.39E-03	1.82E-03	1.78E-03	1.78E-03	1.78E-03	1.32E-03	7.98E-04	1.71E-03	1.42E-03	1.38E-03	1.38E-03	1.38E-03	9.18E-04	4.02E-04
822	560866.99	4192241.82	2.41E-03	1.84E-03	1.79E-03	1.80E-03	1.79E-03	1.33E-03	8.05E-04	1.72E-03	1.43E-03	1.39E-03	1.39E-03	1.39E-03	9.26E-04	4.05E-04
823	560864.71	4192251.22	2.42E-03	1.85E-03	1.80E-03	1.81E-03	1.80E-03	1.34E-03	8.11E-04	1.73E-03	1.44E-03	1.40E-03	1.40E-03	1.40E-03	9.33E-04	4.08E-04
824	560862.43	4192260.61	2.44E-03	1.86E-03	1.81E-03	1.82E-03	1.81E-03	1.35E-03	8.15E-04	1.74E-03	1.45E-03	1.41E-03	1.41E-03	1.41E-03	9.38E-04	4.11E-04
825	560860.14	4192270	2.45E-03	1.87E-03	1.82E-03	1.82E-03	1.82E-03	1.35E-03	8.18E-04	1.75E-03	1.45E-03	1.41E-03	1.42E-03	1.41E-03	9.41E-04	4.12E-04
826	560857.86	4192279.39	2.45E-03	1.87E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.19E-04	1.75E-03	1.46E-03	1.41E-03	1.42E-03	1.41E-03	9.42E-04	4.13E-04

827	560855.57	4192288.78	2.45E-03	1.87E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.19E-04	1.75E-03	1.46E-03	1.41E-03	1.42E-03	1.41E-03	9.42E-04	4.12E-04
828	560861.84	4192220.68	2.23E-03	1.70E-03	1.66E-03	1.66E-03	1.66E-03	1.23E-03	7.44E-04	1.59E-03	1.32E-03	1.28E-03	1.29E-03	1.28E-03	8.56E-04	3.75E-04
829	560859.56	4192230.07	2.25E-03	1.72E-03	1.67E-03	1.68E-03	1.67E-03	1.24E-03	7.52E-04	1.61E-03	1.34E-03	1.30E-03	1.30E-03	1.30E-03	8.65E-04	3.79E-04
830	560857.28	4192239.46	2.27E-03	1.73E-03	1.69E-03	1.69E-03	1.69E-03	1.25E-03	7.59E-04	1.62E-03	1.35E-03	1.31E-03	1.31E-03	1.31E-03	8.73E-04	3.82E-04
831	560854.99	4192248.85	2.28E-03	1.74E-03	1.70E-03	1.70E-03	1.70E-03	1.26E-03	7.64E-04	1.63E-03	1.36E-03	1.32E-03	1.32E-03	1.32E-03	8.78E-04	3.85E-04
832	560852.71	4192258.24	2.30E-03	1.75E-03	1.71E-03	1.71E-03	1.71E-03	1.27E-03	7.68E-04	1.64E-03	1.36E-03	1.32E-03	1.33E-03	1.32E-03	8.83E-04	3.86E-04
833	560850.42	4192267.63	2.30E-03	1.76E-03	1.71E-03	1.72E-03	1.71E-03	1.27E-03	7.70E-04	1.65E-03	1.37E-03	1.33E-03	1.33E-03	1.33E-03	8.85E-04	3.88E-04
834	560848.14	4192277.03	2.30E-03	1.76E-03	1.71E-03	1.72E-03	1.71E-03	1.27E-03	7.71E-04	1.65E-03	1.37E-03	1.33E-03	1.33E-03	1.33E-03	8.86E-04	3.88E-04
835	560845.86	4192286.42	2.30E-03	1.76E-03	1.71E-03	1.72E-03	1.71E-03	1.27E-03	7.70E-04	1.65E-03	1.37E-03	1.33E-03	1.33E-03	1.33E-03	8.86E-04	3.88E-04
836	560852.13	4192218.32	2.10E-03	1.61E-03	1.57E-03	1.57E-03	1.57E-03	1.16E-03	7.04E-04	1.50E-03	1.25E-03	1.21E-03	1.22E-03	1.21E-03	8.09E-04	3.54E-04
837	560849.84	4192227.71	2.13E-03	1.62E-03	1.58E-03	1.59E-03	1.58E-03	1.17E-03	7.11E-04	1.52E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	8.18E-04	3.58E-04
838	560847.56	4192237.1	2.14E-03	1.64E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.17E-04	1.53E-03	1.27E-03	1.24E-03	1.24E-03	1.24E-03	8.24E-04	3.61E-04
839	560845.28	4192246.49	2.16E-03	1.65E-03	1.60E-03	1.61E-03	1.60E-03	1.19E-03	7.21E-04	1.54E-03	1.28E-03	1.24E-03	1.25E-03	1.24E-03	8.29E-04	3.63E-04
840	560842.99	4192255.88	2.17E-03	1.65E-03	1.61E-03	1.62E-03	1.61E-03	1.19E-03	7.24E-04	1.55E-03	1.29E-03	1.25E-03	1.25E-03	1.25E-03	8.33E-04	3.65E-04
841	560840.71	4192265.27	2.17E-03	1.66E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.26E-04	1.55E-03	1.29E-03	1.25E-03	1.26E-03	1.25E-03	8.35E-04	3.66E-04
842	560838.42	4192274.66	2.17E-03	1.66E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.27E-04	1.55E-03	1.29E-03	1.25E-03	1.26E-03	1.25E-03	8.36E-04	3.66E-04
843	560836.14	4192284.05	2.17E-03	1.66E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.27E-04	1.55E-03	1.29E-03	1.25E-03	1.26E-03	1.25E-03	8.36E-04	3.66E-04
844	560842.41	4192215.95	1.99E-03	1.52E-03	1.48E-03	1.49E-03	1.48E-03	1.10E-03	6.67E-04	1.43E-03	1.19E-03	1.15E-03	1.15E-03	1.15E-03	7.67E-04	3.36E-04
845	560840.13	4192225.34	2.01E-03	1.54E-03	1.50E-03	1.50E-03	1.50E-03	1.11E-03	6.73E-04	1.44E-03	1.20E-03	1.16E-03	1.16E-03	1.16E-03	7.74E-04	3.39E-04
846	560837.84	4192234.74	2.03E-03	1.55E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.78E-04	1.45E-03	1.21E-03	1.17E-03	1.17E-03	1.17E-03	7.80E-04	3.42E-04
847	560835.56	4192244.13	2.04E-03	1.56E-03	1.52E-03	1.52E-03	1.52E-03	1.13E-03	6.83E-04	1.46E-03	1.21E-03	1.18E-03	1.18E-03	1.18E-03	7.85E-04	3.44E-04
848	560833.27	4192253.52	2.05E-03	1.56E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.85E-04	1.47E-03	1.22E-03	1.18E-03	1.19E-03	1.18E-03	7.88E-04	3.45E-04
849	560830.99	4192262.91	2.05E-03	1.57E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.87E-04	1.47E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	7.90E-04	3.46E-04
850	560828.71	4192272.3	2.06E-03	1.57E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.88E-04	1.47E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	7.91E-04	3.46E-04
851	560826.42	4192281.69	2.05E-03	1.57E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.87E-04	1.47E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	7.90E-04	3.46E-04
852	560832.69	4192213.59	1.89E-03	1.44E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.35E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	7.28E-04	3.19E-04
853	560830.41	4192222.98	1.91E-03	1.46E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.39E-04	1.37E-03	1.14E-03	1.10E-03	1.10E-03	1.10E-03	7.34E-04	3.22E-04
854	560828.13	4192232.37	1.92E-03	1.47E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.43E-04	1.38E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	7.40E-04	3.24E-04
855	560825.84	4192241.76	1.93E-03	1.48E-03	1.44E-03	1.44E-03	1.44E-03	1.07E-03	6.47E-04	1.38E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	7.44E-04	3.26E-04
856	560823.56	4192251.15	1.94E-03	1.48E-03	1.45E-03	1.45E-03	1.45E-03	1.07E-03	6.50E-04	1.39E-03	1.16E-03	1.12E-03	1.12E-03	1.12E-03	7.47E-04	3.27E-04
857	560821.27	4192260.55	1.95E-03	1.49E-03	1.45E-03	1.45E-03	1.45E-03	1.07E-03	6.51E-04	1.39E-03	1.16E-03	1.12E-03	1.13E-03	1.12E-03	7.49E-04	3.28E-04
858	560818.99	4192269.94	1.95E-03	1.49E-03	1.45E-03	1.45E-03	1.45E-03	1.08E-03	6.52E-04	1.39E-03	1.16E-03	1.12E-03	1.13E-03	1.12E-03	7.50E-04	3.28E-04
859	560816.71	4192279.33	1.95E-03	1.49E-03	1.45E-03	1.45E-03	1.45E-03	1.07E-03	6.51E-04	1.39E-03	1.16E-03	1.12E-03	1.13E-03	1.12E-03	7.49E-04	3.28E-04
860	560822.98	4192211.23	1.80E-03	1.37E-03	1.34E-03	1.34E-03	1.34E-03	9.92E-04	6.01E-04	1.29E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
861	560820.69	4192220.62	1.81E-03	1.39E-03	1.35E-03	1.35E-03	1.35E-03	1.00E-03	6.07E-04	1.30E-03	1.08E-03	1.05E-03	1.05E-03	1.05E-03	6.98E-04	3.06E-04
862	560818.41	4192230.01	1.83E-03	1.40E-03	1.36E-03	1.36E-03	1.36E-03	1.01E-03	6.11E-04	1.31E-03	1.09E-03	1.05E-03	1.06E-03	1.05E-03	7.03E-04	3.08E-04
863	560816.12	4192239.4	1.84E-03	1.40E-03	1.37E-03	1.37E-03	1.37E-03	1.01E-03	6.15E-04	1.31E-03	1.09E-03	1.06E-03	1.06E-03	1.06E-03	7.07E-04	3.09E-04
864	560813.84	4192248.79	1.85E-03	1.41E-03	1.37E-03	1.38E-03	1.37E-03	1.02E-03	6.17E-04	1.32E-03	1.10E-03	1.06E-03	1.07E-03	1.06E-03	7.10E-04	3.11E-04
865	560811.56	4192258.18	1.85E-03	1.41E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.18E-04	1.32E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.11E-04	3.11E-04
866	560809.27	4192267.57	1.85E-03	1.41E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.19E-04	1.32E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.12E-04	3.12E-04
867	560806.99	4192276.97	1.85E-03	1.41E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.18E-04	1.32E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.11E-04	3.11E-04
868	560813.26	4192208.86	1.71E-03	1.31E-03	1.27E-03	1.28E-03	1.27E-03	9.45E-04	5.73E-04	1.22E-03	1.02E-03	9.88E-04	9.91E-04	9.88E-04	6.59E-04	2.88E-04
869	560810.98	4192218.26	1.73E-03	1.32E-03	1.29E-03	1.29E-03	1.29E-03	9.53E-04	5.78E-04	1.24E-03	1.03E-03	9.97E-04	9.99E-04	9.97E-04	6.64E-04	2.91E-04
870	560808.69	4192227.65	1.74E-03	1.33E-03	1.29E-03	1.30E-03	1.29E-03	9.60E-04	5.82E-04	1.24E-03	1.03E-03	1.00E-03	1.01E-03	1.00E-03	6.69E-04	2.93E-04
871	560806.41	4192237.04	1.75E-03	1.33E-03	1.30E-03	1.30E-03	1.30E-03	9.65E-04	5.85E-04	1.25E-03	1.04E-03	1.01E-03	1.01E-03	1.01E-03	6.73E-04	2.94E-04
872	560804.12	4192246.43	1.76E-03	1.34E-03	1.31E-03	1.31E-03	1.31E-03	9.68E-04	5.87E-04	1.26E-03	1.04E-03	1.01E-03	1.02E-03	1.01E-03	6.75E-04	2.96E-04
873	560801.84	4192255.82	1.76E-03	1.34E-03	1.31E-03	1.31E-03	1.31E-03	9.70E-04	5.88E-04	1.26E-03	1.05E-03	1.01E-03	1.02E-03	1.01E-03	6.77E-04	2.96E-04
874	560799.56	4192265.21	1.76E-03	1.34E-03	1.31E-03	1.31E-03	1.31E-03	9.71E-04	5.89E-04	1.26E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	6.77E-04	2.96E-04
875	560797.27	4192274.6	1.76E-03	1.34E-03	1.31E-03	1.31E-03	1.31E-03	9.70E-04	5.88E-04	1.26E-03	1.05E-03	1.01E-03	1.02E-03	1.01E-03	6.76E-04	2.96E-04
876	560803.54	4192206.5	1.63E-03	1.25E-03	1.22E-03	1.22E-03	1.22E-03	9.01E-04	5.46E-04	1.17E-03	9.71E-04	9.42E-04	9.45E-04	9.42E-04	6.28E-04	2.75E-04
877	560801.26	4192215.89	1.65E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	9.09E-04	5.51E-04	1.18E-03	9.80E-04	9.50E-04	9.53E-04	9.50E-04	6.33E-04	2.77E-04
878	560798.98	4192225.28	1.66E-03	1.27E-03	1.23E-03	1.24E-03	1.23E-03	9.15E-04	5.55E-04	1.19E-03	9.86E-04	9.57E-04	9.59E-04	9.57E-04	6.38E-04	2.79E-04
879	560796.69	4192234.67	1.67E-03	1.27E-03	1.24E-03	1.24E-03	1.24E-03	9.19E-04	5.57E-04	1.19E-03	9.91E-04	9.61E-04	9.64E-04	9.61E-04	6.41E-04	2.81E-04
880	560794.41	4192244.07	1.67E-03	1.28E-03	1.24E-03	1.25E-03	1.24E-03	9.23E-04	5.59E-04	1.20E-03	9.95E-04	9.65E-04	9.67E-04	9.65E-04	6.43E-04	2.82E-04
881	560792.12	4192253.46	1.68E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	9.24E-04	5.60E-04	1.20E-03	9.97E-04	9.67E-04	9.69E-04	9.67E-04	6.44E-04	2.82E-04
882	560789.84	4192262.85	1.68E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	9.25E-04	5.61E-04	1.20E-03	9.97E-04	9.67E-04	9.70E-04	9.67E-04	6.45E-04	2.82E-04
883	560787.56	4192272.24	1.67E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	9.24E-04	5.60E-04	1.20E-03	9.96E-04	9.66E-04	9.69E-04	9.66E-04	6.44E-04	2.82E-04
884	560793.83	4192204.14	1.56E-03	1.19E-03	1.16E-03	1.16E-03	1.16E-03	8.61E-04	5.22E-04	1.12E-03	9.28E-04	9.00E-04	9.02E-04	9.00E-04	6.00E-04	2.63E-04
885	560791.54	4192213.53	1.57E-03	1.20E-03	1.17E-03	1.17E-03	1.17E-03	8.68E-04	5.26E-04	1.12E-03	9.35E-04	9.07E-04	9.10E-04	9.07E-04	6.05E-04	2.65E-04
886	560789.26	4192222.92	1.58E-03	1.21E-03	1.18E-03	1.18E-03	1.18E-03	8.73E-04	5.29E-04	1.13E-03	9.41E-04	9.13E-04	9.16E-04	9.13E-04	6.09E-04	2.67E-04
887	560786.97	4192232.31	1.59E-03	1.21E-03	1.18E-03	1.19E-03	1.18E-03	8.77E-04	5.32E-04	1.14E-03	9.46E-04	9.18E-04	9.20E-04	9.18E-04	6.12E-04	2.68E-04
888	560784.69	4192241.7	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.80E-04	5.34E-04	1.14E-03	9.49E-04	9.21E-04	9.23E-04	9.21E-04	6.14E-04	2.69E-04
889	560782.41	4192251.09	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	1.14E-03	9.51E-04	9.22E-04	9.25E-04	9.22E-04	6.15E-04	2.69E-04
890	560780.12	4192260.49	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	1.14E-03	9.51E-04	9.23E-04	9.25E-04	9.23E-04	6.15E-04	2.69E-04
891	560777.84	4192269.88	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.81E-04	5.34E-04	1.14E-03	9.50E-04	9.21E-04	9.24E-04	9.21E-04	6.14E-04	2.69E-04
892	560781.83	4192211.17	1.50E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.29E-04	5.03E-04	1.07E-03	8.94E-04	8.67E-04	8.70E-04	8.67E-04	5.78E-04	2.53E-04
893	560779.54	4192220.56	1.51E-03	1.15E-03	1.12E-03	1.13E-03	1.12E-03	8.34E-04	5.06E-04	1.08E-03	8.99E-04	8.72E-04	8.75E-04	8.72E-04	5.82E-04	2.55E-04
894	560777.26	4192229.95	1.52E-03	1.16E-03	1.13E-03	1.13E-03	1.13E-03	8.38E-04	5.08E-04	1.09E-03	9.03E-04	8.76E-04	8.79E-04	8.76E-04	5.84E-04	2.56E-04
895	560774.97	4192239.34	1.52E-03	1.16E-03	1.13E-03	1.14E-03	1.13E-03	8.41E-04	5.10E-04	1.09E-03	9.06E-04	8.79E-04	8.82E-04	8.79E-04	5.86E-04	2.57E-04
896	560772.69	4192248.73	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.43E-04	5.11E-04	1.09E-03	9.08E-04	8.81E-04	8.84E-04	8.81E-04	5.87E-04	2.57E-04
897	560770.41	4192258.12	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.43E-04	5.11E-04	1.09E-03	9.09E-04	8.81E-04	8.84E-04	8.81E-04	5.88E-04	2.57E-04
898	560768.12	4192267.51	1.53E-03	1.16E-03	1.14E-03	1.14E-03	1.14E-03	8.42E-04	5.10E-04	1.09E-03	9.07E-04	8.80E-04	8.83E-04	8.80E-04	5.87E-04	2.57E-04
899	560772.11	4192208.8	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.92E-04	4.80E-04	1.03E-03	8.54E-04	8.28E-04	8.31E-04	8.28E-04	5.52E-04	2.42E-04
900	560769.82	4192218.19	1.44E-03	1.10E-03	1.07E-03	1.08E-03	1.07E-03	7.97E-04	4.83E-04	1.03E-03	8.59E-04	8.33E-04	8.35E-04	8.33E-04	5.55E-04	2.43E-04
901	560767.54	4192227.59	1.45E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	8.01E-04	4.85E-04	1.04E-03	8.63E-04	8.37E-04	8.40E-04	8.37E-04	5.58E-04	2.44E-04
902	560765.26	4192236.98	1.46E-03	1.11E-03	1.08E-03	1.09E-03	1.08E-03	8.04E-04	4.87E-04	1.04E-03	8.67E-04	8.41E-04	8.43E-04	8.41E-04	5.61E-04	2.45E-04
903	560762.97	4192246.37	1.46E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.06E-04	4.89E-04	1.04E-03	8.69E-04	8.43E-04	8.45E-04	8.43E-04	5.62E-04	2.46E-04
904	560760.69	4192255.76	1.46E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.06E-04	4.89E-04	1.04E-03	8.69E-04	8.43E-04	8.45E-04	8.43E-04	5.62E-04	2.46E-04
905	560758.41	4192265.15	1.46E-03	1.11E-03	1.09E-03	1.09E-03	1.09E-03	8.05E-04	4.88E-04	1.04E-03	8.68E-04	8.42E-04	8.44E-04	8.42E-04	5.61E-04	2.46E-04
906	560762.39	4192206.44	1.37E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	7.58E-04	4.59E-04	9.82E-04	8.17E-04	7.92E-04	7.94E-04	7.92E-04	5.28E-04	2.31E-04
907	560760.11	4192215.83	1.38E-03	1.05E-03	1.03E-03	1.03E-03	1.03E-03	7.61E-04	4.62E-04	9.87E-04	8.21E-04	7.96E-04	7.98E-04	7.96E-04	5.31E-04	2.32E-04
908	560757.82	4192225.22	1.39E-03	1.06E-03	1.03E-03	1.04E-03	1.03E-03	7.66E-04	4.64E-04	9.93E-04	8.25E-04	8.01E-04	8.03E-04	8.01E-04	5.34E-04	2.34E-04
909	560755.54	4192234.61	1.39E-03	1.06E-03	1.04E-03	1.04E-03	1.04E-03	7.69E-04	4.66E-04	9.97E-04	8.29E-04	8.04E-04	8.07E-04	8.04E-04	5.36E-04	2.35E-04

910	560753.26	4192244.01	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	1.00E-03	8.32E-04	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
911	560750.97	4192253.4	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	1.00E-03	8.32E-04	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
912	560748.69	4192262.79	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	9.98E-04	8.30E-04	8.05E-04	8.08E-04	8.05E-04	5.37E-04	2.35E-04
913	560752.67	4192204.08	1.31E-03	1.00E-03	9.78E-04	9.81E-04	9.78E-04	7.25E-04	4.40E-04	9.40E-04	7.82E-04	7.58E-04	7.60E-04	7.58E-04	5.06E-04	2.21E-04
914	560750.39	4192213.47	1.32E-03	1.01E-03	9.83E-04	9.86E-04	9.83E-04	7.29E-04	4.42E-04	9.45E-04	7.86E-04	7.63E-04	7.65E-04	7.63E-04	5.08E-04	2.23E-04
915	560748.11	4192222.86	1.33E-03	1.01E-03	9.89E-04	9.92E-04	9.89E-04	7.33E-04	4.45E-04	9.51E-04	7.91E-04	7.67E-04	7.69E-04	7.67E-04	5.11E-04	2.24E-04
916	560745.82	4192232.25	1.34E-03	1.02E-03	9.93E-04	9.96E-04	9.93E-04	7.37E-04	4.46E-04	9.55E-04	7.94E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
917	560743.54	4192241.64	1.34E-03	1.02E-03	9.96E-04	9.98E-04	9.96E-04	7.38E-04	4.48E-04	9.57E-04	7.96E-04	7.72E-04	7.74E-04	7.72E-04	5.15E-04	2.25E-04
918	560741.26	4192251.03	1.34E-03	1.02E-03	9.96E-04	9.98E-04	9.96E-04	7.38E-04	4.48E-04	9.57E-04	7.96E-04	7.72E-04	7.74E-04	7.72E-04	5.15E-04	2.25E-04
919	560738.97	4192260.43	1.34E-03	1.02E-03	9.94E-04	9.96E-04	9.94E-04	7.37E-04	4.47E-04	9.55E-04	7.94E-04	7.70E-04	7.73E-04	7.70E-04	5.14E-04	2.25E-04
920	560742.96	4192201.71	1.26E-03	9.64E-04	9.40E-04	9.42E-04	9.40E-04	6.97E-04	4.22E-04	9.03E-04	7.51E-04	7.29E-04	7.31E-04	7.29E-04	4.86E-04	2.13E-04
921	560740.67	4192211.11	1.27E-03	9.69E-04	9.45E-04	9.47E-04	9.45E-04	7.01E-04	4.25E-04	9.08E-04	7.55E-04	7.32E-04	7.35E-04	7.32E-04	4.88E-04	2.14E-04
922	560738.39	4192220.5	1.28E-03	9.73E-04	9.49E-04	9.51E-04	9.49E-04	7.04E-04	4.27E-04	9.12E-04	7.59E-04	7.36E-04	7.38E-04	7.36E-04	4.91E-04	2.15E-04
923	560736.11	4192229.89	1.28E-03	9.77E-04	9.52E-04	9.55E-04	9.52E-04	7.06E-04	4.28E-04	9.15E-04	7.61E-04	7.38E-04	7.40E-04	7.38E-04	4.92E-04	2.16E-04
924	560733.82	4192239.28	1.28E-03	9.78E-04	9.54E-04	9.56E-04	9.54E-04	7.07E-04	4.29E-04	9.17E-04	7.62E-04	7.40E-04	7.42E-04	7.40E-04	4.93E-04	2.16E-04
925	560731.54	4192248.67	1.28E-03	9.78E-04	9.53E-04	9.56E-04	9.53E-04	7.07E-04	4.29E-04	9.17E-04	7.62E-04	7.39E-04	7.41E-04	7.39E-04	4.93E-04	2.16E-04
926	560729.26	4192258.06	1.28E-03	9.76E-04	9.51E-04	9.54E-04	9.51E-04	7.05E-04	4.28E-04	9.14E-04	7.60E-04	7.38E-04	7.40E-04	7.38E-04	4.92E-04	2.15E-04
927	560733.24	4192199.35	1.21E-03	9.27E-04	9.04E-04	9.06E-04	9.04E-04	6.70E-04	4.06E-04	8.69E-04	7.23E-04	7.01E-04	7.03E-04	7.01E-04	4.67E-04	2.05E-04
928	560730.96	4192208.74	1.22E-03	9.32E-04	9.08E-04	9.11E-04	9.08E-04	6.74E-04	4.08E-04	8.73E-04	7.26E-04	7.04E-04	7.06E-04	7.04E-04	4.70E-04	2.06E-04
929	560728.67	4192218.13	1.23E-03	9.35E-04	9.12E-04	9.14E-04	9.12E-04	6.76E-04	4.10E-04	8.76E-04	7.29E-04	7.07E-04	7.09E-04	7.07E-04	4.71E-04	2.06E-04
930	560726.39	4192227.53	1.23E-03	9.38E-04	9.14E-04	9.17E-04	9.14E-04	6.78E-04	4.11E-04	8.79E-04	7.31E-04	7.09E-04	7.11E-04	7.09E-04	4.73E-04	2.07E-04
931	560724.11	4192236.92	1.23E-03	9.38E-04	9.15E-04	9.17E-04	9.15E-04	6.78E-04	4.11E-04	8.79E-04	7.31E-04	7.09E-04	7.11E-04	7.09E-04	4.73E-04	2.07E-04
932	560721.82	4192246.31	1.23E-03	9.38E-04	9.14E-04	9.17E-04	9.14E-04	6.78E-04	4.11E-04	8.79E-04	7.31E-04	7.09E-04	7.11E-04	7.09E-04	4.73E-04	2.07E-04
933	560719.54	4192255.7	1.23E-03	9.36E-04	9.13E-04	9.15E-04	9.13E-04	6.77E-04	4.10E-04	8.77E-04	7.30E-04	7.08E-04	7.10E-04	7.08E-04	4.72E-04	2.07E-04
934	560891.64	4192311.4	3.21E-03	2.45E-03	2.39E-03	2.39E-03	2.39E-03	1.77E-03	1.07E-03	2.29E-03	1.91E-03	1.85E-03	1.86E-03	1.85E-03	1.23E-03	5.40E-04
935	560888.03	4192328.88	3.19E-03	2.44E-03	2.38E-03	2.38E-03	2.38E-03	1.76E-03	1.07E-03	2.28E-03	1.90E-03	1.84E-03	1.85E-03	1.84E-03	1.23E-03	5.38E-04
936	560884.42	4192346.37	3.16E-03	2.41E-03	2.35E-03	2.36E-03	2.35E-03	1.75E-03	1.06E-03	2.26E-03	1.88E-03	1.82E-03	1.83E-03	1.82E-03	1.22E-03	5.33E-04
937	560880.81	4192363.85	3.11E-03	2.38E-03	2.32E-03	2.32E-03	2.32E-03	1.72E-03	1.04E-03	2.23E-03	1.85E-03	1.80E-03	1.80E-03	1.80E-03	1.20E-03	5.24E-04
938	560877.2	4192381.34	3.04E-03	2.32E-03	2.26E-03	2.27E-03	2.26E-03	1.68E-03	1.02E-03	2.18E-03	1.81E-03	1.76E-03	1.76E-03	1.76E-03	1.17E-03	5.13E-04
939	560881.85	4192309.38	2.98E-03	2.28E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	9.98E-04	2.13E-03	1.77E-03	1.72E-03	1.73E-03	1.72E-03	1.15E-03	5.02E-04
940	560878.24	4192326.86	2.97E-03	2.27E-03	2.21E-03	2.22E-03	2.21E-03	1.64E-03	9.93E-04	2.12E-03	1.77E-03	1.71E-03	1.72E-03	1.71E-03	1.14E-03	5.00E-04
941	560874.63	4192344.34	2.94E-03	2.24E-03	2.19E-03	2.19E-03	2.19E-03	1.62E-03	9.83E-04	2.10E-03	1.75E-03	1.70E-03	1.70E-03	1.70E-03	1.13E-03	4.95E-04
942	560871.01	4192361.83	2.89E-03	2.21E-03	2.15E-03	2.16E-03	2.15E-03	1.59E-03	9.67E-04	2.07E-03	1.72E-03	1.67E-03	1.67E-03	1.67E-03	1.11E-03	4.87E-04
943	560867.4	4192379.31	2.82E-03	2.16E-03	2.10E-03	2.11E-03	2.10E-03	1.56E-03	9.44E-04	2.02E-03	1.68E-03	1.63E-03	1.63E-03	1.63E-03	1.09E-03	4.76E-04
944	560872.05	4192307.35	2.78E-03	2.13E-03	2.07E-03	2.08E-03	2.07E-03	1.54E-03	9.31E-04	1.99E-03	1.66E-03	1.61E-03	1.61E-03	1.61E-03	1.07E-03	4.69E-04
945	560868.44	4192324.84	2.77E-03	2.11E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.26E-04	1.98E-03	1.65E-03	1.60E-03	1.60E-03	1.60E-03	1.07E-03	4.66E-04
946	560864.83	4192342.32	2.74E-03	2.09E-03	2.04E-03	2.04E-03	2.04E-03	1.51E-03	9.16E-04	1.96E-03	1.63E-03	1.58E-03	1.58E-03	1.58E-03	1.05E-03	4.61E-04
947	560861.22	4192359.81	2.69E-03	2.05E-03	2.00E-03	2.01E-03	2.00E-03	1.48E-03	9.00E-04	1.92E-03	1.60E-03	1.55E-03	1.56E-03	1.55E-03	1.04E-03	4.53E-04
948	560857.61	4192377.29	2.63E-03	2.01E-03	1.96E-03	1.96E-03	1.96E-03	1.45E-03	8.79E-04	1.88E-03	1.56E-03	1.52E-03	1.52E-03	1.52E-03	1.01E-03	4.43E-04
949	560862.26	4192305.33	2.61E-03	1.99E-03	1.94E-03	1.94E-03	1.94E-03	1.44E-03	8.71E-04	1.86E-03	1.55E-03	1.50E-03	1.51E-03	1.50E-03	1.00E-03	4.39E-04
950	560858.65	4192322.81	2.59E-03	1.98E-03	1.93E-03	1.93E-03	1.93E-03	1.43E-03	8.66E-04	1.85E-03	1.54E-03	1.49E-03	1.50E-03	1.49E-03	9.96E-04	4.36E-04
951	560855.04	4192340.3	2.56E-03	1.95E-03	1.90E-03	1.91E-03	1.90E-03	1.41E-03	8.56E-04	1.83E-03	1.52E-03	1.48E-03	1.48E-03	1.48E-03	9.84E-04	4.31E-04
952	560851.43	4192357.78	2.51E-03	1.92E-03	1.87E-03	1.87E-03	1.87E-03	1.39E-03	8.40E-04	1.80E-03	1.49E-03	1.45E-03	1.45E-03	1.45E-03	9.67E-04	4.23E-04
953	560847.82	4192375.27	2.45E-03	1.87E-03	1.83E-03	1.83E-03	1.83E-03	1.35E-03	8.21E-04	1.76E-03	1.46E-03	1.42E-03	1.42E-03	1.42E-03	9.44E-04	4.13E-04
954	560852.47	4192303.31	2.44E-03	1.87E-03	1.82E-03	1.82E-03	1.82E-03	1.35E-03	8.17E-04	1.75E-03	1.45E-03	1.41E-03	1.41E-03	1.41E-03	9.40E-04	4.11E-04
955	560848.86	4192320.79	2.43E-03	1.85E-03	1.81E-03	1.81E-03	1.81E-03	1.34E-03	8.12E-04	1.74E-03	1.44E-03	1.40E-03	1.40E-03	1.40E-03	9.34E-04	4.09E-04
956	560845.25	4192338.28	2.40E-03	1.83E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.02E-04	1.71E-03	1.43E-03	1.38E-03	1.39E-03	1.38E-03	9.22E-04	4.04E-04
957	560841.63	4192355.76	2.35E-03	1.80E-03	1.75E-03	1.76E-03	1.75E-03	1.30E-03	7.87E-04	1.68E-03	1.40E-03	1.36E-03	1.36E-03	1.36E-03	9.05E-04	3.96E-04
958	560838.02	4192373.25	2.30E-03	1.75E-03	1.71E-03	1.72E-03	1.71E-03	1.27E-03	7.69E-04	1.64E-03	1.37E-03	1.33E-03	1.33E-03	1.33E-03	8.84E-04	3.87E-04
959	560842.67	4192301.28	2.30E-03	1.75E-03	1.71E-03	1.71E-03	1.71E-03	1.27E-03	7.68E-04	1.64E-03	1.37E-03	1.33E-03	1.33E-03	1.33E-03	8.84E-04	3.87E-04
960	560839.06	4192318.77	2.28E-03	1.74E-03	1.70E-03	1.70E-03	1.70E-03	1.26E-03	7.63E-04	1.63E-03	1.36E-03	1.32E-03	1.32E-03	1.32E-03	8.78E-04	3.84E-04
961	560835.45	4192336.25	2.26E-03	1.72E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.54E-04	1.61E-03	1.34E-03	1.30E-03	1.30E-03	1.30E-03	8.67E-04	3.80E-04
962	560831.84	4192353.74	2.21E-03	1.69E-03	1.65E-03	1.65E-03	1.65E-03	1.22E-03	7.41E-04	1.58E-03	1.32E-03	1.28E-03	1.28E-03	1.28E-03	8.52E-04	3.73E-04
963	560828.23	4192371.22	2.16E-03	1.65E-03	1.61E-03	1.61E-03	1.61E-03	1.19E-03	7.23E-04	1.55E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	8.31E-04	3.64E-04
964	560832.88	4192299.26	2.17E-03	1.65E-03	1.61E-03	1.62E-03	1.61E-03	1.20E-03	7.25E-04	1.55E-03	1.29E-03	1.25E-03	1.25E-03	1.25E-03	8.34E-04	3.65E-04
965	560829.27	4192316.75	2.15E-03	1.64E-03	1.60E-03	1.61E-03	1.60E-03	1.19E-03	7.20E-04	1.54E-03	1.28E-03	1.24E-03	1.25E-03	1.24E-03	8.28E-04	3.63E-04
966	560825.66	4192334.23	2.13E-03	1.62E-03	1.58E-03	1.59E-03	1.58E-03	1.17E-03	7.11E-04	1.52E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	8.18E-04	3.58E-04
967	560822.05	4192351.72	2.09E-03	1.59E-03	1.55E-03	1.56E-03	1.55E-03	1.15E-03	6.98E-04	1.49E-03	1.24E-03	1.20E-03	1.21E-03	1.20E-03	8.03E-04	3.52E-04
968	560818.44	4192369.2	2.04E-03	1.55E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.81E-04	1.46E-03	1.21E-03	1.17E-03	1.18E-03	1.17E-03	7.83E-04	3.43E-04
969	560823.09	4192297.24	2.05E-03	1.56E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.86E-04	1.47E-03	1.22E-03	1.18E-03	1.19E-03	1.18E-03	7.88E-04	3.45E-04
970	560819.48	4192314.72	2.04E-03	1.55E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.81E-04	1.46E-03	1.21E-03	1.17E-03	1.18E-03	1.17E-03	7.83E-04	3.43E-04
971	560815.87	4192332.21	2.01E-03	1.53E-03	1.50E-03	1.50E-03	1.50E-03	1.11E-03	6.72E-04	1.44E-03	1.20E-03	1.16E-03	1.16E-03	1.16E-03	7.73E-04	3.38E-04
972	560812.25	4192349.69	1.97E-03	1.51E-03	1.47E-03	1.47E-03	1.47E-03	1.09E-03	6.60E-04	1.41E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	7.59E-04	3.32E-04
973	560808.64	4192367.18	1.92E-03	1.47E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.43E-04	1.38E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	7.40E-04	3.24E-04
974	560813.29	4192295.22	1.94E-03	1.48E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.50E-04	1.39E-03	1.16E-03	1.12E-03	1.12E-03	1.12E-03	7.47E-04	3.27E-04
975	560809.68	4192312.7	1.93E-03	1.47E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.45E-04	1.38E-03	1.15E-03	1.11E-03	1.12E-03	1.11E-03	7.42E-04	3.25E-04
976	560806.07	4192330.19	1.90E-03	1.45E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.37E-04	1.36E-03	1.13E-03	1.10E-03	1.10E-03	1.10E-03	7.32E-04	3.21E-04
977	560802.46	4192347.67	1.87E-03	1.43E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.34E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	7.18E-04	3.15E-04
978	560798.85	4192365.15	1.82E-03	1.39E-03	1.35E-03	1.36E-03	1.35E-03	1.00E-03	6.09E-04	1.30E-03	1.08E-03	1.05E-03	1.05E-03	1.05E-03	7.00E-04	3.07E-04
979	560803.5	4192293.19	1.84E-03	1.41E-03	1.37E-03	1.38E-03	1.37E-03	1.02E-03	6.17E-04	1.32E-03	1.10E-03	1.06E-03	1.07E-03	1.06E-03	7.09E-04	3.10E-04
980	560799.89	4192310.68	1.83E-03	1.40E-03	1.36E-03	1.36E-03	1.36E-03	1.01E-03	6.12E-04	1.31E-03	1.09E-03	1.06E-03	1.06E-03	1.06E-03	7.04E-04	3.08E-04
981	560796.28	4192328.16	1.81E-03	1.38E-03	1.34E-03	1.35E-03	1.34E-03	9.96E-04	6.04E-04	1.29E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	6.95E-04	3.04E-04
982	560792.67	4192345.65	1.77E-03	1.35E-03	1.32E-03	1.32E-03	1.32E-03	9.77E-04	5.93E-04	1.27E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	6.81E-04	2.98E-04
983	560789.06	4192363.13	1.73E-03	1.32E-03	1.29E-03	1.29E-03	1.29E-03	9.53E-04	5.78E-04	1.24E-03	1.03E-03	9.96E-04	9.99E-04	9.96E-04	6.64E-04	2.91E-04
984	560793.71	4192291.17	1.75E-03	1.34E-03	1.30E-03	1.31E-03	1.30E-03	9.67E-04	5.86E-04	1.25E-03	1.04E-03	1.01E-03	1.01E-03	1.01E-03	6.74E-04	2.95E-04
985	560790.1	4192308.66	1.74E-03	1.33E-03	1.29E-03	1.30E-03	1.29E-03	9.59E-04	5.82E-04	1.24E-03	1.03E-03	1.00E-03	1.01E-03	1.00E-03	6.69E-04	2.93E-04
986	560786.49	4192326.14	1.72E-03	1.31E-03	1.28E-03	1.28E-03	1.28E-03	9.47E-04	5.74E-04	1.23E-03	1.02E-03	9.90E-04	9.93E-04	9.90E-04	6.60E-04	2.89E-04
987	560782.87	4192343.62	1.68E-03	1.28E-03	1.25E-03	1.26E-03	1.25E-03	9.29E-04	5.63E-04	1.20E-03	1.00E-03	9.71E-04	9.74E-04	9.71E-04	6.48E-04	2.83E-04
988	560779.26	4192361.11	1.64E-03	1.25E-03	1.22E-03	1.22E-03	1.22E-03	9.05E-04	5.49E-04	1.17E-03	9.76E-04	9.47E-04	9.49E-04	9.47E-04	6.31E-04	2.76E-04
989	560783.91	4192289.15	1.67E-03	1.27E-03	1.24E-03	1.24E-03	1.24E-03	9.21E-04	5.58E-04	1.19E-03	9.92E-04	9.63E-04	9.65E-04	9.63E-04	6.42E-04	2.81E-04
990	560780.3	4192306.63	1.66E-03	1.26E-03	1.23E-03	1.24E-03	1.23E-03	9.13E-04	5.54E-04	1.18E-03	9.85E-04	9.55E-04	9.58E-04	9.55E-04	6.37E-04	2.79E-04
991	560776.69	4192324.12	1.63E-03	1.25E-03	1.22E-03	1.22E-03	1.22E-03	9.01E-04	5.46E-04	1.17E-03	9.71E-04	9.42E-04	9.45E-04	9.42E-04	6.28E-04	2.75E-04
992	560773.08	4192341.6	1.60E-03	1.22E-03	1.19E-03	1.20E-03	1.19E-03	8.84E-04	5.36E-04	1.15E-03	9.53E-04	9.24E-04	9.27E-04	9.24E-04	6.16E-04	2.70E-04

993	560769.47	4192359.09	1.56E-03	1.19E-03	1.16E-03	1.17E-03	1.16E-03	8.62E-04	5.22E-04	1.12E-03	9.29E-04	9.01E-04	9.04E-04	9.01E-04	6.01E-04	2.63E-04
994	560774.12	4192287.13	1.59E-03	1.21E-03	1.18E-03	1.19E-03	1.18E-03	8.78E-04	5.32E-04	1.14E-03	9.46E-04	9.18E-04	9.21E-04	9.18E-04	6.12E-04	2.68E-04
995	560770.51	4192304.61	1.58E-03	1.20E-03	1.17E-03	1.18E-03	1.17E-03	8.71E-04	5.28E-04	1.13E-03	9.39E-04	9.10E-04	9.13E-04	9.10E-04	6.07E-04	2.66E-04
996	560766.9	4192322.1	1.56E-03	1.19E-03	1.16E-03	1.16E-03	1.16E-03	8.59E-04	5.21E-04	1.11E-03	9.26E-04	8.98E-04	9.01E-04	8.98E-04	5.99E-04	2.62E-04
997	560763.29	4192339.58	1.53E-03	1.17E-03	1.14E-03	1.14E-03	1.14E-03	8.43E-04	5.11E-04	1.09E-03	9.08E-04	8.81E-04	8.83E-04	8.81E-04	5.87E-04	2.57E-04
998	560759.68	4192357.06	1.49E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	8.21E-04	4.98E-04	1.06E-03	8.85E-04	8.59E-04	8.61E-04	8.59E-04	5.73E-04	2.51E-04
999	560764.33	4192285.1	1.52E-03	1.16E-03	1.13E-03	1.13E-03	1.13E-03	8.38E-04	5.08E-04	1.09E-03	9.04E-04	8.77E-04	8.79E-04	8.77E-04	5.84E-04	2.56E-04
1000	560760.72	4192302.59	1.51E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	1.08E-03	8.96E-04	8.69E-04	8.72E-04	8.69E-04	5.80E-04	2.54E-04
1001	560757.11	4192320.07	1.49E-03	1.13E-03	1.11E-03	1.11E-03	1.11E-03	8.20E-04	4.97E-04	1.06E-03	8.84E-04	8.57E-04	8.60E-04	8.57E-04	5.72E-04	2.50E-04
1002	560753.5	4192337.56	1.46E-03	1.11E-03	1.08E-03	1.09E-03	1.08E-03	8.04E-04	4.87E-04	1.04E-03	8.67E-04	8.41E-04	8.43E-04	8.41E-04	5.61E-04	2.45E-04
1003	560749.88	4192355.04	1.42E-03	1.08E-03	1.06E-03	1.06E-03	1.06E-03	7.84E-04	4.75E-04	1.02E-03	8.45E-04	8.19E-04	8.22E-04	8.19E-04	5.46E-04	2.39E-04
1004	560756.34	4192274.34	1.46E-03	1.11E-03	1.08E-03	1.09E-03	1.08E-03	8.04E-04	4.87E-04	1.04E-03	8.66E-04	8.40E-04	8.43E-04	8.40E-04	5.60E-04	2.45E-04
1005	560752.73	4192291.82	1.45E-03	1.10E-03	1.08E-03	1.08E-03	1.08E-03	7.98E-04	4.84E-04	1.03E-03	8.61E-04	8.35E-04	8.37E-04	8.35E-04	5.57E-04	2.44E-04
1006	560749.12	4192309.31	1.43E-03	1.09E-03	1.06E-03	1.07E-03	1.06E-03	7.89E-04	4.78E-04	1.02E-03	8.50E-04	8.25E-04	8.27E-04	8.25E-04	5.50E-04	2.41E-04
1007	560745.51	4192326.79	1.41E-03	1.07E-03	1.05E-03	1.05E-03	1.05E-03	7.75E-04	4.70E-04	1.00E-03	8.36E-04	8.11E-04	8.13E-04	8.11E-04	5.40E-04	2.37E-04
1008	560741.9	4192344.28	1.37E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	7.58E-04	4.59E-04	9.82E-04	8.17E-04	7.93E-04	7.95E-04	7.93E-04	5.28E-04	2.31E-04
1009	560746.55	4192272.32	1.39E-03	1.06E-03	1.04E-03	1.04E-03	1.04E-03	7.68E-04	4.66E-04	9.96E-04	8.28E-04	8.03E-04	8.05E-04	8.03E-04	5.36E-04	2.34E-04
1010	560742.94	4192289.8	1.38E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	7.63E-04	4.62E-04	9.89E-04	8.22E-04	7.97E-04	8.00E-04	7.97E-04	5.32E-04	2.33E-04
1011	560739.33	4192307.28	1.37E-03	1.04E-03	1.02E-03	1.02E-03	1.02E-03	7.53E-04	4.57E-04	9.76E-04	8.12E-04	7.88E-04	7.90E-04	7.88E-04	5.25E-04	2.30E-04
1012	560735.71	4192324.77	1.34E-03	1.02E-03	9.98E-04	1.00E-03	9.98E-04	7.40E-04	4.49E-04	9.59E-04	7.98E-04	7.74E-04	7.76E-04	7.74E-04	5.16E-04	2.26E-04
1013	560732.1	4192342.25	1.31E-03	1.00E-03	9.76E-04	9.79E-04	9.76E-04	7.24E-04	4.39E-04	9.38E-04	7.80E-04	7.57E-04	7.59E-04	7.57E-04	5.05E-04	2.21E-04
1014	560736.75	4192270.29	1.33E-03	1.02E-03	9.91E-04	9.93E-04	9.91E-04	7.35E-04	4.45E-04	9.52E-04	7.92E-04	7.68E-04	7.70E-04	7.68E-04	5.12E-04	2.24E-04
1015	560733.14	4192287.78	1.32E-03	1.01E-03	9.83E-04	9.86E-04	9.83E-04	7.29E-04	4.42E-04	9.45E-04	7.86E-04	7.62E-04	7.64E-04	7.62E-04	5.08E-04	2.23E-04
1016	560729.53	4192305.26	1.30E-03	9.96E-04	9.71E-04	9.73E-04	9.71E-04	7.20E-04	4.36E-04	9.33E-04	7.76E-04	7.53E-04	7.55E-04	7.53E-04	5.02E-04	2.20E-04
1017	560725.92	4192322.75	1.28E-03	9.78E-04	9.53E-04	9.56E-04	9.53E-04	7.07E-04	4.29E-04	9.16E-04	7.62E-04	7.39E-04	7.41E-04	7.39E-04	4.93E-04	2.16E-04
1018	560722.31	4192340.23	1.25E-03	9.57E-04	9.32E-04	9.35E-04	9.32E-04	6.92E-04	4.19E-04	8.96E-04	7.45E-04	7.23E-04	7.25E-04	7.23E-04	4.82E-04	2.11E-04
1019	560726.96	4192268.27	1.27E-03	9.73E-04	9.48E-04	9.51E-04	9.48E-04	7.03E-04	4.26E-04	9.11E-04	7.58E-04	7.35E-04	7.37E-04	7.35E-04	4.90E-04	2.15E-04
1020	560723.35	4192285.76	1.26E-03	9.65E-04	9.41E-04	9.43E-04	9.41E-04	6.97E-04	4.23E-04	9.04E-04	7.52E-04	7.29E-04	7.31E-04	7.29E-04	4.86E-04	2.13E-04
1021	560719.74	4192303.24	1.25E-03	9.53E-04	9.29E-04	9.32E-04	9.29E-04	6.89E-04	4.18E-04	8.93E-04	7.43E-04	7.21E-04	7.23E-04	7.21E-04	4.80E-04	2.10E-04
1022	560716.13	4192320.72	1.23E-03	9.37E-04	9.14E-04	9.16E-04	9.14E-04	6.78E-04	4.11E-04	8.78E-04	7.30E-04	7.08E-04	7.10E-04	7.08E-04	4.72E-04	2.07E-04
1023	560712.52	4192338.21	1.20E-03	9.17E-04	8.94E-04	8.96E-04	8.94E-04	6.63E-04	4.02E-04	8.59E-04	7.15E-04	6.93E-04	6.95E-04	6.93E-04	4.62E-04	2.02E-04
1024	560717.17	4192266.25	1.22E-03	9.34E-04	9.10E-04	9.12E-04	9.10E-04	6.75E-04	4.09E-04	8.75E-04	7.27E-04	7.06E-04	7.08E-04	7.06E-04	4.70E-04	2.06E-04
1025	560713.56	4192283.73	1.21E-03	9.27E-04	9.03E-04	9.06E-04	9.03E-04	6.70E-04	4.06E-04	8.68E-04	7.22E-04	7.00E-04	7.02E-04	7.00E-04	4.67E-04	2.04E-04
1026	560709.95	4192301.22	1.20E-03	9.16E-04	8.92E-04	8.95E-04	8.92E-04	6.62E-04	4.01E-04	8.58E-04	7.13E-04	6.92E-04	6.94E-04	6.92E-04	4.61E-04	2.02E-04
1027	560706.33	4192318.7	1.18E-03	9.00E-04	8.77E-04	8.80E-04	8.77E-04	6.51E-04	3.94E-04	8.43E-04	7.01E-04	6.80E-04	6.82E-04	6.80E-04	4.54E-04	1.99E-04
1028	560702.72	4192336.19	1.15E-03	8.80E-04	8.58E-04	8.60E-04	8.58E-04	6.36E-04	3.86E-04	8.25E-04	6.86E-04	6.65E-04	6.67E-04	6.65E-04	4.44E-04	1.94E-04
1029	560873.71	4192396.88	2.96E-03	2.26E-03	2.20E-03	2.21E-03	2.20E-03	1.63E-03	9.89E-04	2.12E-03	1.76E-03	1.71E-03	1.71E-03	1.71E-03	1.14E-03	4.98E-04
1030	560863.95	4192394.71	2.74E-03	2.09E-03	2.04E-03	2.05E-03	2.04E-03	1.51E-03	9.18E-04	1.96E-03	1.63E-03	1.58E-03	1.59E-03	1.58E-03	1.06E-03	4.62E-04
1031	560860.04	4192412.26	2.64E-03	2.01E-03	1.96E-03	1.97E-03	1.96E-03	1.45E-03	8.81E-04	1.88E-03	1.57E-03	1.52E-03	1.52E-03	1.52E-03	1.01E-03	4.44E-04
1032	560856.12	4192429.81	2.51E-03	1.91E-03	1.87E-03	1.87E-03	1.87E-03	1.38E-03	8.39E-04	1.79E-03	1.49E-03	1.45E-03	1.45E-03	1.45E-03	9.65E-04	4.22E-04
1033	560854.19	4192392.53	2.56E-03	1.95E-03	1.90E-03	1.91E-03	1.90E-03	1.41E-03	8.55E-04	1.83E-03	1.52E-03	1.47E-03	1.48E-03	1.47E-03	9.83E-04	4.30E-04
1034	560850.28	4192410.08	2.45E-03	1.87E-03	1.83E-03	1.83E-03	1.83E-03	1.35E-03	8.21E-04	1.76E-03	1.46E-03	1.42E-03	1.42E-03	1.42E-03	9.44E-04	4.13E-04
1035	560846.36	4192427.63	2.34E-03	1.78E-03	1.74E-03	1.74E-03	1.74E-03	1.29E-03	7.82E-04	1.67E-03	1.39E-03	1.35E-03	1.35E-03	1.35E-03	8.99E-04	3.94E-04
1036	560844.43	4192390.35	2.39E-03	1.82E-03	1.78E-03	1.78E-03	1.78E-03	1.32E-03	7.99E-04	1.71E-03	1.42E-03	1.38E-03	1.38E-03	1.38E-03	9.19E-04	4.02E-04
1037	560842.48	4192399.13	2.34E-03	1.79E-03	1.74E-03	1.75E-03	1.74E-03	1.29E-03	7.84E-04	1.68E-03	1.39E-03	1.35E-03	1.36E-03	1.35E-03	9.02E-04	3.95E-04
1038	560838.56	4192416.68	2.24E-03	1.71E-03	1.67E-03	1.67E-03	1.67E-03	1.24E-03	7.50E-04	1.60E-03	1.33E-03	1.29E-03	1.30E-03	1.29E-03	8.62E-04	3.77E-04
1039	560834.65	4192434.23	2.13E-03	1.62E-03	1.58E-03	1.59E-03	1.58E-03	1.17E-03	7.11E-04	1.52E-03	1.26E-03	1.23E-03	1.23E-03	1.23E-03	8.18E-04	3.58E-04
1040	560834.67	4192388.18	2.24E-03	1.71E-03	1.66E-03	1.67E-03	1.66E-03	1.23E-03	7.48E-04	1.60E-03	1.33E-03	1.29E-03	1.29E-03	1.29E-03	8.61E-04	3.77E-04
1041	560830.76	4192405.73	2.15E-03	1.64E-03	1.60E-03	1.60E-03	1.60E-03	1.19E-03	7.19E-04	1.54E-03	1.28E-03	1.24E-03	1.24E-03	1.24E-03	8.27E-04	3.62E-04
1042	560826.84	4192423.28	2.05E-03	1.56E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.85E-04	1.46E-03	1.22E-03	1.18E-03	1.18E-03	1.18E-03	7.88E-04	3.45E-04
1043	560824.91	4192386	2.10E-03	1.60E-03	1.56E-03	1.57E-03	1.56E-03	1.16E-03	7.03E-04	1.50E-03	1.25E-03	1.21E-03	1.22E-03	1.21E-03	8.09E-04	3.54E-04
1044	560821	4192403.55	2.02E-03	1.54E-03	1.50E-03	1.51E-03	1.50E-03	1.11E-03	6.75E-04	1.44E-03	1.20E-03	1.16E-03	1.17E-03	1.16E-03	7.77E-04	3.40E-04
1045	560817.08	4192421.1	1.92E-03	1.47E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.44E-04	1.38E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	7.40E-04	3.24E-04
1046	560815.13	4192429.88	1.87E-03	1.43E-03	1.39E-03	1.40E-03	1.39E-03	1.03E-03	6.27E-04	1.34E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	7.21E-04	3.15E-04
1047	560815.15	4192383.82	1.98E-03	1.51E-03	1.47E-03	1.48E-03	1.47E-03	1.09E-03	6.62E-04	1.42E-03	1.18E-03	1.14E-03	1.15E-03	1.14E-03	7.62E-04	3.33E-04
1048	560811.24	4192401.38	1.90E-03	1.45E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.36E-04	1.36E-03	1.13E-03	1.10E-03	1.10E-03	1.10E-03	7.32E-04	3.20E-04
1049	560807.32	4192418.93	1.81E-03	1.38E-03	1.35E-03	1.35E-03	1.35E-03	1.00E-03	6.07E-04	1.30E-03	1.08E-03	1.05E-03	1.05E-03	1.05E-03	6.98E-04	3.06E-04
1050	560805.39	4192381.65	1.87E-03	1.43E-03	1.39E-03	1.40E-03	1.39E-03	1.03E-03	6.26E-04	1.34E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	7.20E-04	3.15E-04
1051	560801.48	4192399.2	1.80E-03	1.37E-03	1.34E-03	1.34E-03	1.34E-03	9.92E-04	6.01E-04	1.29E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
1052	560797.56	4192416.75	1.72E-03	1.31E-03	1.28E-03	1.28E-03	1.28E-03	9.47E-04	5.74E-04	1.23E-03	1.02E-03	9.90E-04	9.93E-04	9.90E-04	6.60E-04	2.89E-04
1053	560795.63	4192379.47	1.77E-03	1.35E-03	1.32E-03	1.32E-03	1.32E-03	9.78E-04	5.93E-04	1.27E-03	1.05E-03	1.02E-03	1.03E-03	1.02E-03	6.82E-04	2.98E-04
1054	560791.72	4192397.02	1.70E-03	1.30E-03	1.27E-03	1.27E-03	1.27E-03	9.40E-04	5.70E-04	1.22E-03	1.01E-03	9.83E-04	9.85E-04	9.83E-04	6.55E-04	2.87E-04
1055	560787.8	4192414.57	1.63E-03	1.24E-03	1.21E-03	1.21E-03	1.21E-03	8.97E-04	5.44E-04	1.16E-03	9.67E-04	9.38E-04	9.41E-04	9.38E-04	6.26E-04	2.74E-04
1056	560785.87	4192377.29	1.68E-03	1.28E-03	1.25E-03	1.25E-03	1.25E-03	9.28E-04	5.62E-04	1.20E-03	1.00E-03	9.70E-04	9.73E-04	9.70E-04	6.47E-04	2.83E-04
1057	560781.96	4192394.85	1.62E-03	1.23E-03	1.20E-03	1.21E-03	1.20E-03	8.92E-04	5.41E-04	1.16E-03	9.62E-04	9.33E-04	9.35E-04	9.33E-04	6.22E-04	2.72E-04
1058	560778.04	4192412.4	1.54E-03	1.18E-03	1.15E-03	1.15E-03	1.15E-03	8.52E-04	5.17E-04	1.10E-03	9.19E-04	8.91E-04	8.94E-04	8.91E-04	5.94E-04	2.60E-04
1059	560776.11	4192375.12	1.60E-03	1.22E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	1.14E-03	9.51E-04	9.22E-04	9.25E-04	9.22E-04	6.15E-04	2.69E-04
1060	560774.15	4192383.89	1.57E-03	1.20E-03	1.17E-03	1.17E-03	1.17E-03	8.66E-04	5.25E-04	1.12E-03	9.33E-04	9.05E-04	9.08E-04	9.05E-04	6.03E-04	2.64E-04
1061	560770.24	4192401.44	1.50E-03	1.15E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	1.08E-03	8.95E-04	8.68E-04	8.70E-04	8.68E-04	5.79E-04	2.53E-04
1062	560766.32	4192419	1.43E-03	1.09E-03	1.07E-03	1.07E-03	1.07E-03	7.91E-04	4.80E-04	1.03E-03	8.53E-04	8.27E-04	8.30E-04	8.27E-04	5.52E-04	2.41E-04
1063	560766.35	4192372.94	1.52E-03	1.16E-03	1.13E-03	1.14E-03	1.13E-03	8.40E-04	5.09E-04	1.09E-03	9.05E-04	8.78E-04	8.80E-04	8.78E-04	5.85E-04	2.56E-04
1064	560762.44	4192390.49	1.46E-03	1.12E-03	1.09E-03	1.09E-03	1.09E-03	8.08E-04	4.90E-04	1.05E-03	8.71E-04	8.45E-04	8.47E-04	8.45E-04	5.63E-04	2.47E-04
1065	560758.52	4192408.04	1.40E-03	1.07E-03	1.04E-03	1.05E-03	1.04E-03	7.73E-04	4.69E-04	1.00E-03	8.33E-04	8.08E-04	8.10E-04	8.08E-04	5.39E-04	2.36E-04
1066	560756.59	4192370.76	1.45E-03	1.11E-03	1.08E-03	1.08E-03	1.08E-03	8.01E-04	4.85E-04	1.04E-03	8.63E-04	8.37E-04	8.40E-04	8.37E-04	5.58E-04	2.44E-04
1067	560752.68	4192388.32	1.40E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.67E-04	9.99E-04	8.31E-04	8.06E-04	8.08E-04	8.06E-04	5.37E-04	2.35E-04
1068	560748.76	4192405.87	1.34E-03	1.02E-03	9.95E-04	9.98E-04	9.95E-04	7.38E-04	4.47E-04	9.56E-04	7.95E-04	7.71E-04	7.74E-04	7.71E-04	5.14E-04	2.25E-04
1069	560746.8	4192414.64	1.31E-03	9.97E-04	9.71E-04	9.74E-04	9.71E-04	7.20E-04	4.37E-04	9.34E-04	7.76E-04	7.53E-04	7.55E-04	7.53E-04	5.02E-04	2.20E-04
1070	560746.83	4192368.59	1.39E-03	1.06E-03	1.03E-03	1.03E-03	1.03E-03	7.65E-04	4.64E-04	9.91E-04	8.24E-04	7.99E-04	8.02E-04	7.99E-04	5.33E-04	2.33E-04
1071	560742.92	4192386.14	1.33E-03	1.02E-03	9.93E-04	9.96E-04	9.93E-04	7.36E-04	4.46E-04	9.55E-04	7.94E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
1072	560739	4192403.69	1.28E-03	9.76E-04	9.51E-04	9.54E-04	9.51E-04	7.05E-04	4.28E-04	9.14E-04	7.60E-04	7.37E-04	7.39E-04	7.37E-04	4.92E-04	2.15E-04
1073	560739.03	4192357.63	1.35E-03	1.03E-03	1.00E-03	1.00E-03	1.00E-03	7.43E-04	4.50E-04	9.63E-04	8.00E-04	7.76E-04	7.79E-04	7.76E-04	5.18E-04	2.27E-04
1074	560735.11	4192375.19	1.30E-03	9.94E-04	9.68E-04	9.71E-04	9.68E-04	7.18E-04	4.35E-04	9.31E-04	7.74E-04	7.51E-04	7.53E-04	7.51E-04	5.01E-04	2.19E-04
1075	560731.2	4192392.74	1.25E-03	9.55E-04	9.31E-04	9.33E-04	9.31E-04	6.90E-04	4.18E-04	8.95E-04	7.44E-04	7.22E-04	7.24E-04	7.22E-04	4.81E-04	2.11E-04

1076	560727.28	4192410.29	1.20E-03	9.13E-04	8.90E-04	8.92E-04	8.90E-04	6.60E-04	4.00E-04	8.55E-04	7.11E-04	6.90E-04	6.92E-04	6.90E-04	4.60E-04	2.01E-04
1077	560729.27	4192355.46	1.29E-03	9.82E-04	9.57E-04	9.60E-04	9.57E-04	7.10E-04	4.30E-04	9.20E-04	7.65E-04	7.42E-04	7.45E-04	7.42E-04	4.95E-04	2.17E-04
1078	560725.35	4192373.01	1.25E-03	9.51E-04	9.27E-04	9.30E-04	9.27E-04	6.88E-04	4.17E-04	8.91E-04	7.41E-04	7.19E-04	7.21E-04	7.19E-04	4.79E-04	2.10E-04
1079	560721.44	4192390.56	1.20E-03	9.14E-04	8.91E-04	8.94E-04	8.91E-04	6.61E-04	4.01E-04	8.57E-04	7.12E-04	6.91E-04	6.93E-04	6.91E-04	4.61E-04	2.02E-04
1080	560717.52	4192408.11	1.15E-03	8.74E-04	8.52E-04	8.55E-04	8.52E-04	6.32E-04	3.83E-04	8.19E-04	6.81E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
1081	560719.51	4192353.28	1.23E-03	9.40E-04	9.16E-04	9.19E-04	9.16E-04	6.79E-04	4.12E-04	8.81E-04	7.32E-04	7.10E-04	7.12E-04	7.10E-04	4.74E-04	2.07E-04
1082	560715.59	4192370.83	1.19E-03	9.11E-04	8.88E-04	8.90E-04	8.88E-04	6.58E-04	3.99E-04	8.53E-04	7.10E-04	6.88E-04	6.90E-04	6.88E-04	4.59E-04	2.01E-04
1083	560711.68	4192388.38	1.15E-03	8.75E-04	8.53E-04	8.55E-04	8.53E-04	6.33E-04	3.84E-04	8.20E-04	6.82E-04	6.62E-04	6.63E-04	6.62E-04	4.41E-04	1.93E-04
1084	560707.76	4192405.94	1.10E-03	8.38E-04	8.17E-04	8.19E-04	8.17E-04	6.06E-04	3.67E-04	7.85E-04	6.53E-04	6.33E-04	6.35E-04	6.33E-04	4.22E-04	1.85E-04
1085	560709.75	4192351.1	1.18E-03	9.00E-04	8.78E-04	8.80E-04	8.78E-04	6.51E-04	3.95E-04	8.44E-04	7.02E-04	6.80E-04	6.82E-04	6.80E-04	4.54E-04	1.99E-04
1086	560707.79	4192359.88	1.16E-03	8.87E-04	8.64E-04	8.67E-04	8.64E-04	6.41E-04	3.89E-04	8.31E-04	6.91E-04	6.70E-04	6.72E-04	6.70E-04	4.47E-04	1.96E-04
1087	560703.87	4192377.43	1.12E-03	8.56E-04	8.34E-04	8.36E-04	8.34E-04	6.18E-04	3.75E-04	8.02E-04	6.67E-04	6.47E-04	6.48E-04	6.47E-04	4.31E-04	1.89E-04
1088	560699.96	4192394.98	1.08E-03	8.21E-04	8.00E-04	8.02E-04	8.00E-04	5.93E-04	3.60E-04	7.69E-04	6.39E-04	6.20E-04	6.22E-04	6.20E-04	4.14E-04	1.81E-04
1089	560699.99	4192348.93	1.13E-03	8.64E-04	8.42E-04	8.44E-04	8.42E-04	6.24E-04	3.78E-04	8.09E-04	6.73E-04	6.53E-04	6.54E-04	6.53E-04	4.35E-04	1.91E-04
1090	560696.07	4192366.48	1.09E-03	8.36E-04	8.15E-04	8.17E-04	8.15E-04	6.04E-04	3.66E-04	7.83E-04	6.51E-04	6.32E-04	6.33E-04	6.32E-04	4.21E-04	1.84E-04
1091	560692.16	4192384.03	1.05E-03	8.04E-04	7.84E-04	7.86E-04	7.84E-04	5.81E-04	3.52E-04	7.53E-04	6.27E-04	6.08E-04	6.10E-04	6.08E-04	4.05E-04	1.77E-04
1092	560688.24	4192401.58	1.01E-03	7.72E-04	7.52E-04	7.55E-04	7.52E-04	5.58E-04	3.38E-04	7.23E-04	6.02E-04	5.83E-04	5.85E-04	5.83E-04	3.89E-04	1.70E-04
1093	560852.07	4192453.7	2.34E-03	1.78E-03	1.74E-03	1.74E-03	1.74E-03	1.29E-03	7.81E-04	1.67E-03	1.39E-03	1.35E-03	1.35E-03	1.35E-03	8.98E-04	3.93E-04
1094	560842.16	4192452.6	2.17E-03	1.66E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.26E-04	1.55E-03	1.29E-03	1.25E-03	1.26E-03	1.25E-03	8.35E-04	3.66E-04
1095	560840.53	4192469.82	2.07E-03	1.58E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.91E-04	1.48E-03	1.23E-03	1.19E-03	1.20E-03	1.19E-03	7.95E-04	3.48E-04
1096	560832.25	4192451.5	2.02E-03	1.55E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.77E-04	1.45E-03	1.20E-03	1.17E-03	1.17E-03	1.17E-03	7.79E-04	3.41E-04
1097	560830.55	4192469.27	1.92E-03	1.47E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.44E-04	1.38E-03	1.14E-03	1.11E-03	1.11E-03	1.11E-03	7.40E-04	3.24E-04
1098	560822.03	4192452.7	1.88E-03	1.43E-03	1.40E-03	1.40E-03	1.40E-03	1.04E-03	6.29E-04	1.34E-03	1.12E-03	1.08E-03	1.09E-03	1.08E-03	7.23E-04	3.17E-04
1099	560823.93	4192438.94	1.96E-03	1.49E-03	1.46E-03	1.46E-03	1.46E-03	1.08E-03	6.54E-04	1.40E-03	1.16E-03	1.13E-03	1.13E-03	1.13E-03	7.52E-04	3.29E-04
1100	560820.56	4192468.71	1.80E-03	1.37E-03	1.34E-03	1.34E-03	1.34E-03	9.91E-04	6.01E-04	1.29E-03	1.07E-03	1.04E-03	1.04E-03	1.04E-03	6.91E-04	3.03E-04
1101	560812.1	4192451.74	1.76E-03	1.35E-03	1.31E-03	1.31E-03	1.31E-03	9.72E-04	5.89E-04	1.26E-03	1.05E-03	1.02E-03	1.02E-03	1.02E-03	6.78E-04	2.97E-04
1102	560810.58	4192468.15	1.68E-03	1.29E-03	1.25E-03	1.26E-03	1.25E-03	9.29E-04	5.63E-04	1.20E-03	1.00E-03	9.71E-04	9.74E-04	9.71E-04	6.48E-04	2.84E-04
1103	560802.17	4192450.77	1.66E-03	1.27E-03	1.23E-03	1.24E-03	1.23E-03	9.15E-04	5.55E-04	1.19E-03	9.87E-04	9.57E-04	9.60E-04	9.57E-04	6.38E-04	2.79E-04
1104	560804.3	4192435.39	1.73E-03	1.32E-03	1.29E-03	1.29E-03	1.29E-03	9.56E-04	5.79E-04	1.24E-03	1.03E-03	9.99E-04	1.00E-03	9.99E-04	6.66E-04	2.92E-04
1105	560800.6	4192467.59	1.58E-03	1.21E-03	1.18E-03	1.18E-03	1.18E-03	8.74E-04	5.30E-04	1.13E-03	9.42E-04	9.14E-04	9.16E-04	9.14E-04	6.09E-04	2.67E-04
1106	560792.24	4192449.81	1.57E-03	1.19E-03	1.16E-03	1.17E-03	1.16E-03	8.64E-04	5.23E-04	1.12E-03	9.31E-04	9.03E-04	9.05E-04	9.03E-04	6.02E-04	2.64E-04
1107	560794.48	4192433.62	1.64E-03	1.25E-03	1.22E-03	1.22E-03	1.22E-03	9.03E-04	5.48E-04	1.17E-03	9.74E-04	9.45E-04	9.47E-04	9.45E-04	6.30E-04	2.76E-04
1108	560782.31	4192448.85	1.48E-03	1.13E-03	1.10E-03	1.10E-03	1.10E-03	8.17E-04	4.95E-04	1.06E-03	8.80E-04	8.54E-04	8.56E-04	8.54E-04	5.69E-04	2.49E-04
1109	560784.67	4192431.85	1.55E-03	1.18E-03	1.15E-03	1.16E-03	1.15E-03	8.56E-04	5.19E-04	1.11E-03	9.23E-04	8.95E-04	8.98E-04	8.95E-04	5.97E-04	2.61E-04
1110	560772.39	4192447.89	1.40E-03	1.07E-03	1.04E-03	1.05E-03	1.04E-03	7.74E-04	4.69E-04	1.00E-03	8.34E-04	8.09E-04	8.12E-04	8.09E-04	5.40E-04	2.36E-04
1111	560773.62	4192438.98	1.44E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	7.94E-04	4.81E-04	1.03E-03	8.55E-04	8.30E-04	8.32E-04	8.30E-04	5.53E-04	2.42E-04
1112	560774.85	4192430.08	1.47E-03	1.12E-03	1.10E-03	1.10E-03	1.10E-03	8.13E-04	4.93E-04	1.05E-03	8.76E-04	8.50E-04	8.52E-04	8.50E-04	5.67E-04	2.48E-04
1113	560762.2	4192448.78	1.33E-03	1.01E-03	9.86E-04	9.89E-04	9.86E-04	7.31E-04	4.43E-04	9.48E-04	7.88E-04	7.65E-04	7.67E-04	7.65E-04	5.10E-04	2.23E-04
1114	560764.26	4192433.89	1.38E-03	1.05E-03	1.03E-03	1.03E-03	1.03E-03	7.62E-04	4.62E-04	9.87E-04	8.21E-04	7.96E-04	7.99E-04	7.96E-04	5.31E-04	2.32E-04
1115	560752.26	4192447.9	1.26E-03	9.62E-04	9.38E-04	9.41E-04	9.38E-04	6.96E-04	4.22E-04	9.02E-04	7.50E-04	7.27E-04	7.29E-04	7.27E-04	4.85E-04	2.12E-04
1116	560754.41	4192432.36	1.31E-03	1.00E-03	9.78E-04	9.81E-04	9.78E-04	7.25E-04	4.40E-04	9.40E-04	7.82E-04	7.58E-04	7.61E-04	7.58E-04	5.06E-04	2.21E-04
1117	560742.32	4192447.02	1.20E-03	9.17E-04	8.94E-04	8.96E-04	8.94E-04	6.63E-04	4.02E-04	8.59E-04	7.14E-04	6.93E-04	6.95E-04	6.93E-04	4.62E-04	2.02E-04
1118	560744.56	4192430.83	1.25E-03	9.57E-04	9.33E-04	9.36E-04	9.33E-04	6.92E-04	4.19E-04	8.97E-04	7.46E-04	7.24E-04	7.26E-04	7.24E-04	4.82E-04	2.11E-04
1119	560732.38	4192446.14	1.15E-03	8.75E-04	8.53E-04	8.55E-04	8.53E-04	6.32E-04	3.83E-04	8.20E-04	6.82E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
1120	560734.71	4192429.3	1.20E-03	9.15E-04	8.91E-04	8.94E-04	8.91E-04	6.61E-04	4.01E-04	8.57E-04	7.13E-04	6.91E-04	6.93E-04	6.91E-04	4.61E-04	2.02E-04
1121	560722.44	4192445.26	1.10E-03	8.36E-04	8.15E-04	8.17E-04	8.15E-04	6.04E-04	3.66E-04	7.84E-04	6.52E-04	6.32E-04	6.34E-04	6.32E-04	4.21E-04	1.84E-04
1122	560724.86	4192427.77	1.15E-03	8.75E-04	8.53E-04	8.55E-04	8.53E-04	6.32E-04	3.83E-04	8.20E-04	6.82E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
1123	560712.29	4192445.89	1.04E-03	7.97E-04	7.77E-04	7.79E-04	7.77E-04	5.76E-04	3.49E-04	7.47E-04	6.21E-04	6.02E-04	6.04E-04	6.02E-04	4.02E-04	1.76E-04
1124	560714.38	4192430.78	1.09E-03	8.29E-04	8.08E-04	8.10E-04	8.08E-04	5.99E-04	3.63E-04	7.77E-04	6.46E-04	6.26E-04	6.28E-04	6.26E-04	4.18E-04	1.83E-04
1125	560702.35	4192445.06	1.00E-03	7.64E-04	7.45E-04	7.47E-04	7.45E-04	5.52E-04	3.35E-04	7.16E-04	5.95E-04	5.77E-04	5.79E-04	5.77E-04	3.85E-04	1.69E-04
1126	560704.51	4192429.41	1.04E-03	7.95E-04	7.75E-04	7.77E-04	7.75E-04	5.74E-04	3.48E-04	7.45E-04	6.19E-04	6.01E-04	6.02E-04	6.01E-04	4.00E-04	1.75E-04
1127	560692.4	4192444.23	9.60E-04	7.33E-04	7.14E-04	7.16E-04	7.14E-04	5.30E-04	3.21E-04	6.87E-04	5.71E-04	5.54E-04	5.55E-04	5.54E-04	3.69E-04	1.62E-04
1128	560694.64	4192428.04	1.00E-03	7.63E-04	7.44E-04	7.46E-04	7.44E-04	5.52E-04	3.34E-04	7.15E-04	5.95E-04	5.77E-04	5.78E-04	5.77E-04	3.84E-04	1.68E-04
1129	560696.88	4192411.85	1.04E-03	7.91E-04	7.71E-04	7.73E-04	7.71E-04	5.72E-04	3.46E-04	7.41E-04	6.16E-04	5.98E-04	5.99E-04	5.98E-04	3.98E-04	1.74E-04
1130	560682.45	4192443.41	9.21E-04	7.03E-04	6.85E-04	6.87E-04	6.85E-04	5.08E-04	3.08E-04	6.59E-04	5.48E-04	5.31E-04	5.33E-04	5.31E-04	3.54E-04	1.55E-04
1131	560684.77	4192426.68	9.59E-04	7.32E-04	7.14E-04	7.16E-04	7.14E-04	5.29E-04	3.21E-04	6.86E-04	5.70E-04	5.53E-04	5.55E-04	5.53E-04	3.69E-04	1.62E-04
1132	561570.52	4192469.82	3.90E-04	2.98E-04	2.90E-04	2.91E-04	2.90E-04	2.15E-04	1.31E-04	2.79E-04	2.32E-04	2.25E-04	2.26E-04	2.25E-04	1.50E-04	6.57E-05
1133	561116.53	4192515.88	1.95E-02	1.49E-02	1.45E-02	1.45E-02	1.45E-02	1.07E-02	6.51E-03	1.39E-02	1.16E-02	1.12E-02	1.13E-02	1.12E-02	7.49E-03	3.28E-03
1134	561122.24	4192517.22	1.90E-02	1.45E-02	1.41E-02	1.42E-02	1.41E-02	1.05E-02	6.35E-03	1.36E-02	1.13E-02	1.10E-02	1.10E-02	1.10E-02	7.30E-03	3.20E-03
1135	561127.38	4192518.55	1.84E-02	1.40E-02	1.37E-02	1.37E-02	1.37E-02	1.01E-02	6.14E-03	1.31E-02	1.09E-02	1.06E-02	1.06E-02	1.06E-02	7.07E-03	3.09E-03
1136	561132.34	4192519.69	1.76E-02	1.35E-02	1.31E-02	1.32E-02	1.31E-02	9.73E-03	5.90E-03	1.26E-02	1.05E-02	1.02E-02	1.02E-02	1.02E-02	6.78E-03	2.97E-03
1137	561136.53	4192520.84	1.69E-02	1.29E-02	1.26E-02	1.26E-02	1.26E-02	9.32E-03	5.65E-03	1.21E-02	1.00E-02	9.74E-03	9.77E-03	9.74E-03	6.49E-03	2.84E-03
1138	561141.67	4192521.79	1.59E-02	1.21E-02	1.18E-02	1.18E-02	1.18E-02	8.75E-03	5.30E-03	1.13E-02	9.43E-03	9.15E-03	9.17E-03	9.15E-03	6.10E-03	2.67E-03
1139	561146.43	4192522.74	1.47E-02	1.13E-02	1.10E-02	1.10E-02	1.10E-02	8.14E-03	4.93E-03	1.05E-02	8.77E-03	8.51E-03	8.53E-03	8.51E-03	5.67E-03	2.48E-03
1140	561149.48	4192523.69	1.39E-02	1.06E-02	1.04E-02	1.04E-02	1.04E-02	7.69E-03	4.66E-03	9.97E-03	8.29E-03	8.04E-03	8.07E-03	8.04E-03	5.36E-03	2.35E-03

	Max Yr	**1**	T4iRev	T4fRev
	Row	**32**	9.74E-02	6.96E-02
		Col	**4**	**5**
		Adjustment	**100%**	**72%**
	UTM X	UTM Y	Year 1	Year 1
1	561383.5	4192288	5.01E-03	3.58E-03
2	561389.4	4192263	4.69E-03	3.36E-03
3	561390.6	4192272	4.72E-03	3.38E-03
4	561391.9	4192281	4.74E-03	3.39E-03
5	561393.2	4192290	4.75E-03	3.40E-03
6	561396	4192243	4.37E-03	3.12E-03
7	561397.3	4192253	4.42E-03	3.16E-03
8	561398.7	4192263	4.46E-03	3.19E-03
9	561400	4192272	4.49E-03	3.21E-03
10	561401.4	4192282	4.51E-03	3.22E-03
11	561402.7	4192292	4.51E-03	3.23E-03
12	561404.4	4192237	4.13E-03	2.95E-03
13	561405.8	4192247	4.18E-03	2.99E-03
14	561407.1	4192256	4.23E-03	3.02E-03
15	561408.4	4192266	4.26E-03	3.05E-03
16	561409.7	4192276	4.28E-03	3.06E-03
17	561411.1	4192285	4.29E-03	3.07E-03
18	561412.4	4192295	4.30E-03	3.07E-03
19	561414.2	4192241	3.96E-03	2.84E-03
20	561415.5	4192250	4.01E-03	2.87E-03
21	561416.9	4192260	4.05E-03	2.89E-03
22	561418.2	4192269	4.07E-03	2.91E-03
23	561419.5	4192279	4.09E-03	2.92E-03
24	561420.8	4192288	4.10E-03	2.93E-03
25	561424	4192244	3.81E-03	2.73E-03
26	561425.3	4192253	3.85E-03	2.75E-03
27	561426.6	4192263	3.88E-03	2.77E-03
28	561356.3	4192418	6.48E-03	4.63E-03
29	561366	4192420	6.02E-03	4.31E-03
30	561375.8	4192422	5.61E-03	4.02E-03
31	561385.6	4192424	5.25E-03	3.75E-03
32	561405.1	4192428	4.62E-03	3.31E-03
33	561116	4192791	8.27E-03	5.91E-03
34	561414.9	4192431	4.35E-03	3.11E-03
35	561122.5	4192800	7.87E-03	5.63E-03
36	561424.6	4192433	4.09E-03	2.93E-03
37	561150.7	4192805	7.36E-03	5.26E-03
38	561140.9	4192806	7.43E-03	5.32E-03
39	561131.2	4192808	7.49E-03	5.35E-03
40	561121.5	4192809	7.52E-03	5.38E-03
41	561111.7	4192810	7.55E-03	5.40E-03
42	561432.3	4192444	3.88E-03	2.78E-03
43	561434.4	4192435	3.86E-03	2.76E-03
44	561166.7	4192812	6.92E-03	4.95E-03
45	561157	4192813	7.01E-03	5.01E-03
46	561147.4	4192815	7.08E-03	5.06E-03

47	561137.8	4192816	7.14E-03	5.10E-03
48	561128.1	4192817	7.18E-03	5.13E-03
49	561118.5	4192819	7.21E-03	5.15E-03
50	561422.8	4192533	3.74E-03	2.67E-03
51	561425	4192524	3.73E-03	2.67E-03
52	561442	4192447	3.66E-03	2.62E-03
53	561444.1	4192437	3.65E-03	2.61E-03
54	561182.4	4192819	6.48E-03	4.63E-03
55	561172.9	4192820	6.59E-03	4.71E-03
56	561163.3	4192822	6.68E-03	4.77E-03
57	561153.8	4192823	6.75E-03	4.83E-03
58	561144.2	4192824	6.81E-03	4.87E-03
59	561134.7	4192826	6.85E-03	4.90E-03
60	561125.1	4192827	6.89E-03	4.92E-03
61	561115.5	4192828	6.90E-03	4.94E-03
62	561432.6	4192535	3.54E-03	2.53E-03
63	561434.7	4192526	3.53E-03	2.53E-03
64	561451.8	4192449	3.47E-03	2.48E-03
65	561453.9	4192439	3.45E-03	2.47E-03
66	561216.9	4192823	5.78E-03	4.14E-03
67	561207.4	4192825	5.92E-03	4.24E-03
68	561197.9	4192826	6.05E-03	4.33E-03
69	561179	4192829	6.28E-03	4.49E-03
70	561169.5	4192830	6.37E-03	4.55E-03
71	561160	4192831	6.44E-03	4.61E-03
72	561150.5	4192833	6.50E-03	4.65E-03
73	561141.1	4192834	6.55E-03	4.68E-03
74	561131.6	4192835	6.59E-03	4.71E-03
75	561122.1	4192837	6.61E-03	4.73E-03
76	561112.6	4192838	6.62E-03	4.74E-03
77	561442.4	4192538	3.36E-03	2.40E-03
78	561444.5	4192528	3.35E-03	2.40E-03
79	561461.5	4192451	3.29E-03	2.35E-03
80	561463.7	4192441	3.27E-03	2.34E-03
81	561241.5	4192829	5.23E-03	3.74E-03
82	561232	4192830	5.37E-03	3.84E-03
83	561222.6	4192832	5.52E-03	3.94E-03
84	561213.2	4192833	5.65E-03	4.04E-03
85	561203.8	4192834	5.77E-03	4.13E-03
86	561185	4192837	5.99E-03	4.28E-03
87	561175.6	4192838	6.08E-03	4.35E-03
88	561166.2	4192840	6.15E-03	4.40E-03
89	561156.8	4192841	6.22E-03	4.45E-03
90	561147.4	4192842	6.27E-03	4.48E-03
91	561138	4192844	6.30E-03	4.51E-03
92	561128.6	4192845	6.33E-03	4.53E-03
93	561119.2	4192846	6.35E-03	4.54E-03
94	561109.7	4192848	6.35E-03	4.54E-03
95	561452.1	4192540	3.19E-03	2.28E-03
96	561454.2	4192530	3.18E-03	2.27E-03
97	561471.3	4192453	3.12E-03	2.23E-03
98	561473.4	4192443	3.11E-03	2.22E-03

99	561264.2	4192835	4.72E-03	3.38E-03
100	561254.4	4192837	4.88E-03	3.49E-03
101	561244.7	4192838	5.03E-03	3.59E-03
102	561235	4192839	5.17E-03	3.70E-03
103	561225.2	4192841	5.31E-03	3.80E-03
104	561215.5	4192842	5.44E-03	3.89E-03
105	561205.8	4192843	5.56E-03	3.97E-03
106	561196	4192845	5.67E-03	4.05E-03
107	561176.6	4192848	5.85E-03	4.18E-03
108	561166.8	4192849	5.92E-03	4.24E-03
109	561157.1	4192850	5.98E-03	4.28E-03
110	561147.4	4192852	6.03E-03	4.31E-03
111	561137.6	4192853	6.06E-03	4.33E-03
112	561127.9	4192855	6.09E-03	4.35E-03
113	561118.2	4192856	6.10E-03	4.36E-03
114	561461.9	4192542	3.03E-03	2.17E-03
115	561464	4192532	3.02E-03	2.16E-03
116	561476.8	4192475	2.98E-03	2.13E-03
117	561481.1	4192455	2.96E-03	2.12E-03
118	561483.2	4192446	2.95E-03	2.11E-03
119	561269.6	4192844	4.52E-03	3.23E-03
120	561260	4192845	4.66E-03	3.33E-03
121	561250.3	4192846	4.80E-03	3.44E-03
122	561240.7	4192848	4.94E-03	3.53E-03
123	561231	4192849	5.07E-03	3.63E-03
124	561221.4	4192851	5.19E-03	3.72E-03
125	561211.7	4192852	5.31E-03	3.80E-03
126	561202.1	4192853	5.42E-03	3.87E-03
127	561173.1	4192857	5.67E-03	4.05E-03
128	561163.4	4192859	5.73E-03	4.10E-03
129	561153.8	4192860	5.78E-03	4.13E-03
130	561144.1	4192861	5.81E-03	4.16E-03
131	561134.5	4192863	5.84E-03	4.18E-03
132	561325.6	4192378	8.19E-03	5.85E-03
133	561328	4192369	7.97E-03	5.70E-03
134	561330.5	4192360	7.75E-03	5.54E-03
135	561335.3	4192380	7.57E-03	5.42E-03
136	561337.7	4192371	7.38E-03	5.28E-03
137	561340.1	4192362	7.19E-03	5.14E-03
138	561344.9	4192383	7.03E-03	5.03E-03
139	561347.4	4192374	6.86E-03	4.91E-03
140	561349.8	4192365	6.69E-03	4.79E-03
141	561354.6	4192385	6.54E-03	4.68E-03
142	561357	4192376	6.40E-03	4.58E-03
143	561359.5	4192367	6.25E-03	4.47E-03
144	561361.9	4192358	6.10E-03	4.36E-03
145	561359.4	4192406	6.34E-03	4.53E-03
146	561361.9	4192397	6.22E-03	4.45E-03
147	561364.3	4192388	6.10E-03	4.36E-03
148	561366.7	4192379	5.98E-03	4.28E-03
149	561369.1	4192370	5.85E-03	4.18E-03
150	561371.5	4192361	5.72E-03	4.09E-03

151	561374	4192352	5.59E-03	4.00E-03
152	561376.4	4192343	5.47E-03	3.91E-03
153	561378.8	4192333	5.35E-03	3.83E-03
154	561381.2	4192324	5.23E-03	3.74E-03
155	561383.6	4192315	5.12E-03	3.66E-03
156	561369.1	4192409	5.91E-03	4.22E-03
157	561371.5	4192400	5.81E-03	4.15E-03
158	561373.9	4192391	5.70E-03	4.08E-03
159	561376.4	4192382	5.60E-03	4.00E-03
160	561378.8	4192372	5.49E-03	3.93E-03
161	561381.2	4192363	5.38E-03	3.85E-03
162	561383.6	4192354	5.27E-03	3.77E-03
163	561386	4192345	5.16E-03	3.69E-03
164	561388.5	4192336	5.05E-03	3.61E-03
165	561390.9	4192327	4.95E-03	3.54E-03
166	561393.3	4192318	4.85E-03	3.47E-03
167	561378.8	4192411	5.52E-03	3.95E-03
168	561381.2	4192402	5.43E-03	3.88E-03
169	561383.6	4192393	5.34E-03	3.82E-03
170	561386	4192384	5.25E-03	3.76E-03
171	561388.4	4192375	5.16E-03	3.69E-03
172	561390.9	4192366	5.07E-03	3.62E-03
173	561393.3	4192357	4.97E-03	3.55E-03
174	561395.7	4192348	4.87E-03	3.48E-03
175	561398.1	4192339	4.78E-03	3.42E-03
176	561400.5	4192330	4.69E-03	3.35E-03
177	561403	4192320	4.60E-03	3.29E-03
178	561407.8	4192419	4.57E-03	3.27E-03
179	561410.2	4192410	4.51E-03	3.23E-03
180	561412.6	4192401	4.45E-03	3.18E-03
181	561415	4192392	4.39E-03	3.14E-03
182	561417.4	4192383	4.33E-03	3.10E-03
183	561419.9	4192374	4.27E-03	3.05E-03
184	561422.3	4192365	4.21E-03	3.01E-03
185	561424.7	4192355	4.14E-03	2.96E-03
186	561427.1	4192346	4.08E-03	2.92E-03
187	561429.5	4192337	4.01E-03	2.87E-03
188	561432	4192328	3.95E-03	2.83E-03
189	561417.4	4192422	4.30E-03	3.08E-03
190	561419.8	4192413	4.25E-03	3.04E-03
191	561422.3	4192403	4.20E-03	3.01E-03
192	561424.7	4192394	4.15E-03	2.97E-03
193	561427.1	4192385	4.10E-03	2.93E-03
194	561429.5	4192376	4.05E-03	2.89E-03
195	561431.9	4192367	3.99E-03	2.85E-03
196	561434.4	4192358	3.93E-03	2.81E-03
197	561436.8	4192349	3.88E-03	2.77E-03
198	561439.2	4192340	3.82E-03	2.73E-03
199	561441.6	4192331	3.77E-03	2.69E-03
200	561429.5	4192415	4.01E-03	2.87E-03
201	561431.9	4192406	3.97E-03	2.84E-03
202	561434.3	4192397	3.93E-03	2.81E-03

203	561436.8	4192388	3.88E-03	2.78E-03
204	561439.2	4192379	3.84E-03	2.74E-03
205	561441.6	4192370	3.79E-03	2.71E-03
206	561444	4192361	3.74E-03	2.67E-03
207	561446.4	4192351	3.69E-03	2.64E-03
208	561448.9	4192342	3.64E-03	2.60E-03
209	561451.3	4192333	3.60E-03	2.57E-03
210	561439.2	4192418	3.79E-03	2.71E-03
211	561441.6	4192409	3.76E-03	2.69E-03
212	561444	4192400	3.72E-03	2.66E-03
213	561446.4	4192390	3.68E-03	2.63E-03
214	561448.8	4192381	3.64E-03	2.60E-03
215	561451.3	4192372	3.60E-03	2.57E-03
216	561453.7	4192363	3.56E-03	2.54E-03
217	561456.1	4192354	3.52E-03	2.51E-03
218	561458.5	4192345	3.48E-03	2.49E-03
219	561460.9	4192336	3.44E-03	2.46E-03
220	561448.8	4192420	3.59E-03	2.57E-03
221	561451.2	4192411	3.56E-03	2.55E-03
222	561453.7	4192402	3.53E-03	2.52E-03
223	561456.1	4192393	3.50E-03	2.50E-03
224	561458.5	4192384	3.46E-03	2.47E-03
225	561460.9	4192375	3.42E-03	2.45E-03
226	561463.4	4192366	3.39E-03	2.42E-03
227	561465.8	4192357	3.35E-03	2.40E-03
228	561468.2	4192348	3.32E-03	2.37E-03
229	561470.6	4192338	3.29E-03	2.35E-03
230	561458.5	4192423	3.40E-03	2.43E-03
231	561460.9	4192414	3.38E-03	2.42E-03
232	561463.3	4192405	3.35E-03	2.40E-03
233	561465.8	4192396	3.32E-03	2.38E-03
234	561468.2	4192386	3.29E-03	2.35E-03
235	561470.6	4192377	3.26E-03	2.33E-03
236	561473	4192368	3.23E-03	2.31E-03
237	561475.4	4192359	3.20E-03	2.29E-03
238	561477.9	4192350	3.17E-03	2.27E-03
239	561480.3	4192341	3.14E-03	2.25E-03
240	561468.2	4192425	3.23E-03	2.31E-03
241	561470.6	4192416	3.21E-03	2.29E-03
242	561473	4192407	3.18E-03	2.28E-03
243	561475.4	4192398	3.16E-03	2.26E-03
244	561477.8	4192389	3.14E-03	2.24E-03
245	561480.3	4192380	3.11E-03	2.22E-03
246	561482.7	4192371	3.08E-03	2.21E-03
247	561485.1	4192362	3.06E-03	2.19E-03
248	561487.5	4192353	3.03E-03	2.17E-03
249	561489.9	4192344	3.01E-03	2.15E-03
250	561477.8	4192428	3.07E-03	2.20E-03
251	561480.2	4192419	3.05E-03	2.18E-03
252	561482.7	4192410	3.03E-03	2.17E-03
253	561485.1	4192401	3.01E-03	2.15E-03
254	561487.5	4192392	2.99E-03	2.14E-03

255	561489.9	4192383	2.97E-03	2.12E-03
256	561492.3	4192373	2.95E-03	2.11E-03
257	561494.8	4192364	2.93E-03	2.09E-03
258	561497.2	4192355	2.90E-03	2.08E-03
259	561499.6	4192346	2.88E-03	2.06E-03
260	561487.5	4192431	2.92E-03	2.09E-03
261	561489.9	4192421	2.91E-03	2.08E-03
262	561492.3	4192412	2.89E-03	2.07E-03
263	561494.7	4192403	2.87E-03	2.05E-03
264	561497.2	4192394	2.86E-03	2.04E-03
265	561499.6	4192385	2.84E-03	2.03E-03
266	561502	4192376	2.82E-03	2.02E-03
267	561504.4	4192367	2.80E-03	2.00E-03
268	561506.8	4192358	2.78E-03	1.99E-03
269	561509.3	4192349	2.76E-03	1.98E-03
270	561401.8	4192218	3.98E-03	2.84E-03
271	561403.1	4192228	4.06E-03	2.90E-03
272	561410.3	4192212	3.76E-03	2.69E-03
273	561411.6	4192222	3.84E-03	2.74E-03
274	561412.9	4192231	3.91E-03	2.79E-03
275	561417.5	4192197	3.47E-03	2.48E-03
276	561418.8	4192207	3.56E-03	2.55E-03
277	561420.1	4192216	3.64E-03	2.60E-03
278	561421.4	4192225	3.70E-03	2.65E-03
279	561422.7	4192235	3.76E-03	2.69E-03
280	561424.8	4192182	3.21E-03	2.30E-03
281	561426.1	4192192	3.30E-03	2.36E-03
282	561427.3	4192201	3.38E-03	2.41E-03
283	561428.6	4192210	3.45E-03	2.47E-03
284	561429.9	4192219	3.52E-03	2.52E-03
285	561431.2	4192229	3.58E-03	2.56E-03
286	561432.5	4192238	3.63E-03	2.59E-03
287	561434.9	4192189	3.15E-03	2.25E-03
288	561436.3	4192198	3.23E-03	2.31E-03
289	561437.6	4192208	3.31E-03	2.36E-03
290	561439	4192218	3.37E-03	2.41E-03
291	561445.7	4192266	3.57E-03	2.55E-03
292	561429.1	4192129	2.60E-03	1.86E-03
293	561438.2	4192145	2.67E-03	1.91E-03
294	561439.5	4192154	2.75E-03	1.97E-03
295	561440.8	4192164	2.84E-03	2.03E-03
296	561444.8	4192193	3.07E-03	2.20E-03
297	561452.8	4192250	3.39E-03	2.42E-03
298	561454.1	4192260	3.41E-03	2.44E-03
299	561455.4	4192269	3.43E-03	2.45E-03
300	561459.4	4192298	3.43E-03	2.46E-03
301	561460.7	4192308	3.42E-03	2.45E-03
302	561430.1	4192118	2.49E-03	1.78E-03
303	561437.7	4192124	2.48E-03	1.77E-03
304	561446.8	4192139	2.55E-03	1.82E-03
305	561448.1	4192149	2.62E-03	1.88E-03
306	561449.4	4192158	2.70E-03	1.93E-03

307	561450.7	4192168	2.78E-03	1.99E-03
308	561462.5	4192253	3.26E-03	2.33E-03
309	561463.8	4192263	3.28E-03	2.35E-03
310	561465.2	4192272	3.29E-03	2.36E-03
311	561466.5	4192282	3.30E-03	2.36E-03
312	561467.8	4192291	3.30E-03	2.36E-03
313	561469.1	4192301	3.29E-03	2.35E-03
314	561470.4	4192310	3.28E-03	2.35E-03
315	561431.2	4192108	2.39E-03	1.71E-03
316	561438.8	4192113	2.38E-03	1.70E-03
317	561446.4	4192119	2.37E-03	1.69E-03
318	561455.4	4192134	2.43E-03	1.74E-03
319	561456.7	4192144	2.50E-03	1.79E-03
320	561458	4192153	2.58E-03	1.84E-03
321	561464.5	4192200	2.92E-03	2.09E-03
322	561465.8	4192210	2.98E-03	2.13E-03
323	561467.1	4192219	3.03E-03	2.16E-03
324	561472.3	4192257	3.15E-03	2.25E-03
325	561473.6	4192266	3.16E-03	2.26E-03
326	561474.9	4192275	3.17E-03	2.27E-03
327	561476.2	4192285	3.17E-03	2.27E-03
328	561477.5	4192294	3.17E-03	2.26E-03
329	561478.8	4192304	3.16E-03	2.26E-03
330	561480.1	4192313	3.15E-03	2.25E-03
331	561432.4	4192097	2.30E-03	1.64E-03
332	561439.9	4192103	2.29E-03	1.63E-03
333	561447.5	4192108	2.27E-03	1.63E-03
334	561455.1	4192114	2.27E-03	1.62E-03
335	561463.9	4192129	2.33E-03	1.66E-03
336	561470.4	4192176	2.67E-03	1.91E-03
337	561473	4192194	2.79E-03	2.00E-03
338	561474.3	4192204	2.85E-03	2.03E-03
339	561475.6	4192213	2.89E-03	2.07E-03
340	561476.9	4192222	2.94E-03	2.10E-03
341	561482	4192260	3.04E-03	2.17E-03
342	561483.3	4192269	3.05E-03	2.18E-03
343	561484.6	4192278	3.05E-03	2.18E-03
344	561485.9	4192288	3.05E-03	2.18E-03
345	561487.2	4192297	3.04E-03	2.17E-03
346	561488.5	4192306	3.03E-03	2.17E-03
347	561489.8	4192316	3.02E-03	2.16E-03
348	561439.9	4192091	2.20E-03	1.57E-03
349	561447.7	4192097	2.19E-03	1.56E-03
350	561455.6	4192103	2.18E-03	1.56E-03
351	561463.4	4192109	2.17E-03	1.55E-03
352	561476.6	4192153	2.43E-03	1.74E-03
353	561477.9	4192163	2.50E-03	1.79E-03
354	561479.3	4192173	2.57E-03	1.84E-03
355	561483.3	4192202	2.74E-03	1.96E-03
356	561484.6	4192211	2.79E-03	1.99E-03
357	561486	4192221	2.83E-03	2.02E-03
358	561487.3	4192231	2.86E-03	2.05E-03

359	561491.3	4192260	2.93E-03	2.09E-03
360	561492.7	4192269	2.93E-03	2.10E-03
361	561494	4192279	2.94E-03	2.10E-03
362	561495.3	4192289	2.93E-03	2.10E-03
363	561496.7	4192298	2.92E-03	2.09E-03
364	561498	4192308	2.91E-03	2.08E-03
365	561499.3	4192318	2.90E-03	2.07E-03
366	561409.9	4192058	2.21E-03	1.58E-03
367	561433.2	4192075	2.13E-03	1.53E-03
368	561441	4192081	2.12E-03	1.51E-03
369	561448.8	4192086	2.10E-03	1.50E-03
370	561456.5	4192092	2.09E-03	1.50E-03
371	561464.3	4192098	2.08E-03	1.49E-03
372	561482.5	4192129	2.20E-03	1.57E-03
373	561483.8	4192138	2.26E-03	1.62E-03
374	561485.2	4192148	2.33E-03	1.66E-03
375	561486.5	4192157	2.39E-03	1.71E-03
376	561487.8	4192167	2.45E-03	1.75E-03
377	561489.1	4192177	2.51E-03	1.80E-03
378	561493.1	4192205	2.67E-03	1.91E-03
379	561494.4	4192215	2.71E-03	1.94E-03
380	561495.8	4192225	2.75E-03	1.97E-03
381	561497.1	4192234	2.78E-03	1.99E-03
382	561498.4	4192244	2.80E-03	2.00E-03
383	561499.8	4192253	2.82E-03	2.01E-03
384	561501.1	4192263	2.83E-03	2.02E-03
385	561502.4	4192272	2.83E-03	2.02E-03
386	561503.7	4192282	2.83E-03	2.02E-03
387	561505.1	4192292	2.82E-03	2.02E-03
388	561506.4	4192301	2.81E-03	2.01E-03
389	561507.7	4192311	2.80E-03	2.00E-03
390	561509	4192320	2.78E-03	1.99E-03
391	561411.4	4192047	2.14E-03	1.53E-03
392	561419.1	4192053	2.11E-03	1.51E-03
393	561426.8	4192059	2.08E-03	1.49E-03
394	561434.5	4192064	2.06E-03	1.47E-03
395	561442.2	4192070	2.04E-03	1.46E-03
396	561449.9	4192076	2.03E-03	1.45E-03
397	561457.6	4192082	2.01E-03	1.44E-03
398	561465.3	4192087	2.01E-03	1.43E-03
399	561473	4192093	2.00E-03	1.43E-03
400	561489.8	4192114	2.05E-03	1.46E-03
401	561491.1	4192123	2.11E-03	1.51E-03
402	561492.4	4192133	2.17E-03	1.55E-03
403	561493.7	4192142	2.23E-03	1.59E-03
404	561495	4192152	2.29E-03	1.64E-03
405	561496.4	4192161	2.35E-03	1.68E-03
406	561497.7	4192171	2.41E-03	1.72E-03
407	561499	4192180	2.46E-03	1.76E-03
408	561502.9	4192209	2.60E-03	1.86E-03
409	561504.2	4192219	2.64E-03	1.89E-03
410	561505.6	4192228	2.67E-03	1.91E-03

411	561506.9	4192238	2.69E-03	1.93E-03
412	561508.2	4192247	2.71E-03	1.94E-03
413	561509.5	4192257	2.72E-03	1.95E-03
414	561510.8	4192266	2.73E-03	1.95E-03
415	561512.1	4192276	2.73E-03	1.95E-03
416	561513.5	4192285	2.73E-03	1.95E-03
417	561514.8	4192295	2.72E-03	1.95E-03
418	561516.1	4192304	2.71E-03	1.94E-03
419	561517.4	4192314	2.70E-03	1.93E-03
420	561518.7	4192323	2.68E-03	1.92E-03
421	560985.7	4192042	8.32E-03	5.95E-03
422	560991.7	4192030	7.98E-03	5.71E-03
423	560982.5	4192032	7.91E-03	5.66E-03
424	560988.6	4192021	7.60E-03	5.43E-03
425	560979.4	4192023	7.53E-03	5.39E-03
426	560985.5	4192011	7.25E-03	5.18E-03
427	560994.8	4192011	7.34E-03	5.25E-03
428	560976.2	4192013	7.19E-03	5.14E-03
429	560982.3	4192002	6.92E-03	4.95E-03
430	560991.8	4192002	7.01E-03	5.01E-03
431	561001.2	4192001	7.08E-03	5.06E-03
432	560973	4192004	6.87E-03	4.91E-03
433	560979.2	4191992	6.62E-03	4.74E-03
434	560988.7	4191992	6.70E-03	4.79E-03
435	560998.2	4191992	6.77E-03	4.84E-03
436	560969.9	4191994	6.57E-03	4.70E-03
437	560976.1	4191983	6.34E-03	4.54E-03
438	560985.6	4191983	6.42E-03	4.59E-03
439	560995.2	4191982	6.48E-03	4.63E-03
440	561004.7	4191982	6.53E-03	4.67E-03
441	560966.7	4191985	6.29E-03	4.50E-03
442	560972.9	4191973	6.08E-03	4.35E-03
443	560982.6	4191973	6.15E-03	4.40E-03
444	560992.2	4191973	6.21E-03	4.44E-03
445	561001.8	4191972	6.26E-03	4.48E-03
446	561011.4	4191972	6.30E-03	4.51E-03
447	560963.6	4191975	6.03E-03	4.32E-03
448	560969.7	4191964	5.84E-03	4.17E-03
449	560979	4191964	5.90E-03	4.22E-03
450	560988.4	4191963	5.96E-03	4.26E-03
451	560997.7	4191963	6.00E-03	4.29E-03
452	561007.1	4191962	6.04E-03	4.32E-03
453	560960.4	4191966	5.79E-03	4.14E-03
454	560966.5	4191954	5.61E-03	4.01E-03
455	560975.9	4191954	5.67E-03	4.05E-03
456	560985.3	4191954	5.72E-03	4.09E-03
457	560994.7	4191953	5.77E-03	4.12E-03
458	561004.1	4191953	5.80E-03	4.15E-03
459	561013.5	4191953	5.83E-03	4.17E-03
460	560957.3	4191956	5.57E-03	3.98E-03
461	560963.4	4191945	5.40E-03	3.86E-03
462	560972.9	4191945	5.45E-03	3.90E-03

463	560982.3	4191944	5.50E-03	3.94E-03
464	560991.8	4191944	5.55E-03	3.97E-03
465	561001.2	4191943	5.58E-03	3.99E-03
466	561010.7	4191943	5.60E-03	4.01E-03
467	561020.1	4191943	5.62E-03	4.02E-03
468	560954.1	4191947	5.36E-03	3.83E-03
469	560960.3	4191935	5.20E-03	3.72E-03
470	560969.8	4191935	5.25E-03	3.75E-03
471	560979.3	4191935	5.30E-03	3.79E-03
472	560988.8	4191934	5.34E-03	3.82E-03
473	560998.3	4191934	5.37E-03	3.84E-03
474	561007.8	4191934	5.39E-03	3.86E-03
475	561017.3	4191933	5.41E-03	3.87E-03
476	560951	4191937	5.16E-03	3.69E-03
477	560957.1	4191926	5.01E-03	3.58E-03
478	560966.7	4191926	5.06E-03	3.62E-03
479	560976.2	4191925	5.10E-03	3.65E-03
480	560985.8	4191925	5.14E-03	3.68E-03
481	560995.3	4191924	5.17E-03	3.70E-03
482	561004.9	4191924	5.20E-03	3.72E-03
483	561014.4	4191924	5.21E-03	3.73E-03
484	561023.9	4191923	5.22E-03	3.73E-03
485	560947.8	4191928	4.97E-03	3.56E-03
486	560941.5	4192192	1.58E-02	1.13E-02
487	560936.3	4192208	1.64E-02	1.18E-02
488	560933	4192224	1.72E-02	1.23E-02
489	560931.6	4192191	1.48E-02	1.06E-02
490	560938.5	4192177	1.43E-02	1.02E-02
491	560945.5	4192163	1.38E-02	9.84E-03
492	560952.5	4192149	1.32E-02	9.41E-03
493	560926.5	4192206	1.53E-02	1.10E-02
494	560923.2	4192222	1.60E-02	1.15E-02
495	560921.7	4192189	1.39E-02	9.91E-03
496	560928.4	4192176	1.35E-02	9.63E-03
497	560935.1	4192162	1.30E-02	9.30E-03
498	560941.8	4192149	1.25E-02	8.95E-03
499	560954.7	4192131	1.20E-02	8.60E-03
500	560916.7	4192204	1.44E-02	1.03E-02
501	560913.4	4192220	1.50E-02	1.07E-02
502	560912.1	4192186	1.30E-02	9.31E-03
503	560919.3	4192172	1.27E-02	9.05E-03
504	560926.6	4192158	1.22E-02	8.72E-03
505	560933.8	4192143	1.17E-02	8.39E-03
506	560947.7	4192124	1.13E-02	8.06E-03
507	560961.1	4192116	1.13E-02	8.09E-03
508	560906.9	4192202	1.35E-02	9.63E-03
509	560903.6	4192218	1.40E-02	1.00E-02
510	560902.2	4192185	1.23E-02	8.78E-03
511	560909.2	4192171	1.20E-02	8.57E-03
512	560916.1	4192157	1.16E-02	8.28E-03
513	560923.1	4192143	1.12E-02	8.00E-03
514	560930	4192129	1.08E-02	7.70E-03

515	560940	4192118	1.06E-02	7.56E-03
516	560953	4192109	1.06E-02	7.60E-03
517	560965.9	4192101	1.06E-02	7.60E-03
518	560897.1	4192200	1.26E-02	9.05E-03
519	560893.8	4192216	1.31E-02	9.38E-03
520	560892.3	4192183	1.16E-02	8.28E-03
521	560899.1	4192169	1.13E-02	8.11E-03
522	560905.8	4192156	1.10E-02	7.87E-03
523	560912.6	4192142	1.07E-02	7.62E-03
524	560919.3	4192129	1.03E-02	7.36E-03
525	560932.3	4192111	9.96E-03	7.12E-03
526	560944.9	4192103	1.00E-02	7.15E-03
527	560957.5	4192095	1.00E-02	7.17E-03
528	560970	4192087	1.00E-02	7.15E-03
529	560887.3	4192198	1.19E-02	8.51E-03
530	560884	4192213	1.23E-02	8.81E-03
531	560882.7	4192180	1.09E-02	7.82E-03
532	560889.9	4192166	1.07E-02	7.66E-03
533	560897.1	4192152	1.04E-02	7.44E-03
534	560904.2	4192137	1.01E-02	7.19E-03
535	560911.4	4192123	9.71E-03	6.94E-03
536	560925.2	4192105	9.39E-03	6.72E-03
537	560938.6	4192096	9.44E-03	6.75E-03
538	560951.9	4192087	9.47E-03	6.77E-03
539	560965.3	4192078	9.45E-03	6.76E-03
540	560978.6	4192069	9.38E-03	6.71E-03
541	560877.5	4192195	1.12E-02	8.03E-03
542	560874.2	4192211	1.16E-02	8.29E-03
543	560872.8	4192179	1.03E-02	7.40E-03
544	560879.8	4192165	1.02E-02	7.27E-03
545	560886.7	4192151	9.92E-03	7.09E-03
546	560893.7	4192137	9.62E-03	6.88E-03
547	560900.7	4192123	9.31E-03	6.66E-03
548	560907.6	4192109	9.00E-03	6.44E-03
549	560917.6	4192098	8.88E-03	6.35E-03
550	560930.5	4192089	8.93E-03	6.39E-03
551	560943.5	4192081	8.96E-03	6.41E-03
552	560956.4	4192072	8.96E-03	6.40E-03
553	560969.4	4192064	8.91E-03	6.37E-03
554	560867.7	4192193	1.06E-02	7.59E-03
555	560864.4	4192209	1.09E-02	7.83E-03
556	560862.9	4192177	9.83E-03	7.03E-03
557	560869.7	4192163	9.68E-03	6.92E-03
558	560876.5	4192150	9.46E-03	6.77E-03
559	560883.3	4192136	9.21E-03	6.59E-03
560	560890.1	4192123	8.93E-03	6.39E-03
561	560896.8	4192109	8.65E-03	6.19E-03
562	560909.9	4192091	8.40E-03	6.01E-03
563	560922.6	4192083	8.46E-03	6.05E-03
564	560935.2	4192075	8.49E-03	6.07E-03
565	560947.8	4192067	8.50E-03	6.08E-03
566	560960.4	4192058	8.48E-03	6.06E-03

567	560973	4192050	8.42E-03	6.02E-03
568	560857.9	4192191	1.01E-02	7.19E-03
569	560854.6	4192207	1.04E-02	7.41E-03
570	560853.3	4192174	9.34E-03	6.68E-03
571	560860.5	4192160	9.20E-03	6.58E-03
572	560867.6	4192146	8.99E-03	6.43E-03
573	560874.7	4192132	8.75E-03	6.26E-03
574	560881.9	4192117	8.48E-03	6.07E-03
575	560889	4192103	8.21E-03	5.87E-03
576	560902.8	4192085	7.97E-03	5.70E-03
577	560916.1	4192076	8.03E-03	5.74E-03
578	560929.4	4192067	8.06E-03	5.77E-03
579	560942.7	4192058	8.08E-03	5.78E-03
580	560955.9	4192050	8.06E-03	5.76E-03
581	560969.2	4192041	8.01E-03	5.73E-03
582	560848.1	4192189	9.55E-03	6.83E-03
583	560844.8	4192205	9.82E-03	7.03E-03
584	560843.4	4192172	8.89E-03	6.36E-03
585	560850.4	4192159	8.77E-03	6.27E-03
586	560857.4	4192145	8.59E-03	6.15E-03
587	560864.3	4192131	8.38E-03	5.99E-03
588	560871.3	4192117	8.15E-03	5.83E-03
589	560878.2	4192103	7.91E-03	5.66E-03
590	560885.2	4192089	7.67E-03	5.48E-03
591	560895.2	4192078	7.58E-03	5.42E-03
592	560908.1	4192070	7.63E-03	5.46E-03
593	560921.1	4192061	7.67E-03	5.48E-03
594	560934	4192052	7.69E-03	5.50E-03
595	560947	4192044	7.68E-03	5.49E-03
596	560959.9	4192035	7.65E-03	5.47E-03
597	560838.3	4192187	9.09E-03	6.50E-03
598	560835	4192203	9.33E-03	6.67E-03
599	560833.8	4192170	8.48E-03	6.06E-03
600	560841.1	4192156	8.36E-03	5.98E-03
601	560848.4	4192141	8.19E-03	5.86E-03
602	560855.7	4192127	7.99E-03	5.71E-03
603	560863	4192112	7.76E-03	5.55E-03
604	560870.3	4192097	7.53E-03	5.38E-03
605	560877.6	4192083	7.30E-03	5.22E-03
606	560888	4192071	7.21E-03	5.16E-03
607	560901.6	4192062	7.26E-03	5.19E-03
608	560915.1	4192053	7.31E-03	5.22E-03
609	560928.7	4192044	7.33E-03	5.24E-03
610	560942.3	4192035	7.33E-03	5.24E-03
611	560955.8	4192027	7.30E-03	5.22E-03
612	560828.5	4192185	8.66E-03	6.19E-03
613	560825.2	4192201	8.88E-03	6.35E-03
614	560823.9	4192168	8.10E-03	5.79E-03
615	560831.1	4192154	7.99E-03	5.72E-03
616	560838.2	4192140	7.85E-03	5.61E-03
617	560845.3	4192126	7.67E-03	5.48E-03
618	560852.4	4192112	7.47E-03	5.34E-03

619	560859.5	4192097	7.26E-03	5.19E-03
620	560866.6	4192083	7.05E-03	5.04E-03
621	560880.3	4192065	6.87E-03	4.91E-03
622	560893.6	4192056	6.92E-03	4.95E-03
623	560906.8	4192047	6.96E-03	4.98E-03
624	560920.1	4192039	6.99E-03	5.00E-03
625	560933.3	4192030	7.00E-03	5.01E-03
626	560946.6	4192021	6.98E-03	4.99E-03
627	560959.8	4192012	6.94E-03	4.96E-03
628	560818.7	4192183	8.26E-03	5.91E-03
629	560815.4	4192199	8.47E-03	6.05E-03
630	560814.1	4192166	7.75E-03	5.54E-03
631	560821	4192153	7.65E-03	5.47E-03
632	560828	4192139	7.52E-03	5.38E-03
633	560834.9	4192125	7.36E-03	5.27E-03
634	560841.9	4192111	7.18E-03	5.14E-03
635	560848.9	4192097	6.99E-03	5.00E-03
636	560855.8	4192083	6.81E-03	4.87E-03
637	560862.8	4192069	6.62E-03	4.73E-03
638	560872.7	4192058	6.55E-03	4.69E-03
639	560885.7	4192050	6.60E-03	4.72E-03
640	560898.6	4192041	6.65E-03	4.75E-03
641	560911.6	4192033	6.68E-03	4.77E-03
642	560924.5	4192024	6.69E-03	4.79E-03
643	560937.5	4192015	6.69E-03	4.78E-03
644	560950.5	4192007	6.66E-03	4.76E-03
645	560808.9	4192181	7.89E-03	5.64E-03
646	560805.6	4192197	8.08E-03	5.78E-03
647	560804.4	4192164	7.41E-03	5.30E-03
648	560811.7	4192150	7.32E-03	5.23E-03
649	560818.9	4192135	7.19E-03	5.14E-03
650	560826.2	4192121	7.04E-03	5.04E-03
651	560833.4	4192106	6.87E-03	4.91E-03
652	560840.7	4192092	6.68E-03	4.78E-03
653	560847.9	4192077	6.50E-03	4.65E-03
654	560855.2	4192063	6.32E-03	4.52E-03
655	560865.5	4192051	6.26E-03	4.48E-03
656	560879	4192042	6.31E-03	4.51E-03
657	560892.5	4192034	6.36E-03	4.54E-03
658	560906	4192025	6.39E-03	4.57E-03
659	560919.5	4192016	6.41E-03	4.58E-03
660	560933	4192007	6.40E-03	4.58E-03
661	560946.5	4191998	6.38E-03	4.56E-03
662	560799.1	4192179	7.55E-03	5.40E-03
663	560795.8	4192195	7.72E-03	5.52E-03
664	560794.5	4192162	7.11E-03	5.08E-03
665	560801.6	4192148	7.02E-03	5.02E-03
666	560808.7	4192134	6.91E-03	4.94E-03
667	560815.8	4192120	6.77E-03	4.84E-03
668	560822.9	4192106	6.62E-03	4.74E-03
669	560830	4192092	6.46E-03	4.62E-03
670	560837.1	4192077	6.29E-03	4.50E-03

671	560844.2	4192063	6.12E-03	4.38E-03
672	560857.9	4192045	5.99E-03	4.28E-03
673	560871.1	4192036	6.03E-03	4.31E-03
674	560884.3	4192027	6.08E-03	4.35E-03
675	560897.5	4192019	6.11E-03	4.37E-03
676	560910.7	4192010	6.14E-03	4.39E-03
677	560924	4192001	6.14E-03	4.39E-03
678	560937.2	4191993	6.13E-03	4.38E-03
679	560950.4	4191984	6.09E-03	4.36E-03
680	560789.4	4192177	7.23E-03	5.17E-03
681	560786.1	4192193	7.39E-03	5.29E-03
682	560784.7	4192160	6.82E-03	4.88E-03
683	560791.6	4192146	6.75E-03	4.83E-03
684	560798.6	4192133	6.65E-03	4.75E-03
685	560805.6	4192119	6.52E-03	4.67E-03
686	560812.5	4192105	6.39E-03	4.57E-03
687	560819.5	4192091	6.24E-03	4.46E-03
688	560826.4	4192077	6.09E-03	4.35E-03
689	560833.4	4192063	5.93E-03	4.24E-03
690	560840.4	4192049	5.78E-03	4.13E-03
691	560850.3	4192038	5.73E-03	4.10E-03
692	560863.3	4192030	5.78E-03	4.13E-03
693	560876.2	4192021	5.82E-03	4.16E-03
694	560889.2	4192013	5.86E-03	4.19E-03
695	560902.1	4192004	5.88E-03	4.21E-03
696	560915.1	4191996	5.89E-03	4.21E-03
697	560928	4191987	5.89E-03	4.21E-03
698	560941	4191978	5.87E-03	4.20E-03
699	560779.6	4192175	6.93E-03	4.96E-03
700	560776.3	4192191	7.07E-03	5.06E-03
701	560775	4192158	6.54E-03	4.68E-03
702	560782.2	4192144	6.48E-03	4.63E-03
703	560789.5	4192129	6.38E-03	4.57E-03
704	560796.7	4192115	6.26E-03	4.48E-03
705	560803.9	4192101	6.13E-03	4.38E-03
706	560811.1	4192086	5.99E-03	4.28E-03
707	560818.3	4192072	5.84E-03	4.17E-03
708	560825.5	4192057	5.69E-03	4.07E-03
709	560832.7	4192043	5.54E-03	3.96E-03
710	560843.1	4192031	5.49E-03	3.93E-03
711	560856.5	4192023	5.54E-03	3.96E-03
712	560869.9	4192014	5.58E-03	3.99E-03
713	560883.4	4192005	5.62E-03	4.02E-03
714	560896.8	4191996	5.65E-03	4.04E-03
715	560910.2	4191987	5.66E-03	4.05E-03
716	560923.7	4191978	5.66E-03	4.05E-03
717	560937.1	4191969	5.64E-03	4.03E-03
718	560769.8	4192173	6.64E-03	4.75E-03
719	560766.5	4192189	6.77E-03	4.84E-03
720	560765.2	4192156	6.28E-03	4.49E-03
721	560772.2	4192142	6.23E-03	4.45E-03
722	560779.3	4192128	6.15E-03	4.40E-03

723	560786.4	4192114	6.04E-03	4.32E-03
724	560793.5	4192100	5.92E-03	4.24E-03
725	560800.6	4192086	5.79E-03	4.14E-03
726	560807.6	4192072	5.65E-03	4.04E-03
727	560814.7	4192057	5.52E-03	3.95E-03
728	560821.8	4192043	5.38E-03	3.85E-03
729	560835.5	4192025	5.27E-03	3.77E-03
730	560848.7	4192016	5.32E-03	3.80E-03
731	560861.8	4192007	5.36E-03	3.83E-03
732	560875	4191999	5.39E-03	3.85E-03
733	560888.2	4191990	5.42E-03	3.88E-03
734	560901.4	4191981	5.44E-03	3.89E-03
735	560914.6	4191973	5.45E-03	3.89E-03
736	560927.7	4191964	5.43E-03	3.89E-03
737	560940.9	4191955	5.41E-03	3.87E-03
738	560760	4192171	6.37E-03	4.55E-03
739	560756.7	4192187	6.49E-03	4.64E-03
740	560755.3	4192154	6.03E-03	4.31E-03
741	560762.3	4192140	5.99E-03	4.28E-03
742	560769.2	4192127	5.92E-03	4.23E-03
743	560776.2	4192113	5.83E-03	4.17E-03
744	560783.1	4192099	5.73E-03	4.09E-03
745	560790.1	4192085	5.60E-03	4.00E-03
746	560797.1	4192071	5.47E-03	3.91E-03
747	560804	4192057	5.35E-03	3.82E-03
748	560811	4192043	5.23E-03	3.74E-03
749	560817.9	4192029	5.11E-03	3.65E-03
750	560827.9	4192018	5.07E-03	3.62E-03
751	560840.8	4192010	5.11E-03	3.65E-03
752	560853.8	4192001	5.14E-03	3.68E-03
753	560866.7	4191993	5.18E-03	3.70E-03
754	560879.7	4191984	5.21E-03	3.72E-03
755	560892.7	4191976	5.23E-03	3.74E-03
756	560905.6	4191967	5.24E-03	3.75E-03
757	560918.6	4191959	5.24E-03	3.75E-03
758	560931.5	4191950	5.22E-03	3.73E-03
759	560750.2	4192169	6.12E-03	4.37E-03
760	560746.9	4192185	6.23E-03	4.46E-03
761	560745.6	4192152	5.81E-03	4.16E-03
762	560752.8	4192138	5.76E-03	4.12E-03
763	560760	4192123	5.69E-03	4.07E-03
764	560767.2	4192109	5.60E-03	4.01E-03
765	560774.4	4192095	5.50E-03	3.94E-03
766	560781.6	4192080	5.38E-03	3.85E-03
767	560788.8	4192066	5.25E-03	3.75E-03
768	560796	4192052	5.14E-03	3.67E-03
769	560803.1	4192037	5.02E-03	3.59E-03
770	560810.3	4192023	4.91E-03	3.51E-03
771	560820.6	4192011	4.87E-03	3.48E-03
772	560834	4192003	4.91E-03	3.51E-03
773	560847.4	4191994	4.95E-03	3.54E-03
774	560860.8	4191985	4.98E-03	3.56E-03

775	560874.2	4191976	5.01E-03	3.58E-03
776	560887.6	4191967	5.04E-03	3.60E-03
777	560900.9	4191959	5.05E-03	3.61E-03
778	560914.3	4191950	5.05E-03	3.61E-03
779	560927.7	4191941	5.03E-03	3.60E-03
780	560740.4	4192167	5.89E-03	4.21E-03
781	560737.1	4192183	6.00E-03	4.29E-03
782	560929.9	4192237	1.78E-02	1.27E-02
783	560920.1	4192235	1.65E-02	1.18E-02
784	560917.9	4192244	1.67E-02	1.20E-02
785	560915.6	4192254	1.69E-02	1.21E-02
786	560913.3	4192263	1.71E-02	1.22E-02
787	560911	4192272	1.72E-02	1.23E-02
788	560910.4	4192232	1.53E-02	1.10E-02
789	560908.1	4192242	1.55E-02	1.11E-02
790	560905.9	4192251	1.57E-02	1.12E-02
791	560903.6	4192261	1.58E-02	1.13E-02
792	560901.3	4192270	1.59E-02	1.14E-02
793	560899	4192279	1.60E-02	1.14E-02
794	560896.7	4192289	1.60E-02	1.15E-02
795	560894.4	4192298	1.60E-02	1.15E-02
796	560900.7	4192230	1.43E-02	1.02E-02
797	560898.4	4192240	1.45E-02	1.04E-02
798	560896.1	4192249	1.46E-02	1.05E-02
799	560893.9	4192258	1.48E-02	1.06E-02
800	560891.6	4192268	1.48E-02	1.06E-02
801	560889.3	4192277	1.49E-02	1.07E-02
802	560887	4192286	1.49E-02	1.07E-02
803	560884.7	4192296	1.49E-02	1.07E-02
804	560891	4192228	1.34E-02	9.57E-03
805	560888.7	4192237	1.35E-02	9.69E-03
806	560886.4	4192247	1.37E-02	9.78E-03
807	560884.1	4192256	1.38E-02	9.86E-03
808	560881.9	4192265	1.39E-02	9.91E-03
809	560879.6	4192275	1.39E-02	9.95E-03
810	560877.3	4192284	1.39E-02	9.97E-03
811	560875	4192294	1.39E-02	9.96E-03
812	560881.3	4192225	1.25E-02	8.97E-03
813	560879	4192235	1.27E-02	9.08E-03
814	560876.7	4192244	1.28E-02	9.16E-03
815	560874.4	4192254	1.29E-02	9.23E-03
816	560872.1	4192263	1.30E-02	9.28E-03
817	560869.9	4192272	1.30E-02	9.32E-03
818	560867.6	4192282	1.31E-02	9.33E-03
819	560865.3	4192291	1.30E-02	9.33E-03
820	560871.6	4192223	1.18E-02	8.44E-03
821	560869.3	4192232	1.19E-02	8.53E-03
822	560867	4192242	1.20E-02	8.61E-03
823	560864.7	4192251	1.21E-02	8.67E-03
824	560862.4	4192261	1.22E-02	8.72E-03
825	560860.1	4192270	1.22E-02	8.75E-03
826	560857.9	4192279	1.22E-02	8.76E-03

827	560855.6	4192289	1.22E-02	8.75E-03
828	560861.8	4192221	1.11E-02	7.96E-03
829	560859.6	4192230	1.12E-02	8.04E-03
830	560857.3	4192239	1.13E-02	8.11E-03
831	560855	4192249	1.14E-02	8.17E-03
832	560852.7	4192258	1.15E-02	8.21E-03
833	560850.4	4192268	1.15E-02	8.23E-03
834	560848.1	4192277	1.15E-02	8.24E-03
835	560845.9	4192286	1.15E-02	8.23E-03
836	560852.1	4192218	1.05E-02	7.52E-03
837	560849.8	4192228	1.06E-02	7.60E-03
838	560847.6	4192237	1.07E-02	7.66E-03
839	560845.3	4192246	1.08E-02	7.71E-03
840	560843	4192256	1.08E-02	7.74E-03
841	560840.7	4192265	1.09E-02	7.77E-03
842	560838.4	4192275	1.09E-02	7.77E-03
843	560836.1	4192284	1.09E-02	7.77E-03
844	560842.4	4192216	9.97E-03	7.13E-03
845	560840.1	4192225	1.01E-02	7.20E-03
846	560837.8	4192235	1.01E-02	7.25E-03
847	560835.6	4192244	1.02E-02	7.30E-03
848	560833.3	4192254	1.02E-02	7.33E-03
849	560831	4192263	1.03E-02	7.35E-03
850	560828.7	4192272	1.03E-02	7.35E-03
851	560826.4	4192282	1.03E-02	7.35E-03
852	560832.7	4192214	9.46E-03	6.76E-03
853	560830.4	4192223	9.55E-03	6.83E-03
854	560828.1	4192232	9.62E-03	6.88E-03
855	560825.8	4192242	9.67E-03	6.92E-03
856	560823.6	4192251	9.71E-03	6.95E-03
857	560821.3	4192261	9.74E-03	6.96E-03
858	560819	4192270	9.74E-03	6.97E-03
859	560816.7	4192279	9.74E-03	6.96E-03
860	560823	4192211	8.99E-03	6.43E-03
861	560820.7	4192221	9.07E-03	6.49E-03
862	560818.4	4192230	9.14E-03	6.54E-03
863	560816.1	4192239	9.19E-03	6.57E-03
864	560813.8	4192249	9.23E-03	6.60E-03
865	560811.6	4192258	9.25E-03	6.61E-03
866	560809.3	4192268	9.25E-03	6.62E-03
867	560807	4192277	9.24E-03	6.61E-03
868	560813.3	4192209	8.56E-03	6.12E-03
869	560811	4192218	8.64E-03	6.18E-03
870	560808.7	4192228	8.70E-03	6.22E-03
871	560806.4	4192237	8.74E-03	6.25E-03
872	560804.1	4192246	8.78E-03	6.28E-03
873	560801.8	4192256	8.79E-03	6.29E-03
874	560799.6	4192265	8.80E-03	6.29E-03
875	560797.3	4192275	8.79E-03	6.29E-03
876	560803.5	4192207	8.17E-03	5.84E-03
877	560801.3	4192216	8.23E-03	5.89E-03
878	560799	4192225	8.29E-03	5.93E-03

879	560796.7	4192235	8.33E-03	5.96E-03
880	560794.4	4192244	8.36E-03	5.98E-03
881	560792.1	4192253	8.38E-03	5.99E-03
882	560789.8	4192263	8.38E-03	5.99E-03
883	560787.6	4192272	8.37E-03	5.99E-03
884	560793.8	4192204	7.80E-03	5.58E-03
885	560791.5	4192214	7.86E-03	5.62E-03
886	560789.3	4192223	7.91E-03	5.66E-03
887	560787	4192232	7.95E-03	5.69E-03
888	560784.7	4192242	7.98E-03	5.71E-03
889	560782.4	4192251	7.99E-03	5.72E-03
890	560780.1	4192260	8.00E-03	5.72E-03
891	560777.8	4192270	7.99E-03	5.71E-03
892	560781.8	4192211	7.52E-03	5.37E-03
893	560779.5	4192221	7.56E-03	5.41E-03
894	560777.3	4192230	7.59E-03	5.43E-03
895	560775	4192239	7.62E-03	5.45E-03
896	560772.7	4192249	7.64E-03	5.46E-03
897	560770.4	4192258	7.64E-03	5.46E-03
898	560768.1	4192268	7.63E-03	5.46E-03
899	560772.1	4192209	7.18E-03	5.13E-03
900	560769.8	4192218	7.22E-03	5.16E-03
901	560767.5	4192228	7.26E-03	5.19E-03
902	560765.3	4192237	7.29E-03	5.21E-03
903	560763	4192246	7.31E-03	5.22E-03
904	560760.7	4192256	7.31E-03	5.22E-03
905	560758.4	4192265	7.30E-03	5.22E-03
906	560762.4	4192206	6.87E-03	4.91E-03
907	560760.1	4192216	6.90E-03	4.93E-03
908	560757.8	4192225	6.94E-03	4.96E-03
909	560755.5	4192235	6.97E-03	4.99E-03
910	560753.3	4192244	6.99E-03	5.00E-03
911	560751	4192253	6.99E-03	5.00E-03
912	560748.7	4192263	6.98E-03	4.99E-03
913	560752.7	4192204	6.57E-03	4.70E-03
914	560750.4	4192213	6.61E-03	4.73E-03
915	560748.1	4192223	6.65E-03	4.75E-03
916	560745.8	4192232	6.67E-03	4.77E-03
917	560743.5	4192242	6.69E-03	4.79E-03
918	560741.3	4192251	6.69E-03	4.79E-03
919	560739	4192260	6.68E-03	4.78E-03
920	560743	4192202	6.32E-03	4.52E-03
921	560740.7	4192211	6.35E-03	4.54E-03
922	560738.4	4192221	6.38E-03	4.56E-03
923	560736.1	4192230	6.40E-03	4.58E-03
924	560733.8	4192239	6.41E-03	4.58E-03
925	560731.5	4192249	6.41E-03	4.58E-03
926	560729.3	4192258	6.39E-03	4.57E-03
927	560733.2	4192199	6.07E-03	4.34E-03
928	560731	4192209	6.11E-03	4.37E-03
929	560728.7	4192218	6.13E-03	4.38E-03
930	560726.4	4192228	6.14E-03	4.39E-03

931	560724.1	4192237	6.15E-03	4.40E-03
932	560721.8	4192246	6.14E-03	4.39E-03
933	560719.5	4192256	6.13E-03	4.39E-03
934	560891.6	4192311	1.60E-02	1.15E-02
935	560888	4192329	1.60E-02	1.14E-02
936	560884.4	4192346	1.58E-02	1.13E-02
937	560880.8	4192364	1.56E-02	1.11E-02
938	560877.2	4192381	1.52E-02	1.09E-02
939	560881.9	4192309	1.49E-02	1.07E-02
940	560878.2	4192327	1.48E-02	1.06E-02
941	560874.6	4192344	1.47E-02	1.05E-02
942	560871	4192362	1.45E-02	1.03E-02
943	560867.4	4192379	1.41E-02	1.01E-02
944	560872.1	4192307	1.39E-02	9.96E-03
945	560868.4	4192325	1.38E-02	9.90E-03
946	560864.8	4192342	1.37E-02	9.79E-03
947	560861.2	4192360	1.35E-02	9.62E-03
948	560857.6	4192377	1.31E-02	9.40E-03
949	560862.3	4192305	1.30E-02	9.32E-03
950	560858.7	4192323	1.29E-02	9.26E-03
951	560855	4192340	1.28E-02	9.15E-03
952	560851.4	4192358	1.26E-02	8.98E-03
953	560847.8	4192375	1.23E-02	8.78E-03
954	560852.5	4192303	1.22E-02	8.74E-03
955	560848.9	4192321	1.21E-02	8.68E-03
956	560845.3	4192338	1.20E-02	8.57E-03
957	560841.6	4192356	1.18E-02	8.42E-03
958	560838	4192373	1.15E-02	8.22E-03
959	560842.7	4192301	1.15E-02	8.21E-03
960	560839.1	4192319	1.14E-02	8.16E-03
961	560835.5	4192336	1.13E-02	8.06E-03
962	560831.8	4192354	1.11E-02	7.92E-03
963	560828.2	4192371	1.08E-02	7.73E-03
964	560832.9	4192299	1.08E-02	7.75E-03
965	560829.3	4192317	1.08E-02	7.70E-03
966	560825.7	4192334	1.06E-02	7.60E-03
967	560822.1	4192352	1.04E-02	7.46E-03
968	560818.4	4192369	1.02E-02	7.28E-03
969	560823.1	4192297	1.02E-02	7.33E-03
970	560819.5	4192315	1.02E-02	7.28E-03
971	560815.9	4192332	1.01E-02	7.19E-03
972	560812.3	4192350	9.86E-03	7.05E-03
973	560808.6	4192367	9.62E-03	6.88E-03
974	560813.3	4192295	9.71E-03	6.94E-03
975	560809.7	4192313	9.64E-03	6.89E-03
976	560806.1	4192330	9.52E-03	6.81E-03
977	560802.5	4192348	9.34E-03	6.68E-03
978	560798.9	4192365	9.11E-03	6.51E-03
979	560803.5	4192293	9.22E-03	6.59E-03
980	560799.9	4192311	9.15E-03	6.54E-03
981	560796.3	4192328	9.03E-03	6.46E-03
982	560792.7	4192346	8.86E-03	6.34E-03

983	560789.1	4192363	8.64E-03	6.18E-03
984	560793.7	4192291	8.76E-03	6.27E-03
985	560790.1	4192309	8.70E-03	6.22E-03
986	560786.5	4192326	8.58E-03	6.14E-03
987	560782.9	4192344	8.42E-03	6.02E-03
988	560779.3	4192361	8.21E-03	5.87E-03
989	560783.9	4192289	8.34E-03	5.97E-03
990	560780.3	4192307	8.28E-03	5.92E-03
991	560776.7	4192324	8.17E-03	5.84E-03
992	560773.1	4192342	8.01E-03	5.73E-03
993	560769.5	4192359	7.81E-03	5.59E-03
994	560774.1	4192287	7.96E-03	5.69E-03
995	560770.5	4192305	7.89E-03	5.64E-03
996	560766.9	4192322	7.78E-03	5.57E-03
997	560763.3	4192340	7.64E-03	5.46E-03
998	560759.7	4192357	7.44E-03	5.32E-03
999	560764.3	4192285	7.60E-03	5.43E-03
1000	560760.7	4192303	7.53E-03	5.39E-03
1001	560757.1	4192320	7.43E-03	5.31E-03
1002	560753.5	4192338	7.29E-03	5.21E-03
1003	560749.9	4192355	7.10E-03	5.08E-03
1004	560756.3	4192274	7.28E-03	5.21E-03
1005	560752.7	4192292	7.24E-03	5.17E-03
1006	560749.1	4192309	7.15E-03	5.11E-03
1007	560745.5	4192327	7.03E-03	5.02E-03
1008	560741.9	4192344	6.87E-03	4.91E-03
1009	560746.6	4192272	6.96E-03	4.98E-03
1010	560742.9	4192290	6.91E-03	4.94E-03
1011	560739.3	4192307	6.83E-03	4.88E-03
1012	560735.7	4192325	6.71E-03	4.80E-03
1013	560732.1	4192342	6.56E-03	4.69E-03
1014	560736.8	4192270	6.66E-03	4.76E-03
1015	560733.1	4192288	6.61E-03	4.72E-03
1016	560729.5	4192305	6.52E-03	4.66E-03
1017	560725.9	4192323	6.41E-03	4.58E-03
1018	560722.3	4192340	6.27E-03	4.48E-03
1019	560727	4192268	6.37E-03	4.56E-03
1020	560723.4	4192286	6.32E-03	4.52E-03
1021	560719.7	4192303	6.25E-03	4.47E-03
1022	560716.1	4192321	6.14E-03	4.39E-03
1023	560712.5	4192338	6.01E-03	4.30E-03
1024	560717.2	4192266	6.12E-03	4.37E-03
1025	560713.6	4192284	6.07E-03	4.34E-03
1026	560710	4192301	6.00E-03	4.29E-03
1027	560706.3	4192319	5.90E-03	4.22E-03
1028	560702.7	4192336	5.77E-03	4.12E-03
1029	560873.7	4192397	1.48E-02	1.06E-02
1030	560864	4192395	1.37E-02	9.81E-03
1031	560860	4192412	1.32E-02	9.42E-03
1032	560856.1	4192430	1.25E-02	8.97E-03
1033	560854.2	4192393	1.28E-02	9.14E-03
1034	560850.3	4192410	1.23E-02	8.78E-03

1035	560846.4	4192428	1.17E-02	8.36E-03
1036	560844.4	4192390	1.19E-02	8.54E-03
1037	560842.5	4192399	1.17E-02	8.38E-03
1038	560838.6	4192417	1.12E-02	8.02E-03
1039	560834.7	4192434	1.06E-02	7.60E-03
1040	560834.7	4192388	1.12E-02	8.00E-03
1041	560830.8	4192406	1.07E-02	7.69E-03
1042	560826.8	4192423	1.02E-02	7.32E-03
1043	560824.9	4192386	1.05E-02	7.52E-03
1044	560821	4192404	1.01E-02	7.22E-03
1045	560817.1	4192421	9.62E-03	6.88E-03
1046	560815.1	4192430	9.37E-03	6.70E-03
1047	560815.2	4192384	9.90E-03	7.08E-03
1048	560811.2	4192401	9.51E-03	6.80E-03
1049	560807.3	4192419	9.07E-03	6.49E-03
1050	560805.4	4192382	9.36E-03	6.69E-03
1051	560801.5	4192399	8.99E-03	6.43E-03
1052	560797.6	4192417	8.58E-03	6.14E-03
1053	560795.6	4192379	8.86E-03	6.34E-03
1054	560791.7	4192397	8.52E-03	6.09E-03
1055	560787.8	4192415	8.13E-03	5.82E-03
1056	560785.9	4192377	8.41E-03	6.01E-03
1057	560782	4192395	8.08E-03	5.78E-03
1058	560778	4192412	7.72E-03	5.52E-03
1059	560776.1	4192375	7.99E-03	5.72E-03
1060	560774.2	4192384	7.84E-03	5.61E-03
1061	560770.2	4192401	7.52E-03	5.38E-03
1062	560766.3	4192419	7.17E-03	5.13E-03
1063	560766.4	4192373	7.61E-03	5.44E-03
1064	560762.4	4192390	7.32E-03	5.24E-03
1065	560758.5	4192408	7.00E-03	5.01E-03
1066	560756.6	4192371	7.26E-03	5.19E-03
1067	560752.7	4192388	6.99E-03	5.00E-03
1068	560748.8	4192406	6.69E-03	4.78E-03
1069	560746.8	4192415	6.53E-03	4.67E-03
1070	560746.8	4192369	6.93E-03	4.96E-03
1071	560742.9	4192386	6.67E-03	4.77E-03
1072	560739	4192404	6.39E-03	4.57E-03
1073	560739	4192358	6.73E-03	4.81E-03
1074	560735.1	4192375	6.51E-03	4.65E-03
1075	560731.2	4192393	6.25E-03	4.47E-03
1076	560727.3	4192410	5.98E-03	4.28E-03
1077	560729.3	4192355	6.44E-03	4.60E-03
1078	560725.4	4192373	6.23E-03	4.46E-03
1079	560721.4	4192391	5.99E-03	4.28E-03
1080	560717.5	4192408	5.73E-03	4.10E-03
1081	560719.5	4192353	6.16E-03	4.40E-03
1082	560715.6	4192371	5.97E-03	4.27E-03
1083	560711.7	4192388	5.73E-03	4.10E-03
1084	560707.8	4192406	5.49E-03	3.93E-03
1085	560709.8	4192351	5.90E-03	4.22E-03
1086	560707.8	4192360	5.81E-03	4.15E-03

1087	560703.9	4192377	5.60E-03	4.01E-03
1088	560700	4192395	5.38E-03	3.84E-03
1089	560700	4192349	5.66E-03	4.05E-03
1090	560696.1	4192366	5.47E-03	3.91E-03
1091	560692.2	4192384	5.27E-03	3.77E-03
1092	560688.2	4192402	5.06E-03	3.62E-03
1093	560852.1	4192454	1.17E-02	8.35E-03
1094	560842.2	4192453	1.09E-02	7.76E-03
1095	560840.5	4192470	1.03E-02	7.39E-03
1096	560832.3	4192452	1.01E-02	7.24E-03
1097	560830.6	4192469	9.62E-03	6.88E-03
1098	560822	4192453	9.40E-03	6.72E-03
1099	560823.9	4192439	9.78E-03	6.99E-03
1100	560820.6	4192469	8.98E-03	6.43E-03
1101	560812.1	4192452	8.81E-03	6.30E-03
1102	560810.6	4192468	8.42E-03	6.02E-03
1103	560802.2	4192451	8.29E-03	5.93E-03
1104	560804.3	4192435	8.66E-03	6.19E-03
1105	560800.6	4192468	7.92E-03	5.66E-03
1106	560792.2	4192450	7.83E-03	5.60E-03
1107	560794.5	4192434	8.19E-03	5.86E-03
1108	560782.3	4192449	7.40E-03	5.29E-03
1109	560784.7	4192432	7.76E-03	5.55E-03
1110	560772.4	4192448	7.02E-03	5.02E-03
1111	560773.6	4192439	7.19E-03	5.14E-03
1112	560774.9	4192430	7.36E-03	5.27E-03
1113	560762.2	4192449	6.63E-03	4.74E-03
1114	560764.3	4192434	6.90E-03	4.94E-03
1115	560752.3	4192448	6.30E-03	4.51E-03
1116	560754.4	4192432	6.57E-03	4.70E-03
1117	560742.3	4192447	6.01E-03	4.30E-03
1118	560744.6	4192431	6.27E-03	4.48E-03
1119	560732.4	4192446	5.73E-03	4.10E-03
1120	560734.7	4192429	5.99E-03	4.28E-03
1121	560722.4	4192445	5.48E-03	3.92E-03
1122	560724.9	4192428	5.73E-03	4.10E-03
1123	560712.3	4192446	5.22E-03	3.73E-03
1124	560714.4	4192431	5.43E-03	3.88E-03
1125	560702.4	4192445	5.00E-03	3.58E-03
1126	560704.5	4192429	5.21E-03	3.72E-03
1127	560692.4	4192444	4.80E-03	3.43E-03
1128	560694.6	4192428	5.00E-03	3.57E-03
1129	560696.9	4192412	5.18E-03	3.70E-03
1130	560682.5	4192443	4.61E-03	3.29E-03
1131	560684.8	4192427	4.80E-03	3.43E-03
1132	561570.5	4192470	1.95E-03	1.40E-03
1133	561116.5	4192516	9.74E-02	6.96E-02
1134	561122.2	4192517	9.50E-02	6.79E-02
1135	561127.4	4192519	9.18E-02	6.57E-02
1136	561132.3	4192520	8.81E-02	6.30E-02
1137	561136.5	4192521	8.44E-02	6.04E-02
1138	561141.7	4192522	7.93E-02	5.67E-02

1139	561146.4	4192523	7.37E-02	5.27E-02
1140	561149.5	4192524	6.97E-02	4.99E-02

			T4iRev								T4fRev							
										2.34E-05								1.73E-05
	UTM X	UTM Y	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
1	561383.48	4192287.53	2.35E-07	1.66E-07	2.37E-08	2.38E-08	2.37E-08	1.76E-08	1.07E-08	5.00E-07	1.68E-07	1.29E-07	1.84E-08	1.85E-08	1.84E-08	1.23E-08	5.37E-09	3.70E-07
2	561389.35	4192262.71	2.26E-07	1.59E-07	2.28E-08	2.29E-08	2.28E-08	1.69E-08	1.03E-08	4.80E-07	1.61E-07	1.24E-07	1.77E-08	1.77E-08	1.77E-08	1.18E-08	5.16E-09	3.55E-07
3	561390.63	4192271.92	2.23E-07	1.57E-07	2.26E-08	2.26E-08	2.26E-08	1.67E-08	1.01E-08	4.75E-07	1.60E-07	1.23E-07	1.75E-08	1.75E-08	1.75E-08	1.17E-08	5.11E-09	3.52E-07
4	561391.9	4192281.12	2.20E-07	1.55E-07	2.23E-08	2.23E-08	2.23E-08	1.65E-08	1.00E-08	4.69E-07	1.58E-07	1.21E-07	1.73E-08	1.73E-08	1.73E-08	1.15E-08	5.04E-09	3.47E-07
5	561393.17	4192290.32	2.17E-07	1.53E-07	2.19E-08	2.20E-08	2.19E-08	1.62E-08	9.85E-09	4.61E-07	1.55E-07	1.19E-07	1.70E-08	1.70E-08	1.70E-08	1.13E-08	4.96E-09	3.41E-07
6	561395.97	4192243.3	2.13E-07	1.50E-07	2.15E-08	2.16E-08	2.15E-08	1.59E-08	9.67E-09	4.53E-07	1.52E-07	1.17E-07	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.87E-09	3.35E-07
7	561397.32	4192253.01	2.12E-07	1.49E-07	2.14E-08	2.15E-08	2.14E-08	1.59E-08	9.62E-09	4.51E-07	1.51E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.11E-08	4.84E-09	3.33E-07
8	561398.66	4192262.73	2.10E-07	1.48E-07	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.54E-09	4.47E-07	1.50E-07	1.15E-07	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.80E-09	3.31E-07
9	561400.01	4192272.44	2.08E-07	1.46E-07	2.10E-08	2.10E-08	2.10E-08	1.56E-08	9.43E-09	4.42E-07	1.48E-07	1.14E-07	1.63E-08	1.63E-08	1.63E-08	1.08E-08	4.75E-09	3.27E-07
10	561401.35	4192282.16	2.04E-07	1.44E-07	2.07E-08	2.07E-08	2.07E-08	1.53E-08	9.29E-09	4.35E-07	1.46E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.07E-08	4.68E-09	3.22E-07
11	561402.69	4192291.87	2.01E-07	1.42E-07	2.03E-08	2.04E-08	2.03E-08	1.51E-08	9.13E-09	4.28E-07	1.44E-07	1.10E-07	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.60E-09	3.17E-07
12	561404.44	4192237.18	1.99E-07	1.40E-07	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.03E-09	4.23E-07	1.42E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.54E-09	3.13E-07
13	561405.76	4192246.77	1.98E-07	1.40E-07	2.00E-08	2.01E-08	2.00E-08	1.48E-08	9.00E-09	4.22E-07	1.42E-07	1.09E-07	1.55E-08	1.56E-08	1.55E-08	1.03E-08	4.53E-09	3.12E-07
14	561407.09	4192256.35	1.97E-07	1.39E-07	1.99E-08	1.99E-08	1.99E-08	1.47E-08	8.94E-09	4.19E-07	1.41E-07	1.08E-07	1.54E-08	1.55E-08	1.54E-08	1.03E-08	4.50E-09	3.10E-07
15	561408.41	4192265.94	1.95E-07	1.37E-07	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.85E-09	4.15E-07	1.39E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	3.07E-07
16	561409.74	4192275.53	1.92E-07	1.36E-07	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	4.10E-07	1.38E-07	1.06E-07	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.40E-09	3.03E-07
17	561411.07	4192285.11	1.90E-07	1.34E-07	1.92E-08	1.92E-08	1.92E-08	1.42E-08	8.62E-09	4.04E-07	1.36E-07	1.04E-07	1.49E-08	1.49E-08	1.49E-08	9.91E-09	4.34E-09	2.99E-07
18	561412.39	4192294.7	1.87E-07	1.32E-07	1.89E-08	1.89E-08	1.89E-08	1.40E-08	8.48E-09	3.97E-07	1.33E-07	1.02E-07	1.46E-08	1.47E-08	1.46E-08	9.75E-09	4.27E-09	2.94E-07
19	561414.22	4192240.65	1.85E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.39E-08	8.43E-09	3.95E-07	1.33E-07	1.02E-07	1.45E-08	1.46E-08	1.45E-08	9.69E-09	4.24E-09	2.92E-07
20	561415.54	4192250.13	1.85E-07	1.30E-07	1.87E-08	1.87E-08	1.87E-08	1.38E-08	8.39E-09	3.93E-07	1.32E-07	1.01E-07	1.45E-08	1.45E-08	1.45E-08	9.65E-09	4.23E-09	2.91E-07
21	561416.85	4192259.6	1.83E-07	1.29E-07	1.85E-08	1.86E-08	1.85E-08	1.37E-08	8.33E-09	3.90E-07	1.31E-07	1.01E-07	1.44E-08	1.44E-08	1.44E-08	9.58E-09	4.19E-09	2.89E-07
22	561418.16	4192269.07	1.82E-07	1.28E-07	1.83E-08	1.84E-08	1.83E-08	1.36E-08	8.25E-09	3.86E-07	1.30E-07	9.97E-08	1.42E-08	1.43E-08	1.42E-08	9.49E-09	4.15E-09	2.86E-07
23	561419.47	4192278.55	1.79E-07	1.26E-07	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.14E-09	3.82E-07	1.28E-07	9.85E-08	1.40E-08	1.41E-08	1.40E-08	9.37E-09	4.10E-09	2.82E-07
24	561420.78	4192288.02	1.77E-07	1.25E-07	1.79E-08	1.79E-08	1.79E-08	1.32E-08	8.03E-09	3.76E-07	1.26E-07	9.70E-08	1.38E-08	1.39E-08	1.38E-08	9.23E-09	4.04E-09	2.78E-07
25	561424	4192244.03	1.74E-07	1.23E-07	1.76E-08	1.76E-08	1.76E-08	1.30E-08	7.90E-09	3.70E-07	1.24E-07	9.55E-08	1.36E-08	1.37E-08	1.36E-08	9.09E-09	3.98E-09	2.74E-07
26	561425.3	4192253.4	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.86E-09	3.68E-07	1.24E-07	9.50E-08	1.36E-08	1.36E-08	1.36E-08	9.04E-09	3.96E-09	2.72E-07
27	561426.59	4192262.77	1.72E-07	1.21E-07	1.73E-08	1.74E-08	1.73E-08	1.29E-08	7.80E-09	3.65E-07	1.23E-07	9.42E-08	1.34E-08	1.35E-08	1.34E-08	8.96E-09	3.92E-09	2.70E-07
28	561356.27	4192417.52	3.04E-07	2.14E-07	3.07E-08	3.08E-08	3.07E-08	2.28E-08	1.38E-08	6.46E-07	2.17E-07	1.67E-07	2.38E-08	2.39E-08	2.38E-08	1.59E-08	6.95E-09	4.78E-07
29	561366.04	4192419.68	2.74E-07	1.93E-07	2.77E-08	2.77E-08	2.77E-08	2.05E-08	1.24E-08	5.83E-07	1.96E-07	1.50E-07	2.14E-08	2.15E-08	2.14E-08	1.43E-08	6.26E-09	4.31E-07
30	561375.8	4192421.84	2.48E-07	1.75E-07	2.50E-08	2.51E-08	2.50E-08	1.86E-08	1.13E-08	5.27E-07	1.77E-07	1.36E-07	1.94E-08	1.95E-08	1.94E-08	1.29E-08	5.67E-09	3.90E-07
31	561385.56	4192424.01	2.25E-07	1.59E-07	2.28E-08	2.28E-08	2.28E-08	1.69E-08	1.02E-08	4.79E-07	1.61E-07	1.24E-07	1.76E-08	1.77E-08	1.76E-08	1.18E-08	5.15E-09	3.55E-07
32	561405.09	4192428.33	1.89E-07	1.33E-07	1.91E-08	1.91E-08	1.91E-08	1.41E-08	8.57E-09	4.02E-07	1.35E-07	1.04E-07	1.48E-08	1.48E-08	1.48E-08	9.86E-09	4.32E-09	2.97E-07
33	561116.02	4192791.18	7.28E-07	5.13E-07	7.36E-08	7.38E-08	7.36E-08	5.46E-08	3.31E-08	1.55E-06	5.21E-07	4.00E-07	5.71E-08	5.72E-08	5.71E-08	3.80E-08	1.67E-08	1.15E-06
34	561414.85	4192430.5	1.73E-07	1.22E-07	1.75E-08	1.76E-08	1.75E-08	1.30E-08	7.88E-09	3.69E-07	1.24E-07	9.52E-08	1.36E-08	1.36E-08	1.36E-08	9.06E-09	3.97E-09	2.73E-07
35	561122.51	4192799.55	6.99E-07	4.93E-07	7.06E-08	7.08E-08	7.06E-08	5.24E-08	3.17E-08	1.49E-06	5.00E-07	3.84E-07	5.48E-08	5.49E-08	5.48E-08	3.65E-08	1.60E-08	1.10E-06
36	561424.61	4192432.66	1.59E-07	1.12E-07	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.24E-09	3.39E-07	1.14E-07	8.75E-08	1.25E-08	1.25E-08	1.25E-08	8.32E-09	3.64E-09	2.51E-07
37	561150.66	4192804.85	6.90E-07	4.86E-07	6.97E-08	6.99E-08	6.97E-08	5.17E-08	3.13E-08	1.47E-06	4.93E-07	3.79E-07	5.41E-08	5.42E-08	5.41E-08	3.60E-08	1.58E-08	1.09E-06
38	561140.93	4192806.23	6.83E-07	4.82E-07	6.90E-08	6.92E-08	6.90E-08	5.12E-08	3.10E-08	1.45E-06	4.89E-07	3.75E-07	5.35E-08	5.37E-08	5.35E-08	3.57E-08	1.56E-08	1.08E-06
39	561131.19	4192807.61	6.73E-07	4.75E-07	6.80E-08	6.82E-08	6.80E-08	5.05E-08	3.06E-08	1.43E-06	4.81E-07	3.70E-07	5.28E-08	5.29E-08	5.28E-08	3.52E-08	1.54E-08	1.06E-06
40	561121.46	4192808.98	6.61E-07	4.66E-07	6.68E-08	6.70E-08	6.68E-08	4.95E-08	3.00E-08	1.41E-06	4.73E-07	3.63E-07	5.18E-08	5.19E-08	5.18E-08	3.45E-08	1.51E-08	1.04E-06
41	561111.73	4192810.36	6.46E-07	4.55E-07	6.53E-08	6.55E-08	6.53E-08	4.84E-08	2.94E-08	1.38E-06	4.62E-07	3.55E-07	5.06E-08	5.08E-08	5.06E-08	3.38E-08	1.48E-08	1.02E-06
42	561432.25	4192444.45	1.49E-07	1.05E-07	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.79E-09	3.18E-07	1.07E-07	8.20E-08	1.17E-08	1.17E-08	1.17E-08	7.80E-09	3.42E-09	2.35E-07
43	561434.38	4192434.83	1.47E-07	1.03E-07	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	3.12E-07	1.05E-07	8.06E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	2.31E-07
44	561166.68	4192811.87	6.60E-07	4.65E-07	6.67E-08	6.69E-08	6.67E-08	4.94E-08	3.00E-08	1.40E-06	4.72E-07	3.62E-07	5.17E-08	5.18E-08	5.17E-08	3.45E-08	1.51E-08	1.04E-06
45	561157.04	4192813.24	6.59E-07	4.64E-07	6.66E-08	6.67E-08	6.66E-08	4.94E-08	2.99E-08	1.40E-06	4.71E-07	3.62E-07	5.16E-08	5.18E-08	5.16E-08	3.44E-08	1.51E-08	1.04E-06
46	561147.4	4192814.6	6.54E-07	4.61E-07	6.61E-08	6.63E-08	6.61E-08	4.90E-08	2.97E-08	1.39E-06	4.68E-07	3.59E-07	5.12E-08	5.14E-08	5.12E-08	3.42E-08	1.50E-08	1.03E-06
47	561137.76	4192815.96	6.46E-07	4.55E-07	6.53E-08	6.55E-08	6.53E-08	4.84E-08	2.94E-08	1.38E-06	4.62E-07	3.55E-07	5.06E-08	5.08E-08	5.06E-08	3.38E-08	1.48E-08	1.02E-06
48	561128.12	4192817.33	6.35E-07	4.48E-07	6.42E-08	6.44E-08	6.42E-08	4.76E-08	2.89E-08	1.35E-06	4.54E-07	3.49E-07	4.98E-08	4.99E-08	4.98E-08	3.32E-08	1.45E-08	1.00E-06
49	561118.49	4192818.69	6.23E-07	4.39E-07	6.30E-08	6.31E-08	6.30E-08	4.67E-08	2.83E-08	1.33E-06	4.45E-07	3.42E-07	4.88E-08	4.89E-08	4.88E-08	3.25E-08	1.42E-08	9.81E-07

50	561422.82	4192533.18	1.64E-07	1.15E-07	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.44E-09	3.49E-07	1.17E-07	9.00E-08	1.28E-08	1.29E-08	1.28E-08	8.56E-09	3.75E-09	2.58E-07
51	561424.95	4192523.56	1.60E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.28E-09	3.41E-07	1.15E-07	8.81E-08	1.26E-08	1.26E-08	1.26E-08	8.38E-09	3.67E-09	2.52E-07
52	561442.01	4192446.61	1.38E-07	9.71E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.26E-09	2.93E-07	9.85E-08	7.57E-08	1.08E-08	1.08E-08	1.08E-08	7.20E-09	3.15E-09	2.17E-07
53	561444.14	4192436.99	1.35E-07	9.55E-08	1.37E-08	1.37E-08	1.37E-08	1.02E-08	6.15E-09	2.88E-07	9.68E-08	7.44E-08	1.06E-08	1.06E-08	1.06E-08	7.08E-09	3.10E-09	2.13E-07
54	561182.43	4192818.93	6.24E-07	4.40E-07	6.31E-08	6.33E-08	6.31E-08	4.68E-08	2.84E-08	1.33E-06	4.46E-07	3.43E-07	4.89E-08	4.90E-08	4.89E-08	3.26E-08	1.43E-08	9.83E-07
55	561172.87	4192820.28	6.28E-07	4.43E-07	6.35E-08	6.37E-08	6.35E-08	4.71E-08	2.86E-08	1.34E-06	4.49E-07	3.45E-07	4.93E-08	4.94E-08	4.93E-08	3.28E-08	1.44E-08	9.90E-07
56	561163.32	4192821.63	6.29E-07	4.43E-07	6.36E-08	6.37E-08	6.36E-08	4.71E-08	2.86E-08	1.34E-06	4.50E-07	3.45E-07	4.93E-08	4.94E-08	4.93E-08	3.29E-08	1.44E-08	9.90E-07
57	561153.76	4192822.99	6.26E-07	4.41E-07	6.32E-08	6.34E-08	6.32E-08	4.69E-08	2.84E-08	1.33E-06	4.48E-07	3.44E-07	4.90E-08	4.92E-08	4.90E-08	3.27E-08	1.43E-08	9.85E-07
58	561144.21	4192824.34	6.20E-07	4.37E-07	6.26E-08	6.28E-08	6.26E-08	4.65E-08	2.82E-08	1.32E-06	4.43E-07	3.40E-07	4.86E-08	4.87E-08	4.86E-08	3.24E-08	1.42E-08	9.76E-07
59	561134.65	4192825.69	6.11E-07	4.31E-07	6.18E-08	6.19E-08	6.18E-08	4.58E-08	2.78E-08	1.30E-06	4.37E-07	3.36E-07	4.79E-08	4.80E-08	4.79E-08	3.19E-08	1.40E-08	9.62E-07
60	561125.1	4192827.04	6.00E-07	4.23E-07	6.07E-08	6.08E-08	6.07E-08	4.50E-08	2.73E-08	1.28E-06	4.29E-07	3.30E-07	4.70E-08	4.72E-08	4.70E-08	3.14E-08	1.37E-08	9.45E-07
61	561115.54	4192828.39	5.88E-07	4.14E-07	5.94E-08	5.96E-08	5.94E-08	4.40E-08	2.67E-08	1.25E-06	4.20E-07	3.23E-07	4.60E-08	4.62E-08	4.60E-08	3.07E-08	1.34E-08	9.25E-07
62	561432.58	4192535.35	1.52E-07	1.07E-07	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	3.24E-07	1.09E-07	8.35E-08	1.19E-08	1.19E-08	1.19E-08	7.94E-09	3.48E-09	2.39E-07
63	561434.72	4192525.73	1.49E-07	1.05E-07	1.50E-08	1.51E-08	1.50E-08	1.11E-08	6.76E-09	3.17E-07	1.06E-07	8.17E-08	1.17E-08	1.17E-08	1.17E-08	7.77E-09	3.40E-09	2.34E-07
64	561451.77	4192448.77	1.28E-07	9.00E-08	1.29E-08	1.29E-08	1.29E-08	9.57E-09	5.80E-09	2.72E-07	9.13E-08	7.01E-08	1.00E-08	1.00E-08	1.00E-08	6.67E-09	2.92E-09	2.01E-07
65	561453.9	4192439.15	1.26E-07	8.86E-08	1.27E-08	1.27E-08	1.27E-08	9.42E-09	5.71E-09	2.67E-07	8.99E-08	6.90E-08	9.85E-09	9.87E-09	9.85E-09	6.57E-09	2.87E-09	1.98E-07
66	561216.89	4192823.34	5.58E-07	3.93E-07	5.64E-08	5.65E-08	5.64E-08	4.18E-08	2.53E-08	1.19E-06	3.99E-07	3.06E-07	4.37E-08	4.38E-08	4.37E-08	2.91E-08	1.28E-08	8.78E-07
67	561207.41	4192824.68	5.72E-07	4.03E-07	5.78E-08	5.80E-08	5.78E-08	4.29E-08	2.60E-08	1.22E-06	4.09E-07	3.14E-07	4.49E-08	4.50E-08	4.49E-08	2.99E-08	1.31E-08	9.01E-07
68	561197.93	4192826.02	5.84E-07	4.12E-07	5.91E-08	5.92E-08	5.91E-08	4.38E-08	2.66E-08	1.24E-06	4.18E-07	3.21E-07	4.58E-08	4.59E-08	4.58E-08	3.05E-08	1.34E-08	9.20E-07
69	561178.98	4192828.71	5.99E-07	4.22E-07	6.05E-08	6.07E-08	6.05E-08	4.49E-08	2.72E-08	1.27E-06	4.28E-07	3.29E-07	4.69E-08	4.70E-08	4.69E-08	3.13E-08	1.37E-08	9.43E-07
70	561169.5	4192830.05	6.01E-07	4.23E-07	6.07E-08	6.09E-08	6.07E-08	4.50E-08	2.73E-08	1.28E-06	4.29E-07	3.30E-07	4.71E-08	4.72E-08	4.71E-08	3.14E-08	1.37E-08	9.46E-07
71	561160.02	4192831.39	5.99E-07	4.22E-07	6.05E-08	6.07E-08	6.05E-08	4.49E-08	2.72E-08	1.28E-06	4.28E-07	3.29E-07	4.69E-08	4.71E-08	4.69E-08	3.13E-08	1.37E-08	9.43E-07
72	561150.54	4192832.73	5.95E-07	4.19E-07	6.01E-08	6.03E-08	6.01E-08	4.46E-08	2.70E-08	1.27E-06	4.25E-07	3.27E-07	4.66E-08	4.67E-08	4.66E-08	3.11E-08	1.36E-08	9.36E-07
73	561141.06	4192834.07	5.87E-07	4.14E-07	5.94E-08	5.95E-08	5.94E-08	4.40E-08	2.67E-08	1.25E-06	4.20E-07	3.23E-07	4.60E-08	4.62E-08	4.60E-08	3.07E-08	1.34E-08	9.25E-07
74	561131.59	4192835.41	5.78E-07	4.08E-07	5.84E-08	5.86E-08	5.84E-08	4.33E-08	2.63E-08	1.23E-06	4.14E-07	3.18E-07	4.53E-08	4.54E-08	4.53E-08	3.02E-08	1.32E-08	9.11E-07
75	561122.11	4192836.75	5.67E-07	4.00E-07	5.73E-08	5.75E-08	5.73E-08	4.25E-08	2.58E-08	1.21E-06	4.06E-07	3.12E-07	4.45E-08	4.46E-08	4.45E-08	2.96E-08	1.30E-08	8.93E-07
76	561112.63	4192838.09	5.55E-07	3.91E-07	5.61E-08	5.62E-08	5.61E-08	4.16E-08	2.52E-08	1.18E-06	3.97E-07	3.05E-07	4.35E-08	4.36E-08	4.35E-08	2.90E-08	1.27E-08	8.74E-07
77	561442.35	4192537.51	1.41E-07	9.96E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.42E-09	3.01E-07	1.01E-07	7.76E-08	1.11E-08	1.11E-08	1.11E-08	7.39E-09	3.23E-09	2.23E-07
78	561444.48	4192527.89	1.38E-07	9.74E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.28E-09	2.94E-07	9.88E-08	7.59E-08	1.08E-08	1.09E-08	1.08E-08	7.22E-09	3.16E-09	2.18E-07
79	561461.53	4192450.94	1.19E-07	8.36E-08	1.20E-08	1.20E-08	1.20E-08	8.89E-09	5.39E-09	2.52E-07	8.48E-08	6.51E-08	9.29E-09	9.32E-09	9.29E-09	6.20E-09	2.71E-09	1.87E-07
80	561463.67	4192441.32	1.17E-07	8.23E-08	1.18E-08	1.18E-08	1.18E-08	8.75E-09	5.31E-09	2.49E-07	8.35E-08	6.41E-08	9.15E-09	9.18E-09	9.15E-09	6.10E-09	2.67E-09	1.84E-07
81	561241.45	4192829.16	4.93E-07	3.48E-07	4.98E-08	5.00E-08	4.98E-08	3.70E-08	2.24E-08	1.05E-06	3.53E-07	2.71E-07	3.86E-08	3.87E-08	3.86E-08	2.58E-08	1.13E-08	7.76E-07
82	561232.04	4192830.49	5.12E-07	3.61E-07	5.17E-08	5.19E-08	5.17E-08	3.84E-08	2.32E-08	1.09E-06	3.66E-07	2.81E-07	4.01E-08	4.02E-08	4.01E-08	2.67E-08	1.17E-08	8.06E-07
83	561222.63	4192831.82	5.28E-07	3.72E-07	5.34E-08	5.36E-08	5.34E-08	3.96E-08	2.40E-08	1.12E-06	3.78E-07	2.90E-07	4.14E-08	4.15E-08	4.14E-08	2.76E-08	1.21E-08	8.32E-07
84	561213.23	4192833.15	5.43E-07	3.83E-07	5.49E-08	5.50E-08	5.49E-08	4.07E-08	2.47E-08	1.16E-06	3.88E-07	2.98E-07	4.25E-08	4.27E-08	4.25E-08	2.84E-08	1.24E-08	8.55E-07
85	561203.82	4192834.48	5.55E-07	3.91E-07	5.61E-08	5.62E-08	5.61E-08	4.16E-08	2.52E-08	1.18E-06	3.97E-07	3.05E-07	4.35E-08	4.36E-08	4.35E-08	2.90E-08	1.27E-08	8.74E-07
86	561185	4192837.14	5.70E-07	4.02E-07	5.77E-08	5.78E-08	5.77E-08	4.28E-08	2.59E-08	1.21E-06	4.08E-07	3.13E-07	4.47E-08	4.48E-08	4.47E-08	2.98E-08	1.31E-08	8.98E-07
87	561175.6	4192838.47	5.74E-07	4.04E-07	5.80E-08	5.81E-08	5.80E-08	4.30E-08	2.61E-08	1.22E-06	4.10E-07	3.15E-07	4.50E-08	4.51E-08	4.50E-08	3.00E-08	1.31E-08	9.03E-07
88	561166.19	4192839.8	5.73E-07	4.04E-07	5.80E-08	5.81E-08	5.80E-08	4.30E-08	2.61E-08	1.22E-06	4.10E-07	3.15E-07	4.49E-08	4.51E-08	4.49E-08	3.00E-08	1.31E-08	9.03E-07
89	561156.78	4192841.13	5.70E-07	4.02E-07	5.76E-08	5.78E-08	5.76E-08	4.28E-08	2.59E-08	1.21E-06	4.08E-07	3.13E-07	4.47E-08	4.48E-08	4.47E-08	2.98E-08	1.30E-08	8.98E-07
90	561147.37	4192842.46	5.65E-07	3.98E-07	5.71E-08	5.72E-08	5.71E-08	4.23E-08	2.57E-08	1.20E-06	4.04E-07	3.10E-07	4.43E-08	4.44E-08	4.43E-08	2.95E-08	1.29E-08	8.89E-07
91	561137.97	4192843.79	5.57E-07	3.93E-07	5.63E-08	5.65E-08	5.63E-08	4.18E-08	2.53E-08	1.19E-06	3.98E-07	3.06E-07	4.37E-08	4.38E-08	4.37E-08	2.91E-08	1.27E-08	8.77E-07
92	561128.56	4192845.12	5.48E-07	3.86E-07	5.53E-08	5.55E-08	5.53E-08	4.10E-08	2.49E-08	1.17E-06	3.92E-07	3.01E-07	4.29E-08	4.30E-08	4.29E-08	2.86E-08	1.25E-08	8.62E-07
93	561119.15	4192846.45	5.36E-07	3.78E-07	5.42E-08	5.44E-08	5.42E-08	4.02E-08	2.44E-08	1.14E-06	3.84E-07	2.95E-07	4.20E-08	4.22E-08	4.20E-08	2.80E-08	1.23E-08	8.45E-07
94	561109.74	4192847.78	5.24E-07	3.70E-07	5.30E-08	5.31E-08	5.30E-08	3.93E-08	2.38E-08	1.12E-06	3.75E-07	2.88E-07	4.11E-08	4.12E-08	4.11E-08	2.74E-08	1.20E-08	8.26E-07
95	561452.11	4192539.68	1.32E-07	9.28E-08	1.33E-08	1.33E-08	1.33E-08	9.87E-09	5.98E-09	2.80E-07	9.41E-08	7.23E-08	1.03E-08	1.03E-08	1.03E-08	6.88E-09	3.01E-09	2.07E-07
96	561454.24	4192530.06	1.29E-07	9.07E-08	1.30E-08	1.30E-08	1.30E-08	9.64E-09	5.85E-09	2.74E-07	9.20E-08	7.07E-08	1.01E-08	1.01E-08	1.01E-08	6.72E-09	2.94E-09	2.03E-07
97	561471.3	4192453.1	1.10E-07	7.78E-08	1.12E-08	1.12E-08	1.12E-08	8.27E-09	5.01E-09	2.35E-07	7.89E-08	6.06E-08	8.65E-09	8.67E-09	8.65E-09	5.77E-09	2.52E-09	1.74E-07
98	561473.43	4192443.48	1.09E-07	7.67E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	2.32E-07	7.78E-08	5.97E-08	8.52E-09	8.55E-09	8.52E-09	5.68E-09	2.49E-09	1.71E-07
99	561264.15	4192835.23	4.31E-07	3.04E-07	4.36E-08	4.37E-08	4.36E-08	3.23E-08	1.96E-08	9.18E-07	3.08E-07	2.37E-07	3.38E-08	3.39E-08	3.38E-08	2.25E-08	9.87E-09	6.79E-07
100	561254.42	4192836.61	4.52E-07	3.19E-07	4.57E-08	4.58E-08	4.57E-08	3.39E-08	2.05E-08	9.62E-07	3.23E-07	2.48E-07	3.54E-08	3.55E-08	3.54E-08	2.36E-08	1.03E-08	7.12E-07
101	561244.68	4192837.98	4.72E-07	3.32E-07	4.77E-08	4.78E-08	4.77E-08	3.54E-08	2.14E-08	1.00E-06	3.37E-07	2.59E-07	3.70E-08	3.71E-08	3.70E-08	2.46E-08	1.08E-08	7.43E-07
102	561234.95	4192839.36	4.90E-07	3.45E-07	4.95E-08	4.96E-08	4.95E-08	3.67E-08	2.23E-08	1.04E-06	3.50E-07	2.69E-07	3.84E-08	3.85E-08	3.84E-08	2.56E-08	1.12E-08	7.71E-07

103	561225.22	4192840.74	5.06E-07	3.57E-07	5.12E-08	5.13E-08	5.12E-08	3.79E-08	2.30E-08	1.08E-06	3.62E-07	2.78E-07	3.97E-08	3.98E-08	3.97E-08	2.64E-08	1.16E-08	7.97E-07
104	561215.49	4192842.11	5.20E-07	3.67E-07	5.26E-08	5.27E-08	5.26E-08	3.90E-08	2.36E-08	1.11E-06	3.72E-07	2.86E-07	4.08E-08	4.09E-08	4.08E-08	2.72E-08	1.19E-08	8.19E-07
105	561205.76	4192843.49	5.31E-07	3.75E-07	5.37E-08	5.39E-08	5.37E-08	3.98E-08	2.42E-08	1.13E-06	3.80E-07	2.92E-07	4.17E-08	4.18E-08	4.17E-08	2.78E-08	1.22E-08	8.37E-07
106	561196.02	4192844.87	5.40E-07	3.81E-07	5.46E-08	5.48E-08	5.46E-08	4.05E-08	2.46E-08	1.15E-06	3.86E-07	2.97E-07	4.23E-08	4.25E-08	4.23E-08	2.82E-08	1.24E-08	8.51E-07
107	561176.56	4192847.62	5.49E-07	3.87E-07	5.55E-08	5.56E-08	5.55E-08	4.11E-08	2.49E-08	1.17E-06	3.92E-07	3.01E-07	4.30E-08	4.31E-08	4.30E-08	2.87E-08	1.26E-08	8.64E-07
108	561166.83	4192849	5.48E-07	3.86E-07	5.54E-08	5.56E-08	5.54E-08	4.11E-08	2.49E-08	1.17E-06	3.92E-07	3.01E-07	4.30E-08	4.31E-08	4.30E-08	2.86E-08	1.25E-08	8.63E-07
109	561157.1	4192850.37	5.45E-07	3.84E-07	5.51E-08	5.52E-08	5.51E-08	4.08E-08	2.48E-08	1.16E-06	3.90E-07	2.99E-07	4.27E-08	4.28E-08	4.27E-08	2.85E-08	1.25E-08	8.58E-07
110	561147.36	4192851.75	5.39E-07	3.80E-07	5.45E-08	5.46E-08	5.45E-08	4.04E-08	2.45E-08	1.15E-06	3.85E-07	2.96E-07	4.22E-08	4.24E-08	4.22E-08	2.82E-08	1.23E-08	8.49E-07
111	561137.63	4192853.13	5.31E-07	3.74E-07	5.37E-08	5.38E-08	5.37E-08	3.98E-08	2.41E-08	1.13E-06	3.80E-07	2.92E-07	4.16E-08	4.17E-08	4.16E-08	2.77E-08	1.21E-08	8.36E-07
112	561127.9	4192854.5	5.21E-07	3.67E-07	5.27E-08	5.28E-08	5.27E-08	3.91E-08	2.37E-08	1.11E-06	3.73E-07	2.86E-07	4.09E-08	4.10E-08	4.09E-08	2.72E-08	1.19E-08	8.21E-07
113	561118.17	4192855.88	5.10E-07	3.60E-07	5.16E-08	5.17E-08	5.16E-08	3.82E-08	2.32E-08	1.09E-06	3.65E-07	2.80E-07	4.00E-08	4.01E-08	4.00E-08	2.67E-08	1.17E-08	8.03E-07
114	561461.87	4192541.84	1.23E-07	8.66E-08	1.24E-08	1.24E-08	1.24E-08	9.21E-09	5.58E-09	2.61E-07	8.78E-08	6.75E-08	9.63E-09	9.65E-09	9.63E-09	6.42E-09	2.81E-09	1.93E-07
115	561464	4192532.22	1.20E-07	8.46E-08	1.21E-08	1.22E-08	1.21E-08	8.99E-09	5.45E-09	2.55E-07	8.58E-08	6.59E-08	9.40E-09	9.43E-09	9.40E-09	6.27E-09	2.74E-09	1.89E-07
116	561476.8	4192474.5	1.06E-07	7.48E-08	1.07E-08	1.08E-08	1.07E-08	7.95E-09	4.82E-09	2.26E-07	7.59E-08	5.83E-08	8.32E-09	8.34E-09	8.32E-09	5.54E-09	2.43E-09	1.67E-07
117	561481.06	4192455.26	1.03E-07	7.25E-08	1.04E-08	1.04E-08	1.04E-08	7.71E-09	4.67E-09	2.19E-07	7.36E-08	5.65E-08	8.06E-09	8.09E-09	8.06E-09	5.38E-09	2.35E-09	1.62E-07
118	561483.19	4192445.64	1.01E-07	7.15E-08	1.03E-08	1.03E-08	1.03E-08	7.61E-09	4.61E-09	2.16E-07	7.26E-08	5.57E-08	7.95E-09	7.98E-09	7.95E-09	5.30E-09	2.32E-09	1.60E-07
119	561269.64	4192843.74	4.09E-07	2.88E-07	4.13E-08	4.14E-08	4.13E-08	3.06E-08	1.86E-08	8.70E-07	2.92E-07	2.25E-07	3.20E-08	3.21E-08	3.20E-08	2.14E-08	9.35E-09	6.44E-07
120	561259.99	4192845.11	4.28E-07	3.02E-07	4.33E-08	4.34E-08	4.33E-08	3.21E-08	1.95E-08	9.12E-07	3.06E-07	2.35E-07	3.36E-08	3.37E-08	3.36E-08	2.24E-08	9.80E-09	6.75E-07
121	561250.33	4192846.47	4.47E-07	3.15E-07	4.52E-08	4.53E-08	4.52E-08	3.35E-08	2.03E-08	9.52E-07	3.20E-07	2.46E-07	3.50E-08	3.51E-08	3.50E-08	2.34E-08	1.02E-08	7.04E-07
122	561240.68	4192847.84	4.65E-07	3.27E-07	4.70E-08	4.71E-08	4.70E-08	3.48E-08	2.11E-08	9.89E-07	3.32E-07	2.55E-07	3.64E-08	3.65E-08	3.64E-08	2.43E-08	1.06E-08	7.32E-07
123	561231.02	4192849.2	4.80E-07	3.39E-07	4.86E-08	4.87E-08	4.86E-08	3.60E-08	2.18E-08	1.02E-06	3.44E-07	2.64E-07	3.77E-08	3.78E-08	3.77E-08	2.51E-08	1.10E-08	7.57E-07
124	561221.37	4192850.57	4.94E-07	3.48E-07	5.00E-08	5.01E-08	5.00E-08	3.70E-08	2.25E-08	1.05E-06	3.53E-07	2.71E-07	3.87E-08	3.88E-08	3.87E-08	2.58E-08	1.13E-08	7.78E-07
125	561211.71	4192851.93	5.06E-07	3.56E-07	5.11E-08	5.13E-08	5.11E-08	3.79E-08	2.30E-08	1.08E-06	3.62E-07	2.78E-07	3.96E-08	3.97E-08	3.96E-08	2.64E-08	1.16E-08	7.96E-07
126	561202.06	4192853.3	5.15E-07	3.63E-07	5.20E-08	5.22E-08	5.20E-08	3.86E-08	2.34E-08	1.10E-06	3.68E-07	2.83E-07	4.03E-08	4.04E-08	4.03E-08	2.69E-08	1.18E-08	8.10E-07
127	561173.1	4192857.4	5.26E-07	3.70E-07	5.31E-08	5.33E-08	5.31E-08	3.94E-08	2.39E-08	1.12E-06	3.76E-07	2.89E-07	4.12E-08	4.13E-08	4.12E-08	2.75E-08	1.20E-08	8.28E-07
128	561163.44	4192858.76	5.23E-07	3.69E-07	5.29E-08	5.31E-08	5.29E-08	3.92E-08	2.38E-08	1.11E-06	3.74E-07	2.88E-07	4.10E-08	4.11E-08	4.10E-08	2.74E-08	1.20E-08	8.24E-07
129	561153.79	4192860.13	5.19E-07	3.66E-07	5.25E-08	5.26E-08	5.25E-08	3.89E-08	2.36E-08	1.10E-06	3.71E-07	2.85E-07	4.07E-08	4.08E-08	4.07E-08	2.71E-08	1.19E-08	8.17E-07
130	561144.14	4192861.49	5.12E-07	3.61E-07	5.18E-08	5.19E-08	5.18E-08	3.84E-08	2.33E-08	1.09E-06	3.66E-07	2.81E-07	4.02E-08	4.03E-08	4.02E-08	2.68E-08	1.17E-08	8.07E-07
131	561134.48	4192862.86	5.04E-07	3.55E-07	5.09E-08	5.11E-08	5.09E-08	3.78E-08	2.29E-08	1.07E-06	3.60E-07	2.77E-07	3.95E-08	3.96E-08	3.95E-08	2.63E-08	1.15E-08	7.94E-07
132	561325.61	4192377.76	4.20E-07	2.96E-07	4.24E-08	4.25E-08	4.24E-08	3.14E-08	1.91E-08	8.93E-07	3.00E-07	2.30E-07	3.29E-08	3.30E-08	3.29E-08	2.19E-08	9.60E-09	6.61E-07
133	561328.03	4192368.66	4.04E-07	2.85E-07	4.08E-08	4.09E-08	4.08E-08	3.03E-08	1.84E-08	8.60E-07	2.89E-07	2.22E-07	3.17E-08	3.17E-08	3.17E-08	2.11E-08	9.24E-09	6.36E-07
134	561330.45	4192359.56	3.90E-07	2.75E-07	3.94E-08	3.95E-08	3.94E-08	2.92E-08	1.77E-08	8.30E-07	2.79E-07	2.14E-07	3.06E-08	3.07E-08	3.06E-08	2.04E-08	8.93E-09	6.14E-07
135	561335.28	4192380.33	3.75E-07	2.64E-07	3.79E-08	3.80E-08	3.79E-08	2.81E-08	1.70E-08	7.99E-07	2.68E-07	2.06E-07	2.94E-08	2.95E-08	2.94E-08	1.96E-08	8.58E-09	5.91E-07
136	561337.7	4192371.23	3.62E-07	2.55E-07	3.66E-08	3.67E-08	3.66E-08	2.71E-08	1.64E-08	7.71E-07	2.59E-07	1.99E-07	2.84E-08	2.84E-08	2.84E-08	1.89E-08	8.28E-09	5.70E-07
137	561340.12	4192362.14	3.50E-07	2.47E-07	3.53E-08	3.54E-08	3.53E-08	2.62E-08	1.59E-08	7.45E-07	2.50E-07	1.92E-07	2.74E-08	2.75E-08	2.74E-08	1.83E-08	8.00E-09	5.51E-07
138	561344.94	4192382.9	3.37E-07	2.38E-07	3.41E-08	3.42E-08	3.41E-08	2.53E-08	1.53E-08	7.18E-07	2.41E-07	1.85E-07	2.64E-08	2.65E-08	2.64E-08	1.76E-08	7.71E-09	5.31E-07
139	561347.36	4192373.81	3.26E-07	2.30E-07	3.30E-08	3.30E-08	3.30E-08	2.44E-08	1.48E-08	6.94E-07	2.33E-07	1.79E-07	2.56E-08	2.56E-08	2.56E-08	1.70E-08	7.46E-09	5.14E-07
140	561349.78	4192364.71	3.16E-07	2.22E-07	3.19E-08	3.20E-08	3.19E-08	2.37E-08	1.43E-08	6.72E-07	2.26E-07	1.73E-07	2.47E-08	2.48E-08	2.47E-08	1.65E-08	7.22E-09	4.97E-07
141	561354.6	4192385.48	3.04E-07	2.15E-07	3.08E-08	3.09E-08	3.08E-08	2.28E-08	1.38E-08	6.48E-07	2.18E-07	1.67E-07	2.39E-08	2.39E-08	2.39E-08	1.59E-08	6.97E-09	4.80E-07
142	561357.02	4192376.38	2.95E-07	2.08E-07	2.98E-08	2.99E-08	2.98E-08	2.21E-08	1.34E-08	6.28E-07	2.11E-07	1.62E-07	2.31E-08	2.32E-08	2.31E-08	1.54E-08	6.75E-09	4.65E-07
143	561359.45	4192367.28	2.86E-07	2.02E-07	2.89E-08	2.90E-08	2.89E-08	2.14E-08	1.30E-08	6.09E-07	2.05E-07	1.57E-07	2.24E-08	2.25E-08	2.24E-08	1.50E-08	6.55E-09	4.51E-07
144	561361.87	4192358.18	2.78E-07	1.96E-07	2.81E-08	2.82E-08	2.81E-08	2.08E-08	1.26E-08	5.92E-07	1.99E-07	1.53E-07	2.18E-08	2.18E-08	2.18E-08	1.45E-08	6.36E-09	4.38E-07
145	561359.43	4192406.24	2.92E-07	2.06E-07	2.95E-08	2.96E-08	2.95E-08	2.19E-08	1.33E-08	6.22E-07	2.09E-07	1.61E-07	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.69E-09	4.60E-07
146	561361.85	4192397.14	2.84E-07	2.00E-07	2.87E-08	2.87E-08	2.87E-08	2.13E-08	1.29E-08	6.04E-07	2.03E-07	1.56E-07	2.22E-08	2.23E-08	2.22E-08	1.48E-08	6.49E-09	4.47E-07
147	561364.27	4192388.05	2.75E-07	1.94E-07	2.78E-08	2.79E-08	2.78E-08	2.06E-08	1.25E-08	5.86E-07	1.97E-07	1.51E-07	2.16E-08	2.16E-08	2.16E-08	1.44E-08	6.30E-09	4.34E-07
148	561366.69	4192378.95	2.68E-07	1.89E-07	2.70E-08	2.71E-08	2.70E-08	2.01E-08	1.22E-08	5.70E-07	1.91E-07	1.47E-07	2.10E-08	2.10E-08	2.10E-08	1.40E-08	6.12E-09	4.21E-07
149	561369.11	4192369.85	2.60E-07	1.84E-07	2.63E-08	2.64E-08	2.63E-08	1.95E-08	1.18E-08	5.54E-07	1.86E-07	1.43E-07	2.04E-08	2.05E-08	2.04E-08	1.36E-08	5.96E-09	4.10E-07
150	561371.53	4192360.75	2.54E-07	1.79E-07	2.56E-08	2.57E-08	2.56E-08	1.90E-08	1.15E-08	5.40E-07	1.81E-07	1.39E-07	1.99E-08	1.99E-08	1.99E-08	1.33E-08	5.80E-09	3.99E-07
151	561373.95	4192351.65	2.47E-07	1.74E-07	2.50E-08	2.51E-08	2.50E-08	1.85E-08	1.12E-08	5.26E-07	1.77E-07	1.36E-07	1.94E-08	1.94E-08	1.94E-08	1.29E-08	5.66E-09	3.89E-07
152	561376.37	4192342.55	2.42E-07	1.70E-07	2.44E-08	2.45E-08	2.44E-08	1.81E-08	1.10E-08	5.15E-07	1.73E-07	1.33E-07	1.89E-08	1.90E-08	1.89E-08	1.26E-08	5.53E-09	3.81E-07
153	561378.79	4192333.46	2.37E-07	1.67E-07	2.40E-08	2.40E-08	2.40E-08	1.78E-08	1.08E-08	5.04E-07	1.69E-07	1.30E-07	1.86E-08	1.86E-08	1.86E-08	1.24E-08	5.42E-09	3.73E-07
154	561381.21	4192324.36	2.33E-07	1.64E-07	2.35E-08	2.36E-08	2.35E-08	1.75E-08	1.06E-08	4.96E-07	1.67E-07	1.28E-07	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.33E-09	3.67E-07
155	561383.63	4192315.26	2.29E-07	1.62E-07	2.32E-08	2.32E-08	2.32E-08	1.72E-08	1.04E-08	4.88E-07	1.64E-07	1.26E-07	1.80E-08	1.80E-08	1.80E-08	1.20E-08	5.24E-09	3.61E-07

156	561369.09	4192408.81	2.64E-07	1.86E-07	2.67E-08	2.68E-08	2.67E-08	1.98E-08	1.20E-08	5.63E-07	1.89E-07	1.45E-07	2.07E-08	2.08E-08	2.07E-08	1.38E-08	6.05E-09	4.16E-07
157	561371.51	4192399.72	2.57E-07	1.81E-07	2.60E-08	2.60E-08	2.60E-08	1.92E-08	1.17E-08	5.47E-07	1.84E-07	1.41E-07	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.88E-09	4.04E-07
158	561373.93	4192390.62	2.50E-07	1.76E-07	2.53E-08	2.53E-08	2.53E-08	1.87E-08	1.14E-08	5.32E-07	1.79E-07	1.37E-07	1.96E-08	1.96E-08	1.96E-08	1.31E-08	5.72E-09	3.93E-07
159	561376.35	4192381.52	2.44E-07	1.72E-07	2.46E-08	2.47E-08	2.46E-08	1.83E-08	1.11E-08	5.18E-07	1.74E-07	1.34E-07	1.91E-08	1.91E-08	1.91E-08	1.27E-08	5.57E-09	3.84E-07
160	561378.77	4192372.42	2.38E-07	1.68E-07	2.40E-08	2.41E-08	2.40E-08	1.78E-08	1.08E-08	5.06E-07	1.70E-07	1.31E-07	1.86E-08	1.87E-08	1.86E-08	1.24E-08	5.44E-09	3.74E-07
161	561381.19	4192363.32	2.32E-07	1.64E-07	2.35E-08	2.35E-08	2.35E-08	1.74E-08	1.06E-08	4.94E-07	1.66E-07	1.28E-07	1.82E-08	1.83E-08	1.82E-08	1.21E-08	5.31E-09	3.66E-07
162	561383.61	4192354.22	2.27E-07	1.60E-07	2.29E-08	2.30E-08	2.29E-08	1.70E-08	1.03E-08	4.83E-07	1.62E-07	1.25E-07	1.78E-08	1.78E-08	1.78E-08	1.19E-08	5.19E-09	3.57E-07
163	561386.04	4192345.13	2.22E-07	1.57E-07	2.25E-08	2.25E-08	2.25E-08	1.67E-08	1.01E-08	4.73E-07	1.59E-07	1.22E-07	1.74E-08	1.75E-08	1.74E-08	1.16E-08	5.08E-09	3.50E-07
164	561388.46	4192336.03	2.18E-07	1.54E-07	2.21E-08	2.21E-08	2.21E-08	1.64E-08	9.91E-09	4.64E-07	1.56E-07	1.20E-07	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.99E-09	3.44E-07
165	561390.88	4192326.93	2.15E-07	1.51E-07	2.17E-08	2.18E-08	2.17E-08	1.61E-08	9.76E-09	4.57E-07	1.54E-07	1.18E-07	1.68E-08	1.69E-08	1.68E-08	1.12E-08	4.91E-09	3.38E-07
166	561393.3	4192317.83	2.12E-07	1.49E-07	2.14E-08	2.15E-08	2.14E-08	1.59E-08	9.62E-09	4.51E-07	1.51E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.11E-08	4.84E-09	3.33E-07
167	561378.75	4192411.39	2.40E-07	1.69E-07	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	5.11E-07	1.71E-07	1.32E-07	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.49E-09	3.78E-07
168	561381.17	4192402.29	2.33E-07	1.65E-07	2.36E-08	2.37E-08	2.36E-08	1.75E-08	1.06E-08	4.97E-07	1.67E-07	1.28E-07	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.34E-09	3.68E-07
169	561383.6	4192393.19	2.27E-07	1.60E-07	2.30E-08	2.30E-08	2.30E-08	1.70E-08	1.03E-08	4.84E-07	1.63E-07	1.25E-07	1.78E-08	1.79E-08	1.78E-08	1.19E-08	5.20E-09	3.58E-07
170	561386.02	4192384.09	2.22E-07	1.57E-07	2.25E-08	2.25E-08	2.25E-08	1.67E-08	1.01E-08	4.73E-07	1.59E-07	1.22E-07	1.74E-08	1.75E-08	1.74E-08	1.16E-08	5.09E-09	3.50E-07
171	561388.44	4192374.99	2.18E-07	1.53E-07	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.89E-09	4.63E-07	1.56E-07	1.20E-07	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	3.43E-07
172	561390.86	4192365.89	2.13E-07	1.50E-07	2.16E-08	2.16E-08	2.16E-08	1.60E-08	9.69E-09	4.54E-07	1.53E-07	1.17E-07	1.67E-08	1.68E-08	1.67E-08	1.11E-08	4.88E-09	3.36E-07
173	561393.28	4192356.79	2.09E-07	1.47E-07	2.11E-08	2.12E-08	2.11E-08	1.57E-08	9.49E-09	4.45E-07	1.49E-07	1.15E-07	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.78E-09	3.29E-07
174	561395.7	4192347.7	2.05E-07	1.44E-07	2.07E-08	2.08E-08	2.07E-08	1.54E-08	9.31E-09	4.36E-07	1.47E-07	1.13E-07	1.61E-08	1.61E-08	1.61E-08	1.07E-08	4.69E-09	3.23E-07
175	561398.12	4192338.6	2.02E-07	1.42E-07	2.04E-08	2.04E-08	2.04E-08	1.51E-08	9.16E-09	4.29E-07	1.44E-07	1.11E-07	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.61E-09	3.17E-07
176	561400.54	4192329.5	1.99E-07	1.40E-07	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.02E-09	4.23E-07	1.42E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.54E-09	3.13E-07
177	561402.96	4192320.4	1.96E-07	1.38E-07	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.91E-09	4.17E-07	1.40E-07	1.08E-07	1.54E-08	1.54E-08	1.54E-08	1.02E-08	4.49E-09	3.09E-07
178	561407.75	4192419.1	1.84E-07	1.30E-07	1.86E-08	1.87E-08	1.86E-08	1.38E-08	8.37E-09	3.92E-07	1.32E-07	1.01E-07	1.44E-08	1.45E-08	1.44E-08	9.62E-09	4.21E-09	2.90E-07
179	561410.17	4192410	1.80E-07	1.27E-07	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.19E-09	3.83E-07	1.29E-07	9.89E-08	1.41E-08	1.42E-08	1.41E-08	9.41E-09	4.12E-09	2.84E-07
180	561412.59	4192400.9	1.76E-07	1.24E-07	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.01E-09	3.75E-07	1.26E-07	9.68E-08	1.38E-08	1.39E-08	1.38E-08	9.21E-09	4.03E-09	2.78E-07
181	561415.01	4192391.8	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.86E-09	3.68E-07	1.24E-07	9.50E-08	1.36E-08	1.36E-08	1.36E-08	9.04E-09	3.96E-09	2.72E-07
182	561417.43	4192382.71	1.70E-07	1.20E-07	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.73E-09	3.62E-07	1.22E-07	9.34E-08	1.33E-08	1.34E-08	1.33E-08	8.89E-09	3.89E-09	2.68E-07
183	561419.85	4192373.61	1.67E-07	1.18E-07	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.61E-09	3.56E-07	1.20E-07	9.20E-08	1.31E-08	1.32E-08	1.31E-08	8.75E-09	3.83E-09	2.64E-07
184	561422.27	4192364.51	1.65E-07	1.16E-07	1.67E-08	1.67E-08	1.67E-08	1.24E-08	7.50E-09	3.51E-07	1.18E-07	9.06E-08	1.29E-08	1.30E-08	1.29E-08	8.62E-09	3.77E-09	2.60E-07
185	561424.69	4192355.41	1.63E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.39E-09	3.46E-07	1.16E-07	8.93E-08	1.27E-08	1.28E-08	1.27E-08	8.49E-09	3.72E-09	2.56E-07
186	561427.11	4192346.31	1.60E-07	1.13E-07	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.29E-09	3.42E-07	1.15E-07	8.81E-08	1.26E-08	1.26E-08	1.26E-08	8.38E-09	3.67E-09	2.53E-07
187	561429.53	4192337.21	1.59E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.21E-09	3.38E-07	1.13E-07	8.72E-08	1.24E-08	1.25E-08	1.24E-08	8.29E-09	3.63E-09	2.50E-07
188	561431.95	4192328.11	1.57E-07	1.11E-07	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.15E-09	3.35E-07	1.13E-07	8.64E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	2.48E-07
189	561417.41	4192421.67	1.69E-07	1.19E-07	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.70E-09	3.61E-07	1.21E-07	9.31E-08	1.33E-08	1.33E-08	1.33E-08	8.86E-09	3.88E-09	2.67E-07
190	561419.83	4192412.57	1.66E-07	1.17E-07	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	3.53E-07	1.19E-07	9.12E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.80E-09	2.61E-07
191	561422.25	4192403.47	1.63E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.40E-09	3.46E-07	1.16E-07	8.94E-08	1.28E-08	1.28E-08	1.28E-08	8.50E-09	3.72E-09	2.56E-07
192	561424.67	4192394.37	1.60E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.26E-09	3.40E-07	1.14E-07	8.78E-08	1.25E-08	1.26E-08	1.25E-08	8.35E-09	3.66E-09	2.52E-07
193	561427.09	4192385.28	1.57E-07	1.11E-07	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.15E-09	3.35E-07	1.12E-07	8.64E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	2.48E-07
194	561429.51	4192376.18	1.55E-07	1.09E-07	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.04E-09	3.30E-07	1.11E-07	8.51E-08	1.21E-08	1.22E-08	1.21E-08	8.10E-09	3.55E-09	2.44E-07
195	561431.93	4192367.08	1.53E-07	1.08E-07	1.54E-08	1.55E-08	1.54E-08	1.15E-08	6.95E-09	3.25E-07	1.09E-07	8.40E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	2.41E-07
196	561434.35	4192357.98	1.51E-07	1.06E-07	1.52E-08	1.53E-08	1.52E-08	1.13E-08	6.85E-09	3.21E-07	1.08E-07	8.29E-08	1.18E-08	1.19E-08	1.18E-08	7.88E-09	3.45E-09	2.38E-07
197	561436.78	4192348.88	1.49E-07	1.05E-07	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.78E-09	3.17E-07	1.07E-07	8.19E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	2.35E-07
198	561439.2	4192339.78	1.48E-07	1.04E-07	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.71E-09	3.14E-07	1.06E-07	8.11E-08	1.16E-08	1.16E-08	1.16E-08	7.72E-09	3.38E-09	2.33E-07
199	561441.62	4192330.69	1.47E-07	1.03E-07	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.66E-09	3.12E-07	1.05E-07	8.06E-08	1.15E-08	1.15E-08	1.15E-08	7.66E-09	3.36E-09	2.31E-07
200	561429.49	4192415.14	1.53E-07	1.08E-07	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	3.26E-07	1.09E-07	8.41E-08	1.20E-08	1.20E-08	1.20E-08	8.00E-09	3.50E-09	2.41E-07
201	561431.91	4192406.04	1.50E-07	1.06E-07	1.52E-08	1.53E-08	1.52E-08	1.13E-08	6.84E-09	3.20E-07	1.08E-07	8.27E-08	1.18E-08	1.18E-08	1.18E-08	7.86E-09	3.44E-09	2.37E-07
202	561434.34	4192396.95	1.48E-07	1.04E-07	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	3.15E-07	1.06E-07	8.14E-08	1.16E-08	1.16E-08	1.16E-08	7.74E-09	3.39E-09	2.33E-07
203	561436.76	4192387.85	1.46E-07	1.03E-07	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.63E-09	3.11E-07	1.04E-07	8.01E-08	1.14E-08	1.15E-08	1.14E-08	7.62E-09	3.34E-09	2.30E-07
204	561439.18	4192378.75	1.44E-07	1.01E-07	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.53E-09	3.06E-07	1.03E-07	7.90E-08	1.13E-08	1.13E-08	1.13E-08	7.51E-09	3.29E-09	2.26E-07
205	561441.6	4192369.65	1.42E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.45E-09	3.02E-07	1.02E-07	7.80E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	2.24E-07
206	561444.02	4192360.55	1.40E-07	9.89E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	2.99E-07	1.00E-07	7.71E-08	1.10E-08	1.10E-08	1.10E-08	7.33E-09	3.21E-09	2.21E-07
207	561446.44	4192351.45	1.39E-07	9.79E-08	1.40E-08	1.41E-08	1.40E-08	1.04E-08	6.31E-09	2.96E-07	9.94E-08	7.63E-08	1.09E-08	1.09E-08	1.09E-08	7.26E-09	3.18E-09	2.19E-07
208	561448.86	4192342.36	1.38E-07	9.72E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.27E-09	2.94E-07	9.86E-08	7.57E-08	1.08E-08	1.08E-08	1.08E-08	7.21E-09	3.15E-09	2.17E-07

209	561451.28	4192333.26	1.37E-07	9.67E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.23E-09	2.92E-07	9.81E-08	7.53E-08	1.07E-08	1.08E-08	1.07E-08	7.17E-09	3.14E-09	2.16E-07
210	561439.16	4192417.71	1.41E-07	9.97E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.43E-09	3.01E-07	1.01E-07	7.77E-08	1.11E-08	1.11E-08	1.11E-08	7.39E-09	3.24E-09	2.23E-07
211	561441.58	4192408.62	1.39E-07	9.82E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.33E-09	2.97E-07	9.97E-08	7.65E-08	1.09E-08	1.10E-08	1.09E-08	7.28E-09	3.19E-09	2.19E-07
212	561444	4192399.52	1.37E-07	9.69E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.25E-09	2.93E-07	9.83E-08	7.55E-08	1.08E-08	1.08E-08	1.08E-08	7.18E-09	3.15E-09	2.17E-07
213	561446.42	4192390.42	1.36E-07	9.55E-08	1.37E-08	1.37E-08	1.37E-08	1.02E-08	6.16E-09	2.88E-07	9.69E-08	7.44E-08	1.06E-08	1.07E-08	1.06E-08	7.08E-09	3.10E-09	2.13E-07
214	561448.84	4192381.32	1.34E-07	9.42E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.07E-09	2.85E-07	9.56E-08	7.34E-08	1.05E-08	1.05E-08	1.05E-08	6.99E-09	3.06E-09	2.11E-07
215	561451.26	4192372.22	1.32E-07	9.31E-08	1.33E-08	1.34E-08	1.33E-08	9.90E-09	6.00E-09	2.81E-07	9.44E-08	7.25E-08	1.04E-08	1.04E-08	1.04E-08	6.90E-09	3.02E-09	2.08E-07
216	561453.68	4192363.12	1.31E-07	9.22E-08	1.32E-08	1.33E-08	1.32E-08	9.80E-09	5.94E-09	2.78E-07	9.35E-08	7.18E-08	1.02E-08	1.03E-08	1.02E-08	6.83E-09	2.99E-09	2.06E-07
217	561456.1	4192354.03	1.30E-07	9.15E-08	1.31E-08	1.32E-08	1.31E-08	9.73E-09	5.90E-09	2.76E-07	9.28E-08	7.13E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	2.04E-07
218	561458.52	4192344.93	1.29E-07	9.10E-08	1.30E-08	1.31E-08	1.30E-08	9.67E-09	5.86E-09	2.75E-07	9.23E-08	7.09E-08	1.01E-08	1.01E-08	1.01E-08	6.74E-09	2.95E-09	2.03E-07
219	561460.94	4192335.83	1.29E-07	9.06E-08	1.30E-08	1.30E-08	1.30E-08	9.63E-09	5.84E-09	2.74E-07	9.19E-08	7.06E-08	1.01E-08	1.01E-08	1.01E-08	6.71E-09	2.94E-09	2.02E-07
220	561448.82	4192420.29	1.31E-07	9.24E-08	1.32E-08	1.33E-08	1.32E-08	9.83E-09	5.96E-09	2.79E-07	9.37E-08	7.20E-08	1.03E-08	1.03E-08	1.03E-08	6.85E-09	3.00E-09	2.06E-07
221	561451.24	4192411.19	1.29E-07	9.11E-08	1.31E-08	1.31E-08	1.31E-08	9.69E-09	5.87E-09	2.75E-07	9.24E-08	7.10E-08	1.01E-08	1.02E-08	1.01E-08	6.75E-09	2.96E-09	2.04E-07
222	561453.66	4192402.09	1.28E-07	8.99E-08	1.29E-08	1.29E-08	1.29E-08	9.56E-09	5.80E-09	2.72E-07	9.12E-08	7.01E-08	1.00E-08	1.00E-08	1.00E-08	6.67E-09	2.92E-09	2.01E-07
223	561456.08	4192392.99	1.26E-07	8.88E-08	1.27E-08	1.28E-08	1.27E-08	9.44E-09	5.72E-09	2.68E-07	9.01E-08	6.92E-08	9.87E-09	9.90E-09	9.87E-09	6.58E-09	2.88E-09	1.98E-07
224	561458.5	4192383.89	1.24E-07	8.77E-08	1.26E-08	1.26E-08	1.26E-08	9.33E-09	5.65E-09	2.65E-07	8.90E-08	6.83E-08	9.75E-09	9.78E-09	9.75E-09	6.50E-09	2.85E-09	1.96E-07
225	561460.92	4192374.79	1.23E-07	8.68E-08	1.24E-08	1.25E-08	1.24E-08	9.23E-09	5.59E-09	2.62E-07	8.80E-08	6.76E-08	9.65E-09	9.68E-09	9.65E-09	6.43E-09	2.82E-09	1.94E-07
226	561463.35	4192365.69	1.22E-07	8.60E-08	1.23E-08	1.24E-08	1.23E-08	9.15E-09	5.55E-09	2.60E-07	8.73E-08	6.70E-08	9.56E-09	9.59E-09	9.56E-09	6.38E-09	2.79E-09	1.92E-07
227	561465.77	4192356.6	1.21E-07	8.56E-08	1.23E-08	1.23E-08	1.23E-08	9.10E-09	5.51E-09	2.58E-07	8.68E-08	6.67E-08	9.51E-09	9.54E-09	9.51E-09	6.34E-09	2.78E-09	1.91E-07
228	561468.19	4192347.5	1.21E-07	8.52E-08	1.22E-08	1.23E-08	1.22E-08	9.06E-09	5.49E-09	2.57E-07	8.65E-08	6.64E-08	9.48E-09	9.50E-09	9.48E-09	6.32E-09	2.77E-09	1.90E-07
229	561470.61	4192338.4	1.21E-07	8.50E-08	1.22E-08	1.22E-08	1.22E-08	9.04E-09	5.48E-09	2.57E-07	8.62E-08	6.62E-08	9.45E-09	9.48E-09	9.45E-09	6.30E-09	2.76E-09	1.90E-07
230	561458.48	4192422.86	1.22E-07	8.59E-08	1.23E-08	1.23E-08	1.23E-08	9.13E-09	5.54E-09	2.59E-07	8.71E-08	6.69E-08	9.55E-09	9.57E-09	9.55E-09	6.37E-09	2.79E-09	1.92E-07
231	561460.91	4192413.76	1.20E-07	8.47E-08	1.21E-08	1.22E-08	1.21E-08	9.01E-09	5.46E-09	2.56E-07	8.59E-08	6.60E-08	9.42E-09	9.44E-09	9.42E-09	6.28E-09	2.75E-09	1.89E-07
232	561463.33	4192404.66	1.19E-07	8.36E-08	1.20E-08	1.20E-08	1.20E-08	8.89E-09	5.39E-09	2.53E-07	8.48E-08	6.52E-08	9.30E-09	9.32E-09	9.30E-09	6.20E-09	2.71E-09	1.87E-07
233	561465.75	4192395.56	1.17E-07	8.27E-08	1.19E-08	1.19E-08	1.19E-08	8.79E-09	5.33E-09	2.50E-07	8.39E-08	6.44E-08	9.19E-09	9.22E-09	9.19E-09	6.13E-09	2.68E-09	1.85E-07
234	561468.17	4192386.46	1.16E-07	8.18E-08	1.17E-08	1.18E-08	1.17E-08	8.70E-09	5.27E-09	2.47E-07	8.30E-08	6.37E-08	9.09E-09	9.12E-09	9.09E-09	6.06E-09	2.65E-09	1.83E-07
235	561470.59	4192377.36	1.15E-07	8.10E-08	1.16E-08	1.17E-08	1.16E-08	8.62E-09	5.22E-09	2.45E-07	8.22E-08	6.31E-08	9.01E-09	9.04E-09	9.01E-09	6.01E-09	2.63E-09	1.81E-07
236	561473.01	4192368.27	1.14E-07	8.04E-08	1.15E-08	1.16E-08	1.15E-08	8.55E-09	5.18E-09	2.43E-07	8.16E-08	6.27E-08	8.94E-09	8.97E-09	8.94E-09	5.96E-09	2.61E-09	1.80E-07
237	561475.43	4192359.17	1.14E-07	8.01E-08	1.15E-08	1.15E-08	1.15E-08	8.52E-09	5.17E-09	2.42E-07	8.13E-08	6.24E-08	8.91E-09	8.93E-09	8.91E-09	5.94E-09	2.60E-09	1.79E-07
238	561477.85	4192350.07	1.13E-07	7.99E-08	1.15E-08	1.15E-08	1.15E-08	8.50E-09	5.15E-09	2.41E-07	8.11E-08	6.23E-08	8.89E-09	8.91E-09	8.89E-09	5.93E-09	2.59E-09	1.79E-07
239	561480.27	4192340.97	1.13E-07	7.98E-08	1.14E-08	1.15E-08	1.14E-08	8.48E-09	5.14E-09	2.41E-07	8.09E-08	6.22E-08	8.87E-09	8.89E-09	8.87E-09	5.91E-09	2.59E-09	1.78E-07
240	561468.15	4192425.43	1.13E-07	8.00E-08	1.15E-08	1.15E-08	1.15E-08	8.51E-09	5.16E-09	2.42E-07	8.11E-08	6.23E-08	8.89E-09	8.92E-09	8.89E-09	5.93E-09	2.60E-09	1.79E-07
241	561470.57	4192416.33	1.12E-07	7.89E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.09E-09	2.38E-07	8.01E-08	6.15E-08	8.77E-09	8.80E-09	8.77E-09	5.85E-09	2.56E-09	1.76E-07
242	561472.99	4192407.23	1.11E-07	7.80E-08	1.12E-08	1.12E-08	1.12E-08	8.29E-09	5.03E-09	2.35E-07	7.91E-08	6.07E-08	8.67E-09	8.69E-09	8.67E-09	5.78E-09	2.53E-09	1.74E-07
243	561475.41	4192398.13	1.09E-07	7.72E-08	1.11E-08	1.11E-08	1.11E-08	8.20E-09	4.97E-09	2.33E-07	7.83E-08	6.01E-08	8.58E-09	8.60E-09	8.58E-09	5.72E-09	2.50E-09	1.72E-07
244	561477.83	4192389.03	1.08E-07	7.65E-08	1.10E-08	1.10E-08	1.10E-08	8.13E-09	4.93E-09	2.31E-07	7.76E-08	5.96E-08	8.50E-09	8.53E-09	8.50E-09	5.67E-09	2.48E-09	1.71E-07
245	561480.25	4192379.94	1.08E-07	7.59E-08	1.09E-08	1.09E-08	1.09E-08	8.07E-09	4.89E-09	2.29E-07	7.70E-08	5.92E-08	8.44E-09	8.47E-09	8.44E-09	5.63E-09	2.46E-09	1.70E-07
246	561482.67	4192370.84	1.07E-07	7.55E-08	1.08E-08	1.09E-08	1.08E-08	8.03E-09	4.87E-09	2.28E-07	7.66E-08	5.88E-08	8.39E-09	8.42E-09	8.39E-09	5.60E-09	2.45E-09	1.69E-07
247	561485.09	4192361.74	1.07E-07	7.52E-08	1.08E-08	1.08E-08	1.08E-08	8.00E-09	4.85E-09	2.27E-07	7.63E-08	5.86E-08	8.36E-09	8.39E-09	8.36E-09	5.58E-09	2.44E-09	1.68E-07
248	561487.51	4192352.64	1.07E-07	7.51E-08	1.08E-08	1.08E-08	1.08E-08	7.98E-09	4.84E-09	2.27E-07	7.62E-08	5.85E-08	8.35E-09	8.37E-09	8.35E-09	5.57E-09	2.44E-09	1.68E-07
249	561489.94	4192343.54	1.06E-07	7.50E-08	1.07E-08	1.08E-08	1.07E-08	7.97E-09	4.83E-09	2.26E-07	7.60E-08	5.84E-08	8.33E-09	8.36E-09	8.33E-09	5.56E-09	2.43E-09	1.67E-07
250	561477.81	4192428	1.06E-07	7.47E-08	1.07E-08	1.07E-08	1.07E-08	7.94E-09	4.81E-09	2.25E-07	7.57E-08	5.82E-08	8.30E-09	8.32E-09	8.30E-09	5.53E-09	2.42E-09	1.67E-07
251	561480.23	4192418.9	1.05E-07	7.37E-08	1.06E-08	1.06E-08	1.06E-08	7.84E-09	4.75E-09	2.23E-07	7.48E-08	5.75E-08	8.20E-09	8.22E-09	8.20E-09	5.47E-09	2.39E-09	1.65E-07
252	561482.65	4192409.8	1.03E-07	7.29E-08	1.05E-08	1.05E-08	1.05E-08	7.76E-09	4.70E-09	2.20E-07	7.40E-08	5.68E-08	8.11E-09	8.13E-09	8.11E-09	5.41E-09	2.37E-09	1.63E-07
253	561485.07	4192400.7	1.03E-07	7.23E-08	1.04E-08	1.04E-08	1.04E-08	7.69E-09	4.66E-09	2.18E-07	7.33E-08	5.63E-08	8.04E-09	8.06E-09	8.04E-09	5.36E-09	2.35E-09	1.61E-07
254	561487.5	4192391.61	1.02E-07	7.17E-08	1.03E-08	1.03E-08	1.03E-08	7.63E-09	4.62E-09	2.17E-07	7.28E-08	5.59E-08	7.97E-09	8.00E-09	7.97E-09	5.32E-09	2.33E-09	1.60E-07
255	561489.92	4192382.51	1.01E-07	7.13E-08	1.02E-08	1.03E-08	1.02E-08	7.58E-09	4.60E-09	2.15E-07	7.23E-08	5.56E-08	7.93E-09	7.95E-09	7.93E-09	5.29E-09	2.31E-09	1.59E-07
256	561492.34	4192373.41	1.01E-07	7.10E-08	1.02E-08	1.02E-08	1.02E-08	7.55E-09	4.58E-09	2.14E-07	7.20E-08	5.53E-08	7.89E-09	7.91E-09	7.89E-09	5.26E-09	2.30E-09	1.59E-07
257	561494.76	4192364.31	1.00E-07	7.08E-08	1.01E-08	1.02E-08	1.01E-08	7.52E-09	4.56E-09	2.14E-07	7.18E-08	5.51E-08	7.87E-09	7.89E-09	7.87E-09	5.25E-09	2.30E-09	1.58E-07
258	561497.18	4192355.21	1.00E-07	7.06E-08	1.01E-08	1.02E-08	1.01E-08	7.51E-09	4.55E-09	2.13E-07	7.17E-08	5.50E-08	7.85E-09	7.88E-09	7.85E-09	5.24E-09	2.29E-09	1.58E-07
259	561499.6	4192346.11	1.00E-07	7.05E-08	1.01E-08	1.01E-08	1.01E-08	7.50E-09	4.55E-09	2.13E-07	7.16E-08	5.50E-08	7.84E-09	7.87E-09	7.84E-09	5.23E-09	2.29E-09	1.58E-07
260	561487.48	4192430.57	9.90E-08	6.98E-08	1.00E-08	1.00E-08	1.00E-08	7.42E-09	4.50E-09	2.11E-07	7.08E-08	5.44E-08	7.76E-09	7.78E-09	7.76E-09	5.17E-09	2.27E-09	1.56E-07
261	561489.9	4192421.47	9.79E-08	6.90E-08	9.90E-09	9.92E-09	9.90E-09	7.34E-09	4.45E-09	2.08E-07	7.00E-08	5.38E-08	7.67E-09	7.69E-09	7.67E-09	5.12E-09	2.24E-09	1.54E-07

262	561492.32	4192412.37	9.70E-08	6.83E-08	9.80E-09	9.83E-09	9.80E-09	7.27E-09	4.41E-09	2.06E-07	6.93E-08	5.33E-08	7.60E-09	7.62E-09	7.60E-09	5.07E-09	2.22E-09	1.53E-07
263	561494.74	4192403.27	9.62E-08	6.78E-08	9.72E-09	9.75E-09	9.72E-09	7.21E-09	4.37E-09	2.05E-07	6.88E-08	5.28E-08	7.54E-09	7.56E-09	7.54E-09	5.03E-09	2.20E-09	1.51E-07
264	561497.16	4192394.18	9.56E-08	6.74E-08	9.66E-09	9.69E-09	9.66E-09	7.16E-09	4.34E-09	2.03E-07	6.83E-08	5.25E-08	7.49E-09	7.51E-09	7.49E-09	4.99E-09	2.19E-09	1.51E-07
265	561499.58	4192385.08	9.51E-08	6.70E-08	9.61E-09	9.64E-09	9.61E-09	7.13E-09	4.32E-09	2.02E-07	6.80E-08	5.22E-08	7.45E-09	7.47E-09	7.45E-09	4.97E-09	2.18E-09	1.50E-07
266	561502	4192375.98	9.48E-08	6.68E-08	9.58E-09	9.61E-09	9.58E-09	7.10E-09	4.31E-09	2.02E-07	6.78E-08	5.21E-08	7.43E-09	7.45E-09	7.43E-09	4.95E-09	2.17E-09	1.49E-07
267	561504.42	4192366.88	9.46E-08	6.67E-08	9.56E-09	9.58E-09	9.56E-09	7.09E-09	4.30E-09	2.01E-07	6.76E-08	5.19E-08	7.41E-09	7.43E-09	7.41E-09	4.94E-09	2.16E-09	1.49E-07
268	561506.84	4192357.78	9.45E-08	6.66E-08	9.55E-09	9.57E-09	9.55E-09	7.08E-09	4.29E-09	2.01E-07	6.76E-08	5.19E-08	7.40E-09	7.42E-09	7.40E-09	4.94E-09	2.16E-09	1.49E-07
269	561509.26	4192348.68	9.44E-08	6.66E-08	9.54E-09	9.57E-09	9.54E-09	7.08E-09	4.29E-09	2.01E-07	6.75E-08	5.19E-08	7.40E-09	7.42E-09	7.40E-09	4.93E-09	2.16E-09	1.49E-07
270	561401.78	4192218.01	1.98E-07	1.40E-07	2.00E-08	2.01E-08	2.00E-08	1.48E-08	8.99E-09	4.21E-07	1.42E-07	1.09E-07	1.55E-08	1.56E-08	1.55E-08	1.03E-08	4.53E-09	3.12E-07
271	561403.11	4192227.59	1.99E-07	1.40E-07	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.02E-09	4.23E-07	1.42E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.54E-09	3.13E-07
272	561410.29	4192212.23	1.84E-07	1.30E-07	1.86E-08	1.87E-08	1.86E-08	1.38E-08	8.38E-09	3.93E-07	1.32E-07	1.01E-07	1.45E-08	1.45E-08	1.45E-08	9.64E-09	4.22E-09	2.90E-07
273	561411.6	4192221.7	1.85E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.39E-08	8.42E-09	3.95E-07	1.33E-07	1.02E-07	1.45E-08	1.46E-08	1.45E-08	9.68E-09	4.24E-09	2.92E-07
274	561412.91	4192231.18	1.86E-07	1.31E-07	1.88E-08	1.88E-08	1.88E-08	1.39E-08	8.44E-09	3.95E-07	1.33E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	9.70E-09	4.25E-09	2.92E-07
275	561417.52	4192197.16	1.71E-07	1.21E-07	1.73E-08	1.73E-08	1.73E-08	1.28E-08	7.77E-09	3.64E-07	1.22E-07	9.40E-08	1.34E-08	1.34E-08	1.34E-08	8.94E-09	3.91E-09	2.69E-07
276	561418.81	4192206.53	1.73E-07	1.22E-07	1.74E-08	1.75E-08	1.74E-08	1.29E-08	7.84E-09	3.67E-07	1.23E-07	9.48E-08	1.35E-08	1.36E-08	1.35E-08	9.02E-09	3.95E-09	2.72E-07
277	561420.11	4192215.9	1.74E-07	1.22E-07	1.75E-08	1.76E-08	1.75E-08	1.30E-08	7.89E-09	3.70E-07	1.24E-07	9.53E-08	1.36E-08	1.36E-08	1.36E-08	9.07E-09	3.97E-09	2.73E-07
278	561421.41	4192225.28	1.74E-07	1.23E-07	1.76E-08	1.77E-08	1.76E-08	1.31E-08	7.92E-09	3.71E-07	1.25E-07	9.57E-08	1.37E-08	1.37E-08	1.37E-08	9.10E-09	3.99E-09	2.74E-07
279	561422.7	4192234.65	1.74E-07	1.23E-07	1.76E-08	1.77E-08	1.76E-08	1.31E-08	7.92E-09	3.71E-07	1.25E-07	9.57E-08	1.37E-08	1.37E-08	1.37E-08	9.11E-09	3.99E-09	2.75E-07
280	561424.77	4192182.33	1.59E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.21E-09	3.38E-07	1.14E-07	8.72E-08	1.24E-08	1.25E-08	1.24E-08	8.30E-09	3.63E-09	2.50E-07
281	561426.06	4192191.61	1.60E-07	1.13E-07	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.29E-09	3.42E-07	1.15E-07	8.81E-08	1.26E-08	1.26E-08	1.26E-08	8.38E-09	3.67E-09	2.53E-07
282	561427.34	4192200.89	1.62E-07	1.14E-07	1.64E-08	1.64E-08	1.64E-08	1.21E-08	7.36E-09	3.45E-07	1.16E-07	8.89E-08	1.27E-08	1.27E-08	1.27E-08	8.46E-09	3.70E-09	2.55E-07
283	561428.62	4192210.18	1.63E-07	1.15E-07	1.65E-08	1.65E-08	1.65E-08	1.22E-08	7.41E-09	3.47E-07	1.17E-07	8.95E-08	1.28E-08	1.28E-08	1.28E-08	8.52E-09	3.73E-09	2.57E-07
284	561429.91	4192219.46	1.64E-07	1.15E-07	1.65E-08	1.66E-08	1.65E-08	1.23E-08	7.44E-09	3.49E-07	1.17E-07	8.99E-08	1.28E-08	1.29E-08	1.28E-08	8.56E-09	3.75E-09	2.58E-07
285	561431.19	4192228.75	1.64E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.45E-09	3.49E-07	1.17E-07	9.01E-08	1.29E-08	1.29E-08	1.29E-08	8.57E-09	3.75E-09	2.58E-07
286	561432.48	4192238.03	1.64E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.45E-09	3.49E-07	1.17E-07	9.00E-08	1.28E-08	1.29E-08	1.28E-08	8.57E-09	3.75E-09	2.58E-07
287	561434.94	4192188.53	1.51E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.87E-09	3.22E-07	1.08E-07	8.30E-08	1.18E-08	1.19E-08	1.18E-08	7.90E-09	3.46E-09	2.38E-07
288	561436.28	4192198.22	1.53E-07	1.08E-07	1.54E-08	1.55E-08	1.54E-08	1.14E-08	6.93E-09	3.25E-07	1.09E-07	8.38E-08	1.20E-08	1.20E-08	1.20E-08	7.97E-09	3.49E-09	2.40E-07
289	561437.62	4192207.91	1.54E-07	1.08E-07	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.98E-09	3.27E-07	1.10E-07	8.44E-08	1.20E-08	1.21E-08	1.20E-08	8.03E-09	3.51E-09	2.42E-07
290	561438.96	4192217.59	1.54E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	3.29E-07	1.10E-07	8.48E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	2.43E-07
291	561445.66	4192266.03	1.51E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.88E-09	3.22E-07	1.08E-07	8.31E-08	1.19E-08	1.19E-08	1.19E-08	7.91E-09	3.46E-09	2.38E-07
292	561429.07	4192129.23	1.38E-07	9.71E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.26E-09	2.93E-07	9.85E-08	7.57E-08	1.08E-08	1.08E-08	1.08E-08	7.20E-09	3.15E-09	2.17E-07
293	561438.17	4192144.58	1.35E-07	9.54E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.15E-09	2.88E-07	9.68E-08	7.43E-08	1.06E-08	1.06E-08	1.06E-08	7.07E-09	3.10E-09	2.13E-07
294	561439.49	4192154.17	1.37E-07	9.67E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.23E-09	2.92E-07	9.81E-08	7.53E-08	1.08E-08	1.08E-08	1.08E-08	7.17E-09	3.14E-09	2.16E-07
295	561440.82	4192163.75	1.39E-07	9.79E-08	1.40E-08	1.41E-08	1.40E-08	1.04E-08	6.31E-09	2.96E-07	9.94E-08	7.63E-08	1.09E-08	1.09E-08	1.09E-08	7.26E-09	3.18E-09	2.19E-07
296	561444.8	4192192.51	1.44E-07	1.01E-07	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.52E-09	3.06E-07	1.03E-07	7.89E-08	1.13E-08	1.13E-08	1.13E-08	7.50E-09	3.29E-09	2.26E-07
297	561452.75	4192250.04	1.45E-07	1.02E-07	1.46E-08	1.47E-08	1.46E-08	1.08E-08	6.58E-09	3.08E-07	1.03E-07	7.95E-08	1.13E-08	1.14E-08	1.13E-08	7.56E-09	3.31E-09	2.28E-07
298	561454.08	4192259.62	1.44E-07	1.01E-07	1.45E-08	1.45E-08	1.45E-08	1.08E-08	6.52E-09	3.06E-07	1.03E-07	7.88E-08	1.12E-08	1.13E-08	1.12E-08	7.50E-09	3.28E-09	2.26E-07
299	561455.41	4192269.21	1.42E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.45E-09	3.02E-07	1.02E-07	7.80E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	2.24E-07
300	561459.39	4192297.97	1.36E-07	9.56E-08	1.37E-08	1.37E-08	1.37E-08	1.02E-08	6.16E-09	2.89E-07	9.70E-08	7.45E-08	1.06E-08	1.07E-08	1.06E-08	7.09E-09	3.10E-09	2.14E-07
301	561460.71	4192307.56	1.33E-07	9.39E-08	1.35E-08	1.35E-08	1.35E-08	9.99E-09	6.05E-09	2.84E-07	9.53E-08	7.32E-08	1.04E-08	1.05E-08	1.04E-08	6.96E-09	3.05E-09	2.10E-07
302	561430.05	4192118.47	1.34E-07	9.43E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.08E-09	2.85E-07	9.57E-08	7.35E-08	1.05E-08	1.05E-08	1.05E-08	6.99E-09	3.06E-09	2.11E-07
303	561437.74	4192124.18	1.30E-07	9.15E-08	1.31E-08	1.32E-08	1.31E-08	9.73E-09	5.90E-09	2.76E-07	9.28E-08	7.13E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	2.04E-07
304	561446.76	4192139.39	1.28E-07	8.99E-08	1.29E-08	1.29E-08	1.29E-08	9.56E-09	5.80E-09	2.72E-07	9.12E-08	7.01E-08	1.00E-08	1.00E-08	1.00E-08	6.67E-09	2.92E-09	2.01E-07
305	561448.07	4192148.89	1.29E-07	9.10E-08	1.31E-08	1.31E-08	1.31E-08	9.68E-09	5.87E-09	2.75E-07	9.24E-08	7.09E-08	1.01E-08	1.02E-08	1.01E-08	6.75E-09	2.95E-09	2.03E-07
306	561449.38	4192158.38	1.31E-07	9.21E-08	1.32E-08	1.32E-08	1.32E-08	9.80E-09	5.94E-09	2.78E-07	9.35E-08	7.18E-08	1.02E-08	1.03E-08	1.02E-08	6.83E-09	2.99E-09	2.06E-07
307	561450.7	4192167.88	1.32E-07	9.32E-08	1.34E-08	1.34E-08	1.34E-08	9.91E-09	6.01E-09	2.82E-07	9.46E-08	7.26E-08	1.04E-08	1.04E-08	1.04E-08	6.91E-09	3.03E-09	2.08E-07
308	561462.52	4192253.34	1.36E-07	9.60E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.19E-09	2.90E-07	9.74E-08	7.48E-08	1.07E-08	1.07E-08	1.07E-08	7.12E-09	3.12E-09	2.14E-07
309	561463.83	4192262.83	1.35E-07	9.51E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.13E-09	2.87E-07	9.65E-08	7.41E-08	1.06E-08	1.06E-08	1.06E-08	7.05E-09	3.09E-09	2.12E-07
310	561465.15	4192272.33	1.33E-07	9.40E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.06E-09	2.84E-07	9.54E-08	7.32E-08	1.05E-08	1.05E-08	1.05E-08	6.97E-09	3.05E-09	2.10E-07
311	561466.46	4192281.82	1.32E-07	9.27E-08	1.33E-08	1.33E-08	1.33E-08	9.86E-09	5.98E-09	2.80E-07	9.41E-08	7.22E-08	1.03E-08	1.03E-08	1.03E-08	6.87E-09	3.01E-09	2.07E-07
312	561467.77	4192291.32	1.29E-07	9.13E-08	1.31E-08	1.31E-08	1.31E-08	9.71E-09	5.88E-09	2.76E-07	9.26E-08	7.11E-08	1.01E-08	1.02E-08	1.01E-08	6.77E-09	2.96E-09	2.04E-07
313	561469.09	4192300.81	1.27E-07	8.97E-08	1.29E-08	1.29E-08	1.29E-08	9.54E-09	5.78E-09	2.71E-07	9.10E-08	6.99E-08	9.98E-09	1.00E-08	9.98E-09	6.65E-09	2.91E-09	2.00E-07
314	561470.4	4192310.31	1.25E-07	8.81E-08	1.26E-08	1.27E-08	1.26E-08	9.37E-09	5.68E-09	2.66E-07	8.94E-08	6.86E-08	9.79E-09	9.82E-09	9.79E-09	6.53E-09	2.86E-09	1.97E-07

315	561431.15	4192107.81	1.30E-07	9.16E-08	1.31E-08	1.32E-08	1.31E-08	9.74E-09	5.91E-09	2.77E-07	9.30E-08	7.14E-08	1.02E-08	1.02E-08	1.02E-08	6.79E-09	2.97E-09	2.05E-07
316	561438.78	4192113.47	1.26E-07	8.89E-08	1.27E-08	1.28E-08	1.27E-08	9.45E-09	5.73E-09	2.68E-07	9.02E-08	6.93E-08	9.88E-09	9.91E-09	9.88E-09	6.59E-09	2.89E-09	1.99E-07
317	561446.41	4192119.14	1.22E-07	8.63E-08	1.24E-08	1.24E-08	1.24E-08	9.18E-09	5.56E-09	2.61E-07	8.76E-08	6.73E-08	9.60E-09	9.62E-09	9.60E-09	6.40E-09	2.80E-09	1.93E-07
318	561455.35	4192134.21	1.20E-07	8.49E-08	1.22E-08	1.22E-08	1.22E-08	9.03E-09	5.47E-09	2.56E-07	8.61E-08	6.61E-08	9.44E-09	9.46E-09	9.44E-09	6.29E-09	2.76E-09	1.90E-07
319	561456.65	4192143.62	1.22E-07	8.59E-08	1.23E-08	1.23E-08	1.23E-08	9.13E-09	5.53E-09	2.59E-07	8.71E-08	6.69E-08	9.55E-09	9.57E-09	9.55E-09	6.36E-09	2.79E-09	1.92E-07
320	561457.95	4192153.03	1.23E-07	8.68E-08	1.24E-08	1.25E-08	1.24E-08	9.23E-09	5.60E-09	2.62E-07	8.81E-08	6.76E-08	9.65E-09	9.68E-09	9.65E-09	6.43E-09	2.82E-09	1.94E-07
321	561464.46	4192200.1	1.30E-07	9.16E-08	1.31E-08	1.32E-08	1.31E-08	9.74E-09	5.90E-09	2.77E-07	9.29E-08	7.14E-08	1.02E-08	1.02E-08	1.02E-08	6.79E-09	2.97E-09	2.05E-07
322	561465.76	4192209.51	1.31E-07	9.20E-08	1.32E-08	1.32E-08	1.32E-08	9.79E-09	5.93E-09	2.78E-07	9.34E-08	7.17E-08	1.02E-08	1.03E-08	1.02E-08	6.82E-09	2.99E-09	2.06E-07
323	561467.07	4192218.92	1.31E-07	9.23E-08	1.32E-08	1.33E-08	1.32E-08	9.81E-09	5.95E-09	2.79E-07	9.36E-08	7.19E-08	1.03E-08	1.03E-08	1.03E-08	6.84E-09	2.99E-09	2.06E-07
324	561472.28	4192256.57	1.28E-07	9.04E-08	1.30E-08	1.30E-08	1.30E-08	9.62E-09	5.83E-09	2.73E-07	9.18E-08	7.05E-08	1.01E-08	1.01E-08	1.01E-08	6.70E-09	2.94E-09	2.02E-07
325	561473.58	4192265.98	1.27E-07	8.95E-08	1.28E-08	1.29E-08	1.28E-08	9.52E-09	5.77E-09	2.70E-07	9.08E-08	6.98E-08	9.96E-09	9.98E-09	9.96E-09	6.64E-09	2.91E-09	2.00E-07
326	561474.88	4192275.4	1.25E-07	8.85E-08	1.27E-08	1.27E-08	1.27E-08	9.41E-09	5.70E-09	2.67E-07	8.97E-08	6.89E-08	9.83E-09	9.86E-09	9.83E-09	6.56E-09	2.87E-09	1.98E-07
327	561476.18	4192284.81	1.24E-07	8.72E-08	1.25E-08	1.25E-08	1.25E-08	9.27E-09	5.62E-09	2.63E-07	8.85E-08	6.79E-08	9.69E-09	9.72E-09	9.69E-09	6.46E-09	2.83E-09	1.95E-07
328	561477.48	4192294.22	1.22E-07	8.58E-08	1.23E-08	1.23E-08	1.23E-08	9.12E-09	5.53E-09	2.59E-07	8.70E-08	6.69E-08	9.54E-09	9.57E-09	9.54E-09	6.36E-09	2.78E-09	1.92E-07
329	561478.79	4192303.63	1.20E-07	8.43E-08	1.21E-08	1.21E-08	1.21E-08	8.96E-09	5.43E-09	2.55E-07	8.55E-08	6.57E-08	9.37E-09	9.40E-09	9.37E-09	6.25E-09	2.74E-09	1.88E-07
330	561480.09	4192313.05	1.17E-07	8.28E-08	1.19E-08	1.19E-08	1.19E-08	8.80E-09	5.33E-09	2.50E-07	8.40E-08	6.45E-08	9.20E-09	9.23E-09	9.20E-09	6.13E-09	2.69E-09	1.85E-07
331	561432.37	4192097.23	1.26E-07	8.90E-08	1.28E-08	1.28E-08	1.28E-08	9.46E-09	5.74E-09	2.69E-07	9.03E-08	6.94E-08	9.90E-09	9.92E-09	9.90E-09	6.60E-09	2.89E-09	1.99E-07
332	561439.94	4192102.85	1.23E-07	8.64E-08	1.24E-08	1.24E-08	1.24E-08	9.19E-09	5.57E-09	2.61E-07	8.76E-08	6.73E-08	9.60E-09	9.63E-09	9.60E-09	6.40E-09	2.80E-09	1.93E-07
333	561447.51	4192108.47	1.19E-07	8.39E-08	1.20E-08	1.21E-08	1.20E-08	8.92E-09	5.41E-09	2.53E-07	8.51E-08	6.54E-08	9.33E-09	9.36E-09	9.33E-09	6.22E-09	2.72E-09	1.87E-07
334	561455.08	4192114.08	1.16E-07	8.16E-08	1.17E-08	1.17E-08	1.17E-08	8.68E-09	5.26E-09	2.46E-07	8.28E-08	6.36E-08	9.07E-09	9.10E-09	9.07E-09	6.05E-09	2.65E-09	1.82E-07
335	561463.94	4192129.04	1.14E-07	8.04E-08	1.15E-08	1.16E-08	1.15E-08	8.54E-09	5.18E-09	2.43E-07	8.15E-08	6.26E-08	8.93E-09	8.96E-09	8.93E-09	5.96E-09	2.61E-09	1.80E-07
336	561470.4	4192175.72	1.21E-07	8.52E-08	1.22E-08	1.23E-08	1.22E-08	9.06E-09	5.49E-09	2.57E-07	8.65E-08	6.64E-08	9.48E-09	9.50E-09	9.48E-09	6.32E-09	2.77E-09	1.90E-07
337	561472.98	4192194.39	1.23E-07	8.67E-08	1.24E-08	1.25E-08	1.24E-08	9.22E-09	5.59E-09	2.62E-07	8.79E-08	6.75E-08	9.64E-09	9.66E-09	9.64E-09	6.43E-09	2.81E-09	1.94E-07
338	561474.27	4192203.73	1.24E-07	8.72E-08	1.25E-08	1.25E-08	1.25E-08	9.27E-09	5.62E-09	2.63E-07	8.84E-08	6.79E-08	9.69E-09	9.72E-09	9.69E-09	6.46E-09	2.83E-09	1.95E-07
339	561475.56	4192213.07	1.24E-07	8.75E-08	1.25E-08	1.26E-08	1.25E-08	9.30E-09	5.64E-09	2.64E-07	8.87E-08	6.82E-08	9.73E-09	9.75E-09	9.73E-09	6.48E-09	2.84E-09	1.95E-07
340	561476.86	4192222.4	1.24E-07	8.75E-08	1.25E-08	1.26E-08	1.25E-08	9.30E-09	5.64E-09	2.64E-07	8.87E-08	6.81E-08	9.72E-09	9.75E-09	9.72E-09	6.48E-09	2.84E-09	1.95E-07
341	561482.02	4192259.75	1.21E-07	8.54E-08	1.22E-08	1.23E-08	1.22E-08	9.08E-09	5.51E-09	2.58E-07	8.67E-08	6.66E-08	9.50E-09	9.52E-09	9.50E-09	6.33E-09	2.77E-09	1.91E-07
342	561483.31	4192269.09	1.20E-07	8.45E-08	1.21E-08	1.21E-08	1.21E-08	8.98E-09	5.44E-09	2.55E-07	8.57E-08	6.58E-08	9.39E-09	9.42E-09	9.39E-09	6.26E-09	2.74E-09	1.89E-07
343	561484.61	4192278.42	1.18E-07	8.33E-08	1.19E-08	1.20E-08	1.19E-08	8.86E-09	5.37E-09	2.52E-07	8.45E-08	6.49E-08	9.26E-09	9.29E-09	9.26E-09	6.18E-09	2.70E-09	1.86E-07
344	561485.9	4192287.76	1.16E-07	8.21E-08	1.18E-08	1.18E-08	1.18E-08	8.73E-09	5.29E-09	2.48E-07	8.33E-08	6.40E-08	9.13E-09	9.15E-09	9.13E-09	6.09E-09	2.66E-09	1.83E-07
345	561487.19	4192297.1	1.15E-07	8.08E-08	1.16E-08	1.16E-08	1.16E-08	8.59E-09	5.21E-09	2.44E-07	8.19E-08	6.29E-08	8.98E-09	9.00E-09	8.98E-09	5.99E-09	2.62E-09	1.80E-07
346	561488.48	4192306.43	1.13E-07	7.93E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.11E-09	2.40E-07	8.05E-08	6.18E-08	8.82E-09	8.85E-09	8.82E-09	5.88E-09	2.57E-09	1.77E-07
347	561489.77	4192315.77	1.10E-07	7.79E-08	1.12E-08	1.12E-08	1.12E-08	8.28E-09	5.02E-09	2.35E-07	7.90E-08	6.07E-08	8.66E-09	8.68E-09	8.66E-09	5.77E-09	2.53E-09	1.74E-07
348	561439.89	4192091.33	1.20E-07	8.44E-08	1.21E-08	1.21E-08	1.21E-08	8.97E-09	5.44E-09	2.55E-07	8.56E-08	6.57E-08	9.38E-09	9.41E-09	9.38E-09	6.26E-09	2.74E-09	1.89E-07
349	561447.73	4192097.15	1.16E-07	8.19E-08	1.17E-08	1.18E-08	1.17E-08	8.71E-09	5.28E-09	2.47E-07	8.31E-08	6.38E-08	9.10E-09	9.13E-09	9.10E-09	6.07E-09	2.66E-09	1.83E-07
350	561455.57	4192102.97	1.13E-07	7.95E-08	1.14E-08	1.14E-08	1.14E-08	8.46E-09	5.13E-09	2.40E-07	8.07E-08	6.20E-08	8.84E-09	8.87E-09	8.84E-09	5.90E-09	2.58E-09	1.78E-07
351	561463.41	4192108.78	1.10E-07	7.73E-08	1.11E-08	1.11E-08	1.11E-08	8.22E-09	4.98E-09	2.34E-07	7.85E-08	6.03E-08	8.60E-09	8.62E-09	8.60E-09	5.73E-09	2.51E-09	1.73E-07
352	561476.6	4192153.28	1.11E-07	7.85E-08	1.13E-08	1.13E-08	1.13E-08	8.35E-09	5.06E-09	2.37E-07	7.97E-08	6.12E-08	8.73E-09	8.75E-09	8.73E-09	5.82E-09	2.55E-09	1.75E-07
353	561477.94	4192162.95	1.13E-07	7.94E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.12E-09	2.40E-07	8.05E-08	6.19E-08	8.83E-09	8.85E-09	8.83E-09	5.89E-09	2.58E-09	1.77E-07
354	561479.28	4192172.62	1.15E-07	8.08E-08	1.16E-08	1.16E-08	1.16E-08	8.59E-09	5.21E-09	2.44E-07	8.20E-08	6.30E-08	8.98E-09	9.01E-09	8.98E-09	5.99E-09	2.62E-09	1.81E-07
355	561483.29	4192201.63	1.17E-07	8.26E-08	1.18E-08	1.19E-08	1.18E-08	8.79E-09	5.33E-09	2.50E-07	8.38E-08	6.44E-08	9.19E-09	9.21E-09	9.19E-09	6.13E-09	2.68E-09	1.85E-07
356	561484.63	4192211.3	1.18E-07	8.29E-08	1.19E-08	1.19E-08	1.19E-08	8.82E-09	5.35E-09	2.50E-07	8.41E-08	6.46E-08	9.22E-09	9.25E-09	9.22E-09	6.15E-09	2.69E-09	1.85E-07
357	561485.97	4192220.97	1.18E-07	8.30E-08	1.19E-08	1.19E-08	1.19E-08	8.83E-09	5.35E-09	2.51E-07	8.42E-08	6.47E-08	9.23E-09	9.25E-09	9.23E-09	6.15E-09	2.69E-09	1.85E-07
358	561487.3	4192230.64	1.17E-07	8.28E-08	1.19E-08	1.19E-08	1.19E-08	8.81E-09	5.34E-09	2.50E-07	8.40E-08	6.45E-08	9.21E-09	9.23E-09	9.21E-09	6.14E-09	2.69E-09	1.85E-07
359	561491.32	4192259.65	1.15E-07	8.11E-08	1.16E-08	1.17E-08	1.16E-08	8.62E-09	5.23E-09	2.45E-07	8.22E-08	6.32E-08	9.01E-09	9.04E-09	9.01E-09	6.01E-09	2.63E-09	1.81E-07
360	561492.66	4192269.32	1.14E-07	8.01E-08	1.15E-08	1.15E-08	1.15E-08	8.51E-09	5.16E-09	2.42E-07	8.12E-08	6.24E-08	8.90E-09	8.93E-09	8.90E-09	5.93E-09	2.60E-09	1.79E-07
361	561493.99	4192278.99	1.12E-07	7.89E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.09E-09	2.38E-07	8.01E-08	6.15E-08	8.77E-09	8.80E-09	8.77E-09	5.85E-09	2.56E-09	1.76E-07
362	561495.33	4192288.66	1.10E-07	7.77E-08	1.11E-08	1.12E-08	1.11E-08	8.26E-09	5.01E-09	2.35E-07	7.88E-08	6.05E-08	8.64E-09	8.66E-09	8.64E-09	5.76E-09	2.52E-09	1.74E-07
363	561496.67	4192298.33	1.08E-07	7.64E-08	1.09E-08	1.10E-08	1.09E-08	8.12E-09	4.92E-09	2.31E-07	7.75E-08	5.95E-08	8.49E-09	8.51E-09	8.49E-09	5.66E-09	2.48E-09	1.71E-07
364	561498.01	4192308	1.06E-07	7.49E-08	1.07E-08	1.08E-08	1.07E-08	7.97E-09	4.83E-09	2.26E-07	7.60E-08	5.84E-08	8.33E-09	8.36E-09	8.33E-09	5.56E-09	2.43E-09	1.67E-07
365	561499.34	4192317.67	1.04E-07	7.35E-08	1.05E-08	1.06E-08	1.05E-08	7.81E-09	4.74E-09	2.22E-07	7.45E-08	5.72E-08	8.17E-09	8.19E-09	8.17E-09	5.45E-09	2.38E-09	1.64E-07
366	561409.9	4192057.6	1.33E-07	9.34E-08	1.34E-08	1.34E-08	1.34E-08	9.93E-09	6.02E-09	2.82E-07	9.48E-08	7.28E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	2.09E-07
367	561433.22	4192074.9	1.20E-07	8.47E-08	1.21E-08	1.22E-08	1.21E-08	9.00E-09	5.46E-09	2.56E-07	8.59E-08	6.60E-08	9.41E-09	9.44E-09	9.41E-09	6.28E-09	2.75E-09	1.89E-07

368	561440.99	4192080.67	1.16E-07	8.21E-08	1.18E-08	1.18E-08	1.18E-08	8.73E-09	5.29E-09	2.48E-07	8.33E-08	6.40E-08	9.13E-09	9.15E-09	9.13E-09	6.09E-09	2.66E-09	1.83E-07
369	561448.76	4192086.44	1.13E-07	7.97E-08	1.14E-08	1.15E-08	1.14E-08	8.48E-09	5.14E-09	2.41E-07	8.09E-08	6.21E-08	8.86E-09	8.89E-09	8.86E-09	5.91E-09	2.59E-09	1.78E-07
370	561456.54	4192092.2	1.10E-07	7.74E-08	1.11E-08	1.11E-08	1.11E-08	8.24E-09	4.99E-09	2.34E-07	7.86E-08	6.03E-08	8.61E-09	8.63E-09	8.61E-09	5.74E-09	2.51E-09	1.73E-07
371	561464.31	4192097.97	1.07E-07	7.53E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.86E-09	2.27E-07	7.64E-08	5.87E-08	8.37E-09	8.40E-09	8.37E-09	5.58E-09	2.44E-09	1.68E-07
372	561482.51	4192128.68	1.04E-07	7.30E-08	1.05E-08	1.05E-08	1.05E-08	7.76E-09	4.70E-09	2.20E-07	7.40E-08	5.69E-08	8.11E-09	8.14E-09	8.11E-09	5.41E-09	2.37E-09	1.63E-07
373	561483.83	4192138.26	1.05E-07	7.37E-08	1.06E-08	1.06E-08	1.06E-08	7.84E-09	4.75E-09	2.23E-07	7.48E-08	5.75E-08	8.20E-09	8.22E-09	8.20E-09	5.47E-09	2.39E-09	1.65E-07
374	561485.16	4192147.85	1.06E-07	7.45E-08	1.07E-08	1.07E-08	1.07E-08	7.92E-09	4.80E-09	2.25E-07	7.56E-08	5.81E-08	8.28E-09	8.31E-09	8.28E-09	5.52E-09	2.42E-09	1.66E-07
375	561486.48	4192157.44	1.07E-07	7.53E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.85E-09	2.27E-07	7.64E-08	5.87E-08	8.37E-09	8.39E-09	8.37E-09	5.58E-09	2.44E-09	1.68E-07
376	561487.81	4192167.02	1.08E-07	7.61E-08	1.09E-08	1.09E-08	1.09E-08	8.09E-09	4.91E-09	2.30E-07	7.72E-08	5.93E-08	8.46E-09	8.49E-09	8.46E-09	5.64E-09	2.47E-09	1.70E-07
377	561489.14	4192176.61	1.09E-07	7.72E-08	1.11E-08	1.11E-08	1.11E-08	8.21E-09	4.97E-09	2.33E-07	7.83E-08	6.01E-08	8.58E-09	8.60E-09	8.58E-09	5.72E-09	2.50E-09	1.72E-07
378	561493.12	4192205.37	1.12E-07	7.87E-08	1.13E-08	1.13E-08	1.13E-08	8.36E-09	5.07E-09	2.38E-07	7.98E-08	6.13E-08	8.75E-09	8.77E-09	8.75E-09	5.83E-09	2.55E-09	1.76E-07
379	561494.44	4192214.96	1.12E-07	7.89E-08	1.13E-08	1.13E-08	1.13E-08	8.38E-09	5.08E-09	2.38E-07	8.00E-08	6.14E-08	8.77E-09	8.79E-09	8.77E-09	5.85E-09	2.56E-09	1.76E-07
380	561495.77	4192224.54	1.12E-07	7.88E-08	1.13E-08	1.13E-08	1.13E-08	8.38E-09	5.08E-09	2.38E-07	8.00E-08	6.14E-08	8.76E-09	8.79E-09	8.76E-09	5.84E-09	2.56E-09	1.76E-07
381	561497.09	4192234.13	1.12E-07	7.86E-08	1.13E-08	1.13E-08	1.13E-08	8.36E-09	5.07E-09	2.37E-07	7.98E-08	6.13E-08	8.74E-09	8.77E-09	8.74E-09	5.83E-09	2.55E-09	1.76E-07
382	561498.42	4192243.72	1.11E-07	7.82E-08	1.12E-08	1.12E-08	1.12E-08	8.32E-09	5.04E-09	2.36E-07	7.94E-08	6.09E-08	8.70E-09	8.72E-09	8.70E-09	5.80E-09	2.54E-09	1.75E-07
383	561499.75	4192253.3	1.10E-07	7.76E-08	1.11E-08	1.12E-08	1.11E-08	8.25E-09	5.00E-09	2.34E-07	7.87E-08	6.04E-08	8.62E-09	8.65E-09	8.62E-09	5.75E-09	2.52E-09	1.73E-07
384	561501.07	4192262.89	1.09E-07	7.67E-08	1.10E-08	1.10E-08	1.10E-08	8.16E-09	4.94E-09	2.32E-07	7.78E-08	5.98E-08	8.53E-09	8.55E-09	8.53E-09	5.69E-09	2.49E-09	1.71E-07
385	561502.4	4192272.48	1.07E-07	7.56E-08	1.08E-08	1.09E-08	1.08E-08	8.04E-09	4.88E-09	2.28E-07	7.67E-08	5.89E-08	8.41E-09	8.43E-09	8.41E-09	5.61E-09	2.46E-09	1.69E-07
386	561503.73	4192282.06	1.06E-07	7.45E-08	1.07E-08	1.07E-08	1.07E-08	7.92E-09	4.80E-09	2.25E-07	7.56E-08	5.81E-08	8.29E-09	8.31E-09	8.29E-09	5.52E-09	2.42E-09	1.66E-07
387	561505.05	4192291.65	1.04E-07	7.34E-08	1.05E-08	1.05E-08	1.05E-08	7.80E-09	4.73E-09	2.22E-07	7.44E-08	5.72E-08	8.16E-09	8.18E-09	8.16E-09	5.44E-09	2.38E-09	1.64E-07
388	561506.38	4192301.24	1.02E-07	7.21E-08	1.03E-08	1.04E-08	1.03E-08	7.67E-09	4.65E-09	2.18E-07	7.31E-08	5.62E-08	8.02E-09	8.04E-09	8.02E-09	5.34E-09	2.34E-09	1.61E-07
389	561507.71	4192310.83	1.00E-07	7.08E-08	1.01E-08	1.02E-08	1.01E-08	7.52E-09	4.56E-09	2.14E-07	7.18E-08	5.51E-08	7.87E-09	7.89E-09	7.87E-09	5.25E-09	2.30E-09	1.58E-07
390	561509.03	4192320.41	9.84E-08	6.94E-08	9.95E-09	9.98E-09	9.95E-09	7.38E-09	4.47E-09	2.10E-07	7.04E-08	5.41E-08	7.71E-09	7.74E-09	7.71E-09	5.14E-09	2.25E-09	1.55E-07
391	561411.35	4192047.2	1.29E-07	9.08E-08	1.30E-08	1.30E-08	1.30E-08	9.65E-09	5.85E-09	2.74E-07	9.21E-08	7.07E-08	1.01E-08	1.01E-08	1.01E-08	6.73E-09	2.95E-09	2.03E-07
392	561419.06	4192052.92	1.25E-07	8.78E-08	1.26E-08	1.26E-08	1.26E-08	9.33E-09	5.66E-09	2.65E-07	8.90E-08	6.84E-08	9.76E-09	9.78E-09	9.76E-09	6.51E-09	2.85E-09	1.96E-07
393	561426.77	4192058.64	1.21E-07	8.50E-08	1.22E-08	1.22E-08	1.22E-08	9.04E-09	5.48E-09	2.57E-07	8.62E-08	6.62E-08	9.45E-09	9.47E-09	9.45E-09	6.30E-09	2.76E-09	1.90E-07
394	561434.48	4192064.36	1.17E-07	8.24E-08	1.18E-08	1.18E-08	1.18E-08	8.76E-09	5.31E-09	2.49E-07	8.36E-08	6.42E-08	9.16E-09	9.18E-09	9.16E-09	6.11E-09	2.67E-09	1.84E-07
395	561442.19	4192070.08	1.13E-07	7.99E-08	1.15E-08	1.15E-08	1.15E-08	8.50E-09	5.15E-09	2.41E-07	8.11E-08	6.23E-08	8.88E-09	8.91E-09	8.88E-09	5.92E-09	2.59E-09	1.78E-07
396	561449.9	4192075.8	1.10E-07	7.76E-08	1.11E-08	1.12E-08	1.11E-08	8.25E-09	5.00E-09	2.34E-07	7.87E-08	6.05E-08	8.63E-09	8.65E-09	8.63E-09	5.75E-09	2.52E-09	1.73E-07
397	561457.61	4192081.52	1.07E-07	7.54E-08	1.08E-08	1.08E-08	1.08E-08	8.02E-09	4.86E-09	2.28E-07	7.65E-08	5.88E-08	8.38E-09	8.41E-09	8.38E-09	5.59E-09	2.45E-09	1.68E-07
398	561465.32	4192087.24	1.04E-07	7.34E-08	1.05E-08	1.05E-08	1.05E-08	7.80E-09	4.73E-09	2.22E-07	7.44E-08	5.72E-08	8.16E-09	8.18E-09	8.16E-09	5.44E-09	2.38E-09	1.64E-07
399	561473.04	4192092.96	1.01E-07	7.14E-08	1.02E-08	1.03E-08	1.02E-08	7.60E-09	4.60E-09	2.16E-07	7.25E-08	5.57E-08	7.94E-09	7.96E-09	7.94E-09	5.30E-09	2.32E-09	1.60E-07
400	561489.77	4192113.91	9.70E-08	6.83E-08	9.80E-09	9.83E-09	9.80E-09	7.27E-09	4.41E-09	2.06E-07	6.93E-08	5.33E-08	7.60E-09	7.62E-09	7.60E-09	5.07E-09	2.22E-09	1.53E-07
401	561491.09	4192123.42	9.81E-08	6.92E-08	9.92E-09	9.95E-09	9.92E-09	7.36E-09	4.46E-09	2.09E-07	7.02E-08	5.39E-08	7.69E-09	7.71E-09	7.69E-09	5.13E-09	2.25E-09	1.55E-07
402	561492.4	4192132.93	9.93E-08	7.00E-08	1.00E-08	1.01E-08	1.00E-08	7.44E-09	4.51E-09	2.11E-07	7.10E-08	5.45E-08	7.78E-09	7.80E-09	7.78E-09	5.19E-09	2.27E-09	1.56E-07
403	561493.72	4192142.44	1.00E-07	7.07E-08	1.01E-08	1.02E-08	1.01E-08	7.52E-09	4.56E-09	2.14E-07	7.18E-08	5.51E-08	7.86E-09	7.89E-09	7.86E-09	5.24E-09	2.30E-09	1.58E-07
404	561495.03	4192151.95	1.01E-07	7.15E-08	1.03E-08	1.03E-08	1.03E-08	7.60E-09	4.61E-09	2.16E-07	7.26E-08	5.57E-08	7.95E-09	7.97E-09	7.95E-09	5.30E-09	2.32E-09	1.60E-07
405	561496.35	4192161.46	1.03E-07	7.23E-08	1.04E-08	1.04E-08	1.04E-08	7.69E-09	4.66E-09	2.18E-07	7.33E-08	5.63E-08	8.04E-09	8.06E-09	8.04E-09	5.36E-09	2.35E-09	1.61E-07
406	561497.67	4192170.97	1.04E-07	7.31E-08	1.05E-08	1.05E-08	1.05E-08	7.78E-09	4.71E-09	2.21E-07	7.42E-08	5.70E-08	8.13E-09	8.15E-09	8.13E-09	5.42E-09	2.37E-09	1.63E-07
407	561498.98	4192180.48	1.05E-07	7.38E-08	1.06E-08	1.06E-08	1.06E-08	7.84E-09	4.75E-09	2.23E-07	7.48E-08	5.75E-08	8.20E-09	8.22E-09	8.20E-09	5.47E-09	2.39E-09	1.65E-07
408	561502.93	4192209.02	1.06E-07	7.49E-08	1.07E-08	1.08E-08	1.07E-08	7.97E-09	4.83E-09	2.26E-07	7.60E-08	5.84E-08	8.33E-09	8.35E-09	8.33E-09	5.55E-09	2.43E-09	1.67E-07
409	561504.24	4192218.53	1.06E-07	7.50E-08	1.08E-08	1.08E-08	1.08E-08	7.98E-09	4.84E-09	2.27E-07	7.61E-08	5.85E-08	8.34E-09	8.37E-09	8.34E-09	5.56E-09	2.44E-09	1.68E-07
410	561505.56	4192228.04	1.06E-07	7.50E-08	1.07E-08	1.08E-08	1.07E-08	7.97E-09	4.83E-09	2.26E-07	7.60E-08	5.84E-08	8.33E-09	8.36E-09	8.33E-09	5.56E-09	2.43E-09	1.67E-07
411	561506.88	4192237.55	1.06E-07	7.47E-08	1.07E-08	1.07E-08	1.07E-08	7.94E-09	4.81E-09	2.26E-07	7.58E-08	5.82E-08	8.30E-09	8.33E-09	8.30E-09	5.54E-09	2.42E-09	1.67E-07
412	561508.19	4192247.06	1.05E-07	7.42E-08	1.06E-08	1.07E-08	1.06E-08	7.89E-09	4.79E-09	2.24E-07	7.53E-08	5.78E-08	8.25E-09	8.28E-09	8.25E-09	5.50E-09	2.41E-09	1.66E-07
413	561509.51	4192256.57	1.04E-07	7.35E-08	1.05E-08	1.06E-08	1.05E-08	7.82E-09	4.74E-09	2.22E-07	7.46E-08	5.73E-08	8.17E-09	8.20E-09	8.17E-09	5.45E-09	2.39E-09	1.64E-07
414	561510.82	4192266.08	1.03E-07	7.26E-08	1.04E-08	1.04E-08	1.04E-08	7.72E-09	4.68E-09	2.19E-07	7.37E-08	5.66E-08	8.08E-09	8.10E-09	8.08E-09	5.39E-09	2.36E-09	1.62E-07
415	561512.14	4192275.59	1.02E-07	7.16E-08	1.03E-08	1.03E-08	1.03E-08	7.62E-09	4.62E-09	2.16E-07	7.27E-08	5.58E-08	7.97E-09	7.99E-09	7.97E-09	5.31E-09	2.33E-09	1.60E-07
416	561513.45	4192285.1	1.00E-07	7.06E-08	1.01E-08	1.02E-08	1.01E-08	7.51E-09	4.55E-09	2.13E-07	7.16E-08	5.50E-08	7.85E-09	7.87E-09	7.85E-09	5.23E-09	2.29E-09	1.58E-07
417	561514.77	4192294.61	9.86E-08	6.95E-08	9.96E-09	9.99E-09	9.96E-09	7.39E-09	4.48E-09	2.10E-07	7.05E-08	5.41E-08	7.72E-09	7.75E-09	7.72E-09	5.15E-09	2.25E-09	1.55E-07
418	561516.09	4192304.12	9.68E-08	6.82E-08	9.79E-09	9.81E-09	9.79E-09	7.26E-09	4.40E-09	2.06E-07	6.92E-08	5.32E-08	7.59E-09	7.61E-09	7.59E-09	5.06E-09	2.22E-09	1.52E-07
419	561517.4	4192313.63	9.50E-08	6.70E-08	9.60E-09	9.63E-09	9.60E-09	7.12E-09	4.32E-09	2.02E-07	6.79E-08	5.22E-08	7.45E-09	7.47E-09	7.45E-09	4.96E-09	2.17E-09	1.50E-07
420	561518.72	4192323.14	9.31E-08	6.56E-08	9.41E-09	9.44E-09	9.41E-09	6.98E-09	4.23E-09	1.98E-07	6.66E-08	5.11E-08	7.30E-09	7.32E-09	7.30E-09	4.87E-09	2.13E-09	1.47E-07

421	560985.67	4192041.55	2.73E-07	1.92E-07	2.76E-08	2.76E-08	2.76E-08	2.04E-08	1.24E-08	5.81E-07	1.95E-07	1.50E-07	2.14E-08	2.14E-08	2.14E-08	1.43E-08	6.24E-09	4.30E-07
422	560991.7	4192030.36	2.66E-07	1.88E-07	2.69E-08	2.70E-08	2.69E-08	1.99E-08	1.21E-08	5.67E-07	1.90E-07	1.46E-07	2.09E-08	2.09E-08	2.09E-08	1.39E-08	6.09E-09	4.19E-07
423	560982.51	4192032.06	2.56E-07	1.81E-07	2.59E-08	2.60E-08	2.59E-08	1.92E-08	1.17E-08	5.46E-07	1.83E-07	1.41E-07	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.87E-09	4.04E-07
424	560988.58	4192020.87	2.51E-07	1.77E-07	2.53E-08	2.54E-08	2.53E-08	1.88E-08	1.14E-08	5.34E-07	1.79E-07	1.38E-07	1.96E-08	1.97E-08	1.96E-08	1.31E-08	5.73E-09	3.95E-07
425	560979.35	4192022.57	2.42E-07	1.70E-07	2.44E-08	2.45E-08	2.44E-08	1.81E-08	1.10E-08	5.14E-07	1.73E-07	1.33E-07	1.89E-08	1.90E-08	1.89E-08	1.26E-08	5.53E-09	3.81E-07
426	560985.46	4192011.38	2.36E-07	1.67E-07	2.39E-08	2.40E-08	2.39E-08	1.77E-08	1.07E-08	5.03E-07	1.69E-07	1.30E-07	1.85E-08	1.86E-08	1.85E-08	1.24E-08	5.41E-09	3.72E-07
427	560994.83	4192011	2.46E-07	1.74E-07	2.49E-08	2.50E-08	2.49E-08	1.85E-08	1.12E-08	5.25E-07	1.76E-07	1.35E-07	1.93E-08	1.94E-08	1.93E-08	1.29E-08	5.64E-09	3.88E-07
428	560976.2	4192013.08	2.28E-07	1.61E-07	2.31E-08	2.31E-08	2.31E-08	1.71E-08	1.04E-08	4.86E-07	1.63E-07	1.25E-07	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.22E-09	3.59E-07
429	560982.33	4192001.89	2.23E-07	1.58E-07	2.26E-08	2.27E-08	2.26E-08	1.68E-08	1.02E-08	4.76E-07	1.60E-07	1.23E-07	1.75E-08	1.76E-08	1.75E-08	1.17E-08	5.11E-09	3.52E-07
430	560991.77	4192001.51	2.33E-07	1.64E-07	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	4.95E-07	1.66E-07	1.28E-07	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.33E-09	3.67E-07
431	561001.21	4192001.13	2.42E-07	1.71E-07	2.45E-08	2.45E-08	2.45E-08	1.81E-08	1.10E-08	5.15E-07	1.73E-07	1.33E-07	1.90E-08	1.90E-08	1.90E-08	1.26E-08	5.54E-09	3.81E-07
432	560973.04	4192003.6	2.16E-07	1.52E-07	2.18E-08	2.19E-08	2.18E-08	1.62E-08	9.80E-09	4.59E-07	1.54E-07	1.18E-07	1.69E-08	1.69E-08	1.69E-08	1.13E-08	4.93E-09	3.40E-07
433	560979.2	4191992.4	2.12E-07	1.49E-07	2.14E-08	2.14E-08	2.14E-08	1.59E-08	9.61E-09	4.50E-07	1.51E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.11E-08	4.84E-09	3.33E-07
434	560988.7	4191992.01	2.20E-07	1.55E-07	2.23E-08	2.23E-08	2.23E-08	1.65E-08	1.00E-08	4.69E-07	1.57E-07	1.21E-07	1.73E-08	1.73E-08	1.73E-08	1.15E-08	5.04E-09	3.47E-07
435	560998.2	4191991.63	2.29E-07	1.61E-07	2.31E-08	2.32E-08	2.31E-08	1.72E-08	1.04E-08	4.87E-07	1.64E-07	1.26E-07	1.79E-08	1.80E-08	1.79E-08	1.20E-08	5.24E-09	3.61E-07
436	560969.88	4191994.11	2.04E-07	1.44E-07	2.06E-08	2.07E-08	2.06E-08	1.53E-08	9.28E-09	4.35E-07	1.46E-07	1.12E-07	1.60E-08	1.60E-08	1.60E-08	1.07E-08	4.67E-09	3.22E-07
437	560976.08	4191982.91	2.01E-07	1.41E-07	2.03E-08	2.03E-08	2.03E-08	1.50E-08	9.11E-09	4.27E-07	1.43E-07	1.10E-07	1.57E-08	1.58E-08	1.57E-08	1.05E-08	4.59E-09	3.16E-07
438	560985.63	4191982.52	2.09E-07	1.47E-07	2.11E-08	2.12E-08	2.11E-08	1.56E-08	9.48E-09	4.44E-07	1.49E-07	1.15E-07	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.77E-09	3.29E-07
439	560995.18	4191982.14	2.17E-07	1.53E-07	2.19E-08	2.20E-08	2.19E-08	1.63E-08	9.85E-09	4.62E-07	1.55E-07	1.19E-07	1.70E-08	1.70E-08	1.70E-08	1.13E-08	4.96E-09	3.41E-07
440	561004.73	4191981.75	2.25E-07	1.59E-07	2.27E-08	2.28E-08	2.27E-08	1.69E-08	1.02E-08	4.79E-07	1.61E-07	1.24E-07	1.76E-08	1.77E-08	1.76E-08	1.18E-08	5.15E-09	3.54E-07
441	560966.73	4191984.62	1.94E-07	1.37E-07	1.96E-08	1.96E-08	1.96E-08	1.45E-08	8.80E-09	4.12E-07	1.38E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.43E-09	3.05E-07
442	560972.94	4191973.42	1.90E-07	1.34E-07	1.92E-08	1.93E-08	1.92E-08	1.43E-08	8.65E-09	4.05E-07	1.36E-07	1.05E-07	1.49E-08	1.50E-08	1.49E-08	9.95E-09	4.36E-09	3.00E-07
443	560982.55	4191973.03	1.98E-07	1.40E-07	2.00E-08	2.01E-08	2.00E-08	1.48E-08	9.00E-09	4.22E-07	1.42E-07	1.09E-07	1.55E-08	1.56E-08	1.55E-08	1.03E-08	4.53E-09	3.12E-07
444	560992.15	4191972.64	2.06E-07	1.45E-07	2.08E-08	2.08E-08	2.08E-08	1.54E-08	9.35E-09	4.38E-07	1.47E-07	1.13E-07	1.61E-08	1.62E-08	1.61E-08	1.07E-08	4.71E-09	3.24E-07
445	561001.76	4191972.26	2.13E-07	1.50E-07	2.16E-08	2.16E-08	2.16E-08	1.60E-08	9.69E-09	4.54E-07	1.53E-07	1.17E-07	1.67E-08	1.68E-08	1.67E-08	1.11E-08	4.88E-09	3.36E-07
446	561011.36	4191971.87	2.21E-07	1.56E-07	2.23E-08	2.24E-08	2.23E-08	1.66E-08	1.00E-08	4.70E-07	1.58E-07	1.21E-07	1.73E-08	1.74E-08	1.73E-08	1.15E-08	5.05E-09	3.48E-07
447	560963.57	4191975.13	1.84E-07	1.30E-07	1.86E-08	1.86E-08	1.86E-08	1.38E-08	8.36E-09	3.91E-07	1.32E-07	1.01E-07	1.44E-08	1.45E-08	1.44E-08	9.61E-09	4.21E-09	2.90E-07
448	560969.66	4191963.93	1.81E-07	1.27E-07	1.83E-08	1.83E-08	1.83E-08	1.36E-08	8.22E-09	3.85E-07	1.29E-07	9.93E-08	1.42E-08	1.42E-08	1.42E-08	9.45E-09	4.14E-09	2.85E-07
449	560979.01	4191963.56	1.88E-07	1.32E-07	1.90E-08	1.90E-08	1.90E-08	1.41E-08	8.53E-09	4.00E-07	1.34E-07	1.03E-07	1.47E-08	1.48E-08	1.47E-08	9.81E-09	4.30E-09	2.96E-07
450	560988.36	4191963.18	1.95E-07	1.37E-07	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.85E-09	4.15E-07	1.39E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	3.07E-07
451	560997.71	4191962.8	2.02E-07	1.42E-07	2.04E-08	2.04E-08	2.04E-08	1.51E-08	9.17E-09	4.29E-07	1.44E-07	1.11E-07	1.58E-08	1.59E-08	1.58E-08	1.05E-08	4.62E-09	3.18E-07
452	561007.06	4191962.43	2.09E-07	1.47E-07	2.11E-08	2.11E-08	2.11E-08	1.56E-08	9.48E-09	4.44E-07	1.49E-07	1.15E-07	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.77E-09	3.29E-07
453	560960.42	4191965.64	1.75E-07	1.23E-07	1.77E-08	1.77E-08	1.77E-08	1.31E-08	7.95E-09	3.72E-07	1.25E-07	9.61E-08	1.37E-08	1.37E-08	1.37E-08	9.14E-09	4.00E-09	2.75E-07
454	560966.53	4191954.44	1.72E-07	1.21E-07	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.82E-09	3.66E-07	1.23E-07	9.45E-08	1.35E-08	1.35E-08	1.35E-08	9.00E-09	3.94E-09	2.71E-07
455	560975.93	4191954.06	1.79E-07	1.26E-07	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.12E-09	3.80E-07	1.28E-07	9.81E-08	1.40E-08	1.40E-08	1.40E-08	9.34E-09	4.09E-09	2.81E-07
456	560985.34	4191953.69	1.85E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.39E-08	8.42E-09	3.94E-07	1.33E-07	1.02E-07	1.45E-08	1.46E-08	1.45E-08	9.68E-09	4.24E-09	2.92E-07
457	560994.74	4191953.31	1.92E-07	1.35E-07	1.94E-08	1.94E-08	1.94E-08	1.44E-08	8.72E-09	4.08E-07	1.37E-07	1.05E-07	1.50E-08	1.51E-08	1.50E-08	1.00E-08	4.39E-09	3.02E-07
458	561004.14	4191952.93	1.98E-07	1.40E-07	2.00E-08	2.01E-08	2.00E-08	1.49E-08	9.01E-09	4.22E-07	1.42E-07	1.09E-07	1.55E-08	1.56E-08	1.55E-08	1.04E-08	4.54E-09	3.12E-07
459	561013.54	4191952.55	2.05E-07	1.44E-07	2.07E-08	2.07E-08	2.07E-08	1.53E-08	9.30E-09	4.36E-07	1.46E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.07E-08	4.68E-09	3.22E-07
460	560957.26	4191956.15	1.67E-07	1.17E-07	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.57E-09	3.54E-07	1.19E-07	9.15E-08	1.31E-08	1.31E-08	1.31E-08	8.70E-09	3.81E-09	2.62E-07
461	560963.4	4191944.95	1.64E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.45E-09	3.49E-07	1.17E-07	9.01E-08	1.29E-08	1.29E-08	1.29E-08	8.57E-09	3.75E-09	2.58E-07
462	560972.85	4191944.57	1.70E-07	1.20E-07	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.74E-09	3.62E-07	1.22E-07	9.35E-08	1.33E-08	1.34E-08	1.33E-08	8.90E-09	3.89E-09	2.68E-07
463	560982.3	4191944.19	1.76E-07	1.24E-07	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.02E-09	3.76E-07	1.26E-07	9.69E-08	1.38E-08	1.39E-08	1.38E-08	9.22E-09	4.04E-09	2.78E-07
464	560991.76	4191943.81	1.83E-07	1.29E-07	1.85E-08	1.85E-08	1.85E-08	1.37E-08	8.30E-09	3.89E-07	1.31E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	9.54E-09	4.18E-09	2.88E-07
465	561001.21	4191943.43	1.89E-07	1.33E-07	1.91E-08	1.91E-08	1.91E-08	1.41E-08	8.58E-09	4.02E-07	1.35E-07	1.04E-07	1.48E-08	1.48E-08	1.48E-08	9.86E-09	4.32E-09	2.97E-07
466	561010.66	4191943.05	1.95E-07	1.37E-07	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.85E-09	4.15E-07	1.39E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	3.07E-07
467	561020.11	4191942.67	2.01E-07	1.41E-07	2.03E-08	2.03E-08	2.03E-08	1.50E-08	9.12E-09	4.27E-07	1.43E-07	1.10E-07	1.57E-08	1.58E-08	1.57E-08	1.05E-08	4.59E-09	3.16E-07
468	560954.1	4191946.66	1.59E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.21E-09	3.38E-07	1.14E-07	8.72E-08	1.24E-08	1.25E-08	1.24E-08	8.29E-09	3.63E-09	2.50E-07
469	560960.27	4191935.46	1.57E-07	1.10E-07	1.58E-08	1.59E-08	1.58E-08	1.17E-08	7.11E-09	3.33E-07	1.12E-07	8.60E-08	1.23E-08	1.23E-08	1.23E-08	8.18E-09	3.58E-09	2.46E-07
470	560969.77	4191935.08	1.62E-07	1.14E-07	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.38E-09	3.46E-07	1.16E-07	8.92E-08	1.27E-08	1.28E-08	1.27E-08	8.48E-09	3.71E-09	2.56E-07
471	560979.26	4191934.7	1.68E-07	1.19E-07	1.70E-08	1.70E-08	1.70E-08	1.26E-08	7.64E-09	3.58E-07	1.20E-07	9.24E-08	1.32E-08	1.32E-08	1.32E-08	8.79E-09	3.85E-09	2.65E-07
472	560988.76	4191934.32	1.74E-07	1.23E-07	1.76E-08	1.76E-08	1.76E-08	1.30E-08	7.91E-09	3.71E-07	1.24E-07	9.56E-08	1.36E-08	1.37E-08	1.36E-08	9.10E-09	3.98E-09	2.74E-07
473	560998.26	4191933.94	1.80E-07	1.27E-07	1.82E-08	1.82E-08	1.82E-08	1.35E-08	8.17E-09	3.83E-07	1.29E-07	9.88E-08	1.41E-08	1.41E-08	1.41E-08	9.40E-09	4.11E-09	2.83E-07

474	561007.76	4191933.55	1.86E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.39E-08	8.43E-09	3.95E-07	1.33E-07	1.02E-07	1.45E-08	1.46E-08	1.45E-08	9.69E-09	4.24E-09	2.92E-07
475	561017.26	4191933.17	1.91E-07	1.35E-07	1.93E-08	1.94E-08	1.93E-08	1.43E-08	8.68E-09	4.07E-07	1.37E-07	1.05E-07	1.50E-08	1.50E-08	1.50E-08	9.98E-09	4.37E-09	3.01E-07
476	560950.95	4191937.17	1.52E-07	1.07E-07	1.53E-08	1.54E-08	1.53E-08	1.14E-08	6.88E-09	3.23E-07	1.08E-07	8.32E-08	1.19E-08	1.19E-08	1.19E-08	7.92E-09	3.47E-09	2.39E-07
477	560957.13	4191925.97	1.50E-07	1.05E-07	1.51E-08	1.52E-08	1.51E-08	1.12E-08	6.79E-09	3.18E-07	1.07E-07	8.21E-08	1.17E-08	1.17E-08	1.17E-08	7.81E-09	3.42E-09	2.35E-07
478	560966.68	4191925.59	1.55E-07	1.09E-07	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.04E-09	3.30E-07	1.11E-07	8.51E-08	1.21E-08	1.22E-08	1.21E-08	8.10E-09	3.55E-09	2.44E-07
479	560976.22	4191925.21	1.61E-07	1.13E-07	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.30E-09	3.42E-07	1.15E-07	8.82E-08	1.26E-08	1.26E-08	1.26E-08	8.39E-09	3.67E-09	2.53E-07
480	560985.76	4191924.82	1.66E-07	1.17E-07	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.55E-09	3.54E-07	1.19E-07	9.12E-08	1.30E-08	1.31E-08	1.30E-08	8.68E-09	3.80E-09	2.62E-07
481	560995.3	4191924.44	1.72E-07	1.21E-07	1.73E-08	1.74E-08	1.73E-08	1.29E-08	7.79E-09	3.65E-07	1.23E-07	9.42E-08	1.34E-08	1.35E-08	1.34E-08	8.96E-09	3.92E-09	2.70E-07
482	561004.85	4191924.06	1.77E-07	1.25E-07	1.79E-08	1.79E-08	1.79E-08	1.33E-08	8.04E-09	3.77E-07	1.27E-07	9.72E-08	1.39E-08	1.39E-08	1.39E-08	9.24E-09	4.05E-09	2.79E-07
483	561014.39	4191923.67	1.82E-07	1.28E-07	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	3.88E-07	1.30E-07	1.00E-07	1.43E-08	1.43E-08	1.43E-08	9.52E-09	4.17E-09	2.87E-07
484	561023.93	4191923.29	1.87E-07	1.32E-07	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.51E-09	3.99E-07	1.34E-07	1.03E-07	1.47E-08	1.47E-08	1.47E-08	9.78E-09	4.28E-09	2.95E-07
485	560947.79	4191927.68	1.45E-07	1.02E-07	1.46E-08	1.47E-08	1.46E-08	1.09E-08	6.58E-09	3.08E-07	1.04E-07	7.95E-08	1.13E-08	1.14E-08	1.13E-08	7.57E-09	3.31E-09	2.28E-07
486	560941.54	4192192.34	4.54E-07	3.20E-07	4.59E-08	4.61E-08	4.59E-08	3.41E-08	2.06E-08	9.67E-07	3.25E-07	2.50E-07	3.56E-08	3.57E-08	3.56E-08	2.37E-08	1.04E-08	7.16E-07
487	560936.25	4192207.6	4.70E-07	3.31E-07	4.75E-08	4.76E-08	4.75E-08	3.52E-08	2.13E-08	1.00E-06	3.36E-07	2.58E-07	3.68E-08	3.69E-08	3.68E-08	2.45E-08	1.07E-08	7.39E-07
488	560932.95	4192223.59	4.91E-07	3.46E-07	4.97E-08	4.98E-08	4.97E-08	3.68E-08	2.23E-08	1.05E-06	3.51E-07	2.70E-07	3.85E-08	3.86E-08	3.85E-08	2.57E-08	1.12E-08	7.74E-07
489	560931.59	4192190.65	4.14E-07	2.92E-07	4.18E-08	4.20E-08	4.18E-08	3.10E-08	1.88E-08	8.81E-07	2.96E-07	2.27E-07	3.25E-08	3.25E-08	3.25E-08	2.16E-08	9.47E-09	6.52E-07
490	560938.54	4192176.79	4.08E-07	2.87E-07	4.12E-08	4.13E-08	4.12E-08	3.06E-08	1.85E-08	8.68E-07	2.92E-07	2.24E-07	3.20E-08	3.20E-08	3.20E-08	2.13E-08	9.33E-09	6.42E-07
491	560945.5	4192162.92	4.00E-07	2.82E-07	4.04E-08	4.05E-08	4.04E-08	3.00E-08	1.82E-08	8.51E-07	2.86E-07	2.20E-07	3.13E-08	3.14E-08	3.13E-08	2.09E-08	9.15E-09	6.30E-07
492	560952.46	4192149.05	3.90E-07	2.75E-07	3.94E-08	3.95E-08	3.94E-08	2.92E-08	1.77E-08	8.30E-07	2.79E-07	2.14E-07	3.06E-08	3.06E-08	3.06E-08	2.04E-08	8.92E-09	6.14E-07
493	560926.46	4192205.58	4.26E-07	3.01E-07	4.31E-08	4.32E-08	4.31E-08	3.20E-08	1.94E-08	9.08E-07	3.05E-07	2.34E-07	3.34E-08	3.35E-08	3.34E-08	2.23E-08	9.76E-09	6.72E-07
494	560923.16	4192221.57	4.44E-07	3.13E-07	4.49E-08	4.50E-08	4.49E-08	3.33E-08	2.02E-08	9.46E-07	3.18E-07	2.44E-07	3.48E-08	3.49E-08	3.48E-08	2.32E-08	1.02E-08	7.00E-07
495	560921.66	4192188.89	3.79E-07	2.67E-07	3.83E-08	3.84E-08	3.83E-08	2.84E-08	1.72E-08	8.06E-07	2.71E-07	2.08E-07	2.97E-08	2.98E-08	2.97E-08	1.98E-08	8.66E-09	5.96E-07
496	560928.36	4192175.53	3.74E-07	2.64E-07	3.78E-08	3.79E-08	3.78E-08	2.80E-08	1.70E-08	7.96E-07	2.67E-07	2.05E-07	2.93E-08	2.94E-08	2.93E-08	1.95E-08	8.55E-09	5.89E-07
497	560935.06	4192162.18	3.68E-07	2.59E-07	3.72E-08	3.73E-08	3.72E-08	2.76E-08	1.67E-08	7.83E-07	2.63E-07	2.02E-07	2.88E-08	2.89E-08	2.88E-08	1.92E-08	8.41E-09	5.79E-07
498	560941.76	4192148.83	3.61E-07	2.54E-07	3.64E-08	3.65E-08	3.64E-08	2.70E-08	1.64E-08	7.67E-07	2.58E-07	1.98E-07	2.83E-08	2.83E-08	2.83E-08	1.88E-08	8.25E-09	5.68E-07
499	560954.7	4192131.37	3.59E-07	2.53E-07	3.63E-08	3.64E-08	3.63E-08	2.69E-08	1.63E-08	7.64E-07	2.57E-07	1.97E-07	2.81E-08	2.82E-08	2.81E-08	1.88E-08	8.21E-09	5.65E-07
500	560916.66	4192203.56	3.89E-07	2.74E-07	3.93E-08	3.94E-08	3.93E-08	2.91E-08	1.77E-08	8.27E-07	2.78E-07	2.13E-07	3.05E-08	3.05E-08	3.05E-08	2.03E-08	8.89E-09	6.12E-07
501	560913.36	4192219.55	4.03E-07	2.84E-07	4.07E-08	4.08E-08	4.07E-08	3.02E-08	1.83E-08	8.58E-07	2.88E-07	2.21E-07	3.16E-08	3.17E-08	3.16E-08	2.11E-08	9.22E-09	6.35E-07
502	560912.13	4192186.35	3.47E-07	2.44E-07	3.50E-08	3.51E-08	3.50E-08	2.60E-08	1.58E-08	7.38E-07	2.48E-07	1.90E-07	2.72E-08	2.73E-08	2.72E-08	1.81E-08	7.93E-09	5.46E-07
503	560919.34	4192171.97	3.43E-07	2.42E-07	3.47E-08	3.48E-08	3.47E-08	2.57E-08	1.56E-08	7.30E-07	2.45E-07	1.88E-07	2.69E-08	2.70E-08	2.69E-08	1.79E-08	7.85E-09	5.40E-07
504	560926.56	4192157.59	3.37E-07	2.38E-07	3.41E-08	3.42E-08	3.41E-08	2.53E-08	1.53E-08	7.18E-07	2.41E-07	1.85E-07	2.64E-08	2.65E-08	2.64E-08	1.76E-08	7.72E-09	5.31E-07
505	560933.77	4192143.21	3.31E-07	2.33E-07	3.34E-08	3.35E-08	3.34E-08	2.48E-08	1.50E-08	7.04E-07	2.36E-07	1.82E-07	2.59E-08	2.60E-08	2.59E-08	1.73E-08	7.56E-09	5.21E-07
506	560947.71	4192124.41	3.29E-07	2.32E-07	3.33E-08	3.34E-08	3.33E-08	2.47E-08	1.50E-08	7.01E-07	2.35E-07	1.81E-07	2.58E-08	2.59E-08	2.58E-08	1.72E-08	7.53E-09	5.18E-07
507	560961.14	4192115.55	3.45E-07	2.43E-07	3.49E-08	3.49E-08	3.49E-08	2.58E-08	1.57E-08	7.34E-07	2.47E-07	1.89E-07	2.70E-08	2.71E-08	2.70E-08	1.80E-08	7.89E-09	5.43E-07
508	560906.87	4192201.54	3.55E-07	2.50E-07	3.59E-08	3.60E-08	3.59E-08	2.66E-08	1.61E-08	7.56E-07	2.54E-07	1.95E-07	2.78E-08	2.79E-08	2.78E-08	1.85E-08	8.12E-09	5.59E-07
509	560903.57	4192217.53	3.67E-07	2.59E-07	3.71E-08	3.72E-08	3.71E-08	2.75E-08	1.67E-08	7.82E-07	2.63E-07	2.02E-07	2.88E-08	2.89E-08	2.88E-08	1.92E-08	8.40E-09	5.78E-07
510	560902.2	4192184.59	3.19E-07	2.25E-07	3.22E-08	3.23E-08	3.22E-08	2.39E-08	1.45E-08	6.79E-07	2.28E-07	1.75E-07	2.50E-08	2.51E-08	2.50E-08	1.67E-08	7.30E-09	5.02E-07
511	560909.16	4192170.72	3.16E-07	2.22E-07	3.19E-08	3.20E-08	3.19E-08	2.37E-08	1.43E-08	6.72E-07	2.26E-07	1.73E-07	2.47E-08	2.48E-08	2.47E-08	1.65E-08	7.22E-09	4.97E-07
512	560916.12	4192156.86	3.12E-07	2.20E-07	3.15E-08	3.16E-08	3.15E-08	2.34E-08	1.42E-08	6.64E-07	2.23E-07	1.71E-07	2.44E-08	2.45E-08	2.44E-08	1.63E-08	7.14E-09	4.91E-07
513	560923.08	4192142.99	3.06E-07	2.16E-07	3.10E-08	3.10E-08	3.10E-08	2.30E-08	1.39E-08	6.52E-07	2.19E-07	1.68E-07	2.40E-08	2.41E-08	2.40E-08	1.60E-08	7.01E-09	4.82E-07
514	560930.04	4192129.12	2.99E-07	2.11E-07	3.02E-08	3.03E-08	3.02E-08	2.24E-08	1.36E-08	6.37E-07	2.14E-07	1.64E-07	2.34E-08	2.35E-08	2.34E-08	1.56E-08	6.84E-09	4.71E-07
515	560939.99	4192117.92	3.02E-07	2.13E-07	3.05E-08	3.06E-08	3.05E-08	2.27E-08	1.37E-08	6.43E-07	2.16E-07	1.66E-07	2.37E-08	2.38E-08	2.37E-08	1.58E-08	6.91E-09	4.76E-07
516	560952.95	4192109.38	3.16E-07	2.23E-07	3.19E-08	3.20E-08	3.19E-08	2.37E-08	1.44E-08	6.73E-07	2.26E-07	1.74E-07	2.48E-08	2.48E-08	2.48E-08	1.65E-08	7.23E-09	4.98E-07
517	560965.9	4192100.85	3.29E-07	2.32E-07	3.33E-08	3.34E-08	3.33E-08	2.47E-08	1.50E-08	7.01E-07	2.35E-07	1.81E-07	2.58E-08	2.59E-08	2.58E-08	1.72E-08	7.53E-09	5.18E-07
518	560897.08	4192199.52	3.27E-07	2.30E-07	3.30E-08	3.31E-08	3.30E-08	2.45E-08	1.49E-08	6.96E-07	2.34E-07	1.80E-07	2.56E-08	2.57E-08	2.56E-08	1.71E-08	7.48E-09	5.15E-07
519	560893.78	4192215.51	3.38E-07	2.38E-07	3.42E-08	3.43E-08	3.42E-08	2.53E-08	1.54E-08	7.19E-07	2.42E-07	1.86E-07	2.65E-08	2.66E-08	2.65E-08	1.77E-08	7.73E-09	5.32E-07
520	560892.31	4192182.78	2.96E-07	2.09E-07	2.99E-08	3.00E-08	2.99E-08	2.22E-08	1.34E-08	6.30E-07	2.12E-07	1.63E-07	2.32E-08	2.33E-08	2.32E-08	1.55E-08	6.77E-09	4.66E-07
521	560899.05	4192169.33	2.92E-07	2.06E-07	2.95E-08	2.96E-08	2.95E-08	2.19E-08	1.33E-08	6.22E-07	2.09E-07	1.61E-07	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.69E-09	4.60E-07
522	560905.8	4192155.88	2.89E-07	2.04E-07	2.92E-08	2.93E-08	2.92E-08	2.17E-08	1.31E-08	6.16E-07	2.07E-07	1.59E-07	2.27E-08	2.27E-08	2.27E-08	1.51E-08	6.62E-09	4.56E-07
523	560912.55	4192142.44	2.85E-07	2.01E-07	2.88E-08	2.88E-08	2.88E-08	2.13E-08	1.29E-08	6.06E-07	2.03E-07	1.56E-07	2.23E-08	2.24E-08	2.23E-08	1.49E-08	6.51E-09	4.48E-07
524	560919.29	4192128.99	2.79E-07	1.97E-07	2.82E-08	2.83E-08	2.82E-08	2.09E-08	1.27E-08	5.95E-07	2.00E-07	1.53E-07	2.19E-08	2.20E-08	2.19E-08	1.46E-08	6.39E-09	4.40E-07
525	560932.32	4192111.41	2.78E-07	1.96E-07	2.81E-08	2.82E-08	2.81E-08	2.09E-08	1.27E-08	5.93E-07	1.99E-07	1.53E-07	2.18E-08	2.19E-08	2.18E-08	1.45E-08	6.37E-09	4.38E-07
526	560944.88	4192103.13	2.90E-07	2.05E-07	2.93E-08	2.94E-08	2.93E-08	2.18E-08	1.32E-08	6.18E-07	2.08E-07	1.59E-07	2.28E-08	2.28E-08	2.28E-08	1.52E-08	6.64E-09	4.57E-07

527	560957.45	4192094.85	3.02E-07	2.13E-07	3.06E-08	3.06E-08	3.06E-08	2.27E-08	1.37E-08	6.43E-07	2.16E-07	1.66E-07	2.37E-08	2.38E-08	2.37E-08	1.58E-08	6.92E-09	4.76E-07
528	560970.01	4192086.57	3.13E-07	2.21E-07	3.17E-08	3.18E-08	3.17E-08	2.35E-08	1.42E-08	6.67E-07	2.24E-07	1.72E-07	2.46E-08	2.46E-08	2.46E-08	1.64E-08	7.17E-09	4.94E-07
529	560887.28	4192197.5	3.03E-07	2.13E-07	3.06E-08	3.07E-08	3.06E-08	2.27E-08	1.38E-08	6.44E-07	2.16E-07	1.66E-07	2.37E-08	2.38E-08	2.37E-08	1.58E-08	6.92E-09	4.77E-07
530	560883.98	4192213.49	3.12E-07	2.20E-07	3.15E-08	3.16E-08	3.15E-08	2.34E-08	1.42E-08	6.64E-07	2.23E-07	1.71E-07	2.44E-08	2.45E-08	2.44E-08	1.63E-08	7.13E-09	4.91E-07
531	560882.72	4192180.34	2.75E-07	1.94E-07	2.78E-08	2.79E-08	2.78E-08	2.06E-08	1.25E-08	5.85E-07	1.97E-07	1.51E-07	2.15E-08	2.16E-08	2.15E-08	1.44E-08	6.29E-09	4.33E-07
532	560889.89	4192166.05	2.72E-07	1.92E-07	2.75E-08	2.76E-08	2.75E-08	2.04E-08	1.24E-08	5.79E-07	1.95E-07	1.49E-07	2.13E-08	2.14E-08	2.13E-08	1.42E-08	6.22E-09	4.28E-07
533	560897.06	4192151.76	2.68E-07	1.89E-07	2.71E-08	2.72E-08	2.71E-08	2.01E-08	1.22E-08	5.71E-07	1.92E-07	1.47E-07	2.10E-08	2.11E-08	2.10E-08	1.40E-08	6.13E-09	4.22E-07
534	560904.23	4192137.48	2.63E-07	1.86E-07	2.66E-08	2.67E-08	2.66E-08	1.98E-08	1.20E-08	5.61E-07	1.88E-07	1.45E-07	2.07E-08	2.07E-08	2.07E-08	1.38E-08	6.03E-09	4.15E-07
535	560911.4	4192123.19	2.59E-07	1.82E-07	2.61E-08	2.62E-08	2.61E-08	1.94E-08	1.17E-08	5.50E-07	1.85E-07	1.42E-07	2.03E-08	2.03E-08	2.03E-08	1.35E-08	5.92E-09	4.07E-07
536	560925.24	4192104.5	2.58E-07	1.82E-07	2.61E-08	2.61E-08	2.61E-08	1.93E-08	1.17E-08	5.49E-07	1.84E-07	1.42E-07	2.02E-08	2.03E-08	2.02E-08	1.35E-08	5.90E-09	4.06E-07
537	560938.59	4192095.71	2.69E-07	1.90E-07	2.72E-08	2.73E-08	2.72E-08	2.02E-08	1.22E-08	5.73E-07	1.92E-07	1.48E-07	2.11E-08	2.12E-08	2.11E-08	1.41E-08	6.16E-09	4.24E-07
538	560951.94	4192086.91	2.81E-07	1.98E-07	2.84E-08	2.85E-08	2.84E-08	2.10E-08	1.28E-08	5.98E-07	2.01E-07	1.54E-07	2.20E-08	2.21E-08	2.20E-08	1.47E-08	6.42E-09	4.42E-07
539	560965.28	4192078.12	2.92E-07	2.06E-07	2.95E-08	2.96E-08	2.95E-08	2.19E-08	1.33E-08	6.21E-07	2.09E-07	1.60E-07	2.29E-08	2.29E-08	2.29E-08	1.52E-08	6.68E-09	4.60E-07
540	560978.63	4192069.32	3.02E-07	2.13E-07	3.05E-08	3.06E-08	3.05E-08	2.26E-08	1.37E-08	6.42E-07	2.16E-07	1.66E-07	2.37E-08	2.37E-08	2.37E-08	1.58E-08	6.90E-09	4.75E-07
541	560877.49	4192195.47	2.80E-07	1.98E-07	2.83E-08	2.84E-08	2.83E-08	2.10E-08	1.27E-08	5.97E-07	2.01E-07	1.54E-07	2.20E-08	2.20E-08	2.20E-08	1.47E-08	6.42E-09	4.42E-07
542	560874.19	4192211.46	2.88E-07	2.03E-07	2.92E-08	2.92E-08	2.92E-08	2.16E-08	1.31E-08	6.14E-07	2.06E-07	1.58E-07	2.26E-08	2.27E-08	2.26E-08	1.51E-08	6.60E-09	4.54E-07
543	560872.82	4192178.53	2.56E-07	1.80E-07	2.59E-08	2.59E-08	2.59E-08	1.92E-08	1.16E-08	5.45E-07	1.83E-07	1.41E-07	2.01E-08	2.01E-08	2.01E-08	1.34E-08	5.86E-09	4.03E-07
544	560879.78	4192164.66	2.54E-07	1.79E-07	2.56E-08	2.57E-08	2.56E-08	1.90E-08	1.15E-08	5.40E-07	1.81E-07	1.39E-07	1.99E-08	1.99E-08	1.99E-08	1.33E-08	5.80E-09	3.99E-07
545	560886.74	4192150.79	2.50E-07	1.76E-07	2.53E-08	2.53E-08	2.53E-08	1.87E-08	1.14E-08	5.32E-07	1.79E-07	1.37E-07	1.96E-08	1.96E-08	1.96E-08	1.31E-08	5.72E-09	3.94E-07
546	560893.7	4192136.93	2.46E-07	1.73E-07	2.49E-08	2.49E-08	2.49E-08	1.84E-08	1.12E-08	5.24E-07	1.76E-07	1.35E-07	1.93E-08	1.93E-08	1.93E-08	1.29E-08	5.63E-09	3.88E-07
547	560900.66	4192123.06	2.42E-07	1.70E-07	2.44E-08	2.45E-08	2.44E-08	1.81E-08	1.10E-08	5.15E-07	1.73E-07	1.33E-07	1.89E-08	1.90E-08	1.89E-08	1.26E-08	5.53E-09	3.81E-07
548	560907.61	4192109.19	2.37E-07	1.67E-07	2.39E-08	2.40E-08	2.39E-08	1.78E-08	1.08E-08	5.04E-07	1.69E-07	1.30E-07	1.86E-08	1.86E-08	1.86E-08	1.24E-08	5.42E-09	3.73E-07
549	560917.57	4192097.99	2.39E-07	1.68E-07	2.41E-08	2.42E-08	2.41E-08	1.79E-08	1.08E-08	5.08E-07	1.71E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.25E-08	5.46E-09	3.76E-07
550	560930.52	4192089.45	2.49E-07	1.75E-07	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	5.29E-07	1.78E-07	1.37E-07	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.69E-09	3.92E-07
551	560943.48	4192080.92	2.59E-07	1.83E-07	2.62E-08	2.63E-08	2.62E-08	1.94E-08	1.18E-08	5.51E-07	1.85E-07	1.42E-07	2.03E-08	2.04E-08	2.03E-08	1.35E-08	5.93E-09	4.08E-07
552	560956.43	4192072.38	2.69E-07	1.90E-07	2.72E-08	2.73E-08	2.72E-08	2.02E-08	1.22E-08	5.73E-07	1.92E-07	1.48E-07	2.11E-08	2.12E-08	2.11E-08	1.41E-08	6.16E-09	4.24E-07
553	560969.39	4192063.84	2.79E-07	1.96E-07	2.82E-08	2.82E-08	2.82E-08	2.09E-08	1.27E-08	5.93E-07	1.99E-07	1.53E-07	2.18E-08	2.19E-08	2.18E-08	1.46E-08	6.37E-09	4.39E-07
554	560867.7	4192193.45	2.61E-07	1.84E-07	2.64E-08	2.64E-08	2.64E-08	1.95E-08	1.18E-08	5.55E-07	1.86E-07	1.43E-07	2.04E-08	2.05E-08	2.04E-08	1.36E-08	5.97E-09	4.11E-07
555	560864.4	4192209.44	2.68E-07	1.89E-07	2.71E-08	2.71E-08	2.71E-08	2.01E-08	1.22E-08	5.70E-07	1.91E-07	1.47E-07	2.10E-08	2.10E-08	2.10E-08	1.40E-08	6.12E-09	4.22E-07
556	560862.94	4192176.68	2.39E-07	1.68E-07	2.42E-08	2.42E-08	2.42E-08	1.79E-08	1.09E-08	5.09E-07	1.71E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.25E-08	5.47E-09	3.76E-07
557	560869.72	4192163.17	2.36E-07	1.66E-07	2.38E-08	2.39E-08	2.38E-08	1.77E-08	1.07E-08	5.02E-07	1.69E-07	1.30E-07	1.85E-08	1.85E-08	1.85E-08	1.23E-08	5.40E-09	3.72E-07
558	560876.5	4192149.66	2.33E-07	1.64E-07	2.36E-08	2.36E-08	2.36E-08	1.75E-08	1.06E-08	4.96E-07	1.67E-07	1.28E-07	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.33E-09	3.67E-07
559	560883.28	4192136.15	2.30E-07	1.62E-07	2.32E-08	2.33E-08	2.32E-08	1.72E-08	1.04E-08	4.89E-07	1.64E-07	1.26E-07	1.80E-08	1.81E-08	1.80E-08	1.20E-08	5.26E-09	3.62E-07
560	560890.06	4192122.64	2.26E-07	1.60E-07	2.29E-08	2.29E-08	2.29E-08	1.70E-08	1.03E-08	4.82E-07	1.62E-07	1.24E-07	1.77E-08	1.78E-08	1.77E-08	1.18E-08	5.18E-09	3.57E-07
561	560896.84	4192109.13	2.22E-07	1.56E-07	2.24E-08	2.25E-08	2.24E-08	1.66E-08	1.01E-08	4.73E-07	1.59E-07	1.22E-07	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.08E-09	3.50E-07
562	560909.93	4192091.46	2.22E-07	1.56E-07	2.24E-08	2.24E-08	2.24E-08	1.66E-08	1.01E-08	4.72E-07	1.58E-07	1.22E-07	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.07E-09	3.49E-07
563	560922.55	4192083.14	2.30E-07	1.62E-07	2.33E-08	2.34E-08	2.33E-08	1.73E-08	1.05E-08	4.90E-07	1.65E-07	1.27E-07	1.81E-08	1.81E-08	1.81E-08	1.20E-08	5.27E-09	3.63E-07
564	560935.17	4192074.82	2.40E-07	1.69E-07	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	5.10E-07	1.71E-07	1.32E-07	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.48E-09	3.77E-07
565	560947.8	4192066.5	2.49E-07	1.75E-07	2.51E-08	2.52E-08	2.51E-08	1.87E-08	1.13E-08	5.30E-07	1.78E-07	1.37E-07	1.95E-08	1.96E-08	1.95E-08	1.30E-08	5.69E-09	3.92E-07
566	560960.42	4192058.19	2.58E-07	1.82E-07	2.60E-08	2.61E-08	2.60E-08	1.93E-08	1.17E-08	5.48E-07	1.84E-07	1.42E-07	2.02E-08	2.02E-08	2.02E-08	1.35E-08	5.89E-09	4.06E-07
567	560973.04	4192049.87	2.66E-07	1.87E-07	2.69E-08	2.69E-08	2.69E-08	1.99E-08	1.21E-08	5.66E-07	1.90E-07	1.46E-07	2.08E-08	2.09E-08	2.08E-08	1.39E-08	6.08E-09	4.18E-07
568	560857.9	4192191.43	2.43E-07	1.71E-07	2.46E-08	2.46E-08	2.46E-08	1.82E-08	1.11E-08	5.18E-07	1.74E-07	1.34E-07	1.91E-08	1.91E-08	1.91E-08	1.27E-08	5.56E-09	3.83E-07
569	560854.6	4192207.42	2.49E-07	1.76E-07	2.52E-08	2.53E-08	2.52E-08	1.87E-08	1.13E-08	5.31E-07	1.78E-07	1.37E-07	1.95E-08	1.96E-08	1.95E-08	1.30E-08	5.70E-09	3.93E-07
570	560853.33	4192174.3	2.24E-07	1.58E-07	2.26E-08	2.27E-08	2.26E-08	1.68E-08	1.02E-08	4.76E-07	1.60E-07	1.23E-07	1.75E-08	1.76E-08	1.75E-08	1.17E-08	5.12E-09	3.52E-07
571	560860.46	4192160.08	2.21E-07	1.56E-07	2.23E-08	2.24E-08	2.23E-08	1.66E-08	1.00E-08	4.70E-07	1.58E-07	1.21E-07	1.73E-08	1.74E-08	1.73E-08	1.15E-08	5.05E-09	3.48E-07
572	560867.6	4192145.86	2.18E-07	1.54E-07	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.90E-09	4.64E-07	1.56E-07	1.20E-07	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	3.43E-07
573	560874.74	4192131.64	2.14E-07	1.51E-07	2.17E-08	2.17E-08	2.17E-08	1.61E-08	9.73E-09	4.56E-07	1.53E-07	1.18E-07	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.90E-09	3.37E-07
574	560881.87	4192117.42	2.11E-07	1.48E-07	2.13E-08	2.13E-08	2.13E-08	1.58E-08	9.57E-09	4.48E-07	1.51E-07	1.16E-07	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.82E-09	3.32E-07
575	560889.01	4192103.19	2.06E-07	1.46E-07	2.09E-08	2.09E-08	2.09E-08	1.55E-08	9.38E-09	4.40E-07	1.48E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	3.25E-07
576	560902.79	4192084.59	2.06E-07	1.46E-07	2.09E-08	2.09E-08	2.09E-08	1.55E-08	9.38E-09	4.40E-07	1.48E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	3.25E-07
577	560916.07	4192075.84	2.15E-07	1.52E-07	2.17E-08	2.18E-08	2.17E-08	1.61E-08	9.77E-09	4.58E-07	1.54E-07	1.18E-07	1.68E-08	1.69E-08	1.68E-08	1.12E-08	4.92E-09	3.39E-07
578	560929.36	4192067.08	2.24E-07	1.58E-07	2.26E-08	2.27E-08	2.26E-08	1.68E-08	1.02E-08	4.77E-07	1.60E-07	1.23E-07	1.75E-08	1.76E-08	1.75E-08	1.17E-08	5.12E-09	3.53E-07
579	560942.65	4192058.33	2.33E-07	1.64E-07	2.35E-08	2.36E-08	2.35E-08	1.75E-08	1.06E-08	4.96E-07	1.67E-07	1.28E-07	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.33E-09	3.67E-07

580	560955.94	4192049.57	2.42E-07	1.70E-07	2.44E-08	2.45E-08	2.44E-08	1.81E-08	1.10E-08	5.14E-07	1.73E-07	1.33E-07	1.89E-08	1.90E-08	1.89E-08	1.26E-08	5.53E-09	3.80E-07
581	560969.22	4192040.82	2.49E-07	1.76E-07	2.52E-08	2.53E-08	2.52E-08	1.87E-08	1.13E-08	5.31E-07	1.78E-07	1.37E-07	1.96E-08	1.96E-08	1.96E-08	1.30E-08	5.71E-09	3.93E-07
582	560848.11	4192189.41	2.27E-07	1.60E-07	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.03E-08	4.84E-07	1.63E-07	1.25E-07	1.78E-08	1.79E-08	1.78E-08	1.19E-08	5.20E-09	3.58E-07
583	560844.81	4192205.4	2.33E-07	1.64E-07	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	4.96E-07	1.66E-07	1.28E-07	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.33E-09	3.67E-07
584	560843.44	4192172.46	2.10E-07	1.48E-07	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.54E-09	4.47E-07	1.50E-07	1.15E-07	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.81E-09	3.31E-07
585	560850.4	4192158.59	2.08E-07	1.46E-07	2.10E-08	2.10E-08	2.10E-08	1.56E-08	9.43E-09	4.42E-07	1.48E-07	1.14E-07	1.63E-08	1.63E-08	1.63E-08	1.08E-08	4.75E-09	3.27E-07
586	560857.36	4192144.73	2.05E-07	1.44E-07	2.07E-08	2.08E-08	2.07E-08	1.54E-08	9.31E-09	4.36E-07	1.47E-07	1.13E-07	1.61E-08	1.61E-08	1.61E-08	1.07E-08	4.69E-09	3.23E-07
587	560864.32	4192130.86	2.02E-07	1.42E-07	2.04E-08	2.04E-08	2.04E-08	1.51E-08	9.16E-09	4.29E-07	1.44E-07	1.11E-07	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.61E-09	3.17E-07
588	560871.27	4192116.99	1.98E-07	1.40E-07	2.00E-08	2.01E-08	2.00E-08	1.48E-08	9.00E-09	4.21E-07	1.42E-07	1.09E-07	1.55E-08	1.56E-08	1.55E-08	1.03E-08	4.53E-09	3.12E-07
589	560878.23	4192103.13	1.94E-07	1.37E-07	1.96E-08	1.97E-08	1.96E-08	1.46E-08	8.83E-09	4.14E-07	1.39E-07	1.07E-07	1.52E-08	1.53E-08	1.52E-08	1.02E-08	4.45E-09	3.06E-07
590	560885.19	4192089.26	1.91E-07	1.34E-07	1.93E-08	1.93E-08	1.93E-08	1.43E-08	8.67E-09	4.06E-07	1.36E-07	1.05E-07	1.50E-08	1.50E-08	1.50E-08	9.97E-09	4.36E-09	3.00E-07
591	560895.15	4192078.06	1.93E-07	1.36E-07	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	4.10E-07	1.38E-07	1.06E-07	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	3.03E-07
592	560908.1	4192069.52	2.00E-07	1.41E-07	2.02E-08	2.03E-08	2.02E-08	1.50E-08	9.09E-09	4.26E-07	1.43E-07	1.10E-07	1.57E-08	1.57E-08	1.57E-08	1.05E-08	4.58E-09	3.15E-07
593	560921.06	4192060.99	2.08E-07	1.47E-07	2.10E-08	2.11E-08	2.10E-08	1.56E-08	9.45E-09	4.43E-07	1.49E-07	1.14E-07	1.63E-08	1.63E-08	1.63E-08	1.09E-08	4.76E-09	3.28E-07
594	560934.01	4192052.45	2.16E-07	1.52E-07	2.18E-08	2.19E-08	2.18E-08	1.62E-08	9.82E-09	4.60E-07	1.55E-07	1.19E-07	1.69E-08	1.70E-08	1.69E-08	1.13E-08	4.94E-09	3.40E-07
595	560946.97	4192043.91	2.24E-07	1.58E-07	2.27E-08	2.27E-08	2.27E-08	1.68E-08	1.02E-08	4.77E-07	1.60E-07	1.23E-07	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.13E-09	3.53E-07
596	560959.92	4192035.38	2.32E-07	1.63E-07	2.34E-08	2.35E-08	2.34E-08	1.74E-08	1.05E-08	4.93E-07	1.66E-07	1.27E-07	1.82E-08	1.82E-08	1.82E-08	1.21E-08	5.30E-09	3.65E-07
597	560838.31	4192187.39	2.13E-07	1.50E-07	2.16E-08	2.16E-08	2.16E-08	1.60E-08	9.69E-09	4.54E-07	1.53E-07	1.17E-07	1.67E-08	1.68E-08	1.67E-08	1.11E-08	4.88E-09	3.36E-07
598	560835.01	4192203.38	2.18E-07	1.54E-07	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.91E-09	4.64E-07	1.56E-07	1.20E-07	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.99E-09	3.43E-07
599	560833.82	4192170.11	1.98E-07	1.39E-07	2.00E-08	2.00E-08	2.00E-08	1.48E-08	8.98E-09	4.21E-07	1.41E-07	1.09E-07	1.55E-08	1.55E-08	1.55E-08	1.03E-08	4.52E-09	3.11E-07
600	560841.1	4192155.58	1.95E-07	1.38E-07	1.98E-08	1.98E-08	1.98E-08	1.46E-08	8.88E-09	4.16E-07	1.40E-07	1.07E-07	1.53E-08	1.54E-08	1.53E-08	1.02E-08	4.47E-09	3.08E-07
601	560848.39	4192141.06	1.93E-07	1.36E-07	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	4.10E-07	1.38E-07	1.06E-07	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	3.03E-07
602	560855.68	4192126.53	1.89E-07	1.33E-07	1.91E-08	1.92E-08	1.91E-08	1.42E-08	8.60E-09	4.03E-07	1.35E-07	1.04E-07	1.48E-08	1.49E-08	1.48E-08	9.89E-09	4.33E-09	2.98E-07
603	560862.97	4192112	1.86E-07	1.31E-07	1.88E-08	1.89E-08	1.88E-08	1.39E-08	8.45E-09	3.96E-07	1.33E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	9.72E-09	4.26E-09	2.93E-07
604	560870.26	4192097.48	1.82E-07	1.28E-07	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	3.88E-07	1.30E-07	1.00E-07	1.43E-08	1.43E-08	1.43E-08	9.53E-09	4.17E-09	2.87E-07
605	560877.55	4192082.95	1.79E-07	1.26E-07	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.12E-09	3.80E-07	1.28E-07	9.81E-08	1.40E-08	1.40E-08	1.40E-08	9.33E-09	4.09E-09	2.81E-07
606	560887.98	4192071.21	1.80E-07	1.27E-07	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.19E-09	3.84E-07	1.29E-07	9.90E-08	1.41E-08	1.42E-08	1.41E-08	9.42E-09	4.12E-09	2.84E-07
607	560901.55	4192062.27	1.87E-07	1.32E-07	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.52E-09	3.99E-07	1.34E-07	1.03E-07	1.47E-08	1.47E-08	1.47E-08	9.79E-09	4.29E-09	2.95E-07
608	560915.12	4192053.33	1.95E-07	1.37E-07	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.86E-09	4.15E-07	1.39E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	3.07E-07
609	560928.7	4192044.38	2.03E-07	1.43E-07	2.05E-08	2.06E-08	2.05E-08	1.52E-08	9.22E-09	4.32E-07	1.45E-07	1.11E-07	1.59E-08	1.59E-08	1.59E-08	1.06E-08	4.64E-09	3.20E-07
610	560942.27	4192035.44	2.11E-07	1.49E-07	2.13E-08	2.14E-08	2.13E-08	1.58E-08	9.58E-09	4.49E-07	1.51E-07	1.16E-07	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.82E-09	3.32E-07
611	560955.84	4192026.5	2.18E-07	1.54E-07	2.21E-08	2.21E-08	2.21E-08	1.64E-08	9.92E-09	4.65E-07	1.56E-07	1.20E-07	1.71E-08	1.72E-08	1.71E-08	1.14E-08	4.99E-09	3.44E-07
612	560828.52	4192185.37	2.01E-07	1.41E-07	2.03E-08	2.03E-08	2.03E-08	1.50E-08	9.11E-09	4.27E-07	1.43E-07	1.10E-07	1.57E-08	1.58E-08	1.57E-08	1.05E-08	4.59E-09	3.16E-07
613	560825.22	4192201.36	2.05E-07	1.44E-07	2.07E-08	2.07E-08	2.07E-08	1.53E-08	9.30E-09	4.36E-07	1.46E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.07E-08	4.68E-09	3.22E-07
614	560823.93	4192168.27	1.86E-07	1.31E-07	1.88E-08	1.89E-08	1.88E-08	1.40E-08	8.47E-09	3.97E-07	1.33E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	9.74E-09	4.26E-09	2.94E-07
615	560831.05	4192154.09	1.85E-07	1.30E-07	1.87E-08	1.87E-08	1.87E-08	1.39E-08	8.40E-09	3.94E-07	1.32E-07	1.02E-07	1.45E-08	1.45E-08	1.45E-08	9.66E-09	4.23E-09	2.91E-07
616	560838.16	4192139.92	1.82E-07	1.28E-07	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	3.88E-07	1.30E-07	1.00E-07	1.43E-08	1.43E-08	1.43E-08	9.52E-09	4.17E-09	2.87E-07
617	560845.27	4192125.74	1.79E-07	1.26E-07	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.14E-09	3.81E-07	1.28E-07	9.84E-08	1.40E-08	1.41E-08	1.40E-08	9.36E-09	4.10E-09	2.82E-07
618	560852.38	4192111.57	1.76E-07	1.24E-07	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.01E-09	3.75E-07	1.26E-07	9.68E-08	1.38E-08	1.39E-08	1.38E-08	9.21E-09	4.03E-09	2.78E-07
619	560859.5	4192097.39	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.87E-09	3.69E-07	1.24E-07	9.51E-08	1.36E-08	1.36E-08	1.36E-08	9.05E-09	3.96E-09	2.73E-07
620	560866.61	4192083.22	1.69E-07	1.19E-07	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.70E-09	3.61E-07	1.21E-07	9.31E-08	1.33E-08	1.33E-08	1.33E-08	8.86E-09	3.88E-09	2.67E-07
621	560880.34	4192064.68	1.69E-07	1.19E-07	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.68E-09	3.60E-07	1.21E-07	9.28E-08	1.32E-08	1.33E-08	1.32E-08	8.83E-09	3.87E-09	2.66E-07
622	560893.59	4192055.95	1.75E-07	1.24E-07	1.77E-08	1.78E-08	1.77E-08	1.31E-08	7.97E-09	3.73E-07	1.25E-07	9.63E-08	1.37E-08	1.38E-08	1.37E-08	9.16E-09	4.01E-09	2.76E-07
623	560906.83	4192047.23	1.82E-07	1.28E-07	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.27E-09	3.87E-07	1.30E-07	9.99E-08	1.43E-08	1.43E-08	1.43E-08	9.51E-09	4.16E-09	2.86E-07
624	560920.07	4192038.5	1.89E-07	1.33E-07	1.91E-08	1.92E-08	1.91E-08	1.42E-08	8.59E-09	4.02E-07	1.35E-07	1.04E-07	1.48E-08	1.49E-08	1.48E-08	9.88E-09	4.32E-09	2.98E-07
625	560933.31	4192029.77	1.96E-07	1.38E-07	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.92E-09	4.18E-07	1.40E-07	1.08E-07	1.54E-08	1.54E-08	1.54E-08	1.03E-08	4.49E-09	3.09E-07
626	560946.56	4192021.05	2.03E-07	1.43E-07	2.05E-08	2.06E-08	2.05E-08	1.52E-08	9.23E-09	4.33E-07	1.45E-07	1.12E-07	1.59E-08	1.60E-08	1.59E-08	1.06E-08	4.65E-09	3.20E-07
627	560959.8	4192012.32	2.10E-07	1.48E-07	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.53E-09	4.47E-07	1.50E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.10E-08	4.80E-09	3.30E-07
628	560818.73	4192183.35	1.89E-07	1.33E-07	1.91E-08	1.92E-08	1.91E-08	1.42E-08	8.59E-09	4.02E-07	1.35E-07	1.04E-07	1.48E-08	1.49E-08	1.48E-08	9.88E-09	4.32E-09	2.98E-07
629	560815.43	4192199.34	1.93E-07	1.36E-07	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	4.10E-07	1.38E-07	1.06E-07	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	3.03E-07
630	560814.06	4192166.4	1.76E-07	1.24E-07	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.01E-09	3.75E-07	1.26E-07	9.68E-08	1.38E-08	1.38E-08	1.38E-08	9.21E-09	4.03E-09	2.77E-07
631	560821.02	4192152.53	1.75E-07	1.23E-07	1.77E-08	1.77E-08	1.77E-08	1.31E-08	7.95E-09	3.73E-07	1.25E-07	9.61E-08	1.37E-08	1.38E-08	1.37E-08	9.14E-09	4.00E-09	2.76E-07
632	560827.98	4192138.66	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.86E-09	3.68E-07	1.24E-07	9.50E-08	1.36E-08	1.36E-08	1.36E-08	9.04E-09	3.96E-09	2.72E-07

633	560834.94	4192124.8	1.70E-07	1.20E-07	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.73E-09	3.62E-07	1.22E-07	9.34E-08	1.33E-08	1.34E-08	1.33E-08	8.89E-09	3.89E-09	2.68E-07
634	560841.89	4192110.93	1.67E-07	1.18E-07	1.69E-08	1.70E-08	1.69E-08	1.25E-08	7.60E-09	3.56E-07	1.20E-07	9.19E-08	1.31E-08	1.32E-08	1.31E-08	8.74E-09	3.83E-09	2.64E-07
635	560848.85	4192097.06	1.64E-07	1.16E-07	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.46E-09	3.50E-07	1.17E-07	9.02E-08	1.29E-08	1.29E-08	1.29E-08	8.58E-09	3.76E-09	2.59E-07
636	560855.81	4192083.2	1.61E-07	1.14E-07	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.32E-09	3.43E-07	1.15E-07	8.85E-08	1.26E-08	1.27E-08	1.26E-08	8.42E-09	3.69E-09	2.54E-07
637	560862.77	4192069.33	1.58E-07	1.11E-07	1.60E-08	1.60E-08	1.60E-08	1.18E-08	7.18E-09	3.36E-07	1.13E-07	8.67E-08	1.24E-08	1.24E-08	1.24E-08	8.25E-09	3.61E-09	2.49E-07
638	560872.72	4192058.13	1.59E-07	1.12E-07	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.23E-09	3.39E-07	1.14E-07	8.73E-08	1.25E-08	1.25E-08	1.25E-08	8.31E-09	3.64E-09	2.50E-07
639	560885.68	4192049.59	1.65E-07	1.16E-07	1.66E-08	1.67E-08	1.66E-08	1.23E-08	7.48E-09	3.50E-07	1.18E-07	9.04E-08	1.29E-08	1.29E-08	1.29E-08	8.60E-09	3.77E-09	2.59E-07
640	560898.63	4192041.06	1.70E-07	1.20E-07	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.74E-09	3.63E-07	1.22E-07	9.35E-08	1.33E-08	1.34E-08	1.33E-08	8.90E-09	3.90E-09	2.68E-07
641	560911.59	4192032.52	1.76E-07	1.24E-07	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.02E-09	3.76E-07	1.26E-07	9.69E-08	1.38E-08	1.39E-08	1.38E-08	9.22E-09	4.04E-09	2.78E-07
642	560924.54	4192023.98	1.83E-07	1.29E-07	1.85E-08	1.86E-08	1.85E-08	1.37E-08	8.32E-09	3.90E-07	1.31E-07	1.01E-07	1.43E-08	1.44E-08	1.43E-08	9.57E-09	4.19E-09	2.88E-07
643	560937.5	4192015.45	1.90E-07	1.34E-07	1.92E-08	1.92E-08	1.92E-08	1.42E-08	8.61E-09	4.04E-07	1.36E-07	1.04E-07	1.49E-08	1.49E-08	1.49E-08	9.91E-09	4.34E-09	2.99E-07
644	560950.45	4192006.91	1.96E-07	1.38E-07	1.98E-08	1.98E-08	1.98E-08	1.47E-08	8.90E-09	4.17E-07	1.40E-07	1.08E-07	1.53E-08	1.54E-08	1.53E-08	1.02E-08	4.48E-09	3.08E-07
645	560808.93	4192181.33	1.78E-07	1.26E-07	1.80E-08	1.81E-08	1.80E-08	1.34E-08	8.11E-09	3.80E-07	1.28E-07	9.80E-08	1.40E-08	1.40E-08	1.40E-08	9.33E-09	4.08E-09	2.81E-07
646	560805.63	4192197.32	1.82E-07	1.28E-07	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.26E-09	3.87E-07	1.30E-07	9.98E-08	1.42E-08	1.43E-08	1.42E-08	9.49E-09	4.16E-09	2.86E-07
647	560804.41	4192164.09	1.67E-07	1.18E-07	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.58E-09	3.55E-07	1.19E-07	9.16E-08	1.31E-08	1.31E-08	1.31E-08	8.72E-09	3.82E-09	2.63E-07
648	560811.66	4192149.64	1.66E-07	1.17E-07	1.67E-08	1.68E-08	1.67E-08	1.24E-08	7.53E-09	3.53E-07	1.18E-07	9.10E-08	1.30E-08	1.30E-08	1.30E-08	8.66E-09	3.79E-09	2.61E-07
649	560818.91	4192135.2	1.64E-07	1.15E-07	1.65E-08	1.66E-08	1.65E-08	1.23E-08	7.44E-09	3.48E-07	1.17E-07	8.99E-08	1.28E-08	1.29E-08	1.28E-08	8.55E-09	3.75E-09	2.58E-07
650	560826.16	4192120.75	1.61E-07	1.14E-07	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.32E-09	3.43E-07	1.15E-07	8.85E-08	1.26E-08	1.27E-08	1.26E-08	8.42E-09	3.69E-09	2.54E-07
651	560833.41	4192106.31	1.58E-07	1.11E-07	1.60E-08	1.60E-08	1.60E-08	1.18E-08	7.18E-09	3.37E-07	1.13E-07	8.68E-08	1.24E-08	1.24E-08	1.24E-08	8.26E-09	3.62E-09	2.49E-07
652	560840.65	4192091.87	1.55E-07	1.09E-07	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.04E-09	3.30E-07	1.11E-07	8.51E-08	1.21E-08	1.22E-08	1.21E-08	8.10E-09	3.55E-09	2.44E-07
653	560847.9	4192077.42	1.52E-07	1.07E-07	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.90E-09	3.23E-07	1.09E-07	8.34E-08	1.19E-08	1.19E-08	1.19E-08	7.94E-09	3.47E-09	2.39E-07
654	560855.15	4192062.98	1.49E-07	1.05E-07	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.77E-09	3.17E-07	1.07E-07	8.18E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	2.35E-07
655	560865.52	4192051.31	1.50E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.12E-08	6.82E-09	3.19E-07	1.07E-07	8.24E-08	1.18E-08	1.18E-08	1.18E-08	7.84E-09	3.43E-09	2.36E-07
656	560879.01	4192042.42	1.55E-07	1.09E-07	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.06E-09	3.31E-07	1.11E-07	8.53E-08	1.22E-08	1.22E-08	1.22E-08	8.12E-09	3.55E-09	2.45E-07
657	560892.51	4192033.52	1.61E-07	1.13E-07	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.31E-09	3.42E-07	1.15E-07	8.84E-08	1.26E-08	1.26E-08	1.26E-08	8.41E-09	3.68E-09	2.53E-07
658	560906	4192024.63	1.66E-07	1.17E-07	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.56E-09	3.54E-07	1.19E-07	9.14E-08	1.30E-08	1.31E-08	1.30E-08	8.70E-09	3.81E-09	2.62E-07
659	560919.5	4192015.74	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.85E-09	3.68E-07	1.24E-07	9.49E-08	1.35E-08	1.36E-08	1.35E-08	9.03E-09	3.95E-09	2.72E-07
660	560932.99	4192006.85	1.79E-07	1.26E-07	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.14E-09	3.82E-07	1.28E-07	9.84E-08	1.40E-08	1.41E-08	1.40E-08	9.37E-09	4.10E-09	2.82E-07
661	560946.49	4191997.96	1.85E-07	1.31E-07	1.87E-08	1.88E-08	1.87E-08	1.39E-08	8.42E-09	3.95E-07	1.33E-07	1.02E-07	1.45E-08	1.46E-08	1.45E-08	9.69E-09	4.24E-09	2.92E-07
662	560799.14	4192179.31	1.69E-07	1.19E-07	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.67E-09	3.59E-07	1.21E-07	9.27E-08	1.32E-08	1.33E-08	1.32E-08	8.82E-09	3.86E-09	2.66E-07
663	560795.84	4192195.3	1.72E-07	1.21E-07	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.80E-09	3.65E-07	1.23E-07	9.43E-08	1.35E-08	1.35E-08	1.35E-08	8.97E-09	3.93E-09	2.70E-07
664	560794.54	4192162.22	1.58E-07	1.12E-07	1.60E-08	1.60E-08	1.60E-08	1.19E-08	7.19E-09	3.37E-07	1.13E-07	8.69E-08	1.24E-08	1.24E-08	1.24E-08	8.27E-09	3.62E-09	2.49E-07
665	560801.64	4192148.08	1.57E-07	1.11E-07	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.15E-09	3.35E-07	1.13E-07	8.64E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	2.48E-07
666	560808.73	4192133.94	1.56E-07	1.10E-07	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.07E-09	3.31E-07	1.11E-07	8.54E-08	1.22E-08	1.22E-08	1.22E-08	8.13E-09	3.56E-09	2.45E-07
667	560815.83	4192119.8	1.53E-07	1.08E-07	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	3.26E-07	1.10E-07	8.41E-08	1.20E-08	1.20E-08	1.20E-08	8.01E-09	3.50E-09	2.41E-07
668	560822.92	4192105.67	1.50E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.84E-09	3.20E-07	1.08E-07	8.26E-08	1.18E-08	1.18E-08	1.18E-08	7.86E-09	3.44E-09	2.37E-07
669	560830.02	4192091.53	1.48E-07	1.04E-07	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.70E-09	3.14E-07	1.05E-07	8.10E-08	1.16E-08	1.16E-08	1.16E-08	7.71E-09	3.38E-09	2.32E-07
670	560837.11	4192077.39	1.45E-07	1.02E-07	1.46E-08	1.47E-08	1.46E-08	1.08E-08	6.57E-09	3.08E-07	1.03E-07	7.94E-08	1.13E-08	1.14E-08	1.13E-08	7.56E-09	3.31E-09	2.28E-07
671	560844.2	4192063.25	1.42E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	3.02E-07	1.01E-07	7.79E-08	1.11E-08	1.11E-08	1.11E-08	7.41E-09	3.24E-09	2.23E-07
672	560857.9	4192044.76	1.41E-07	9.96E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.42E-09	3.01E-07	1.01E-07	7.76E-08	1.11E-08	1.11E-08	1.11E-08	7.39E-09	3.23E-09	2.23E-07
673	560871.11	4192036.06	1.46E-07	1.03E-07	1.48E-08	1.48E-08	1.48E-08	1.09E-08	6.64E-09	3.11E-07	1.04E-07	8.02E-08	1.14E-08	1.15E-08	1.14E-08	7.63E-09	3.34E-09	2.30E-07
674	560884.32	4192027.35	1.51E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.87E-09	3.22E-07	1.08E-07	8.30E-08	1.18E-08	1.19E-08	1.18E-08	7.90E-09	3.46E-09	2.38E-07
675	560897.53	4192018.65	1.56E-07	1.10E-07	1.58E-08	1.58E-08	1.58E-08	1.17E-08	7.10E-09	3.33E-07	1.12E-07	8.58E-08	1.22E-08	1.23E-08	1.22E-08	8.16E-09	3.57E-09	2.46E-07
676	560910.74	4192009.94	1.62E-07	1.14E-07	1.63E-08	1.64E-08	1.63E-08	1.21E-08	7.35E-09	3.44E-07	1.16E-07	8.88E-08	1.27E-08	1.27E-08	1.27E-08	8.45E-09	3.70E-09	2.55E-07
677	560923.95	4192001.24	1.68E-07	1.18E-07	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.62E-09	3.57E-07	1.20E-07	9.21E-08	1.31E-08	1.32E-08	1.31E-08	8.76E-09	3.84E-09	2.64E-07
678	560937.16	4191992.54	1.73E-07	1.22E-07	1.75E-08	1.76E-08	1.75E-08	1.30E-08	7.88E-09	3.69E-07	1.24E-07	9.53E-08	1.36E-08	1.36E-08	1.36E-08	9.06E-09	3.97E-09	2.73E-07
679	560950.36	4191983.83	1.79E-07	1.26E-07	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.13E-09	3.81E-07	1.28E-07	9.83E-08	1.40E-08	1.41E-08	1.40E-08	9.35E-09	4.09E-09	2.82E-07
680	560789.35	4192177.28	1.60E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.27E-09	3.41E-07	1.14E-07	8.79E-08	1.25E-08	1.26E-08	1.25E-08	8.36E-09	3.66E-09	2.52E-07
681	560786.05	4192193.27	1.63E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.39E-09	3.46E-07	1.16E-07	8.93E-08	1.27E-08	1.28E-08	1.27E-08	8.49E-09	3.72E-09	2.56E-07
682	560784.68	4192160.33	1.50E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.83E-09	3.20E-07	1.08E-07	8.26E-08	1.18E-08	1.18E-08	1.18E-08	7.86E-09	3.44E-09	2.37E-07
683	560791.64	4192146.47	1.50E-07	1.05E-07	1.51E-08	1.52E-08	1.51E-08	1.12E-08	6.80E-09	3.18E-07	1.07E-07	8.22E-08	1.17E-08	1.18E-08	1.17E-08	7.82E-09	3.42E-09	2.36E-07
684	560798.6	4192132.6	1.48E-07	1.04E-07	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	3.15E-07	1.06E-07	8.13E-08	1.16E-08	1.16E-08	1.16E-08	7.74E-09	3.39E-09	2.33E-07
685	560805.56	4192118.73	1.46E-07	1.03E-07	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.63E-09	3.11E-07	1.04E-07	8.02E-08	1.14E-08	1.15E-08	1.14E-08	7.63E-09	3.34E-09	2.30E-07

686	560812.51	4192104.87	1.43E-07	1.01E-07	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.52E-09	3.05E-07	1.03E-07	7.88E-08	1.12E-08	1.13E-08	1.12E-08	7.49E-09	3.28E-09	2.26E-07
687	560819.47	4192091	1.41E-07	9.92E-08	1.42E-08	1.43E-08	1.42E-08	1.05E-08	6.39E-09	2.99E-07	1.01E-07	7.73E-08	1.10E-08	1.11E-08	1.10E-08	7.35E-09	3.22E-09	2.22E-07
688	560826.43	4192077.13	1.38E-07	9.72E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.27E-09	2.94E-07	9.86E-08	7.57E-08	1.08E-08	1.08E-08	1.08E-08	7.21E-09	3.15E-09	2.17E-07
689	560833.39	4192063.27	1.35E-07	9.53E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.14E-09	2.88E-07	9.67E-08	7.43E-08	1.06E-08	1.06E-08	1.06E-08	7.07E-09	3.09E-09	2.13E-07
690	560840.35	4192049.4	1.33E-07	9.35E-08	1.34E-08	1.34E-08	1.34E-08	9.95E-09	6.03E-09	2.82E-07	9.49E-08	7.29E-08	1.04E-08	1.04E-08	1.04E-08	6.93E-09	3.04E-09	2.09E-07
691	560850.3	4192038.2	1.33E-07	9.40E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.06E-09	2.84E-07	9.54E-08	7.33E-08	1.05E-08	1.05E-08	1.05E-08	6.97E-09	3.05E-09	2.10E-07
692	560863.26	4192029.66	1.38E-07	9.70E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.25E-09	2.93E-07	9.84E-08	7.55E-08	1.08E-08	1.08E-08	1.08E-08	7.19E-09	3.15E-09	2.17E-07
693	560876.21	4192021.13	1.42E-07	1.00E-07	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.46E-09	3.03E-07	1.02E-07	7.81E-08	1.11E-08	1.12E-08	1.11E-08	7.43E-09	3.25E-09	2.24E-07
694	560889.17	4192012.59	1.47E-07	1.04E-07	1.49E-08	1.49E-08	1.49E-08	1.10E-08	6.68E-09	3.13E-07	1.05E-07	8.08E-08	1.15E-08	1.16E-08	1.15E-08	7.69E-09	3.37E-09	2.32E-07
695	560902.12	4192004.05	1.52E-07	1.07E-07	1.53E-08	1.54E-08	1.53E-08	1.14E-08	6.89E-09	3.23E-07	1.09E-07	8.33E-08	1.19E-08	1.19E-08	1.19E-08	7.93E-09	3.47E-09	2.39E-07
696	560915.08	4191995.52	1.57E-07	1.11E-07	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.14E-09	3.34E-07	1.12E-07	8.63E-08	1.23E-08	1.23E-08	1.23E-08	8.21E-09	3.59E-09	2.47E-07
697	560928.03	4191986.98	1.63E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.39E-09	3.46E-07	1.16E-07	8.93E-08	1.27E-08	1.28E-08	1.27E-08	8.49E-09	3.72E-09	2.56E-07
698	560940.98	4191978.44	1.68E-07	1.18E-07	1.70E-08	1.70E-08	1.70E-08	1.26E-08	7.62E-09	3.57E-07	1.20E-07	9.22E-08	1.31E-08	1.32E-08	1.31E-08	8.77E-09	3.84E-09	2.64E-07
699	560779.55	4192175.26	1.52E-07	1.07E-07	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.90E-09	3.23E-07	1.09E-07	8.35E-08	1.19E-08	1.19E-08	1.19E-08	7.94E-09	3.48E-09	2.39E-07
700	560776.25	4192191.25	1.54E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.00E-09	3.28E-07	1.10E-07	8.46E-08	1.21E-08	1.21E-08	1.21E-08	8.05E-09	3.53E-09	2.43E-07
701	560775.02	4192158.06	1.43E-07	1.01E-07	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	3.05E-07	1.02E-07	7.86E-08	1.12E-08	1.12E-08	1.12E-08	7.48E-09	3.27E-09	2.25E-07
702	560782.23	4192143.68	1.42E-07	1.00E-07	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	3.03E-07	1.02E-07	7.82E-08	1.12E-08	1.12E-08	1.12E-08	7.44E-09	3.26E-09	2.24E-07
703	560789.45	4192129.3	1.41E-07	9.93E-08	1.42E-08	1.43E-08	1.42E-08	1.06E-08	6.40E-09	3.00E-07	1.01E-07	7.74E-08	1.10E-08	1.11E-08	1.10E-08	7.36E-09	3.22E-09	2.22E-07
704	560796.66	4192114.92	1.39E-07	9.78E-08	1.40E-08	1.41E-08	1.40E-08	1.04E-08	6.31E-09	2.95E-07	9.93E-08	7.62E-08	1.09E-08	1.09E-08	1.09E-08	7.25E-09	3.18E-09	2.19E-07
705	560803.88	4192100.54	1.36E-07	9.61E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.19E-09	2.90E-07	9.75E-08	7.49E-08	1.07E-08	1.07E-08	1.07E-08	7.12E-09	3.12E-09	2.15E-07
706	560811.09	4192086.16	1.34E-07	9.41E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.07E-09	2.84E-07	9.55E-08	7.34E-08	1.05E-08	1.05E-08	1.05E-08	6.98E-09	3.06E-09	2.10E-07
707	560818.31	4192071.78	1.31E-07	9.22E-08	1.32E-08	1.33E-08	1.32E-08	9.80E-09	5.94E-09	2.78E-07	9.35E-08	7.18E-08	1.03E-08	1.03E-08	1.03E-08	6.83E-09	2.99E-09	2.06E-07
708	560825.53	4192057.39	1.28E-07	9.03E-08	1.29E-08	1.30E-08	1.29E-08	9.60E-09	5.82E-09	2.73E-07	9.16E-08	7.04E-08	1.00E-08	1.01E-08	1.00E-08	6.69E-09	2.93E-09	2.02E-07
709	560832.74	4192043.01	1.26E-07	8.85E-08	1.27E-08	1.27E-08	1.27E-08	9.41E-09	5.71E-09	2.67E-07	8.98E-08	6.90E-08	9.84E-09	9.87E-09	9.84E-09	6.56E-09	2.87E-09	1.98E-07
710	560843.07	4192031.4	1.26E-07	8.90E-08	1.28E-08	1.28E-08	1.28E-08	9.46E-09	5.73E-09	2.69E-07	9.03E-08	6.93E-08	9.89E-09	9.92E-09	9.89E-09	6.60E-09	2.89E-09	1.99E-07
711	560856.5	4192022.55	1.30E-07	9.17E-08	1.32E-08	1.32E-08	1.32E-08	9.75E-09	5.91E-09	2.77E-07	9.30E-08	7.15E-08	1.02E-08	1.02E-08	1.02E-08	6.80E-09	2.98E-09	2.05E-07
712	560869.94	4192013.69	1.34E-07	9.48E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.11E-09	2.86E-07	9.62E-08	7.39E-08	1.05E-08	1.06E-08	1.05E-08	7.03E-09	3.08E-09	2.12E-07
713	560883.37	4192004.84	1.39E-07	9.82E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.33E-09	2.97E-07	9.96E-08	7.65E-08	1.09E-08	1.09E-08	1.09E-08	7.28E-09	3.19E-09	2.19E-07
714	560896.81	4191995.99	1.44E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.54E-09	3.07E-07	1.03E-07	7.91E-08	1.13E-08	1.13E-08	1.13E-08	7.53E-09	3.30E-09	2.27E-07
715	560910.24	4191987.13	1.49E-07	1.05E-07	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.77E-09	3.17E-07	1.07E-07	8.19E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	2.35E-07
716	560923.67	4191978.28	1.54E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	3.29E-07	1.10E-07	8.48E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	2.43E-07
717	560937.11	4191969.43	1.60E-07	1.12E-07	1.61E-08	1.62E-08	1.61E-08	1.20E-08	7.25E-09	3.40E-07	1.14E-07	8.76E-08	1.25E-08	1.25E-08	1.25E-08	8.34E-09	3.65E-09	2.51E-07
718	560769.76	4192173.24	1.44E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.56E-09	3.08E-07	1.03E-07	7.93E-08	1.13E-08	1.14E-08	1.13E-08	7.55E-09	3.30E-09	2.27E-07
719	560766.46	4192189.23	1.46E-07	1.03E-07	1.48E-08	1.48E-08	1.48E-08	1.10E-08	6.65E-09	3.12E-07	1.05E-07	8.04E-08	1.15E-08	1.15E-08	1.15E-08	7.65E-09	3.35E-09	2.30E-07
720	560765.16	4192156.17	1.36E-07	9.61E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.20E-09	2.90E-07	9.75E-08	7.49E-08	1.07E-08	1.07E-08	1.07E-08	7.13E-09	3.12E-09	2.15E-07
721	560772.24	4192142.06	1.36E-07	9.57E-08	1.37E-08	1.38E-08	1.37E-08	1.02E-08	6.17E-09	2.89E-07	9.71E-08	7.46E-08	1.06E-08	1.07E-08	1.06E-08	7.10E-09	3.11E-09	2.14E-07
722	560779.32	4192127.95	1.35E-07	9.48E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.11E-09	2.86E-07	9.62E-08	7.39E-08	1.05E-08	1.06E-08	1.05E-08	7.03E-09	3.08E-09	2.12E-07
723	560786.4	4192113.84	1.33E-07	9.35E-08	1.34E-08	1.34E-08	1.34E-08	9.94E-09	6.03E-09	2.82E-07	9.49E-08	7.29E-08	1.04E-08	1.04E-08	1.04E-08	6.93E-09	3.03E-09	2.09E-07
724	560793.48	4192099.73	1.30E-07	9.19E-08	1.32E-08	1.32E-08	1.32E-08	9.77E-09	5.92E-09	2.77E-07	9.32E-08	7.16E-08	1.02E-08	1.02E-08	1.02E-08	6.81E-09	2.98E-09	2.05E-07
725	560800.56	4192085.62	1.28E-07	9.01E-08	1.29E-08	1.30E-08	1.29E-08	9.58E-09	5.81E-09	2.72E-07	9.14E-08	7.02E-08	1.00E-08	1.00E-08	1.00E-08	6.68E-09	2.92E-09	2.01E-07
726	560807.64	4192071.51	1.25E-07	8.82E-08	1.27E-08	1.27E-08	1.27E-08	9.38E-09	5.69E-09	2.67E-07	8.95E-08	6.88E-08	9.81E-09	9.84E-09	9.81E-09	6.54E-09	2.86E-09	1.97E-07
727	560814.72	4192057.4	1.23E-07	8.64E-08	1.24E-08	1.24E-08	1.24E-08	9.19E-09	5.57E-09	2.61E-07	8.77E-08	6.73E-08	9.61E-09	9.64E-09	9.61E-09	6.41E-09	2.80E-09	1.93E-07
728	560821.8	4192043.29	1.20E-07	8.47E-08	1.21E-08	1.22E-08	1.21E-08	9.01E-09	5.46E-09	2.56E-07	8.59E-08	6.60E-08	9.42E-09	9.44E-09	9.42E-09	6.28E-09	2.75E-09	1.89E-07
729	560835.47	4192024.84	1.19E-07	8.42E-08	1.21E-08	1.21E-08	1.21E-08	8.96E-09	5.43E-09	2.54E-07	8.55E-08	6.56E-08	9.36E-09	9.39E-09	9.36E-09	6.24E-09	2.73E-09	1.88E-07
730	560848.65	4192016.15	1.23E-07	8.67E-08	1.24E-08	1.25E-08	1.24E-08	9.22E-09	5.59E-09	2.62E-07	8.79E-08	6.75E-08	9.64E-09	9.66E-09	9.64E-09	6.42E-09	2.81E-09	1.94E-07
731	560861.83	4192007.47	1.27E-07	8.94E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.76E-09	2.70E-07	9.07E-08	6.97E-08	9.94E-09	9.97E-09	9.94E-09	6.63E-09	2.90E-09	2.00E-07
732	560875.01	4191998.78	1.31E-07	9.25E-08	1.33E-08	1.33E-08	1.33E-08	9.83E-09	5.96E-09	2.79E-07	9.38E-08	7.21E-08	1.03E-08	1.03E-08	1.03E-08	6.86E-09	3.00E-09	2.07E-07
733	560888.19	4191990.09	1.36E-07	9.58E-08	1.37E-08	1.38E-08	1.37E-08	1.02E-08	6.17E-09	2.89E-07	9.71E-08	7.46E-08	1.06E-08	1.07E-08	1.06E-08	7.10E-09	3.11E-09	2.14E-07
734	560901.38	4191981.41	1.40E-07	9.88E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	2.98E-07	1.00E-07	7.70E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.21E-09	2.21E-07
735	560914.56	4191972.72	1.45E-07	1.02E-07	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.59E-09	3.09E-07	1.04E-07	7.96E-08	1.14E-08	1.14E-08	1.14E-08	7.58E-09	3.32E-09	2.28E-07
736	560927.74	4191964.03	1.50E-07	1.06E-07	1.51E-08	1.52E-08	1.51E-08	1.12E-08	6.81E-09	3.19E-07	1.07E-07	8.23E-08	1.17E-08	1.18E-08	1.17E-08	7.83E-09	3.43E-09	2.36E-07
737	560940.92	4191955.35	1.55E-07	1.09E-07	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.02E-09	3.29E-07	1.10E-07	8.49E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	2.43E-07
738	560759.97	4192171.22	1.38E-07	9.69E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.25E-09	2.93E-07	9.83E-08	7.55E-08	1.08E-08	1.08E-08	1.08E-08	7.19E-09	3.15E-09	2.17E-07

739	560756.67	4192187.21	1.39E-07	9.81E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.32E-09	2.96E-07	9.95E-08	7.64E-08	1.09E-08	1.09E-08	1.09E-08	7.27E-09	3.18E-09	2.19E-07
740	560755.3	4192154.27	1.30E-07	9.17E-08	1.32E-08	1.32E-08	1.32E-08	9.75E-09	5.91E-09	2.77E-07	9.31E-08	7.15E-08	1.02E-08	1.02E-08	1.02E-08	6.80E-09	2.98E-09	2.05E-07
741	560762.26	4192140.4	1.30E-07	9.14E-08	1.31E-08	1.31E-08	1.31E-08	9.72E-09	5.89E-09	2.76E-07	9.28E-08	7.12E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	2.04E-07
742	560769.22	4192126.54	1.29E-07	9.07E-08	1.30E-08	1.30E-08	1.30E-08	9.64E-09	5.84E-09	2.74E-07	9.20E-08	7.06E-08	1.01E-08	1.01E-08	1.01E-08	6.72E-09	2.94E-09	2.03E-07
743	560776.17	4192112.67	1.27E-07	8.95E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.77E-09	2.70E-07	9.08E-08	6.97E-08	9.95E-09	9.98E-09	9.95E-09	6.63E-09	2.90E-09	2.00E-07
744	560783.13	4192098.8	1.25E-07	8.80E-08	1.26E-08	1.27E-08	1.26E-08	9.36E-09	5.67E-09	2.66E-07	8.93E-08	6.86E-08	9.78E-09	9.81E-09	9.78E-09	6.52E-09	2.86E-09	1.97E-07
745	560790.09	4192084.94	1.22E-07	8.63E-08	1.24E-08	1.24E-08	1.24E-08	9.18E-09	5.57E-09	2.61E-07	8.76E-08	6.73E-08	9.60E-09	9.63E-09	9.60E-09	6.40E-09	2.80E-09	1.93E-07
746	560797.05	4192071.07	1.20E-07	8.46E-08	1.21E-08	1.22E-08	1.21E-08	9.00E-09	5.45E-09	2.55E-07	8.58E-08	6.59E-08	9.41E-09	9.43E-09	9.41E-09	6.27E-09	2.75E-09	1.89E-07
747	560804.01	4192057.2	1.18E-07	8.28E-08	1.19E-08	1.19E-08	1.19E-08	8.81E-09	5.34E-09	2.50E-07	8.41E-08	6.46E-08	9.21E-09	9.24E-09	9.21E-09	6.14E-09	2.69E-09	1.85E-07
748	560810.96	4192043.34	1.15E-07	8.12E-08	1.16E-08	1.17E-08	1.16E-08	8.63E-09	5.23E-09	2.45E-07	8.23E-08	6.32E-08	9.02E-09	9.05E-09	9.02E-09	6.02E-09	2.63E-09	1.81E-07
749	560817.92	4192029.47	1.13E-07	7.96E-08	1.14E-08	1.14E-08	1.14E-08	8.47E-09	5.13E-09	2.40E-07	8.08E-08	6.20E-08	8.85E-09	8.88E-09	8.85E-09	5.90E-09	2.58E-09	1.78E-07
750	560827.88	4192018.27	1.13E-07	7.99E-08	1.15E-08	1.15E-08	1.15E-08	8.49E-09	5.15E-09	2.41E-07	8.10E-08	6.22E-08	8.88E-09	8.90E-09	8.88E-09	5.92E-09	2.59E-09	1.78E-07
751	560840.83	4192009.73	1.16E-07	8.20E-08	1.18E-08	1.18E-08	1.18E-08	8.72E-09	5.29E-09	2.48E-07	8.32E-08	6.39E-08	9.12E-09	9.15E-09	9.12E-09	6.08E-09	2.66E-09	1.83E-07
752	560853.79	4192001.2	1.20E-07	8.45E-08	1.21E-08	1.21E-08	1.21E-08	8.98E-09	5.45E-09	2.55E-07	8.57E-08	6.58E-08	9.39E-09	9.42E-09	9.39E-09	6.26E-09	2.74E-09	1.89E-07
753	560866.74	4191992.66	1.24E-07	8.72E-08	1.25E-08	1.25E-08	1.25E-08	9.28E-09	5.62E-09	2.63E-07	8.85E-08	6.80E-08	9.70E-09	9.73E-09	9.70E-09	6.47E-09	2.83E-09	1.95E-07
754	560879.7	4191984.12	1.28E-07	9.02E-08	1.29E-08	1.30E-08	1.29E-08	9.59E-09	5.82E-09	2.72E-07	9.15E-08	7.03E-08	1.00E-08	1.01E-08	1.00E-08	6.69E-09	2.93E-09	2.02E-07
755	560892.65	4191975.59	1.32E-07	9.32E-08	1.34E-08	1.34E-08	1.34E-08	9.91E-09	6.01E-09	2.82E-07	9.46E-08	7.26E-08	1.04E-08	1.04E-08	1.04E-08	6.91E-09	3.03E-09	2.08E-07
756	560905.61	4191967.05	1.36E-07	9.62E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.20E-09	2.90E-07	9.76E-08	7.49E-08	1.07E-08	1.07E-08	1.07E-08	7.13E-09	3.12E-09	2.15E-07
757	560918.56	4191958.51	1.41E-07	9.94E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.41E-09	3.00E-07	1.01E-07	7.74E-08	1.11E-08	1.11E-08	1.11E-08	7.37E-09	3.23E-09	2.22E-07
758	560931.52	4191949.98	1.45E-07	1.03E-07	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.61E-09	3.10E-07	1.04E-07	7.99E-08	1.14E-08	1.14E-08	1.14E-08	7.60E-09	3.33E-09	2.29E-07
759	560750.17	4192169.2	1.31E-07	9.24E-08	1.32E-08	1.33E-08	1.32E-08	9.82E-09	5.96E-09	2.79E-07	9.37E-08	7.20E-08	1.03E-08	1.03E-08	1.03E-08	6.85E-09	3.00E-09	2.06E-07
760	560746.87	4192185.19	1.32E-07	9.34E-08	1.34E-08	1.34E-08	1.34E-08	9.93E-09	6.02E-09	2.82E-07	9.47E-08	7.27E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	2.09E-07
761	560745.62	4192152.02	1.24E-07	8.76E-08	1.26E-08	1.26E-08	1.26E-08	9.32E-09	5.65E-09	2.65E-07	8.89E-08	6.83E-08	9.74E-09	9.77E-09	9.74E-09	6.50E-09	2.84E-09	1.96E-07
762	560752.81	4192137.69	1.24E-07	8.74E-08	1.25E-08	1.26E-08	1.25E-08	9.29E-09	5.63E-09	2.64E-07	8.86E-08	6.81E-08	9.71E-09	9.74E-09	9.71E-09	6.48E-09	2.84E-09	1.95E-07
763	560760	4192123.36	1.23E-07	8.66E-08	1.24E-08	1.25E-08	1.24E-08	9.21E-09	5.58E-09	2.62E-07	8.79E-08	6.75E-08	9.63E-09	9.66E-09	9.63E-09	6.42E-09	2.81E-09	1.94E-07
764	560767.19	4192109.03	1.21E-07	8.55E-08	1.23E-08	1.23E-08	1.23E-08	9.09E-09	5.51E-09	2.58E-07	8.67E-08	6.66E-08	9.51E-09	9.53E-09	9.51E-09	6.34E-09	2.77E-09	1.91E-07
765	560774.38	4192094.7	1.19E-07	8.40E-08	1.21E-08	1.21E-08	1.21E-08	8.94E-09	5.42E-09	2.54E-07	8.53E-08	6.55E-08	9.34E-09	9.37E-09	9.34E-09	6.23E-09	2.73E-09	1.88E-07
766	560781.57	4192080.37	1.17E-07	8.24E-08	1.18E-08	1.18E-08	1.18E-08	8.76E-09	5.31E-09	2.49E-07	8.36E-08	6.42E-08	9.16E-09	9.19E-09	9.16E-09	6.11E-09	2.67E-09	1.84E-07
767	560788.76	4192066.05	1.14E-07	8.07E-08	1.16E-08	1.16E-08	1.16E-08	8.58E-09	5.20E-09	2.44E-07	8.18E-08	6.28E-08	8.97E-09	8.99E-09	8.97E-09	5.98E-09	2.62E-09	1.80E-07
768	560795.95	4192051.72	1.12E-07	7.89E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.09E-09	2.38E-07	8.01E-08	6.15E-08	8.77E-09	8.80E-09	8.77E-09	5.85E-09	2.56E-09	1.76E-07
769	560803.14	4192037.39	1.10E-07	7.72E-08	1.11E-08	1.11E-08	1.11E-08	8.21E-09	4.98E-09	2.33E-07	7.84E-08	6.02E-08	8.59E-09	8.61E-09	8.59E-09	5.73E-09	2.51E-09	1.73E-07
770	560810.33	4192023.06	1.07E-07	7.57E-08	1.09E-08	1.09E-08	1.09E-08	8.05E-09	4.88E-09	2.29E-07	7.68E-08	5.90E-08	8.42E-09	8.44E-09	8.42E-09	5.61E-09	2.46E-09	1.69E-07
771	560820.62	4192011.48	1.08E-07	7.59E-08	1.09E-08	1.09E-08	1.09E-08	8.07E-09	4.89E-09	2.29E-07	7.70E-08	5.91E-08	8.44E-09	8.46E-09	8.44E-09	5.63E-09	2.46E-09	1.70E-07
772	560834.01	4192002.66	1.11E-07	7.79E-08	1.12E-08	1.12E-08	1.12E-08	8.29E-09	5.02E-09	2.35E-07	7.91E-08	6.07E-08	8.66E-09	8.69E-09	8.66E-09	5.78E-09	2.53E-09	1.74E-07
773	560847.39	4191993.84	1.14E-07	8.03E-08	1.15E-08	1.15E-08	1.15E-08	8.53E-09	5.17E-09	2.42E-07	8.14E-08	6.25E-08	8.92E-09	8.95E-09	8.92E-09	5.95E-09	2.60E-09	1.79E-07
774	560860.78	4191985.02	1.18E-07	8.29E-08	1.19E-08	1.19E-08	1.19E-08	8.81E-09	5.34E-09	2.50E-07	8.41E-08	6.46E-08	9.22E-09	9.24E-09	9.22E-09	6.15E-09	2.69E-09	1.85E-07
775	560874.17	4191976.2	1.22E-07	8.58E-08	1.23E-08	1.23E-08	1.23E-08	9.12E-09	5.53E-09	2.59E-07	8.70E-08	6.68E-08	9.54E-09	9.56E-09	9.54E-09	6.36E-09	2.78E-09	1.92E-07
776	560887.55	4191967.38	1.26E-07	8.88E-08	1.27E-08	1.28E-08	1.27E-08	9.45E-09	5.73E-09	2.68E-07	9.01E-08	6.92E-08	9.88E-09	9.91E-09	9.88E-09	6.59E-09	2.88E-09	1.98E-07
777	560900.94	4191958.56	1.30E-07	9.16E-08	1.31E-08	1.32E-08	1.31E-08	9.75E-09	5.91E-09	2.77E-07	9.30E-08	7.14E-08	1.02E-08	1.02E-08	1.02E-08	6.79E-09	2.97E-09	2.05E-07
778	560914.33	4191949.74	1.34E-07	9.48E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.11E-09	2.86E-07	9.61E-08	7.38E-08	1.05E-08	1.06E-08	1.05E-08	7.03E-09	3.08E-09	2.12E-07
779	560927.71	4191940.92	1.39E-07	9.78E-08	1.40E-08	1.41E-08	1.40E-08	1.04E-08	6.31E-09	2.95E-07	9.93E-08	7.62E-08	1.09E-08	1.09E-08	1.09E-08	7.25E-09	3.18E-09	2.19E-07
780	560740.38	4192167.18	1.25E-07	8.82E-08	1.26E-08	1.27E-08	1.26E-08	9.38E-09	5.68E-09	2.66E-07	8.95E-08	6.87E-08	9.80E-09	9.83E-09	9.80E-09	6.54E-09	2.86E-09	1.97E-07
781	560737.08	4192183.17	1.26E-07	8.90E-08	1.28E-08	1.28E-08	1.28E-08	9.46E-09	5.74E-09	2.69E-07	9.03E-08	6.94E-08	9.90E-09	9.92E-09	9.90E-09	6.60E-09	2.89E-09	1.99E-07
782	560929.86	4192237.22	5.03E-07	3.54E-07	5.08E-08	5.09E-08	5.08E-08	3.77E-08	2.28E-08	1.07E-06	3.59E-07	2.76E-07	3.94E-08	3.95E-08	3.94E-08	2.63E-08	1.15E-08	7.92E-07
783	560920.14	4192234.86	4.53E-07	3.19E-07	4.58E-08	4.59E-08	4.58E-08	3.39E-08	2.06E-08	9.64E-07	3.24E-07	2.49E-07	3.55E-08	3.56E-08	3.55E-08	2.37E-08	1.04E-08	7.13E-07
784	560917.86	4192244.25	4.56E-07	3.21E-07	4.61E-08	4.62E-08	4.61E-08	3.42E-08	2.07E-08	9.70E-07	3.26E-07	2.50E-07	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	7.18E-07
785	560915.58	4192253.64	4.57E-07	3.22E-07	4.62E-08	4.63E-08	4.62E-08	3.43E-08	2.08E-08	9.73E-07	3.27E-07	2.51E-07	3.58E-08	3.59E-08	3.58E-08	2.39E-08	1.05E-08	7.20E-07
786	560913.29	4192263.03	4.56E-07	3.22E-07	4.61E-08	4.63E-08	4.61E-08	3.42E-08	2.07E-08	9.72E-07	3.26E-07	2.51E-07	3.58E-08	3.59E-08	3.58E-08	2.39E-08	1.04E-08	7.19E-07
787	560911.01	4192272.42	4.54E-07	3.20E-07	4.58E-08	4.60E-08	4.58E-08	3.40E-08	2.06E-08	9.66E-07	3.24E-07	2.49E-07	3.55E-08	3.56E-08	3.55E-08	2.37E-08	1.04E-08	7.14E-07
788	560910.43	4192232.49	4.10E-07	2.89E-07	4.15E-08	4.16E-08	4.15E-08	3.08E-08	1.86E-08	8.73E-07	2.93E-07	2.25E-07	3.22E-08	3.22E-08	3.22E-08	2.14E-08	9.39E-09	6.46E-07
789	560908.14	4192241.88	4.13E-07	2.91E-07	4.17E-08	4.19E-08	4.17E-08	3.10E-08	1.88E-08	8.79E-07	2.95E-07	2.27E-07	3.24E-08	3.25E-08	3.24E-08	2.16E-08	9.45E-09	6.50E-07
790	560905.86	4192251.28	4.14E-07	2.92E-07	4.18E-08	4.20E-08	4.18E-08	3.10E-08	1.88E-08	8.81E-07	2.96E-07	2.27E-07	3.24E-08	3.25E-08	3.24E-08	2.16E-08	9.47E-09	6.52E-07
791	560903.58	4192260.67	4.13E-07	2.91E-07	4.18E-08	4.19E-08	4.18E-08	3.10E-08	1.88E-08	8.80E-07	2.95E-07	2.27E-07	3.24E-08	3.25E-08	3.24E-08	2.16E-08	9.45E-09	6.51E-07

792	560901.29	4192270.06	4.11E-07	2.89E-07	4.15E-08	4.16E-08	4.15E-08	3.08E-08	1.87E-08	8.74E-07	2.94E-07	2.26E-07	3.22E-08	3.23E-08	3.22E-08	2.15E-08	9.39E-09	6.47E-07
793	560899.01	4192279.45	4.06E-07	2.86E-07	4.11E-08	4.12E-08	4.11E-08	3.05E-08	1.85E-08	8.65E-07	2.91E-07	2.23E-07	3.18E-08	3.19E-08	3.18E-08	2.12E-08	9.29E-09	6.40E-07
794	560896.73	4192288.84	4.01E-07	2.82E-07	4.05E-08	4.06E-08	4.05E-08	3.00E-08	1.82E-08	8.53E-07	2.86E-07	2.20E-07	3.14E-08	3.15E-08	3.14E-08	2.09E-08	9.16E-09	6.31E-07
795	560894.44	4192298.23	3.94E-07	2.77E-07	3.98E-08	3.99E-08	3.98E-08	2.95E-08	1.79E-08	8.38E-07	2.81E-07	2.16E-07	3.08E-08	3.09E-08	3.08E-08	2.06E-08	9.00E-09	6.20E-07
796	560900.71	4192230.13	3.74E-07	2.64E-07	3.78E-08	3.79E-08	3.78E-08	2.80E-08	1.70E-08	7.96E-07	2.67E-07	2.05E-07	2.93E-08	2.94E-08	2.93E-08	1.95E-08	8.56E-09	5.89E-07
797	560898.43	4192239.52	3.77E-07	2.66E-07	3.81E-08	3.82E-08	3.81E-08	2.82E-08	1.71E-08	8.02E-07	2.69E-07	2.07E-07	2.95E-08	2.96E-08	2.95E-08	1.97E-08	8.62E-09	5.93E-07
798	560896.14	4192248.91	3.78E-07	2.66E-07	3.82E-08	3.83E-08	3.82E-08	2.83E-08	1.72E-08	8.04E-07	2.70E-07	2.07E-07	2.96E-08	2.97E-08	2.96E-08	1.97E-08	8.64E-09	5.95E-07
799	560893.86	4192258.3	3.77E-07	2.66E-07	3.81E-08	3.82E-08	3.81E-08	2.82E-08	1.71E-08	8.02E-07	2.69E-07	2.07E-07	2.95E-08	2.96E-08	2.95E-08	1.97E-08	8.62E-09	5.93E-07
800	560891.58	4192267.7	3.74E-07	2.64E-07	3.78E-08	3.79E-08	3.78E-08	2.80E-08	1.70E-08	7.96E-07	2.68E-07	2.05E-07	2.93E-08	2.94E-08	2.93E-08	1.96E-08	8.56E-09	5.89E-07
801	560889.29	4192277.09	3.70E-07	2.61E-07	3.74E-08	3.75E-08	3.74E-08	2.77E-08	1.68E-08	7.87E-07	2.64E-07	2.03E-07	2.90E-08	2.91E-08	2.90E-08	1.93E-08	8.46E-09	5.82E-07
802	560887.01	4192286.48	3.65E-07	2.57E-07	3.69E-08	3.70E-08	3.69E-08	2.73E-08	1.66E-08	7.76E-07	2.61E-07	2.00E-07	2.86E-08	2.87E-08	2.86E-08	1.91E-08	8.34E-09	5.74E-07
803	560884.72	4192295.87	3.58E-07	2.53E-07	3.62E-08	3.63E-08	3.62E-08	2.69E-08	1.63E-08	7.63E-07	2.56E-07	1.97E-07	2.81E-08	2.82E-08	2.81E-08	1.87E-08	8.20E-09	5.64E-07
804	560890.99	4192227.77	3.44E-07	2.42E-07	3.47E-08	3.48E-08	3.47E-08	2.57E-08	1.56E-08	7.31E-07	2.46E-07	1.89E-07	2.69E-08	2.70E-08	2.69E-08	1.80E-08	7.86E-09	5.41E-07
805	560888.71	4192237.16	3.46E-07	2.44E-07	3.50E-08	3.51E-08	3.50E-08	2.59E-08	1.57E-08	7.36E-07	2.47E-07	1.90E-07	2.71E-08	2.72E-08	2.71E-08	1.81E-08	7.91E-09	5.45E-07
806	560886.43	4192246.55	3.46E-07	2.44E-07	3.50E-08	3.51E-08	3.50E-08	2.60E-08	1.57E-08	7.38E-07	2.48E-07	1.90E-07	2.72E-08	2.72E-08	2.72E-08	1.81E-08	7.93E-09	5.46E-07
807	560884.14	4192255.94	3.45E-07	2.44E-07	3.49E-08	3.50E-08	3.49E-08	2.59E-08	1.57E-08	7.35E-07	2.47E-07	1.90E-07	2.71E-08	2.72E-08	2.71E-08	1.81E-08	7.90E-09	5.44E-07
808	560881.86	4192265.33	3.43E-07	2.42E-07	3.46E-08	3.47E-08	3.46E-08	2.57E-08	1.56E-08	7.30E-07	2.45E-07	1.88E-07	2.69E-08	2.69E-08	2.69E-08	1.79E-08	7.84E-09	5.40E-07
809	560879.58	4192274.72	3.39E-07	2.39E-07	3.42E-08	3.43E-08	3.42E-08	2.54E-08	1.54E-08	7.21E-07	2.42E-07	1.86E-07	2.65E-08	2.66E-08	2.65E-08	1.77E-08	7.74E-09	5.33E-07
810	560877.29	4192284.11	3.34E-07	2.35E-07	3.37E-08	3.38E-08	3.37E-08	2.50E-08	1.52E-08	7.10E-07	2.39E-07	1.83E-07	2.62E-08	2.62E-08	2.62E-08	1.74E-08	7.63E-09	5.26E-07
811	560875.01	4192293.51	3.28E-07	2.31E-07	3.32E-08	3.32E-08	3.32E-08	2.46E-08	1.49E-08	6.98E-07	2.35E-07	1.80E-07	2.57E-08	2.58E-08	2.57E-08	1.71E-08	7.50E-09	5.17E-07
812	560881.28	4192225.4	3.16E-07	2.23E-07	3.20E-08	3.20E-08	3.20E-08	2.37E-08	1.44E-08	6.73E-07	2.26E-07	1.74E-07	2.48E-08	2.49E-08	2.48E-08	1.65E-08	7.23E-09	4.98E-07
813	560878.99	4192234.8	3.18E-07	2.24E-07	3.21E-08	3.22E-08	3.21E-08	2.38E-08	1.44E-08	6.77E-07	2.27E-07	1.75E-07	2.49E-08	2.50E-08	2.49E-08	1.66E-08	7.27E-09	5.01E-07
814	560876.71	4192244.19	3.18E-07	2.24E-07	3.22E-08	3.23E-08	3.22E-08	2.39E-08	1.45E-08	6.78E-07	2.28E-07	1.75E-07	2.50E-08	2.50E-08	2.50E-08	1.66E-08	7.28E-09	5.01E-07
815	560874.43	4192253.58	3.18E-07	2.24E-07	3.21E-08	3.22E-08	3.21E-08	2.38E-08	1.44E-08	6.76E-07	2.27E-07	1.74E-07	2.49E-08	2.50E-08	2.49E-08	1.66E-08	7.27E-09	5.00E-07
816	560872.14	4192262.97	3.15E-07	2.22E-07	3.19E-08	3.20E-08	3.19E-08	2.36E-08	1.43E-08	6.72E-07	2.26E-07	1.73E-07	2.47E-08	2.48E-08	2.47E-08	1.65E-08	7.22E-09	4.97E-07
817	560869.86	4192272.36	3.12E-07	2.20E-07	3.15E-08	3.16E-08	3.15E-08	2.34E-08	1.42E-08	6.63E-07	2.23E-07	1.71E-07	2.44E-08	2.45E-08	2.44E-08	1.63E-08	7.13E-09	4.91E-07
818	560867.57	4192281.75	3.07E-07	2.17E-07	3.11E-08	3.11E-08	3.11E-08	2.30E-08	1.40E-08	6.54E-07	2.20E-07	1.69E-07	2.41E-08	2.42E-08	2.41E-08	1.61E-08	7.03E-09	4.84E-07
819	560865.29	4192291.14	3.02E-07	2.13E-07	3.06E-08	3.06E-08	3.06E-08	2.27E-08	1.37E-08	6.44E-07	2.16E-07	1.66E-07	2.37E-08	2.38E-08	2.37E-08	1.58E-08	6.92E-09	4.76E-07
820	560871.56	4192223.04	2.92E-07	2.06E-07	2.95E-08	2.96E-08	2.95E-08	2.19E-08	1.33E-08	6.22E-07	2.09E-07	1.60E-07	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.68E-09	4.60E-07
821	560869.28	4192232.43	2.93E-07	2.07E-07	2.97E-08	2.97E-08	2.97E-08	2.20E-08	1.33E-08	6.25E-07	2.10E-07	1.61E-07	2.30E-08	2.31E-08	2.30E-08	1.53E-08	6.71E-09	4.62E-07
822	560866.99	4192241.82	2.94E-07	2.07E-07	2.97E-08	2.98E-08	2.97E-08	2.20E-08	1.33E-08	6.25E-07	2.10E-07	1.61E-07	2.30E-08	2.31E-08	2.30E-08	1.54E-08	6.72E-09	4.63E-07
823	560864.71	4192251.22	2.93E-07	2.07E-07	2.96E-08	2.97E-08	2.96E-08	2.20E-08	1.33E-08	6.24E-07	2.10E-07	1.61E-07	2.30E-08	2.30E-08	2.30E-08	1.53E-08	6.70E-09	4.61E-07
824	560862.43	4192260.61	2.91E-07	2.05E-07	2.94E-08	2.95E-08	2.94E-08	2.18E-08	1.32E-08	6.20E-07	2.08E-07	1.60E-07	2.28E-08	2.29E-08	2.28E-08	1.52E-08	6.66E-09	4.58E-07
825	560860.14	4192270	2.88E-07	2.03E-07	2.91E-08	2.92E-08	2.91E-08	2.16E-08	1.31E-08	6.14E-07	2.06E-07	1.58E-07	2.26E-08	2.27E-08	2.26E-08	1.51E-08	6.59E-09	4.54E-07
826	560857.86	4192279.39	2.84E-07	2.00E-07	2.87E-08	2.88E-08	2.87E-08	2.13E-08	1.29E-08	6.05E-07	2.03E-07	1.56E-07	2.23E-08	2.23E-08	2.23E-08	1.49E-08	6.51E-09	4.48E-07
827	560855.57	4192288.78	2.80E-07	1.97E-07	2.83E-08	2.83E-08	2.83E-08	2.10E-08	1.27E-08	5.95E-07	2.00E-07	1.54E-07	2.19E-08	2.20E-08	2.19E-08	1.46E-08	6.40E-09	4.40E-07
828	560861.84	4192220.68	2.71E-07	1.91E-07	2.74E-08	2.74E-08	2.74E-08	2.03E-08	1.23E-08	5.76E-07	1.94E-07	1.49E-07	2.12E-08	2.13E-08	2.12E-08	1.41E-08	6.19E-09	4.26E-07
829	560859.56	4192230.07	2.72E-07	1.92E-07	2.75E-08	2.76E-08	2.75E-08	2.04E-08	1.24E-08	5.79E-07	1.94E-07	1.49E-07	2.13E-08	2.14E-08	2.13E-08	1.42E-08	6.22E-09	4.28E-07
830	560857.28	4192239.46	2.72E-07	1.92E-07	2.75E-08	2.76E-08	2.75E-08	2.04E-08	1.24E-08	5.79E-07	1.95E-07	1.49E-07	2.13E-08	2.14E-08	2.13E-08	1.42E-08	6.23E-09	4.29E-07
831	560854.99	4192248.85	2.71E-07	1.91E-07	2.74E-08	2.75E-08	2.74E-08	2.03E-08	1.23E-08	5.78E-07	1.94E-07	1.49E-07	2.13E-08	2.13E-08	2.13E-08	1.42E-08	6.21E-09	4.27E-07
832	560852.71	4192258.24	2.70E-07	1.90E-07	2.72E-08	2.73E-08	2.72E-08	2.02E-08	1.22E-08	5.74E-07	1.93E-07	1.48E-07	2.11E-08	2.12E-08	2.11E-08	1.41E-08	6.17E-09	4.25E-07
833	560850.42	4192267.63	2.67E-07	1.88E-07	2.70E-08	2.70E-08	2.70E-08	2.00E-08	1.21E-08	5.68E-07	1.91E-07	1.47E-07	2.09E-08	2.10E-08	2.09E-08	1.39E-08	6.11E-09	4.20E-07
834	560848.14	4192277.03	2.63E-07	1.86E-07	2.66E-08	2.67E-08	2.66E-08	1.97E-08	1.20E-08	5.61E-07	1.88E-07	1.45E-07	2.06E-08	2.07E-08	2.06E-08	1.38E-08	6.02E-09	4.15E-07
835	560845.86	4192286.42	2.59E-07	1.82E-07	2.62E-08	2.62E-08	2.62E-08	1.94E-08	1.18E-08	5.51E-07	1.85E-07	1.42E-07	2.03E-08	2.03E-08	2.03E-08	1.35E-08	5.92E-09	4.08E-07
836	560852.13	4192218.32	2.52E-07	1.77E-07	2.54E-08	2.55E-08	2.54E-08	1.89E-08	1.14E-08	5.36E-07	1.80E-07	1.38E-07	1.97E-08	1.98E-08	1.97E-08	1.32E-08	5.76E-09	3.97E-07
837	560849.84	4192227.71	2.53E-07	1.78E-07	2.55E-08	2.56E-08	2.55E-08	1.89E-08	1.15E-08	5.38E-07	1.81E-07	1.39E-07	1.98E-08	1.99E-08	1.98E-08	1.32E-08	5.78E-09	3.98E-07
838	560847.56	4192237.1	2.53E-07	1.78E-07	2.56E-08	2.56E-08	2.56E-08	1.90E-08	1.15E-08	5.38E-07	1.81E-07	1.39E-07	1.98E-08	1.99E-08	1.98E-08	1.32E-08	5.79E-09	3.98E-07
839	560845.28	4192246.49	2.52E-07	1.78E-07	2.55E-08	2.56E-08	2.55E-08	1.89E-08	1.15E-08	5.37E-07	1.80E-07	1.38E-07	1.98E-08	1.98E-08	1.98E-08	1.32E-08	5.77E-09	3.97E-07
840	560842.99	4192255.88	2.50E-07	1.77E-07	2.53E-08	2.54E-08	2.53E-08	1.88E-08	1.14E-08	5.33E-07	1.79E-07	1.38E-07	1.96E-08	1.97E-08	1.96E-08	1.31E-08	5.73E-09	3.94E-07
841	560840.71	4192265.27	2.48E-07	1.75E-07	2.51E-08	2.51E-08	2.51E-08	1.86E-08	1.13E-08	5.28E-07	1.77E-07	1.36E-07	1.94E-08	1.95E-08	1.94E-08	1.30E-08	5.67E-09	3.90E-07
842	560838.42	4192274.66	2.45E-07	1.72E-07	2.47E-08	2.48E-08	2.47E-08	1.83E-08	1.11E-08	5.21E-07	1.75E-07	1.34E-07	1.92E-08	1.92E-08	1.92E-08	1.28E-08	5.60E-09	3.85E-07
843	560836.14	4192284.05	2.40E-07	1.70E-07	2.43E-08	2.44E-08	2.43E-08	1.80E-08	1.09E-08	5.12E-07	1.72E-07	1.32E-07	1.88E-08	1.89E-08	1.88E-08	1.26E-08	5.50E-09	3.79E-07
844	560842.41	4192215.95	2.35E-07	1.66E-07	2.37E-08	2.38E-08	2.37E-08	1.76E-08	1.07E-08	5.00E-07	1.68E-07	1.29E-07	1.84E-08	1.85E-08	1.84E-08	1.23E-08	5.37E-09	3.70E-07

845	560840.13	4192225.34	2.36E-07	1.66E-07	2.38E-08	2.39E-08	2.38E-08	1.77E-08	1.07E-08	5.02E-07	1.69E-07	1.29E-07	1.85E-08	1.85E-08	1.85E-08	1.23E-08	5.39E-09	3.71E-07
846	560837.84	4192234.74	2.36E-07	1.66E-07	2.38E-08	2.39E-08	2.38E-08	1.77E-08	1.07E-08	5.02E-07	1.69E-07	1.29E-07	1.85E-08	1.85E-08	1.85E-08	1.23E-08	5.39E-09	3.71E-07
847	560835.56	4192244.13	2.35E-07	1.66E-07	2.38E-08	2.38E-08	2.38E-08	1.76E-08	1.07E-08	5.00E-07	1.68E-07	1.29E-07	1.84E-08	1.85E-08	1.84E-08	1.23E-08	5.38E-09	3.70E-07
848	560833.27	4192253.52	2.33E-07	1.65E-07	2.36E-08	2.37E-08	2.36E-08	1.75E-08	1.06E-08	4.97E-07	1.67E-07	1.28E-07	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.34E-09	3.68E-07
849	560830.99	4192262.91	2.31E-07	1.63E-07	2.34E-08	2.34E-08	2.34E-08	1.73E-08	1.05E-08	4.92E-07	1.65E-07	1.27E-07	1.81E-08	1.82E-08	1.81E-08	1.21E-08	5.29E-09	3.64E-07
850	560828.71	4192272.3	2.28E-07	1.61E-07	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.04E-08	4.85E-07	1.63E-07	1.25E-07	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.21E-09	3.59E-07
851	560826.42	4192281.69	2.24E-07	1.58E-07	2.26E-08	2.27E-08	2.26E-08	1.68E-08	1.02E-08	4.77E-07	1.60E-07	1.23E-07	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.13E-09	3.53E-07
852	560832.69	4192213.59	2.20E-07	1.55E-07	2.22E-08	2.23E-08	2.22E-08	1.65E-08	9.99E-09	4.68E-07	1.57E-07	1.21E-07	1.72E-08	1.73E-08	1.72E-08	1.15E-08	5.03E-09	3.46E-07
853	560830.41	4192222.98	2.20E-07	1.55E-07	2.23E-08	2.23E-08	2.23E-08	1.65E-08	1.00E-08	4.69E-07	1.58E-07	1.21E-07	1.73E-08	1.73E-08	1.73E-08	1.15E-08	5.04E-09	3.47E-07
854	560828.13	4192232.37	2.20E-07	1.55E-07	2.23E-08	2.23E-08	2.23E-08	1.65E-08	1.00E-08	4.69E-07	1.58E-07	1.21E-07	1.73E-08	1.73E-08	1.73E-08	1.15E-08	5.04E-09	3.47E-07
855	560825.84	4192241.76	2.20E-07	1.55E-07	2.22E-08	2.23E-08	2.22E-08	1.65E-08	9.98E-09	4.68E-07	1.57E-07	1.21E-07	1.72E-08	1.73E-08	1.72E-08	1.15E-08	5.03E-09	3.46E-07
856	560823.56	4192251.15	2.18E-07	1.54E-07	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.91E-09	4.64E-07	1.56E-07	1.20E-07	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.99E-09	3.44E-07
857	560821.27	4192260.55	2.16E-07	1.52E-07	2.18E-08	2.19E-08	2.18E-08	1.62E-08	9.81E-09	4.60E-07	1.54E-07	1.19E-07	1.69E-08	1.70E-08	1.69E-08	1.13E-08	4.94E-09	3.40E-07
858	560818.99	4192269.94	2.13E-07	1.50E-07	2.15E-08	2.16E-08	2.15E-08	1.60E-08	9.67E-09	4.53E-07	1.52E-07	1.17E-07	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.87E-09	3.35E-07
859	560816.71	4192279.33	2.09E-07	1.48E-07	2.12E-08	2.12E-08	2.12E-08	1.57E-08	9.51E-09	4.46E-07	1.50E-07	1.15E-07	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.79E-09	3.30E-07
860	560822.98	4192211.23	2.06E-07	1.45E-07	2.08E-08	2.09E-08	2.08E-08	1.55E-08	9.37E-09	4.39E-07	1.47E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	3.25E-07
861	560820.69	4192220.62	2.07E-07	1.46E-07	2.09E-08	2.10E-08	2.09E-08	1.55E-08	9.39E-09	4.40E-07	1.48E-07	1.14E-07	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.73E-09	3.26E-07
862	560818.41	4192230.01	2.07E-07	1.46E-07	2.09E-08	2.09E-08	2.09E-08	1.55E-08	9.39E-09	4.40E-07	1.48E-07	1.13E-07	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.73E-09	3.25E-07
863	560816.12	4192239.4	2.06E-07	1.45E-07	2.08E-08	2.09E-08	2.08E-08	1.54E-08	9.35E-09	4.38E-07	1.47E-07	1.13E-07	1.61E-08	1.62E-08	1.61E-08	1.08E-08	4.71E-09	3.24E-07
864	560813.84	4192248.79	2.04E-07	1.44E-07	2.07E-08	2.07E-08	2.07E-08	1.53E-08	9.29E-09	4.35E-07	1.46E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.07E-08	4.68E-09	3.22E-07
865	560811.56	4192258.18	2.02E-07	1.43E-07	2.04E-08	2.05E-08	2.04E-08	1.52E-08	9.19E-09	4.30E-07	1.45E-07	1.11E-07	1.58E-08	1.59E-08	1.58E-08	1.06E-08	4.63E-09	3.18E-07
866	560809.27	4192267.57	1.99E-07	1.41E-07	2.02E-08	2.02E-08	2.02E-08	1.49E-08	9.06E-09	4.24E-07	1.43E-07	1.10E-07	1.56E-08	1.57E-08	1.56E-08	1.04E-08	4.56E-09	3.14E-07
867	560806.99	4192276.97	1.96E-07	1.38E-07	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.90E-09	4.17E-07	1.40E-07	1.08E-07	1.54E-08	1.54E-08	1.54E-08	1.02E-08	4.48E-09	3.09E-07
868	560813.26	4192208.86	1.94E-07	1.37E-07	1.96E-08	1.96E-08	1.96E-08	1.45E-08	8.81E-09	4.13E-07	1.39E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.44E-09	3.05E-07
869	560810.98	4192218.26	1.94E-07	1.37E-07	1.96E-08	1.97E-08	1.96E-08	1.46E-08	8.83E-09	4.14E-07	1.39E-07	1.07E-07	1.52E-08	1.53E-08	1.52E-08	1.02E-08	4.45E-09	3.06E-07
870	560808.69	4192227.65	1.94E-07	1.37E-07	1.96E-08	1.97E-08	1.96E-08	1.46E-08	8.82E-09	4.13E-07	1.39E-07	1.07E-07	1.52E-08	1.53E-08	1.52E-08	1.01E-08	4.44E-09	3.06E-07
871	560806.41	4192237.04	1.93E-07	1.36E-07	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.78E-09	4.12E-07	1.38E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.42E-09	3.04E-07
872	560804.12	4192246.43	1.92E-07	1.35E-07	1.94E-08	1.94E-08	1.94E-08	1.44E-08	8.72E-09	4.08E-07	1.37E-07	1.05E-07	1.50E-08	1.51E-08	1.50E-08	1.00E-08	4.39E-09	3.02E-07
873	560801.84	4192255.82	1.90E-07	1.34E-07	1.92E-08	1.92E-08	1.92E-08	1.42E-08	8.63E-09	4.04E-07	1.36E-07	1.04E-07	1.49E-08	1.49E-08	1.49E-08	9.92E-09	4.34E-09	2.99E-07
874	560799.56	4192265.21	1.87E-07	1.32E-07	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.50E-09	3.98E-07	1.34E-07	1.03E-07	1.47E-08	1.47E-08	1.47E-08	9.78E-09	4.28E-09	2.95E-07
875	560797.27	4192274.6	1.84E-07	1.30E-07	1.86E-08	1.86E-08	1.86E-08	1.38E-08	8.36E-09	3.91E-07	1.32E-07	1.01E-07	1.44E-08	1.45E-08	1.44E-08	9.61E-09	4.21E-09	2.90E-07
876	560803.54	4192206.5	1.83E-07	1.29E-07	1.85E-08	1.85E-08	1.85E-08	1.37E-08	8.30E-09	3.89E-07	1.31E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	9.55E-09	4.18E-09	2.88E-07
877	560801.26	4192215.89	1.83E-07	1.29E-07	1.85E-08	1.86E-08	1.85E-08	1.37E-08	8.32E-09	3.90E-07	1.31E-07	1.01E-07	1.43E-08	1.44E-08	1.43E-08	9.56E-09	4.19E-09	2.88E-07
878	560798.98	4192225.28	1.83E-07	1.29E-07	1.85E-08	1.85E-08	1.85E-08	1.37E-08	8.31E-09	3.89E-07	1.31E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	9.55E-09	4.18E-09	2.88E-07
879	560796.69	4192234.67	1.82E-07	1.28E-07	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.27E-09	3.87E-07	1.30E-07	9.99E-08	1.43E-08	1.43E-08	1.43E-08	9.51E-09	4.16E-09	2.87E-07
880	560794.41	4192244.07	1.81E-07	1.27E-07	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.20E-09	3.84E-07	1.29E-07	9.92E-08	1.42E-08	1.42E-08	1.42E-08	9.44E-09	4.13E-09	2.84E-07
881	560792.12	4192253.46	1.79E-07	1.26E-07	1.80E-08	1.81E-08	1.80E-08	1.34E-08	8.11E-09	3.80E-07	1.28E-07	9.81E-08	1.40E-08	1.40E-08	1.40E-08	9.33E-09	4.08E-09	2.81E-07
882	560789.84	4192262.85	1.76E-07	1.24E-07	1.78E-08	1.78E-08	1.78E-08	1.32E-08	8.00E-09	3.75E-07	1.26E-07	9.67E-08	1.38E-08	1.38E-08	1.38E-08	9.20E-09	4.03E-09	2.77E-07
883	560787.56	4192272.24	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.86E-09	3.68E-07	1.24E-07	9.50E-08	1.36E-08	1.36E-08	1.36E-08	9.04E-09	3.96E-09	2.72E-07
884	560793.83	4192204.14	1.73E-07	1.22E-07	1.74E-08	1.75E-08	1.74E-08	1.29E-08	7.84E-09	3.67E-07	1.23E-07	9.47E-08	1.35E-08	1.36E-08	1.35E-08	9.01E-09	3.95E-09	2.72E-07
885	560791.54	4192213.53	1.73E-07	1.22E-07	1.75E-08	1.75E-08	1.75E-08	1.29E-08	7.85E-09	3.68E-07	1.24E-07	9.49E-08	1.35E-08	1.36E-08	1.35E-08	9.03E-09	3.95E-09	2.72E-07
886	560789.26	4192222.92	1.72E-07	1.22E-07	1.74E-08	1.75E-08	1.74E-08	1.29E-08	7.84E-09	3.67E-07	1.23E-07	9.47E-08	1.35E-08	1.36E-08	1.35E-08	9.01E-09	3.95E-09	2.72E-07
887	560786.97	4192232.31	1.72E-07	1.21E-07	1.73E-08	1.74E-08	1.73E-08	1.29E-08	7.80E-09	3.65E-07	1.23E-07	9.42E-08	1.34E-08	1.35E-08	1.34E-08	8.97E-09	3.93E-09	2.70E-07
888	560784.69	4192241.7	1.70E-07	1.20E-07	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.73E-09	3.62E-07	1.22E-07	9.35E-08	1.33E-08	1.34E-08	1.33E-08	8.89E-09	3.89E-09	2.68E-07
889	560782.41	4192251.09	1.68E-07	1.19E-07	1.70E-08	1.71E-08	1.70E-08	1.26E-08	7.65E-09	3.58E-07	1.20E-07	9.24E-08	1.32E-08	1.32E-08	1.32E-08	8.79E-09	3.85E-09	2.65E-07
890	560780.12	4192260.49	1.66E-07	1.17E-07	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	3.53E-07	1.19E-07	9.11E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.79E-09	2.61E-07
891	560777.84	4192269.88	1.63E-07	1.15E-07	1.65E-08	1.65E-08	1.65E-08	1.22E-08	7.40E-09	3.47E-07	1.16E-07	8.95E-08	1.28E-08	1.28E-08	1.28E-08	8.51E-09	3.73E-09	2.57E-07
892	560781.83	4192211.17	1.63E-07	1.15E-07	1.65E-08	1.66E-08	1.65E-08	1.22E-08	7.42E-09	3.48E-07	1.17E-07	8.97E-08	1.28E-08	1.28E-08	1.28E-08	8.53E-09	3.74E-09	2.57E-07
893	560779.54	4192220.56	1.63E-07	1.15E-07	1.65E-08	1.65E-08	1.65E-08	1.22E-08	7.40E-09	3.47E-07	1.17E-07	8.95E-08	1.28E-08	1.28E-08	1.28E-08	8.52E-09	3.73E-09	2.57E-07
894	560777.26	4192229.95	1.62E-07	1.14E-07	1.64E-08	1.64E-08	1.64E-08	1.22E-08	7.37E-09	3.45E-07	1.16E-07	8.90E-08	1.27E-08	1.27E-08	1.27E-08	8.47E-09	3.71E-09	2.55E-07
895	560774.97	4192239.34	1.61E-07	1.13E-07	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.30E-09	3.42E-07	1.15E-07	8.83E-08	1.26E-08	1.26E-08	1.26E-08	8.40E-09	3.68E-09	2.53E-07
896	560772.69	4192248.73	1.59E-07	1.12E-07	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.22E-09	3.38E-07	1.14E-07	8.73E-08	1.25E-08	1.25E-08	1.25E-08	8.30E-09	3.64E-09	2.50E-07
897	560770.41	4192258.12	1.57E-07	1.10E-07	1.58E-08	1.59E-08	1.58E-08	1.17E-08	7.11E-09	3.33E-07	1.12E-07	8.60E-08	1.23E-08	1.23E-08	1.23E-08	8.18E-09	3.58E-09	2.47E-07

898	560768.12	4192267.51	1.54E-07	1.08E-07	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.98E-09	3.27E-07	1.10E-07	8.44E-08	1.20E-08	1.21E-08	1.20E-08	8.03E-09	3.52E-09	2.42E-07
899	560772.11	4192208.8	1.55E-07	1.09E-07	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.03E-09	3.29E-07	1.11E-07	8.50E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	2.44E-07
900	560769.82	4192218.19	1.54E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	3.28E-07	1.10E-07	8.47E-08	1.21E-08	1.21E-08	1.21E-08	8.06E-09	3.53E-09	2.43E-07
901	560767.54	4192227.59	1.53E-07	1.08E-07	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.97E-09	3.27E-07	1.10E-07	8.43E-08	1.20E-08	1.21E-08	1.20E-08	8.02E-09	3.51E-09	2.42E-07
902	560765.26	4192236.98	1.52E-07	1.07E-07	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	3.24E-07	1.09E-07	8.35E-08	1.19E-08	1.20E-08	1.19E-08	7.95E-09	3.48E-09	2.39E-07
903	560762.97	4192246.37	1.50E-07	1.06E-07	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.83E-09	3.20E-07	1.07E-07	8.25E-08	1.18E-08	1.18E-08	1.18E-08	7.85E-09	3.44E-09	2.37E-07
904	560760.69	4192255.76	1.48E-07	1.04E-07	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.72E-09	3.15E-07	1.06E-07	8.13E-08	1.16E-08	1.16E-08	1.16E-08	7.73E-09	3.39E-09	2.33E-07
905	560758.41	4192265.15	1.45E-07	1.02E-07	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.60E-09	3.09E-07	1.04E-07	7.98E-08	1.14E-08	1.14E-08	1.14E-08	7.59E-09	3.32E-09	2.29E-07
906	560762.39	4192206.44	1.47E-07	1.03E-07	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	3.12E-07	1.05E-07	8.06E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	2.31E-07
907	560760.11	4192215.83	1.46E-07	1.03E-07	1.48E-08	1.48E-08	1.48E-08	1.10E-08	6.65E-09	3.11E-07	1.05E-07	8.03E-08	1.15E-08	1.15E-08	1.15E-08	7.64E-09	3.35E-09	2.30E-07
908	560757.82	4192225.22	1.45E-07	1.02E-07	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.61E-09	3.09E-07	1.04E-07	7.98E-08	1.14E-08	1.14E-08	1.14E-08	7.60E-09	3.33E-09	2.29E-07
909	560755.54	4192234.61	1.44E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.55E-09	3.07E-07	1.03E-07	7.91E-08	1.13E-08	1.13E-08	1.13E-08	7.53E-09	3.30E-09	2.27E-07
910	560753.26	4192244.01	1.42E-07	1.00E-07	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	3.03E-07	1.02E-07	7.82E-08	1.12E-08	1.12E-08	1.12E-08	7.44E-09	3.26E-09	2.24E-07
911	560750.97	4192253.4	1.40E-07	9.88E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	2.98E-07	1.00E-07	7.70E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.21E-09	2.21E-07
912	560748.69	4192262.79	1.38E-07	9.69E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.25E-09	2.93E-07	9.83E-08	7.55E-08	1.08E-08	1.08E-08	1.08E-08	7.19E-09	3.15E-09	2.17E-07
913	560752.67	4192204.08	1.39E-07	9.82E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.33E-09	2.97E-07	9.96E-08	7.65E-08	1.09E-08	1.09E-08	1.09E-08	7.28E-09	3.19E-09	2.19E-07
914	560750.39	4192213.47	1.39E-07	9.79E-08	1.40E-08	1.41E-08	1.40E-08	1.04E-08	6.31E-09	2.96E-07	9.93E-08	7.62E-08	1.09E-08	1.09E-08	1.09E-08	7.25E-09	3.18E-09	2.19E-07
915	560748.11	4192222.86	1.38E-07	9.72E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.27E-09	2.94E-07	9.87E-08	7.58E-08	1.08E-08	1.08E-08	1.08E-08	7.21E-09	3.16E-09	2.17E-07
916	560745.82	4192232.25	1.37E-07	9.63E-08	1.38E-08	1.39E-08	1.38E-08	1.02E-08	6.21E-09	2.91E-07	9.77E-08	7.51E-08	1.07E-08	1.07E-08	1.07E-08	7.14E-09	3.13E-09	2.15E-07
917	560743.54	4192241.64	1.35E-07	9.51E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.13E-09	2.87E-07	9.65E-08	7.41E-08	1.06E-08	1.06E-08	1.06E-08	7.05E-09	3.09E-09	2.13E-07
918	560741.26	4192251.03	1.33E-07	9.37E-08	1.34E-08	1.35E-08	1.34E-08	9.96E-09	6.04E-09	2.83E-07	9.50E-08	7.30E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	2.09E-07
919	560738.97	4192260.43	1.30E-07	9.19E-08	1.32E-08	1.32E-08	1.32E-08	9.77E-09	5.92E-09	2.77E-07	9.32E-08	7.16E-08	1.02E-08	1.02E-08	1.02E-08	6.81E-09	2.98E-09	2.05E-07
920	560742.96	4192201.71	1.33E-07	9.34E-08	1.34E-08	1.34E-08	1.34E-08	9.93E-09	6.02E-09	2.82E-07	9.48E-08	7.28E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	2.09E-07
921	560740.67	4192211.11	1.32E-07	9.30E-08	1.33E-08	1.34E-08	1.33E-08	9.89E-09	6.00E-09	2.81E-07	9.44E-08	7.25E-08	1.03E-08	1.04E-08	1.03E-08	6.90E-09	3.02E-09	2.08E-07
922	560738.39	4192220.5	1.31E-07	9.24E-08	1.32E-08	1.33E-08	1.32E-08	9.83E-09	5.96E-09	2.79E-07	9.37E-08	7.20E-08	1.03E-08	1.03E-08	1.03E-08	6.85E-09	3.00E-09	2.06E-07
923	560736.11	4192229.89	1.30E-07	9.15E-08	1.31E-08	1.32E-08	1.31E-08	9.73E-09	5.90E-09	2.76E-07	9.28E-08	7.13E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	2.04E-07
924	560733.82	4192239.28	1.28E-07	9.03E-08	1.30E-08	1.30E-08	1.30E-08	9.61E-09	5.82E-09	2.73E-07	9.16E-08	7.04E-08	1.00E-08	1.01E-08	1.00E-08	6.70E-09	2.93E-09	2.02E-07
925	560731.54	4192248.67	1.26E-07	8.89E-08	1.27E-08	1.28E-08	1.27E-08	9.45E-09	5.73E-09	2.68E-07	9.02E-08	6.93E-08	9.88E-09	9.91E-09	9.88E-09	6.59E-09	2.89E-09	1.99E-07
926	560729.26	4192258.06	1.24E-07	8.72E-08	1.25E-08	1.25E-08	1.25E-08	9.27E-09	5.62E-09	2.63E-07	8.85E-08	6.79E-08	9.70E-09	9.72E-09	9.70E-09	6.46E-09	2.83E-09	1.95E-07
927	560733.24	4192199.35	1.26E-07	8.90E-08	1.28E-08	1.28E-08	1.28E-08	9.46E-09	5.73E-09	2.69E-07	9.03E-08	6.93E-08	9.89E-09	9.92E-09	9.89E-09	6.59E-09	2.89E-09	1.99E-07
928	560730.96	4192208.74	1.26E-07	8.86E-08	1.27E-08	1.27E-08	1.27E-08	9.42E-09	5.71E-09	2.67E-07	8.99E-08	6.90E-08	9.85E-09	9.87E-09	9.85E-09	6.57E-09	2.87E-09	1.98E-07
929	560728.67	4192218.13	1.25E-07	8.79E-08	1.26E-08	1.26E-08	1.26E-08	9.35E-09	5.67E-09	2.66E-07	8.92E-08	6.85E-08	9.78E-09	9.80E-09	9.78E-09	6.52E-09	2.85E-09	1.96E-07
930	560726.39	4192227.53	1.23E-07	8.70E-08	1.25E-08	1.25E-08	1.25E-08	9.25E-09	5.61E-09	2.63E-07	8.83E-08	6.78E-08	9.68E-09	9.70E-09	9.68E-09	6.45E-09	2.82E-09	1.94E-07
931	560724.11	4192236.92	1.22E-07	8.59E-08	1.23E-08	1.23E-08	1.23E-08	9.13E-09	5.54E-09	2.59E-07	8.71E-08	6.69E-08	9.55E-09	9.58E-09	9.55E-09	6.37E-09	2.79E-09	1.92E-07
932	560721.82	4192246.31	1.20E-07	8.45E-08	1.21E-08	1.21E-08	1.21E-08	8.98E-09	5.45E-09	2.55E-07	8.57E-08	6.58E-08	9.39E-09	9.42E-09	9.39E-09	6.26E-09	2.74E-09	1.89E-07
933	560719.54	4192255.7	1.18E-07	8.29E-08	1.19E-08	1.19E-08	1.19E-08	8.81E-09	5.34E-09	2.50E-07	8.41E-08	6.46E-08	9.21E-09	9.24E-09	9.21E-09	6.14E-09	2.69E-09	1.85E-07
934	560891.64	4192311.4	3.84E-07	2.70E-07	3.88E-08	3.89E-08	3.88E-08	2.87E-08	1.74E-08	8.17E-07	2.74E-07	2.11E-07	3.01E-08	3.01E-08	3.01E-08	2.00E-08	8.78E-09	6.04E-07
935	560888.03	4192328.88	3.68E-07	2.59E-07	3.72E-08	3.73E-08	3.72E-08	2.76E-08	1.67E-08	7.83E-07	2.63E-07	2.02E-07	2.88E-08	2.89E-08	2.88E-08	1.92E-08	8.41E-09	5.79E-07
936	560884.42	4192346.37	3.49E-07	2.46E-07	3.52E-08	3.53E-08	3.52E-08	2.61E-08	1.58E-08	7.42E-07	2.49E-07	1.92E-07	2.73E-08	2.74E-08	2.73E-08	1.82E-08	7.98E-09	5.49E-07
937	560880.81	4192363.85	3.27E-07	2.30E-07	3.30E-08	3.31E-08	3.30E-08	2.45E-08	1.48E-08	6.95E-07	2.34E-07	1.79E-07	2.56E-08	2.57E-08	2.56E-08	1.71E-08	7.47E-09	5.14E-07
938	560877.2	4192381.34	3.01E-07	2.13E-07	3.05E-08	3.06E-08	3.05E-08	2.26E-08	1.37E-08	6.42E-07	2.16E-07	1.66E-07	2.36E-08	2.37E-08	2.36E-08	1.58E-08	6.90E-09	4.75E-07
939	560881.85	4192309.38	3.49E-07	2.46E-07	3.53E-08	3.54E-08	3.53E-08	2.62E-08	1.59E-08	7.43E-07	2.50E-07	1.92E-07	2.74E-08	2.74E-08	2.74E-08	1.82E-08	7.98E-09	5.50E-07
940	560878.24	4192326.86	3.34E-07	2.36E-07	3.38E-08	3.39E-08	3.38E-08	2.51E-08	1.52E-08	7.12E-07	2.39E-07	1.84E-07	2.62E-08	2.63E-08	2.62E-08	1.75E-08	7.65E-09	5.27E-07
941	560874.63	4192344.34	3.17E-07	2.23E-07	3.20E-08	3.21E-08	3.20E-08	2.37E-08	1.44E-08	6.74E-07	2.27E-07	1.74E-07	2.48E-08	2.49E-08	2.48E-08	1.66E-08	7.25E-09	4.99E-07
942	560871.01	4192361.83	2.96E-07	2.09E-07	3.00E-08	3.00E-08	3.00E-08	2.22E-08	1.35E-08	6.31E-07	2.12E-07	1.63E-07	2.32E-08	2.33E-08	2.32E-08	1.55E-08	6.78E-09	4.67E-07
943	560867.4	4192379.31	2.73E-07	1.93E-07	2.76E-08	2.77E-08	2.76E-08	2.05E-08	1.24E-08	5.82E-07	1.95E-07	1.50E-07	2.14E-08	2.15E-08	2.14E-08	1.43E-08	6.25E-09	4.30E-07
944	560872.05	4192307.35	3.19E-07	2.25E-07	3.23E-08	3.24E-08	3.23E-08	2.39E-08	1.45E-08	6.80E-07	2.28E-07	1.75E-07	2.50E-08	2.51E-08	2.50E-08	1.67E-08	7.30E-09	5.03E-07
945	560868.44	4192324.84	3.06E-07	2.16E-07	3.09E-08	3.10E-08	3.09E-08	2.29E-08	1.39E-08	6.52E-07	2.19E-07	1.68E-07	2.40E-08	2.41E-08	2.40E-08	1.60E-08	7.00E-09	4.82E-07
946	560864.83	4192342.32	2.90E-07	2.04E-07	2.93E-08	2.94E-08	2.93E-08	2.17E-08	1.32E-08	6.17E-07	2.07E-07	1.59E-07	2.27E-08	2.28E-08	2.27E-08	1.52E-08	6.64E-09	4.57E-07
947	560861.22	4192359.81	2.71E-07	1.91E-07	2.74E-08	2.75E-08	2.74E-08	2.03E-08	1.23E-08	5.77E-07	1.94E-07	1.49E-07	2.13E-08	2.13E-08	2.13E-08	1.42E-08	6.21E-09	4.27E-07
948	560857.61	4192377.29	2.49E-07	1.76E-07	2.52E-08	2.53E-08	2.52E-08	1.87E-08	1.13E-08	5.31E-07	1.78E-07	1.37E-07	1.95E-08	1.96E-08	1.95E-08	1.30E-08	5.70E-09	3.93E-07
949	560862.26	4192305.33	2.94E-07	2.07E-07	2.97E-08	2.98E-08	2.97E-08	2.21E-08	1.34E-08	6.26E-07	2.10E-07	1.62E-07	2.31E-08	2.31E-08	2.31E-08	1.54E-08	6.73E-09	4.63E-07
950	560858.65	4192322.81	2.82E-07	1.99E-07	2.85E-08	2.86E-08	2.85E-08	2.11E-08	1.28E-08	6.00E-07	2.02E-07	1.55E-07	2.21E-08	2.22E-08	2.21E-08	1.47E-08	6.45E-09	4.44E-07

951	560855.04	4192340.3	2.67E-07	1.88E-07	2.69E-08	2.70E-08	2.69E-08	2.00E-08	1.21E-08	5.67E-07	1.91E-07	1.46E-07	2.09E-08	2.09E-08	2.09E-08	1.39E-08	6.10E-09	4.20E-07
952	560851.43	4192357.78	2.49E-07	1.75E-07	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	5.29E-07	1.78E-07	1.37E-07	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.69E-09	3.92E-07
953	560847.82	4192375.27	2.28E-07	1.61E-07	2.31E-08	2.31E-08	2.31E-08	1.71E-08	1.04E-08	4.86E-07	1.63E-07	1.25E-07	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.22E-09	3.60E-07
954	560852.47	4192303.31	2.72E-07	1.91E-07	2.74E-08	2.75E-08	2.74E-08	2.04E-08	1.23E-08	5.78E-07	1.94E-07	1.49E-07	2.13E-08	2.13E-08	2.13E-08	1.42E-08	6.21E-09	4.28E-07
955	560848.86	4192320.79	2.60E-07	1.83E-07	2.62E-08	2.63E-08	2.62E-08	1.95E-08	1.18E-08	5.53E-07	1.86E-07	1.43E-07	2.03E-08	2.04E-08	2.03E-08	1.36E-08	5.94E-09	4.09E-07
956	560845.25	4192338.28	2.45E-07	1.73E-07	2.48E-08	2.49E-08	2.48E-08	1.84E-08	1.11E-08	5.22E-07	1.75E-07	1.35E-07	1.92E-08	1.93E-08	1.92E-08	1.28E-08	5.61E-09	3.86E-07
957	560841.63	4192355.76	2.29E-07	1.61E-07	2.31E-08	2.32E-08	2.31E-08	1.71E-08	1.04E-08	4.86E-07	1.63E-07	1.26E-07	1.79E-08	1.80E-08	1.79E-08	1.19E-08	5.23E-09	3.60E-07
958	560838.02	4192373.25	2.10E-07	1.48E-07	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.53E-09	4.46E-07	1.50E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.10E-08	4.80E-09	3.30E-07
959	560842.67	4192301.28	2.51E-07	1.77E-07	2.54E-08	2.55E-08	2.54E-08	1.88E-08	1.14E-08	5.35E-07	1.80E-07	1.38E-07	1.97E-08	1.97E-08	1.97E-08	1.31E-08	5.75E-09	3.96E-07
960	560839.06	4192318.77	2.40E-07	1.69E-07	2.43E-08	2.43E-08	2.43E-08	1.80E-08	1.09E-08	5.11E-07	1.72E-07	1.32E-07	1.88E-08	1.89E-08	1.88E-08	1.25E-08	5.49E-09	3.78E-07
961	560835.45	4192336.25	2.27E-07	1.60E-07	2.29E-08	2.30E-08	2.29E-08	1.70E-08	1.03E-08	4.82E-07	1.62E-07	1.24E-07	1.78E-08	1.78E-08	1.78E-08	1.18E-08	5.18E-09	3.57E-07
962	560831.84	4192353.74	2.11E-07	1.49E-07	2.13E-08	2.14E-08	2.13E-08	1.58E-08	9.58E-09	4.49E-07	1.51E-07	1.16E-07	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.82E-09	3.32E-07
963	560828.23	4192371.22	1.93E-07	1.36E-07	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.78E-09	4.12E-07	1.38E-07	1.06E-07	1.51E-08	1.52E-08	1.51E-08	1.01E-08	4.42E-09	3.04E-07
964	560832.88	4192299.26	2.33E-07	1.64E-07	2.36E-08	2.36E-08	2.36E-08	1.75E-08	1.06E-08	4.96E-07	1.67E-07	1.28E-07	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.33E-09	3.67E-07
965	560829.27	4192316.75	2.23E-07	1.57E-07	2.25E-08	2.26E-08	2.25E-08	1.67E-08	1.01E-08	4.74E-07	1.59E-07	1.22E-07	1.74E-08	1.75E-08	1.74E-08	1.16E-08	5.09E-09	3.50E-07
966	560825.66	4192334.23	2.10E-07	1.48E-07	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.54E-09	4.47E-07	1.50E-07	1.15E-07	1.64E-08	1.65E-08	1.64E-08	1.10E-08	4.80E-09	3.31E-07
967	560822.05	4192351.72	1.95E-07	1.38E-07	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.87E-09	4.16E-07	1.40E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.47E-09	3.07E-07
968	560818.44	4192369.2	1.79E-07	1.26E-07	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.12E-09	3.81E-07	1.28E-07	9.82E-08	1.40E-08	1.41E-08	1.40E-08	9.34E-09	4.09E-09	2.82E-07
969	560823.09	4192297.24	2.17E-07	1.53E-07	2.19E-08	2.20E-08	2.19E-08	1.63E-08	9.85E-09	4.62E-07	1.55E-07	1.19E-07	1.70E-08	1.70E-08	1.70E-08	1.13E-08	4.96E-09	3.42E-07
970	560819.48	4192314.72	2.07E-07	1.46E-07	2.09E-08	2.10E-08	2.09E-08	1.55E-08	9.40E-09	4.41E-07	1.48E-07	1.14E-07	1.62E-08	1.63E-08	1.62E-08	1.08E-08	4.73E-09	3.26E-07
971	560815.87	4192332.21	1.95E-07	1.37E-07	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.86E-09	4.15E-07	1.39E-07	1.07E-07	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	3.07E-07
972	560812.25	4192349.69	1.81E-07	1.28E-07	1.83E-08	1.84E-08	1.83E-08	1.36E-08	8.23E-09	3.86E-07	1.30E-07	9.95E-08	1.42E-08	1.42E-08	1.42E-08	9.47E-09	4.15E-09	2.85E-07
973	560808.64	4192367.18	1.66E-07	1.17E-07	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	3.53E-07	1.19E-07	9.11E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.80E-09	2.61E-07
974	560813.29	4192295.22	2.02E-07	1.43E-07	2.04E-08	2.05E-08	2.04E-08	1.52E-08	9.19E-09	4.31E-07	1.45E-07	1.11E-07	1.59E-08	1.59E-08	1.59E-08	1.06E-08	4.63E-09	3.19E-07
975	560809.68	4192312.7	1.93E-07	1.36E-07	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.77E-09	4.11E-07	1.38E-07	1.06E-07	1.51E-08	1.52E-08	1.51E-08	1.01E-08	4.41E-09	3.04E-07
976	560806.07	4192330.19	1.82E-07	1.28E-07	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.25E-09	3.87E-07	1.30E-07	9.98E-08	1.42E-08	1.43E-08	1.42E-08	9.49E-09	4.16E-09	2.86E-07
977	560802.46	4192347.67	1.69E-07	1.19E-07	1.71E-08	1.71E-08	1.71E-08	1.26E-08	7.67E-09	3.59E-07	1.21E-07	9.27E-08	1.32E-08	1.33E-08	1.32E-08	8.82E-09	3.86E-09	2.66E-07
978	560798.85	4192365.15	1.54E-07	1.09E-07	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.02E-09	3.29E-07	1.10E-07	8.48E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	2.43E-07
979	560803.5	4192293.19	1.89E-07	1.33E-07	1.91E-08	1.92E-08	1.91E-08	1.42E-08	8.60E-09	4.03E-07	1.35E-07	1.04E-07	1.48E-08	1.49E-08	1.48E-08	9.89E-09	4.33E-09	2.98E-07
980	560799.89	4192310.68	1.80E-07	1.27E-07	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.19E-09	3.84E-07	1.29E-07	9.90E-08	1.41E-08	1.42E-08	1.41E-08	9.42E-09	4.12E-09	2.84E-07
981	560796.28	4192328.16	1.70E-07	1.20E-07	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.71E-09	3.61E-07	1.21E-07	9.32E-08	1.33E-08	1.33E-08	1.33E-08	8.87E-09	3.88E-09	2.67E-07
982	560792.67	4192345.65	1.57E-07	1.11E-07	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.16E-09	3.35E-07	1.13E-07	8.65E-08	1.23E-08	1.24E-08	1.23E-08	8.23E-09	3.60E-09	2.48E-07
983	560789.06	4192363.13	1.44E-07	1.02E-07	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.55E-09	3.07E-07	1.03E-07	7.91E-08	1.13E-08	1.13E-08	1.13E-08	7.53E-09	3.30E-09	2.27E-07
984	560793.71	4192291.17	1.77E-07	1.25E-07	1.79E-08	1.80E-08	1.79E-08	1.33E-08	8.06E-09	3.78E-07	1.27E-07	9.74E-08	1.39E-08	1.39E-08	1.39E-08	9.27E-09	4.06E-09	2.79E-07
985	560790.1	4192308.66	1.69E-07	1.19E-07	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.67E-09	3.59E-07	1.21E-07	9.27E-08	1.32E-08	1.33E-08	1.32E-08	8.82E-09	3.86E-09	2.66E-07
986	560786.49	4192326.14	1.59E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.21E-09	3.38E-07	1.14E-07	8.72E-08	1.24E-08	1.25E-08	1.24E-08	8.30E-09	3.63E-09	2.50E-07
987	560782.87	4192343.62	1.47E-07	1.04E-07	1.49E-08	1.49E-08	1.49E-08	1.10E-08	6.69E-09	3.14E-07	1.05E-07	8.09E-08	1.15E-08	1.16E-08	1.15E-08	7.70E-09	3.37E-09	2.32E-07
988	560779.26	4192361.11	1.35E-07	9.50E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.12E-09	2.87E-07	9.64E-08	7.40E-08	1.06E-08	1.06E-08	1.06E-08	7.04E-09	3.08E-09	2.12E-07
989	560783.91	4192289.15	1.67E-07	1.17E-07	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.57E-09	3.54E-07	1.19E-07	9.15E-08	1.31E-08	1.31E-08	1.31E-08	8.70E-09	3.81E-09	2.62E-07
990	560780.3	4192306.63	1.58E-07	1.12E-07	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.20E-09	3.37E-07	1.13E-07	8.70E-08	1.24E-08	1.25E-08	1.24E-08	8.28E-09	3.63E-09	2.50E-07
991	560776.69	4192324.12	1.49E-07	1.05E-07	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.77E-09	3.17E-07	1.06E-07	8.18E-08	1.17E-08	1.17E-08	1.17E-08	7.78E-09	3.41E-09	2.35E-07
992	560773.08	4192341.6	1.38E-07	9.73E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.27E-09	2.94E-07	9.88E-08	7.59E-08	1.08E-08	1.09E-08	1.08E-08	7.22E-09	3.16E-09	2.17E-07
993	560769.47	4192359.09	1.26E-07	8.90E-08	1.28E-08	1.28E-08	1.28E-08	9.47E-09	5.74E-09	2.69E-07	9.03E-08	6.94E-08	9.90E-09	9.93E-09	9.90E-09	6.60E-09	2.89E-09	1.99E-07
994	560774.12	4192287.13	1.57E-07	1.10E-07	1.58E-08	1.59E-08	1.58E-08	1.17E-08	7.12E-09	3.34E-07	1.12E-07	8.60E-08	1.23E-08	1.23E-08	1.23E-08	8.19E-09	3.58E-09	2.47E-07
995	560770.51	4192304.61	1.49E-07	1.05E-07	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.77E-09	3.17E-07	1.07E-07	8.18E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	2.35E-07
996	560766.9	4192322.1	1.40E-07	9.86E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.36E-09	2.98E-07	1.00E-07	7.69E-08	1.10E-08	1.10E-08	1.10E-08	7.31E-09	3.20E-09	2.20E-07
997	560763.29	4192339.58	1.30E-07	9.14E-08	1.31E-08	1.31E-08	1.31E-08	9.72E-09	5.89E-09	2.76E-07	9.28E-08	7.13E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	2.04E-07
998	560759.68	4192357.06	1.19E-07	8.36E-08	1.20E-08	1.20E-08	1.20E-08	8.89E-09	5.39E-09	2.53E-07	8.49E-08	6.52E-08	9.30E-09	9.33E-09	9.30E-09	6.20E-09	2.71E-09	1.87E-07
999	560764.33	4192285.1	1.48E-07	1.04E-07	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.71E-09	3.14E-07	1.06E-07	8.11E-08	1.16E-08	1.16E-08	1.16E-08	7.71E-09	3.38E-09	2.33E-07
1000	560760.72	4192302.59	1.40E-07	9.89E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.38E-09	2.99E-07	1.00E-07	7.71E-08	1.10E-08	1.10E-08	1.10E-08	7.33E-09	3.21E-09	2.21E-07
1001	560757.11	4192320.07	1.32E-07	9.29E-08	1.33E-08	1.34E-08	1.33E-08	9.87E-09	5.99E-09	2.80E-07	9.42E-08	7.24E-08	1.03E-08	1.04E-08	1.03E-08	6.88E-09	3.01E-09	2.07E-07
1002	560753.5	4192337.56	1.22E-07	8.61E-08	1.23E-08	1.24E-08	1.23E-08	9.15E-09	5.55E-09	2.60E-07	8.73E-08	6.71E-08	9.57E-09	9.60E-09	9.57E-09	6.38E-09	2.79E-09	1.92E-07
1003	560749.88	4192355.04	1.12E-07	7.87E-08	1.13E-08	1.13E-08	1.13E-08	8.37E-09	5.07E-09	2.38E-07	7.99E-08	6.13E-08	8.75E-09	8.78E-09	8.75E-09	5.84E-09	2.56E-09	1.76E-07

1004	560756.34	4192274.34	1.42E-07	1.00E-07	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	3.03E-07	1.02E-07	7.82E-08	1.12E-08	1.12E-08	1.12E-08	7.44E-09	3.26E-09	2.24E-07
1005	560752.73	4192291.82	1.36E-07	9.59E-08	1.37E-08	1.38E-08	1.37E-08	1.02E-08	6.18E-09	2.90E-07	9.73E-08	7.47E-08	1.07E-08	1.07E-08	1.07E-08	7.11E-09	3.11E-09	2.14E-07
1006	560749.12	4192309.31	1.28E-07	9.05E-08	1.30E-08	1.30E-08	1.30E-08	9.63E-09	5.84E-09	2.73E-07	9.18E-08	7.05E-08	1.01E-08	1.01E-08	1.01E-08	6.71E-09	2.94E-09	2.02E-07
1007	560745.51	4192326.79	1.20E-07	8.44E-08	1.21E-08	1.21E-08	1.21E-08	8.98E-09	5.44E-09	2.55E-07	8.57E-08	6.58E-08	9.39E-09	9.41E-09	9.39E-09	6.26E-09	2.74E-09	1.89E-07
1008	560741.9	4192344.28	1.10E-07	7.77E-08	1.11E-08	1.12E-08	1.11E-08	8.27E-09	5.01E-09	2.35E-07	7.89E-08	6.06E-08	8.64E-09	8.67E-09	8.64E-09	5.76E-09	2.52E-09	1.74E-07
1009	560746.55	4192272.32	1.35E-07	9.49E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.12E-09	2.87E-07	9.63E-08	7.39E-08	1.06E-08	1.06E-08	1.06E-08	7.03E-09	3.08E-09	2.12E-07
1010	560742.94	4192289.8	1.29E-07	9.06E-08	1.30E-08	1.30E-08	1.30E-08	9.64E-09	5.84E-09	2.74E-07	9.19E-08	7.06E-08	1.01E-08	1.01E-08	1.01E-08	6.72E-09	2.94E-09	2.02E-07
1011	560739.33	4192307.28	1.21E-07	8.55E-08	1.23E-08	1.23E-08	1.23E-08	9.09E-09	5.51E-09	2.58E-07	8.68E-08	6.66E-08	9.51E-09	9.53E-09	9.51E-09	6.34E-09	2.78E-09	1.91E-07
1012	560735.71	4192324.77	1.13E-07	7.97E-08	1.14E-08	1.15E-08	1.14E-08	8.48E-09	5.14E-09	2.41E-07	8.09E-08	6.21E-08	8.86E-09	8.89E-09	8.86E-09	5.91E-09	2.59E-09	1.78E-07
1013	560732.1	4192342.25	1.04E-07	7.34E-08	1.05E-08	1.06E-08	1.05E-08	7.81E-09	4.73E-09	2.22E-07	7.45E-08	5.72E-08	8.16E-09	8.19E-09	8.16E-09	5.44E-09	2.38E-09	1.64E-07
1014	560736.75	4192270.29	1.27E-07	8.98E-08	1.29E-08	1.29E-08	1.29E-08	9.55E-09	5.79E-09	2.71E-07	9.12E-08	7.00E-08	9.99E-09	1.00E-08	9.99E-09	6.66E-09	2.92E-09	2.01E-07
1015	560733.14	4192287.78	1.22E-07	8.57E-08	1.23E-08	1.23E-08	1.23E-08	9.12E-09	5.53E-09	2.59E-07	8.70E-08	6.68E-08	9.53E-09	9.56E-09	9.53E-09	6.36E-09	2.78E-09	1.92E-07
1016	560729.53	4192305.26	1.15E-07	8.09E-08	1.16E-08	1.16E-08	1.16E-08	8.60E-09	5.21E-09	2.44E-07	8.20E-08	6.30E-08	8.99E-09	9.02E-09	8.99E-09	6.00E-09	2.62E-09	1.81E-07
1017	560725.92	4192322.75	1.07E-07	7.54E-08	1.08E-08	1.08E-08	1.08E-08	8.02E-09	4.86E-09	2.28E-07	7.65E-08	5.87E-08	8.38E-09	8.40E-09	8.38E-09	5.59E-09	2.45E-09	1.68E-07
1018	560722.31	4192340.23	9.85E-08	6.94E-08	9.96E-09	9.98E-09	9.96E-09	7.38E-09	4.48E-09	2.10E-07	7.04E-08	5.41E-08	7.72E-09	7.74E-09	7.72E-09	5.15E-09	2.25E-09	1.55E-07
1019	560726.96	4192268.27	1.21E-07	8.52E-08	1.22E-08	1.22E-08	1.22E-08	9.06E-09	5.49E-09	2.57E-07	8.64E-08	6.64E-08	9.47E-09	9.50E-09	9.47E-09	6.31E-09	2.76E-09	1.90E-07
1020	560723.35	4192285.76	1.15E-07	8.12E-08	1.16E-08	1.17E-08	1.16E-08	8.64E-09	5.24E-09	2.45E-07	8.24E-08	6.33E-08	9.03E-09	9.06E-09	9.03E-09	6.02E-09	2.64E-09	1.81E-07
1021	560719.74	4192303.24	1.09E-07	7.66E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	2.31E-07	7.77E-08	5.97E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	1.71E-07
1022	560716.13	4192320.72	1.01E-07	7.14E-08	1.02E-08	1.03E-08	1.02E-08	7.59E-09	4.60E-09	2.16E-07	7.24E-08	5.56E-08	7.94E-09	7.96E-09	7.94E-09	5.29E-09	2.32E-09	1.60E-07
1023	560712.52	4192338.21	9.33E-08	6.58E-08	9.43E-09	9.46E-09	9.43E-09	6.99E-09	4.24E-09	1.99E-07	6.67E-08	5.13E-08	7.31E-09	7.33E-09	7.31E-09	4.88E-09	2.13E-09	1.47E-07
1024	560717.17	4192266.25	1.15E-07	8.09E-08	1.16E-08	1.16E-08	1.16E-08	8.60E-09	5.21E-09	2.44E-07	8.20E-08	6.30E-08	8.99E-09	9.02E-09	8.99E-09	5.99E-09	2.62E-09	1.81E-07
1025	560713.56	4192283.73	1.09E-07	7.71E-08	1.11E-08	1.11E-08	1.11E-08	8.20E-09	4.97E-09	2.33E-07	7.82E-08	6.01E-08	8.57E-09	8.60E-09	8.57E-09	5.71E-09	2.50E-09	1.72E-07
1026	560709.95	4192301.22	1.03E-07	7.27E-08	1.04E-08	1.05E-08	1.04E-08	7.73E-09	4.69E-09	2.19E-07	7.37E-08	5.66E-08	8.08E-09	8.10E-09	8.08E-09	5.39E-09	2.36E-09	1.62E-07
1027	560706.33	4192318.7	9.61E-08	6.77E-08	9.71E-09	9.74E-09	9.71E-09	7.20E-09	4.37E-09	2.05E-07	6.87E-08	5.28E-08	7.53E-09	7.55E-09	7.53E-09	5.02E-09	2.20E-09	1.51E-07
1028	560702.72	4192336.19	8.85E-08	6.24E-08	8.95E-09	8.97E-09	8.95E-09	6.64E-09	4.02E-09	1.88E-07	6.33E-08	4.86E-08	6.94E-09	6.96E-09	6.94E-09	4.63E-09	2.03E-09	1.39E-07
1029	560873.71	4192396.88	2.76E-07	1.94E-07	2.79E-08	2.80E-08	2.79E-08	2.07E-08	1.25E-08	5.87E-07	1.97E-07	1.51E-07	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.31E-09	4.34E-07
1030	560863.95	4192394.71	2.49E-07	1.76E-07	2.52E-08	2.53E-08	2.52E-08	1.87E-08	1.13E-08	5.31E-07	1.78E-07	1.37E-07	1.96E-08	1.96E-08	1.96E-08	1.30E-08	5.71E-09	3.93E-07
1031	560860.04	4192412.26	2.21E-07	1.56E-07	2.23E-08	2.24E-08	2.23E-08	1.66E-08	1.00E-08	4.70E-07	1.58E-07	1.21E-07	1.73E-08	1.74E-08	1.73E-08	1.15E-08	5.06E-09	3.48E-07
1032	560856.12	4192429.81	1.92E-07	1.35E-07	1.94E-08	1.95E-08	1.94E-08	1.44E-08	8.73E-09	4.09E-07	1.37E-07	1.06E-07	1.51E-08	1.51E-08	1.51E-08	1.00E-08	4.40E-09	3.03E-07
1033	560854.19	4192392.53	2.27E-07	1.60E-07	2.30E-08	2.30E-08	2.30E-08	1.70E-08	1.03E-08	4.83E-07	1.62E-07	1.25E-07	1.78E-08	1.78E-08	1.78E-08	1.19E-08	5.20E-09	3.58E-07
1034	560850.28	4192410.08	2.01E-07	1.42E-07	2.03E-08	2.04E-08	2.03E-08	1.51E-08	9.13E-09	4.28E-07	1.44E-07	1.10E-07	1.57E-08	1.58E-08	1.57E-08	1.05E-08	4.60E-09	3.16E-07
1035	560846.36	4192427.63	1.75E-07	1.23E-07	1.76E-08	1.77E-08	1.76E-08	1.31E-08	7.93E-09	3.71E-07	1.25E-07	9.58E-08	1.37E-08	1.37E-08	1.37E-08	9.12E-09	3.99E-09	2.75E-07
1036	560844.43	4192390.35	2.08E-07	1.47E-07	2.10E-08	2.11E-08	2.10E-08	1.56E-08	9.45E-09	4.43E-07	1.49E-07	1.14E-07	1.63E-08	1.63E-08	1.63E-08	1.09E-08	4.76E-09	3.28E-07
1037	560842.48	4192399.13	1.96E-07	1.38E-07	1.98E-08	1.98E-08	1.98E-08	1.47E-08	8.90E-09	4.17E-07	1.40E-07	1.08E-07	1.53E-08	1.54E-08	1.53E-08	1.02E-08	4.48E-09	3.08E-07
1038	560838.56	4192416.68	1.72E-07	1.21E-07	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.81E-09	3.66E-07	1.23E-07	9.44E-08	1.35E-08	1.35E-08	1.35E-08	8.98E-09	3.93E-09	2.71E-07
1039	560834.65	4192434.23	1.49E-07	1.05E-07	1.50E-08	1.51E-08	1.50E-08	1.11E-08	6.75E-09	3.16E-07	1.06E-07	8.16E-08	1.16E-08	1.17E-08	1.16E-08	7.76E-09	3.40E-09	2.34E-07
1040	560834.67	4192388.18	1.92E-07	1.35E-07	1.94E-08	1.94E-08	1.94E-08	1.44E-08	8.71E-09	4.08E-07	1.37E-07	1.05E-07	1.50E-08	1.51E-08	1.50E-08	1.00E-08	4.39E-09	3.02E-07
1041	560830.76	4192405.73	1.70E-07	1.20E-07	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.71E-09	3.61E-07	1.21E-07	9.31E-08	1.33E-08	1.33E-08	1.33E-08	8.86E-09	3.88E-09	2.67E-07
1042	560826.84	4192423.28	1.48E-07	1.04E-07	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.71E-09	3.14E-07	1.06E-07	8.11E-08	1.16E-08	1.16E-08	1.16E-08	7.72E-09	3.38E-09	2.33E-07
1043	560824.91	4192386	1.77E-07	1.25E-07	1.79E-08	1.79E-08	1.79E-08	1.33E-08	8.04E-09	3.76E-07	1.26E-07	9.71E-08	1.39E-08	1.39E-08	1.39E-08	9.24E-09	4.05E-09	2.79E-07
1044	560821	4192403.55	1.57E-07	1.10E-07	1.58E-08	1.59E-08	1.58E-08	1.17E-08	7.12E-09	3.33E-07	1.12E-07	8.60E-08	1.23E-08	1.23E-08	1.23E-08	8.18E-09	3.58E-09	2.47E-07
1045	560817.08	4192421.1	1.36E-07	9.61E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.20E-09	2.90E-07	9.75E-08	7.49E-08	1.07E-08	1.07E-08	1.07E-08	7.12E-09	3.12E-09	2.15E-07
1046	560815.13	4192429.88	1.27E-07	8.92E-08	1.28E-08	1.28E-08	1.28E-08	9.49E-09	5.75E-09	2.69E-07	9.05E-08	6.95E-08	9.92E-09	9.95E-09	9.92E-09	6.61E-09	2.90E-09	1.99E-07
1047	560815.15	4192383.82	1.64E-07	1.15E-07	1.65E-08	1.66E-08	1.65E-08	1.23E-08	7.44E-09	3.49E-07	1.17E-07	8.99E-08	1.28E-08	1.29E-08	1.28E-08	8.55E-09	3.75E-09	2.58E-07
1048	560811.24	4192401.38	1.45E-07	1.02E-07	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.59E-09	3.09E-07	1.04E-07	7.96E-08	1.14E-08	1.14E-08	1.14E-08	7.58E-09	3.32E-09	2.28E-07
1049	560807.32	4192418.93	1.26E-07	8.91E-08	1.28E-08	1.28E-08	1.28E-08	9.47E-09	5.74E-09	2.69E-07	9.04E-08	6.94E-08	9.91E-09	9.93E-09	9.91E-09	6.60E-09	2.89E-09	1.99E-07
1050	560805.39	4192381.65	1.52E-07	1.07E-07	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	3.24E-07	1.09E-07	8.35E-08	1.19E-08	1.20E-08	1.19E-08	7.95E-09	3.48E-09	2.39E-07
1051	560801.48	4192399.2	1.35E-07	9.50E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.12E-09	2.87E-07	9.64E-08	7.40E-08	1.06E-08	1.06E-08	1.06E-08	7.04E-09	3.08E-09	2.12E-07
1052	560797.56	4192416.75	1.18E-07	8.29E-08	1.19E-08	1.19E-08	1.19E-08	8.81E-09	5.34E-09	2.50E-07	8.41E-08	6.46E-08	9.22E-09	9.24E-09	9.22E-09	6.15E-09	2.69E-09	1.85E-07
1053	560795.63	4192379.47	1.42E-07	9.98E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	3.02E-07	1.01E-07	7.78E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	2.23E-07
1054	560791.72	4192397.02	1.26E-07	8.86E-08	1.27E-08	1.27E-08	1.27E-08	9.42E-09	5.71E-09	2.67E-07	8.99E-08	6.90E-08	9.85E-09	9.87E-09	9.85E-09	6.57E-09	2.87E-09	1.98E-07
1055	560787.8	4192414.57	1.10E-07	7.74E-08	1.11E-08	1.11E-08	1.11E-08	8.23E-09	4.99E-09	2.34E-07	7.85E-08	6.03E-08	8.60E-09	8.63E-09	8.60E-09	5.74E-09	2.51E-09	1.73E-07
1056	560785.87	4192377.29	1.32E-07	9.33E-08	1.34E-08	1.34E-08	1.34E-08	9.92E-09	6.01E-09	2.82E-07	9.46E-08	7.27E-08	1.04E-08	1.04E-08	1.04E-08	6.91E-09	3.03E-09	2.08E-07

1057	560781.96	4192394.85	1.17E-07	8.28E-08	1.19E-08	1.19E-08	1.19E-08	8.80E-09	5.34E-09	2.50E-07	8.40E-08	6.45E-08	9.21E-09	9.23E-09	9.21E-09	6.14E-09	2.69E-09	1.85E-07
1058	560778.04	4192412.4	1.03E-07	7.25E-08	1.04E-08	1.04E-08	1.04E-08	7.70E-09	4.67E-09	2.19E-07	7.35E-08	5.65E-08	8.06E-09	8.08E-09	8.06E-09	5.37E-09	2.35E-09	1.62E-07
1059	560776.11	4192375.12	1.24E-07	8.73E-08	1.25E-08	1.26E-08	1.25E-08	9.29E-09	5.63E-09	2.64E-07	8.86E-08	6.81E-08	9.71E-09	9.74E-09	9.71E-09	6.47E-09	2.83E-09	1.95E-07
1060	560774.15	4192383.89	1.17E-07	8.25E-08	1.18E-08	1.19E-08	1.18E-08	8.77E-09	5.32E-09	2.49E-07	8.37E-08	6.43E-08	9.17E-09	9.20E-09	9.17E-09	6.11E-09	2.68E-09	1.84E-07
1061	560770.24	4192401.44	1.03E-07	7.28E-08	1.04E-08	1.05E-08	1.04E-08	7.74E-09	4.69E-09	2.20E-07	7.38E-08	5.67E-08	8.09E-09	8.11E-09	8.09E-09	5.40E-09	2.36E-09	1.63E-07
1062	560766.32	4192419	8.99E-08	6.34E-08	9.09E-09	9.11E-09	9.09E-09	6.74E-09	4.09E-09	1.91E-07	6.43E-08	4.94E-08	7.05E-09	7.07E-09	7.05E-09	4.70E-09	2.06E-09	1.42E-07
1063	560766.35	4192372.94	1.16E-07	8.20E-08	1.18E-08	1.18E-08	1.18E-08	8.72E-09	5.28E-09	2.48E-07	8.32E-08	6.39E-08	9.11E-09	9.14E-09	9.11E-09	6.08E-09	2.66E-09	1.83E-07
1064	560762.44	4192390.49	1.03E-07	7.29E-08	1.05E-08	1.05E-08	1.05E-08	7.75E-09	4.70E-09	2.20E-07	7.40E-08	5.68E-08	8.11E-09	8.13E-09	8.11E-09	5.41E-09	2.37E-09	1.63E-07
1065	560758.52	4192408.04	9.08E-08	6.40E-08	9.18E-09	9.20E-09	9.18E-09	6.81E-09	4.13E-09	1.93E-07	6.49E-08	4.99E-08	7.12E-09	7.14E-09	7.12E-09	4.75E-09	2.08E-09	1.43E-07
1066	560756.59	4192370.76	1.09E-07	7.71E-08	1.11E-08	1.11E-08	1.11E-08	8.20E-09	4.97E-09	2.33E-07	7.82E-08	6.01E-08	8.57E-09	8.60E-09	8.57E-09	5.72E-09	2.50E-09	1.72E-07
1067	560752.68	4192388.32	9.74E-08	6.87E-08	9.85E-09	9.87E-09	9.85E-09	7.30E-09	4.43E-09	2.07E-07	6.97E-08	5.35E-08	7.63E-09	7.66E-09	7.63E-09	5.09E-09	2.23E-09	1.53E-07
1068	560748.76	4192405.87	8.57E-08	6.04E-08	8.66E-09	8.68E-09	8.66E-09	6.42E-09	3.89E-09	1.82E-07	6.13E-08	4.70E-08	6.71E-09	6.73E-09	6.71E-09	4.48E-09	1.96E-09	1.35E-07
1069	560746.8	4192414.64	8.00E-08	5.64E-08	8.08E-09	8.11E-09	8.08E-09	6.00E-09	3.63E-09	1.70E-07	5.72E-08	4.39E-08	6.27E-09	6.29E-09	6.27E-09	4.18E-09	1.83E-09	1.26E-07
1070	560746.83	4192368.59	1.03E-07	7.27E-08	1.04E-08	1.04E-08	1.04E-08	7.73E-09	4.68E-09	2.19E-07	7.37E-08	5.66E-08	8.08E-09	8.10E-09	8.08E-09	5.39E-09	2.36E-09	1.62E-07
1071	560742.92	4192386.14	9.19E-08	6.48E-08	9.29E-09	9.32E-09	9.29E-09	6.89E-09	4.18E-09	1.96E-07	6.57E-08	5.05E-08	7.20E-09	7.22E-09	7.20E-09	4.80E-09	2.10E-09	1.45E-07
1072	560739	4192403.69	8.09E-08	5.71E-08	8.18E-09	8.20E-09	8.18E-09	6.07E-09	3.68E-09	1.72E-07	5.79E-08	4.45E-08	6.34E-09	6.36E-09	6.34E-09	4.23E-09	1.85E-09	1.27E-07
1073	560739.03	4192357.63	1.03E-07	7.23E-08	1.04E-08	1.04E-08	1.04E-08	7.69E-09	4.66E-09	2.18E-07	7.34E-08	5.63E-08	8.04E-09	8.06E-09	8.04E-09	5.36E-09	2.35E-09	1.62E-07
1074	560735.11	4192375.19	9.21E-08	6.49E-08	9.31E-09	9.34E-09	9.31E-09	6.90E-09	4.19E-09	1.96E-07	6.59E-08	5.06E-08	7.22E-09	7.24E-09	7.22E-09	4.81E-09	2.11E-09	1.45E-07
1075	560731.2	4192392.74	8.17E-08	5.76E-08	8.26E-09	8.28E-09	8.26E-09	6.13E-09	3.71E-09	1.74E-07	5.84E-08	4.49E-08	6.40E-09	6.42E-09	6.40E-09	4.27E-09	1.87E-09	1.29E-07
1076	560727.28	4192410.29	7.17E-08	5.06E-08	7.25E-09	7.27E-09	7.25E-09	5.38E-09	3.26E-09	1.53E-07	5.13E-08	3.94E-08	5.62E-09	5.64E-09	5.62E-09	3.75E-09	1.64E-09	1.13E-07
1077	560729.27	4192355.46	9.70E-08	6.84E-08	9.80E-09	9.83E-09	9.80E-09	7.27E-09	4.41E-09	2.06E-07	6.94E-08	5.33E-08	7.60E-09	7.62E-09	7.60E-09	5.07E-09	2.22E-09	1.53E-07
1078	560725.35	4192373.01	8.72E-08	6.15E-08	8.81E-09	8.84E-09	8.81E-09	6.53E-09	3.96E-09	1.86E-07	6.23E-08	4.79E-08	6.83E-09	6.85E-09	6.83E-09	4.56E-09	1.99E-09	1.37E-07
1079	560721.44	4192390.56	7.75E-08	5.46E-08	7.83E-09	7.85E-09	7.83E-09	5.81E-09	3.52E-09	1.65E-07	5.54E-08	4.25E-08	6.07E-09	6.09E-09	6.07E-09	4.05E-09	1.77E-09	1.22E-07
1080	560717.52	4192408.11	6.81E-08	4.80E-08	6.88E-09	6.90E-09	6.88E-09	5.10E-09	3.09E-09	1.45E-07	4.87E-08	3.74E-08	5.34E-09	5.35E-09	5.34E-09	3.56E-09	1.56E-09	1.07E-07
1081	560719.51	4192353.28	9.19E-08	6.48E-08	9.28E-09	9.31E-09	9.28E-09	6.89E-09	4.17E-09	1.96E-07	6.57E-08	5.05E-08	7.20E-09	7.22E-09	7.20E-09	4.80E-09	2.10E-09	1.45E-07
1082	560715.59	4192370.83	8.27E-08	5.83E-08	8.35E-09	8.38E-09	8.35E-09	6.20E-09	3.76E-09	1.76E-07	5.91E-08	4.54E-08	6.48E-09	6.50E-09	6.48E-09	4.32E-09	1.89E-09	1.30E-07
1083	560711.68	4192388.38	7.35E-08	5.18E-08	7.43E-09	7.45E-09	7.43E-09	5.51E-09	3.34E-09	1.57E-07	5.26E-08	4.04E-08	5.76E-09	5.78E-09	5.76E-09	3.84E-09	1.68E-09	1.16E-07
1084	560707.76	4192405.94	6.48E-08	4.56E-08	6.55E-09	6.56E-09	6.55E-09	4.85E-09	2.94E-09	1.38E-07	4.63E-08	3.56E-08	5.08E-09	5.09E-09	5.08E-09	3.38E-09	1.48E-09	1.02E-07
1085	560709.75	4192351.1	8.71E-08	6.14E-08	8.81E-09	8.83E-09	8.81E-09	6.53E-09	3.96E-09	1.85E-07	6.23E-08	4.79E-08	6.83E-09	6.85E-09	6.83E-09	4.55E-09	1.99E-09	1.37E-07
1086	560707.79	4192359.88	8.28E-08	5.84E-08	8.37E-09	8.39E-09	8.37E-09	6.21E-09	3.76E-09	1.76E-07	5.92E-08	4.55E-08	6.49E-09	6.51E-09	6.49E-09	4.33E-09	1.89E-09	1.30E-07
1087	560703.87	4192377.43	7.42E-08	5.23E-08	7.50E-09	7.52E-09	7.50E-09	5.56E-09	3.37E-09	1.58E-07	5.30E-08	4.07E-08	5.81E-09	5.83E-09	5.81E-09	3.88E-09	1.70E-09	1.17E-07
1088	560699.96	4192394.98	6.57E-08	4.63E-08	6.64E-09	6.66E-09	6.64E-09	4.93E-09	2.99E-09	1.40E-07	4.70E-08	3.61E-08	5.15E-09	5.17E-09	5.15E-09	3.43E-09	1.50E-09	1.04E-07
1089	560699.99	4192348.93	8.28E-08	5.83E-08	8.36E-09	8.39E-09	8.36E-09	6.20E-09	3.76E-09	1.76E-07	5.92E-08	4.55E-08	6.49E-09	6.50E-09	6.49E-09	4.32E-09	1.89E-09	1.30E-07
1090	560696.07	4192366.48	7.46E-08	5.26E-08	7.54E-09	7.56E-09	7.54E-09	5.59E-09	3.39E-09	1.59E-07	5.34E-08	4.10E-08	5.85E-09	5.86E-09	5.85E-09	3.90E-09	1.71E-09	1.17E-07
1091	560692.16	4192384.03	6.66E-08	4.69E-08	6.73E-09	6.75E-09	6.73E-09	4.99E-09	3.02E-09	1.42E-07	4.76E-08	3.66E-08	5.22E-09	5.23E-09	5.22E-09	3.48E-09	1.52E-09	1.05E-07
1092	560688.24	4192401.58	5.88E-08	4.15E-08	5.95E-09	5.96E-09	5.95E-09	4.41E-09	2.67E-09	1.25E-07	4.21E-08	3.23E-08	4.61E-09	4.62E-09	4.61E-09	3.07E-09	1.35E-09	9.27E-08
1093	560852.07	4192453.7	1.58E-07	1.11E-07	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.16E-09	3.36E-07	1.13E-07	8.66E-08	1.24E-08	1.24E-08	1.24E-08	8.24E-09	3.61E-09	2.48E-07
1094	560842.16	4192452.6	1.42E-07	1.00E-07	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.45E-09	3.02E-07	1.01E-07	7.79E-08	1.11E-08	1.11E-08	1.11E-08	7.41E-09	3.25E-09	2.23E-07
1095	560840.53	4192469.82	1.24E-07	8.77E-08	1.26E-08	1.26E-08	1.26E-08	9.33E-09	5.66E-09	2.65E-07	8.90E-08	6.84E-08	9.75E-09	9.78E-09	9.75E-09	6.50E-09	2.85E-09	1.96E-07
1096	560832.25	4192451.5	1.29E-07	9.11E-08	1.31E-08	1.31E-08	1.31E-08	9.69E-09	5.87E-09	2.75E-07	9.25E-08	7.10E-08	1.01E-08	1.02E-08	1.01E-08	6.76E-09	2.96E-09	2.04E-07
1097	560830.55	4192469.27	1.13E-07	7.95E-08	1.14E-08	1.14E-08	1.14E-08	8.46E-09	5.13E-09	2.40E-07	8.07E-08	6.20E-08	8.84E-09	8.87E-09	8.84E-09	5.90E-09	2.58E-09	1.78E-07
1098	560822.03	4192452.7	1.16E-07	8.16E-08	1.17E-08	1.17E-08	1.17E-08	8.68E-09	5.26E-09	2.47E-07	8.28E-08	6.36E-08	9.08E-09	9.10E-09	9.08E-09	6.05E-09	2.65E-09	1.82E-07
1099	560823.93	4192438.94	1.30E-07	9.14E-08	1.31E-08	1.31E-08	1.31E-08	9.72E-09	5.89E-09	2.76E-07	9.27E-08	7.12E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	2.04E-07
1100	560820.56	4192468.71	1.02E-07	7.21E-08	1.03E-08	1.04E-08	1.03E-08	7.67E-09	4.65E-09	2.18E-07	7.31E-08	5.62E-08	8.02E-09	8.04E-09	8.02E-09	5.34E-09	2.34E-09	1.61E-07
1101	560812.1	4192451.74	1.06E-07	7.46E-08	1.07E-08	1.07E-08	1.07E-08	7.94E-09	4.81E-09	2.25E-07	7.57E-08	5.82E-08	8.30E-09	8.32E-09	8.30E-09	5.53E-09	2.42E-09	1.67E-07
1102	560810.58	4192468.15	9.31E-08	6.56E-08	9.41E-09	9.44E-09	9.41E-09	6.98E-09	4.23E-09	1.98E-07	6.66E-08	5.11E-08	7.30E-09	7.32E-09	7.30E-09	4.86E-09	2.13E-09	1.47E-07
1103	560802.17	4192450.77	9.73E-08	6.86E-08	9.83E-09	9.86E-09	9.83E-09	7.29E-09	4.42E-09	2.07E-07	6.96E-08	5.34E-08	7.63E-09	7.65E-09	7.63E-09	5.08E-09	2.23E-09	1.53E-07
1104	560804.3	4192435.39	1.10E-07	7.78E-08	1.12E-08	1.12E-08	1.12E-08	8.28E-09	5.02E-09	2.35E-07	7.90E-08	6.06E-08	8.65E-09	8.68E-09	8.65E-09	5.77E-09	2.53E-09	1.74E-07
1105	560800.6	4192467.59	8.52E-08	6.01E-08	8.61E-09	8.64E-09	8.61E-09	6.39E-09	3.87E-09	1.81E-07	6.09E-08	4.68E-08	6.68E-09	6.70E-09	6.68E-09	4.45E-09	1.95E-09	1.34E-07
1106	560792.24	4192449.81	8.98E-08	6.33E-08	9.08E-09	9.10E-09	9.08E-09	6.73E-09	4.08E-09	1.91E-07	6.42E-08	4.93E-08	7.04E-09	7.06E-09	7.04E-09	4.69E-09	2.05E-09	1.41E-07
1107	560794.48	4192433.62	1.03E-07	7.23E-08	1.04E-08	1.04E-08	1.04E-08	7.69E-09	4.66E-09	2.18E-07	7.33E-08	5.63E-08	8.04E-09	8.06E-09	8.04E-09	5.36E-09	2.35E-09	1.61E-07
1108	560782.31	4192448.85	8.32E-08	5.87E-08	8.41E-09	8.43E-09	8.41E-09	6.24E-09	3.78E-09	1.77E-07	5.95E-08	4.57E-08	6.52E-09	6.54E-09	6.52E-09	4.35E-09	1.90E-09	1.31E-07
1109	560784.67	4192431.85	9.55E-08	6.74E-08	9.66E-09	9.68E-09	9.66E-09	7.16E-09	4.34E-09	2.03E-07	6.83E-08	5.25E-08	7.49E-09	7.51E-09	7.49E-09	4.99E-09	2.19E-09	1.50E-07

1110	560772.39	4192447.89	7.74E-08	5.45E-08	7.82E-09	7.84E-09	7.82E-09	5.80E-09	3.52E-09	1.65E-07	5.53E-08	4.25E-08	6.06E-09	6.08E-09	6.06E-09	4.04E-09	1.77E-09	1.22E-07
1111	560773.62	4192438.98	8.32E-08	5.86E-08	8.41E-09	8.43E-09	8.41E-09	6.24E-09	3.78E-09	1.77E-07	5.95E-08	4.57E-08	6.52E-09	6.54E-09	6.52E-09	4.35E-09	1.90E-09	1.31E-07
1112	560774.85	4192430.08	8.93E-08	6.30E-08	9.03E-09	9.05E-09	9.03E-09	6.70E-09	4.06E-09	1.90E-07	6.39E-08	4.91E-08	7.00E-09	7.02E-09	7.00E-09	4.67E-09	2.04E-09	1.41E-07
1113	560762.2	4192448.78	7.11E-08	5.01E-08	7.19E-09	7.20E-09	7.19E-09	5.33E-09	3.23E-09	1.51E-07	5.08E-08	3.90E-08	5.57E-09	5.59E-09	5.57E-09	3.71E-09	1.63E-09	1.12E-07
1114	560764.26	4192433.89	8.01E-08	5.65E-08	8.10E-09	8.12E-09	8.10E-09	6.01E-09	3.64E-09	1.71E-07	5.73E-08	4.40E-08	6.28E-09	6.30E-09	6.28E-09	4.19E-09	1.83E-09	1.26E-07
1115	560752.26	4192447.9	6.65E-08	4.69E-08	6.72E-09	6.74E-09	6.72E-09	4.98E-09	3.02E-09	1.41E-07	4.75E-08	3.65E-08	5.21E-09	5.22E-09	5.21E-09	3.47E-09	1.52E-09	1.05E-07
1116	560754.41	4192432.36	7.52E-08	5.30E-08	7.60E-09	7.62E-09	7.60E-09	5.64E-09	3.42E-09	1.60E-07	5.38E-08	4.13E-08	5.90E-09	5.91E-09	5.90E-09	3.93E-09	1.72E-09	1.18E-07
1117	560742.32	4192447.02	6.23E-08	4.39E-08	6.30E-09	6.32E-09	6.30E-09	4.67E-09	2.83E-09	1.33E-07	4.46E-08	3.42E-08	4.88E-09	4.90E-09	4.88E-09	3.26E-09	1.43E-09	9.81E-08
1118	560744.56	4192430.83	7.08E-08	4.99E-08	7.15E-09	7.17E-09	7.15E-09	5.31E-09	3.22E-09	1.51E-07	5.06E-08	3.89E-08	5.55E-09	5.56E-09	5.55E-09	3.70E-09	1.62E-09	1.11E-07
1119	560732.38	4192446.14	5.86E-08	4.13E-08	5.92E-09	5.93E-09	5.92E-09	4.39E-09	2.66E-09	1.25E-07	4.19E-08	3.22E-08	4.59E-09	4.60E-09	4.59E-09	3.06E-09	1.34E-09	9.22E-08
1120	560734.71	4192429.3	6.67E-08	4.70E-08	6.75E-09	6.76E-09	6.75E-09	5.00E-09	3.03E-09	1.42E-07	4.77E-08	3.67E-08	5.23E-09	5.25E-09	5.23E-09	3.49E-09	1.53E-09	1.05E-07
1121	560722.44	4192445.26	5.51E-08	3.89E-08	5.57E-09	5.59E-09	5.57E-09	4.13E-09	2.51E-09	1.17E-07	3.94E-08	3.03E-08	4.32E-09	4.33E-09	4.32E-09	2.88E-09	1.26E-09	8.68E-08
1122	560724.86	4192427.77	6.31E-08	4.45E-08	6.37E-09	6.39E-09	6.37E-09	4.73E-09	2.87E-09	1.34E-07	4.51E-08	3.46E-08	4.94E-09	4.96E-09	4.94E-09	3.30E-09	1.44E-09	9.93E-08
1123	560712.29	4192445.89	5.14E-08	3.63E-08	5.20E-09	5.21E-09	5.20E-09	3.86E-09	2.34E-09	1.10E-07	3.68E-08	2.83E-08	4.03E-09	4.04E-09	4.03E-09	2.69E-09	1.18E-09	8.10E-08
1124	560714.38	4192430.78	5.77E-08	4.07E-08	5.83E-09	5.85E-09	5.83E-09	4.33E-09	2.62E-09	1.23E-07	4.13E-08	3.17E-08	4.52E-09	4.54E-09	4.52E-09	3.02E-09	1.32E-09	9.09E-08
1125	560702.35	4192445.06	4.86E-08	3.43E-08	4.92E-09	4.93E-09	4.92E-09	3.65E-09	2.21E-09	1.04E-07	3.48E-08	2.67E-08	3.81E-09	3.82E-09	3.81E-09	2.54E-09	1.11E-09	7.66E-08
1126	560704.51	4192429.41	5.47E-08	3.85E-08	5.53E-09	5.54E-09	5.53E-09	4.10E-09	2.48E-09	1.16E-07	3.91E-08	3.00E-08	4.29E-09	4.30E-09	4.29E-09	2.86E-09	1.25E-09	8.61E-08
1127	560692.4	4192444.23	4.61E-08	3.25E-08	4.65E-09	4.67E-09	4.65E-09	3.45E-09	2.09E-09	9.80E-08	3.29E-08	2.53E-08	3.61E-09	3.62E-09	3.61E-09	2.41E-09	1.05E-09	7.25E-08
1128	560694.64	4192428.04	5.19E-08	3.66E-08	5.25E-09	5.26E-09	5.25E-09	3.89E-09	2.36E-09	1.11E-07	3.71E-08	2.85E-08	4.07E-09	4.08E-09	4.07E-09	2.71E-09	1.19E-09	8.18E-08
1129	560696.88	4192411.85	5.83E-08	4.11E-08	5.90E-09	5.91E-09	5.90E-09	4.37E-09	2.65E-09	1.24E-07	4.17E-08	3.20E-08	4.57E-09	4.58E-09	4.57E-09	3.05E-09	1.33E-09	9.19E-08
1130	560682.45	4192443.41	4.37E-08	3.08E-08	4.41E-09	4.43E-09	4.41E-09	3.27E-09	1.98E-09	9.30E-08	3.12E-08	2.40E-08	3.42E-09	3.43E-09	3.42E-09	2.28E-09	9.99E-10	6.88E-08
1131	560684.77	4192426.68	4.94E-08	3.48E-08	4.99E-09	5.00E-09	4.99E-09	3.70E-09	2.24E-09	1.05E-07	3.53E-08	2.71E-08	3.87E-09	3.88E-09	3.87E-09	2.58E-09	1.13E-09	7.77E-08
1132	561570.52	4192469.82	5.77E-08	4.07E-08	5.84E-09	5.85E-09	5.84E-09	4.33E-09	2.62E-09	1.23E-07	4.13E-08	3.17E-08	4.53E-09	4.54E-09	4.53E-09	3.02E-09	1.32E-09	9.09E-08
1133	561116.53	4192515.88	1.10E-05	7.76E-06	1.11E-06	1.12E-06	1.11E-06	8.25E-07	5.00E-07	2.34E-05	7.87E-06	6.04E-06	8.62E-07	8.65E-07	8.62E-07	5.75E-07	2.52E-07	1.73E-05
1134	561122.24	4192517.22	1.09E-05	7.71E-06	1.11E-06	1.11E-06	1.11E-06	8.20E-07	4.97E-07	2.33E-05	7.82E-06	6.01E-06	8.57E-07	8.60E-07	8.57E-07	5.71E-07	2.50E-07	1.72E-05
1135	561127.38	4192518.55	1.08E-05	7.59E-06	1.09E-06	1.09E-06	1.09E-06	8.07E-07	4.90E-07	2.29E-05	7.70E-06	5.92E-06	8.44E-07	8.47E-07	8.44E-07	5.63E-07	2.46E-07	1.70E-05
1136	561132.34	4192519.69	1.05E-05	7.43E-06	1.07E-06	1.07E-06	1.07E-06	7.90E-07	4.79E-07	2.24E-05	7.54E-06	5.79E-06	8.26E-07	8.29E-07	8.26E-07	5.51E-07	2.41E-07	1.66E-05
1137	561136.53	4192520.84	1.03E-05	7.26E-06	1.04E-06	1.04E-06	1.04E-06	7.71E-07	4.68E-07	2.19E-05	7.36E-06	5.65E-06	8.07E-07	8.09E-07	8.07E-07	5.38E-07	2.35E-07	1.62E-05
1138	561141.67	4192521.79	9.89E-06	6.97E-06	1.00E-06	1.00E-06	1.00E-06	7.41E-07	4.49E-07	2.11E-05	7.07E-06	5.43E-06	7.75E-07	7.77E-07	7.75E-07	5.17E-07	2.26E-07	1.56E-05
1139	561146.43	4192522.74	9.38E-06	6.61E-06	9.48E-07	9.51E-07	9.48E-07	7.03E-07	4.26E-07	2.00E-05	6.71E-06	5.15E-06	7.35E-07	7.37E-07	7.35E-07	4.90E-07	2.15E-07	1.48E-05
1140	561149.48	4192523.69	8.95E-06	6.31E-06	9.05E-07	9.07E-07	9.05E-07	6.71E-07	4.07E-07	1.91E-05	6.40E-06	4.92E-06	7.02E-07	7.04E-07	7.02E-07	4.68E-07	2.05E-07	1.41E-05

			T4iRev							T4fRev						
			1.46E-02	1.11E-02	1.08E-02	1.09E-02	1.08E-02	8.03E-03	4.87E-03	1.04E-02	8.66E-03	8.40E-03	8.42E-03	8.40E-03	5.60E-03	2.45E-03
	UTM X	UTM Y	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
1	561383.48	4192287.53	3.11E-04	2.37E-04	2.31E-04	2.32E-04	2.31E-04	1.71E-04	1.04E-04	2.22E-04	1.85E-04	1.79E-04	1.80E-04	1.79E-04	1.19E-04	5.23E-05
2	561389.35	4192262.71	2.99E-04	2.28E-04	2.22E-04	2.23E-04	2.22E-04	1.65E-04	9.99E-05	2.14E-04	1.78E-04	1.72E-04	1.73E-04	1.72E-04	1.15E-04	5.03E-05
3	561390.63	4192271.92	2.95E-04	2.25E-04	2.20E-04	2.20E-04	2.20E-04	1.63E-04	9.88E-05	2.11E-04	1.76E-04	1.70E-04	1.71E-04	1.70E-04	1.14E-04	4.97E-05
4	561391.9	4192281.12	2.91E-04	2.22E-04	2.17E-04	2.17E-04	2.17E-04	1.61E-04	9.75E-05	2.08E-04	1.73E-04	1.68E-04	1.69E-04	1.68E-04	1.12E-04	4.91E-05
5	561393.17	4192290.32	2.87E-04	2.19E-04	2.13E-04	2.14E-04	2.13E-04	1.58E-04	9.59E-05	2.05E-04	1.70E-04	1.65E-04	1.66E-04	1.65E-04	1.10E-04	4.83E-05
6	561395.97	4192243.3	2.82E-04	2.15E-04	2.09E-04	2.10E-04	2.09E-04	1.55E-04	9.42E-05	2.01E-04	1.67E-04	1.62E-04	1.63E-04	1.62E-04	1.08E-04	4.74E-05
7	561397.32	4192253.01	2.80E-04	2.14E-04	2.08E-04	2.09E-04	2.08E-04	1.55E-04	9.37E-05	2.00E-04	1.67E-04	1.62E-04	1.62E-04	1.62E-04	1.08E-04	4.72E-05
8	561398.66	4192262.73	2.78E-04	2.12E-04	2.07E-04	2.07E-04	2.07E-04	1.53E-04	9.29E-05	1.99E-04	1.65E-04	1.60E-04	1.61E-04	1.60E-04	1.07E-04	4.68E-05
9	561400.01	4192272.44	2.75E-04	2.10E-04	2.04E-04	2.05E-04	2.04E-04	1.51E-04	9.18E-05	1.96E-04	1.63E-04	1.58E-04	1.59E-04	1.58E-04	1.06E-04	4.62E-05
10	561401.35	4192282.16	2.71E-04	2.06E-04	2.01E-04	2.02E-04	2.01E-04	1.49E-04	9.05E-05	1.93E-04	1.61E-04	1.56E-04	1.56E-04	1.56E-04	1.04E-04	4.56E-05
11	561402.69	4192291.87	2.66E-04	2.03E-04	1.98E-04	1.98E-04	1.98E-04	1.47E-04	8.89E-05	1.90E-04	1.58E-04	1.53E-04	1.54E-04	1.53E-04	1.02E-04	4.48E-05
12	561404.44	4192237.18	2.63E-04	2.01E-04	1.96E-04	1.96E-04	1.96E-04	1.45E-04	8.79E-05	1.88E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.01E-04	4.43E-05
13	561405.76	4192246.77	2.62E-04	2.00E-04	1.95E-04	1.95E-04	1.95E-04	1.45E-04	8.76E-05	1.87E-04	1.56E-04	1.51E-04	1.52E-04	1.51E-04	1.01E-04	4.41E-05
14	561407.09	4192256.35	2.60E-04	1.99E-04	1.94E-04	1.94E-04	1.94E-04	1.44E-04	8.71E-05	1.86E-04	1.55E-04	1.50E-04	1.51E-04	1.50E-04	1.00E-04	4.38E-05
15	561408.41	4192265.94	2.58E-04	1.97E-04	1.92E-04	1.92E-04	1.92E-04	1.42E-04	8.62E-05	1.84E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	9.92E-05	4.34E-05
16	561409.74	4192275.53	2.55E-04	1.94E-04	1.89E-04	1.90E-04	1.89E-04	1.40E-04	8.52E-05	1.82E-04	1.51E-04	1.47E-04	1.47E-04	1.47E-04	9.80E-05	4.29E-05
17	561411.07	4192285.11	2.51E-04	1.92E-04	1.87E-04	1.87E-04	1.87E-04	1.38E-04	8.39E-05	1.79E-04	1.49E-04	1.45E-04	1.45E-04	1.45E-04	9.65E-05	4.22E-05
18	561412.39	4192294.7	2.47E-04	1.88E-04	1.84E-04	1.84E-04	1.84E-04	1.36E-04	8.26E-05	1.77E-04	1.47E-04	1.42E-04	1.43E-04	1.42E-04	9.49E-05	4.16E-05
19	561414.22	4192240.65	2.45E-04	1.87E-04	1.83E-04	1.83E-04	1.83E-04	1.35E-04	8.21E-05	1.75E-04	1.46E-04	1.42E-04	1.42E-04	1.42E-04	9.44E-05	4.13E-05
20	561415.54	4192250.13	2.44E-04	1.86E-04	1.82E-04	1.82E-04	1.82E-04	1.35E-04	8.17E-05	1.75E-04	1.45E-04	1.41E-04	1.41E-04	1.41E-04	9.40E-05	4.11E-05
21	561416.85	4192259.6	2.43E-04	1.85E-04	1.80E-04	1.81E-04	1.80E-04	1.34E-04	8.11E-05	1.73E-04	1.44E-04	1.40E-04	1.40E-04	1.40E-04	9.33E-05	4.09E-05
22	561418.16	4192269.07	2.40E-04	1.83E-04	1.79E-04	1.79E-04	1.79E-04	1.32E-04	8.03E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.24E-05	4.04E-05
23	561419.47	4192278.55	2.37E-04	1.81E-04	1.76E-04	1.77E-04	1.76E-04	1.31E-04	7.93E-05	1.70E-04	1.41E-04	1.37E-04	1.37E-04	1.37E-04	9.12E-05	3.99E-05
24	561420.78	4192288.02	2.34E-04	1.78E-04	1.74E-04	1.74E-04	1.74E-04	1.29E-04	7.82E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	8.99E-05	3.94E-05
25	561424	4192244.03	2.30E-04	1.76E-04	1.71E-04	1.72E-04	1.71E-04	1.27E-04	7.69E-05	1.65E-04	1.37E-04	1.33E-04	1.33E-04	1.33E-04	8.85E-05	3.87E-05
26	561425.3	4192253.4	2.29E-04	1.75E-04	1.70E-04	1.71E-04	1.70E-04	1.26E-04	7.65E-05	1.64E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.80E-05	3.85E-05
27	561426.59	4192262.77	2.27E-04	1.73E-04	1.69E-04	1.69E-04	1.69E-04	1.25E-04	7.59E-05	1.62E-04	1.35E-04	1.31E-04	1.31E-04	1.31E-04	8.73E-05	3.82E-05
28	561356.27	4192417.52	4.02E-04	3.07E-04	2.99E-04	3.00E-04	2.99E-04	2.22E-04	1.34E-04	2.87E-04	2.39E-04	2.32E-04	2.32E-04	2.32E-04	1.54E-04	6.76E-05
29	561366.04	4192419.68	3.62E-04	2.76E-04	2.69E-04	2.70E-04	2.69E-04	2.00E-04	1.21E-04	2.59E-04	2.15E-04	2.09E-04	2.09E-04	2.09E-04	1.39E-04	6.10E-05
30	561375.8	4192421.84	3.28E-04	2.50E-04	2.44E-04	2.44E-04	2.44E-04	1.81E-04	1.10E-04	2.34E-04	1.95E-04	1.89E-04	1.90E-04	1.89E-04	1.26E-04	5.52E-05
31	561385.56	4192424.01	2.98E-04	2.27E-04	2.22E-04	2.22E-04	2.22E-04	1.64E-04	9.96E-05	2.13E-04	1.77E-04	1.72E-04	1.72E-04	1.72E-04	1.15E-04	5.02E-05
32	561405.09	4192428.33	2.50E-04	1.91E-04	1.86E-04	1.86E-04	1.86E-04	1.38E-04	8.35E-05	1.79E-04	1.48E-04	1.44E-04	1.44E-04	1.44E-04	9.60E-05	4.20E-05
33	561116.02	4192791.18	9.63E-04	7.35E-04	7.17E-04	7.19E-04	7.17E-04	5.31E-04	3.22E-04	6.89E-04	5.73E-04	5.56E-04	5.57E-04	5.56E-04	3.71E-04	1.62E-04
34	561414.85	4192430.5	2.29E-04	1.75E-04	1.71E-04	1.71E-04	1.71E-04	1.27E-04	7.67E-05	1.64E-04	1.36E-04	1.32E-04	1.33E-04	1.32E-04	8.82E-05	3.86E-05
35	561122.51	4192799.55	9.24E-04	7.06E-04	6.88E-04	6.90E-04	6.88E-04	5.10E-04	3.09E-04	6.61E-04	5.50E-04	5.33E-04	5.35E-04	5.33E-04	3.56E-04	1.56E-04
36	561424.61	4192432.66	2.11E-04	1.61E-04	1.57E-04	1.57E-04	1.57E-04	1.16E-04	7.05E-05	1.51E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	8.11E-05	3.55E-05
37	561150.66	4192804.85	9.13E-04	6.97E-04	6.79E-04	6.81E-04	6.79E-04	5.03E-04	3.05E-04	6.53E-04	5.43E-04	5.26E-04	5.28E-04	5.26E-04	3.51E-04	1.54E-04
38	561140.93	4192806.23	9.04E-04	6.90E-04	6.72E-04	6.74E-04	6.72E-04	4.99E-04	3.02E-04	6.46E-04	5.37E-04	5.21E-04	5.23E-04	5.21E-04	3.48E-04	1.52E-04
39	561131.19	4192807.61	8.91E-04	6.80E-04	6.63E-04	6.64E-04	6.63E-04	4.91E-04	2.98E-04	6.37E-04	5.30E-04	5.14E-04	5.15E-04	5.14E-04	3.43E-04	1.50E-04
40	561121.46	4192808.98	8.74E-04	6.67E-04	6.50E-04	6.52E-04	6.50E-04	4.82E-04	2.92E-04	6.25E-04	5.20E-04	5.04E-04	5.06E-04	5.04E-04	3.36E-04	1.47E-04
41	561111.73	4192810.36	8.55E-04	6.52E-04	6.36E-04	6.38E-04	6.36E-04	4.72E-04	2.86E-04	6.11E-04	5.08E-04	4.93E-04	4.94E-04	4.93E-04	3.29E-04	1.44E-04
42	561432.25	4192444.45	1.98E-04	1.51E-04	1.47E-04	1.47E-04	1.47E-04	1.09E-04	6.61E-05	1.41E-04	1.18E-04	1.14E-04	1.14E-04	1.14E-04	7.60E-05	3.33E-05
43	561434.38	4192434.83	1.94E-04	1.48E-04	1.44E-04	1.45E-04	1.44E-04	1.07E-04	6.49E-05	1.39E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	7.46E-05	3.27E-05
44	561166.68	4192811.87	8.73E-04	6.66E-04	6.49E-04	6.51E-04	6.49E-04	4.82E-04	2.92E-04	6.24E-04	5.19E-04	5.04E-04	5.05E-04	5.04E-04	3.36E-04	1.47E-04

45	561157.04	4192813.24	8.71E-04	6.65E-04	6.48E-04	6.50E-04	6.48E-04	4.81E-04	2.91E-04	6.23E-04	5.18E-04	5.03E-04	5.04E-04	5.03E-04	3.35E-04	1.47E-04
46	561147.4	4192814.6	8.65E-04	6.60E-04	6.44E-04	6.45E-04	6.44E-04	4.77E-04	2.89E-04	6.19E-04	5.14E-04	4.99E-04	5.00E-04	4.99E-04	3.33E-04	1.46E-04
47	561137.76	4192815.96	8.55E-04	6.52E-04	6.36E-04	6.38E-04	6.36E-04	4.72E-04	2.86E-04	6.11E-04	5.08E-04	4.93E-04	4.94E-04	4.93E-04	3.29E-04	1.44E-04
48	561128.12	4192817.33	8.41E-04	6.42E-04	6.25E-04	6.27E-04	6.25E-04	4.64E-04	2.81E-04	6.01E-04	5.00E-04	4.85E-04	4.86E-04	4.85E-04	3.23E-04	1.42E-04
49	561118.49	4192818.69	8.24E-04	6.29E-04	6.13E-04	6.15E-04	6.13E-04	4.55E-04	2.76E-04	5.89E-04	4.90E-04	4.75E-04	4.77E-04	4.75E-04	3.17E-04	1.39E-04
50	561422.82	4192533.18	2.17E-04	1.65E-04	1.61E-04	1.62E-04	1.61E-04	1.20E-04	7.25E-05	1.55E-04	1.29E-04	1.25E-04	1.25E-04	1.25E-04	8.34E-05	3.65E-05
51	561424.95	4192523.56	2.12E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.17E-04	7.09E-05	1.52E-04	1.26E-04	1.22E-04	1.23E-04	1.22E-04	8.16E-05	3.57E-05
52	561442.01	4192446.61	1.82E-04	1.39E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.09E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.01E-05	3.07E-05
53	561444.14	4192436.99	1.79E-04	1.37E-04	1.33E-04	1.34E-04	1.33E-04	9.88E-05	5.99E-05	1.28E-04	1.07E-04	1.03E-04	1.04E-04	1.03E-04	6.89E-05	3.02E-05
54	561182.43	4192818.93	8.26E-04	6.30E-04	6.14E-04	6.16E-04	6.14E-04	4.56E-04	2.76E-04	5.90E-04	4.91E-04	4.76E-04	4.78E-04	4.76E-04	3.18E-04	1.39E-04
55	561172.87	4192820.28	8.31E-04	6.35E-04	6.19E-04	6.20E-04	6.19E-04	4.59E-04	2.78E-04	5.95E-04	4.94E-04	4.80E-04	4.81E-04	4.80E-04	3.20E-04	1.40E-04
56	561163.32	4192821.63	8.32E-04	6.35E-04	6.19E-04	6.21E-04	6.19E-04	4.59E-04	2.78E-04	5.95E-04	4.95E-04	4.80E-04	4.81E-04	4.80E-04	3.20E-04	1.40E-04
57	561153.76	4192822.99	8.28E-04	6.32E-04	6.16E-04	6.18E-04	6.16E-04	4.57E-04	2.77E-04	5.92E-04	4.92E-04	4.78E-04	4.79E-04	4.78E-04	3.18E-04	1.39E-04
58	561144.21	4192824.34	8.20E-04	6.26E-04	6.10E-04	6.12E-04	6.10E-04	4.52E-04	2.74E-04	5.86E-04	4.88E-04	4.73E-04	4.74E-04	4.73E-04	3.15E-04	1.38E-04
59	561134.65	4192825.69	8.08E-04	6.17E-04	6.01E-04	6.03E-04	6.01E-04	4.46E-04	2.70E-04	5.78E-04	4.81E-04	4.66E-04	4.68E-04	4.66E-04	3.11E-04	1.36E-04
60	561125.1	4192827.04	7.94E-04	6.06E-04	5.91E-04	5.92E-04	5.91E-04	4.38E-04	2.66E-04	5.68E-04	4.72E-04	4.58E-04	4.59E-04	4.58E-04	3.05E-04	1.34E-04
61	561115.54	4192828.39	7.77E-04	5.93E-04	5.78E-04	5.80E-04	5.78E-04	4.29E-04	2.60E-04	5.56E-04	4.62E-04	4.48E-04	4.50E-04	4.48E-04	2.99E-04	1.31E-04
62	561432.58	4192535.35	2.01E-04	1.54E-04	1.50E-04	1.50E-04	1.50E-04	1.11E-04	6.73E-05	1.44E-04	1.20E-04	1.16E-04	1.16E-04	1.16E-04	7.74E-05	3.39E-05
63	561434.72	4192525.73	1.97E-04	1.50E-04	1.46E-04	1.47E-04	1.46E-04	1.09E-04	6.58E-05	1.41E-04	1.17E-04	1.13E-04	1.14E-04	1.13E-04	7.57E-05	3.31E-05
64	561451.77	4192448.77	1.69E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.32E-05	5.65E-05	1.21E-04	1.00E-04	9.74E-05	9.77E-05	9.74E-05	6.50E-05	2.84E-05
65	561453.9	4192439.15	1.66E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.17E-05	5.56E-05	1.19E-04	9.89E-05	9.59E-05	9.62E-05	9.59E-05	6.39E-05	2.80E-05
66	561216.89	4192823.34	7.38E-04	5.63E-04	5.49E-04	5.50E-04	5.49E-04	4.07E-04	2.47E-04	5.28E-04	4.39E-04	4.26E-04	4.27E-04	4.26E-04	2.84E-04	1.24E-04
67	561207.41	4192824.68	7.57E-04	5.78E-04	5.63E-04	5.65E-04	5.63E-04	4.18E-04	2.53E-04	5.42E-04	4.50E-04	4.37E-04	4.38E-04	4.37E-04	2.91E-04	1.28E-04
68	561197.93	4192826.02	7.73E-04	5.90E-04	5.75E-04	5.77E-04	5.75E-04	4.27E-04	2.59E-04	5.53E-04	4.60E-04	4.46E-04	4.47E-04	4.46E-04	2.97E-04	1.30E-04
69	561178.98	4192828.71	7.92E-04	6.04E-04	5.89E-04	5.91E-04	5.89E-04	4.37E-04	2.65E-04	5.66E-04	4.71E-04	4.57E-04	4.58E-04	4.57E-04	3.05E-04	1.33E-04
70	561169.5	4192830.05	7.94E-04	6.06E-04	5.91E-04	5.93E-04	5.91E-04	4.38E-04	2.66E-04	5.68E-04	4.72E-04	4.58E-04	4.60E-04	4.58E-04	3.06E-04	1.34E-04
71	561160.02	4192831.39	7.92E-04	6.05E-04	5.90E-04	5.91E-04	5.90E-04	4.37E-04	2.65E-04	5.67E-04	4.71E-04	4.57E-04	4.58E-04	4.57E-04	3.05E-04	1.33E-04
72	561150.54	4192832.73	7.87E-04	6.00E-04	5.85E-04	5.87E-04	5.85E-04	4.34E-04	2.63E-04	5.63E-04	4.68E-04	4.54E-04	4.55E-04	4.54E-04	3.03E-04	1.32E-04
73	561141.06	4192834.07	7.77E-04	5.93E-04	5.78E-04	5.80E-04	5.78E-04	4.29E-04	2.60E-04	5.56E-04	4.62E-04	4.48E-04	4.50E-04	4.48E-04	2.99E-04	1.31E-04
74	561131.59	4192835.41	7.65E-04	5.84E-04	5.69E-04	5.71E-04	5.69E-04	4.22E-04	2.56E-04	5.47E-04	4.55E-04	4.41E-04	4.43E-04	4.41E-04	2.94E-04	1.29E-04
75	561122.11	4192836.75	7.50E-04	5.73E-04	5.58E-04	5.60E-04	5.58E-04	4.14E-04	2.51E-04	5.37E-04	4.46E-04	4.33E-04	4.34E-04	4.33E-04	2.89E-04	1.26E-04
76	561112.63	4192838.09	7.34E-04	5.60E-04	5.46E-04	5.48E-04	5.46E-04	4.05E-04	2.45E-04	5.25E-04	4.37E-04	4.23E-04	4.25E-04	4.23E-04	2.82E-04	1.24E-04
77	561442.35	4192537.51	1.87E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	1.03E-04	6.25E-05	1.34E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.19E-05	3.15E-05
78	561444.48	4192527.89	1.83E-04	1.40E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.11E-05	1.31E-04	1.09E-04	1.05E-04	1.06E-04	1.05E-04	7.03E-05	3.08E-05
79	561461.53	4192450.94	1.57E-04	1.20E-04	1.17E-04	1.17E-04	1.17E-04	8.65E-05	5.25E-05	1.12E-04	9.33E-05	9.05E-05	9.07E-05	9.05E-05	6.03E-05	2.64E-05
80	561463.67	4192441.32	1.55E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.52E-05	5.17E-05	1.11E-04	9.19E-05	8.91E-05	8.94E-05	8.91E-05	5.94E-05	2.60E-05
81	561241.45	4192829.16	6.52E-04	4.98E-04	4.85E-04	4.87E-04	4.85E-04	3.60E-04	2.18E-04	4.66E-04	3.88E-04	3.76E-04	3.77E-04	3.76E-04	2.51E-04	1.10E-04
82	561232.04	4192830.49	6.77E-04	5.17E-04	5.04E-04	5.05E-04	5.04E-04	3.73E-04	2.26E-04	4.84E-04	4.03E-04	3.91E-04	3.92E-04	3.91E-04	2.60E-04	1.14E-04
83	561222.63	4192831.82	6.99E-04	5.34E-04	5.20E-04	5.22E-04	5.20E-04	3.86E-04	2.34E-04	5.00E-04	4.16E-04	4.03E-04	4.04E-04	4.03E-04	2.69E-04	1.18E-04
84	561213.23	4192833.15	7.18E-04	5.48E-04	5.34E-04	5.36E-04	5.34E-04	3.96E-04	2.40E-04	5.14E-04	4.27E-04	4.14E-04	4.15E-04	4.14E-04	2.76E-04	1.21E-04
85	561203.82	4192834.48	7.34E-04	5.60E-04	5.46E-04	5.47E-04	5.46E-04	4.05E-04	2.45E-04	5.25E-04	4.36E-04	4.23E-04	4.25E-04	4.23E-04	2.82E-04	1.24E-04
86	561185	4192837.14	7.55E-04	5.76E-04	5.61E-04	5.63E-04	5.61E-04	4.16E-04	2.52E-04	5.40E-04	4.49E-04	4.35E-04	4.37E-04	4.35E-04	2.90E-04	1.27E-04
87	561175.6	4192838.47	7.59E-04	5.79E-04	5.65E-04	5.66E-04	5.65E-04	4.19E-04	2.54E-04	5.43E-04	4.51E-04	4.38E-04	4.39E-04	4.38E-04	2.92E-04	1.28E-04
88	561166.19	4192839.8	7.59E-04	5.79E-04	5.64E-04	5.66E-04	5.64E-04	4.19E-04	2.54E-04	5.43E-04	4.51E-04	4.38E-04	4.39E-04	4.38E-04	2.92E-04	1.28E-04
89	561156.78	4192841.13	7.55E-04	5.76E-04	5.61E-04	5.63E-04	5.61E-04	4.16E-04	2.52E-04	5.40E-04	4.49E-04	4.35E-04	4.37E-04	4.35E-04	2.90E-04	1.27E-04
90	561147.37	4192842.46	7.47E-04	5.70E-04	5.56E-04	5.57E-04	5.56E-04	4.12E-04	2.50E-04	5.34E-04	4.44E-04	4.31E-04	4.32E-04	4.31E-04	2.87E-04	1.26E-04
91	561137.97	4192843.79	7.37E-04	5.63E-04	5.48E-04	5.50E-04	5.48E-04	4.07E-04	2.47E-04	5.27E-04	4.38E-04	4.25E-04	4.26E-04	4.25E-04	2.83E-04	1.24E-04
92	561128.56	4192845.12	7.24E-04	5.53E-04	5.39E-04	5.40E-04	5.39E-04	4.00E-04	2.42E-04	5.18E-04	4.31E-04	4.18E-04	4.19E-04	4.18E-04	2.79E-04	1.22E-04

93	561119.15	4192846.45	7.10E-04	5.42E-04	5.28E-04	5.29E-04	5.28E-04	3.92E-04	2.37E-04	5.08E-04	4.22E-04	4.09E-04	4.11E-04	4.09E-04	2.73E-04	1.20E-04
94	561109.74	4192847.78	6.94E-04	5.29E-04	5.16E-04	5.17E-04	5.16E-04	3.83E-04	2.32E-04	4.96E-04	4.13E-04	4.00E-04	4.01E-04	4.00E-04	2.67E-04	1.17E-04
95	561452.11	4192539.68	1.74E-04	1.33E-04	1.30E-04	1.30E-04	1.30E-04	9.61E-05	5.82E-05	1.25E-04	1.04E-04	1.00E-04	1.01E-04	1.00E-04	6.70E-05	2.93E-05
96	561454.24	4192530.06	1.70E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	9.39E-05	5.69E-05	1.22E-04	1.01E-04	9.82E-05	9.85E-05	9.82E-05	6.55E-05	2.87E-05
97	561471.3	4192453.1	1.46E-04	1.11E-04	1.09E-04	1.09E-04	1.09E-04	8.05E-05	4.88E-05	1.04E-04	8.68E-05	8.42E-05	8.44E-05	8.42E-05	5.61E-05	2.46E-05
98	561473.43	4192443.48	1.44E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.94E-05	4.81E-05	1.03E-04	8.56E-05	8.30E-05	8.32E-05	8.30E-05	5.54E-05	2.42E-05
99	561264.15	4192835.23	5.71E-04	4.36E-04	4.25E-04	4.26E-04	4.25E-04	3.15E-04	1.91E-04	4.08E-04	3.39E-04	3.29E-04	3.30E-04	3.29E-04	2.19E-04	9.61E-05
100	561254.42	4192836.61	5.98E-04	4.56E-04	4.45E-04	4.46E-04	4.45E-04	3.30E-04	2.00E-04	4.28E-04	3.56E-04	3.45E-04	3.46E-04	3.45E-04	2.30E-04	1.01E-04
101	561244.68	4192837.98	6.24E-04	4.76E-04	4.64E-04	4.66E-04	4.64E-04	3.44E-04	2.09E-04	4.46E-04	3.71E-04	3.60E-04	3.61E-04	3.60E-04	2.40E-04	1.05E-04
102	561234.95	4192839.36	6.48E-04	4.95E-04	4.82E-04	4.83E-04	4.82E-04	3.58E-04	2.17E-04	4.63E-04	3.85E-04	3.74E-04	3.75E-04	3.74E-04	2.49E-04	1.09E-04
103	561225.22	4192840.74	6.70E-04	5.11E-04	4.98E-04	5.00E-04	4.98E-04	3.69E-04	2.24E-04	4.79E-04	3.98E-04	3.86E-04	3.87E-04	3.86E-04	2.58E-04	1.13E-04
104	561215.49	4192842.11	6.88E-04	5.25E-04	5.12E-04	5.13E-04	5.12E-04	3.80E-04	2.30E-04	4.92E-04	4.09E-04	3.97E-04	3.98E-04	3.97E-04	2.65E-04	1.16E-04
105	561205.76	4192843.49	7.03E-04	5.37E-04	5.23E-04	5.25E-04	5.23E-04	3.88E-04	2.35E-04	5.03E-04	4.18E-04	4.06E-04	4.07E-04	4.06E-04	2.70E-04	1.18E-04
106	561196.02	4192844.87	7.15E-04	5.46E-04	5.32E-04	5.33E-04	5.32E-04	3.94E-04	2.39E-04	5.11E-04	4.25E-04	4.12E-04	4.14E-04	4.12E-04	2.75E-04	1.20E-04
107	561176.56	4192847.62	7.26E-04	5.54E-04	5.40E-04	5.42E-04	5.40E-04	4.01E-04	2.43E-04	5.19E-04	4.32E-04	4.19E-04	4.20E-04	4.19E-04	2.79E-04	1.22E-04
108	561166.83	4192849	7.25E-04	5.54E-04	5.40E-04	5.41E-04	5.40E-04	4.00E-04	2.43E-04	5.19E-04	4.31E-04	4.18E-04	4.20E-04	4.18E-04	2.79E-04	1.22E-04
109	561157.1	4192850.37	7.21E-04	5.50E-04	5.36E-04	5.38E-04	5.36E-04	3.98E-04	2.41E-04	5.15E-04	4.29E-04	4.16E-04	4.17E-04	4.16E-04	2.77E-04	1.21E-04
110	561147.36	4192851.75	7.13E-04	5.44E-04	5.30E-04	5.32E-04	5.30E-04	3.93E-04	2.38E-04	5.10E-04	4.24E-04	4.11E-04	4.12E-04	4.11E-04	2.74E-04	1.20E-04
111	561137.63	4192853.13	7.02E-04	5.36E-04	5.23E-04	5.24E-04	5.23E-04	3.88E-04	2.35E-04	5.02E-04	4.18E-04	4.05E-04	4.06E-04	4.05E-04	2.70E-04	1.18E-04
112	561127.9	4192854.5	6.90E-04	5.26E-04	5.13E-04	5.14E-04	5.13E-04	3.80E-04	2.31E-04	4.93E-04	4.10E-04	3.98E-04	3.99E-04	3.98E-04	2.65E-04	1.16E-04
113	561118.17	4192855.88	6.75E-04	5.15E-04	5.02E-04	5.03E-04	5.02E-04	3.72E-04	2.26E-04	4.83E-04	4.01E-04	3.89E-04	3.90E-04	3.89E-04	2.60E-04	1.14E-04
114	561461.87	4192541.84	1.62E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.97E-05	5.43E-05	1.16E-04	9.66E-05	9.37E-05	9.40E-05	9.37E-05	6.25E-05	2.74E-05
115	561464	4192532.22	1.59E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.76E-05	5.31E-05	1.14E-04	9.44E-05	9.16E-05	9.18E-05	9.16E-05	6.11E-05	2.67E-05
116	561476.8	4192474.5	1.40E-04	1.07E-04	1.04E-04	1.05E-04	1.04E-04	7.75E-05	4.70E-05	1.00E-04	8.35E-05	8.10E-05	8.12E-05	8.10E-05	5.40E-05	2.36E-05
117	561481.06	4192455.26	1.36E-04	1.04E-04	1.01E-04	1.02E-04	1.01E-04	7.51E-05	4.55E-05	9.73E-05	8.09E-05	7.85E-05	7.87E-05	7.85E-05	5.23E-05	2.29E-05
118	561483.19	4192445.64	1.34E-04	1.02E-04	9.99E-05	1.00E-04	9.99E-05	7.41E-05	4.49E-05	9.60E-05	7.99E-05	7.75E-05	7.77E-05	7.75E-05	5.16E-05	2.26E-05
119	561269.64	4192843.74	5.41E-04	4.13E-04	4.02E-04	4.04E-04	4.02E-04	2.98E-04	1.81E-04	3.87E-04	3.22E-04	3.12E-04	3.13E-04	3.12E-04	2.08E-04	9.11E-05
120	561259.99	4192845.11	5.67E-04	4.33E-04	4.22E-04	4.23E-04	4.22E-04	3.13E-04	1.90E-04	4.05E-04	3.37E-04	3.27E-04	3.28E-04	3.27E-04	2.18E-04	9.54E-05
121	561250.33	4192846.47	5.92E-04	4.52E-04	4.40E-04	4.41E-04	4.40E-04	3.26E-04	1.98E-04	4.23E-04	3.52E-04	3.41E-04	3.42E-04	3.41E-04	2.28E-04	9.96E-05
122	561240.68	4192847.84	6.15E-04	4.69E-04	4.57E-04	4.59E-04	4.57E-04	3.39E-04	2.06E-04	4.40E-04	3.66E-04	3.55E-04	3.56E-04	3.55E-04	2.36E-04	1.04E-04
123	561231.02	4192849.2	6.36E-04	4.85E-04	4.73E-04	4.74E-04	4.73E-04	3.51E-04	2.13E-04	4.55E-04	3.78E-04	3.67E-04	3.68E-04	3.67E-04	2.44E-04	1.07E-04
124	561221.37	4192850.57	6.54E-04	4.99E-04	4.86E-04	4.88E-04	4.86E-04	3.61E-04	2.19E-04	4.68E-04	3.89E-04	3.77E-04	3.78E-04	3.77E-04	2.52E-04	1.10E-04
125	561211.71	4192851.93	6.69E-04	5.11E-04	4.98E-04	4.99E-04	4.98E-04	3.69E-04	2.24E-04	4.78E-04	3.98E-04	3.86E-04	3.87E-04	3.86E-04	2.57E-04	1.13E-04
126	561202.06	4192853.3	6.81E-04	5.20E-04	5.07E-04	5.08E-04	5.07E-04	3.76E-04	2.28E-04	4.87E-04	4.05E-04	3.93E-04	3.94E-04	3.93E-04	2.62E-04	1.15E-04
127	561173.1	4192857.4	6.95E-04	5.31E-04	5.17E-04	5.19E-04	5.17E-04	3.84E-04	2.33E-04	4.97E-04	4.14E-04	4.01E-04	4.02E-04	4.01E-04	2.67E-04	1.17E-04
128	561163.44	4192858.76	6.93E-04	5.29E-04	5.15E-04	5.17E-04	5.15E-04	3.82E-04	2.32E-04	4.95E-04	4.12E-04	4.00E-04	4.01E-04	4.00E-04	2.66E-04	1.17E-04
129	561153.79	4192860.13	6.87E-04	5.24E-04	5.11E-04	5.12E-04	5.11E-04	3.79E-04	2.30E-04	4.91E-04	4.08E-04	3.96E-04	3.97E-04	3.96E-04	2.64E-04	1.16E-04
130	561144.14	4192861.49	6.78E-04	5.17E-04	5.04E-04	5.06E-04	5.04E-04	3.74E-04	2.27E-04	4.85E-04	4.03E-04	3.91E-04	3.92E-04	3.91E-04	2.61E-04	1.14E-04
131	561134.48	4192862.86	6.67E-04	5.09E-04	4.96E-04	4.97E-04	4.96E-04	3.68E-04	2.23E-04	4.77E-04	3.96E-04	3.85E-04	3.86E-04	3.85E-04	2.56E-04	1.12E-04
132	561325.61	4192377.76	5.55E-04	4.24E-04	4.13E-04	4.14E-04	4.13E-04	3.06E-04	1.86E-04	3.97E-04	3.30E-04	3.20E-04	3.21E-04	3.20E-04	2.14E-04	9.35E-05
133	561328.03	4192368.66	5.34E-04	4.08E-04	3.98E-04	3.99E-04	3.98E-04	2.95E-04	1.79E-04	3.82E-04	3.18E-04	3.08E-04	3.09E-04	3.08E-04	2.06E-04	9.00E-05
134	561330.45	4192359.56	5.16E-04	3.94E-04	3.84E-04	3.85E-04	3.84E-04	2.85E-04	1.73E-04	3.69E-04	3.07E-04	2.98E-04	2.99E-04	2.98E-04	1.99E-04	8.69E-05
135	561335.28	4192380.33	4.96E-04	3.79E-04	3.69E-04	3.70E-04	3.69E-04	2.74E-04	1.66E-04	3.55E-04	2.95E-04	2.86E-04	2.87E-04	2.86E-04	1.91E-04	8.36E-05
136	561337.7	4192371.23	4.79E-04	3.66E-04	3.56E-04	3.57E-04	3.56E-04	2.64E-04	1.60E-04	3.42E-04	2.85E-04	2.76E-04	2.77E-04	2.76E-04	1.84E-04	8.06E-05
137	561340.12	4192362.14	4.63E-04	3.53E-04	3.44E-04	3.45E-04	3.44E-04	2.55E-04	1.55E-04	3.31E-04	2.75E-04	2.67E-04	2.68E-04	2.67E-04	1.78E-04	7.79E-05
138	561344.94	4192382.9	4.46E-04	3.41E-04	3.32E-04	3.33E-04	3.32E-04	2.46E-04	1.49E-04	3.19E-04	2.65E-04	2.57E-04	2.58E-04	2.57E-04	1.72E-04	7.51E-05
139	561347.36	4192373.81	4.31E-04	3.29E-04	3.21E-04	3.22E-04	3.21E-04	2.38E-04	1.44E-04	3.09E-04	2.57E-04	2.49E-04	2.50E-04	2.49E-04	1.66E-04	7.26E-05
140	561349.78	4192364.71	4.17E-04	3.19E-04	3.11E-04	3.11E-04	3.11E-04	2.30E-04	1.40E-04	2.99E-04	2.48E-04	2.41E-04	2.42E-04	2.41E-04	1.61E-04	7.03E-05

141	561354.6	4192385.48	4.03E-04	3.07E-04	3.00E-04	3.01E-04	3.00E-04	2.22E-04	1.35E-04	2.88E-04	2.40E-04	2.32E-04	2.33E-04	2.32E-04	1.55E-04	6.78E-05
142	561357.02	4192376.38	3.90E-04	2.98E-04	2.90E-04	2.91E-04	2.90E-04	2.15E-04	1.31E-04	2.79E-04	2.32E-04	2.25E-04	2.26E-04	2.25E-04	1.50E-04	6.57E-05
143	561359.45	4192367.28	3.79E-04	2.89E-04	2.82E-04	2.82E-04	2.82E-04	2.09E-04	1.27E-04	2.71E-04	2.25E-04	2.18E-04	2.19E-04	2.18E-04	1.46E-04	6.37E-05
144	561361.87	4192358.18	3.68E-04	2.81E-04	2.73E-04	2.74E-04	2.73E-04	2.03E-04	1.23E-04	2.63E-04	2.19E-04	2.12E-04	2.13E-04	2.12E-04	1.41E-04	6.19E-05
145	561359.43	4192406.24	3.87E-04	2.95E-04	2.88E-04	2.89E-04	2.88E-04	2.13E-04	1.29E-04	2.77E-04	2.30E-04	2.23E-04	2.24E-04	2.23E-04	1.49E-04	6.51E-05
146	561361.85	4192397.14	3.75E-04	2.86E-04	2.79E-04	2.80E-04	2.79E-04	2.07E-04	1.25E-04	2.68E-04	2.23E-04	2.16E-04	2.17E-04	2.16E-04	1.44E-04	6.32E-05
147	561364.27	4192388.05	3.64E-04	2.78E-04	2.71E-04	2.72E-04	2.71E-04	2.01E-04	1.22E-04	2.61E-04	2.17E-04	2.10E-04	2.11E-04	2.10E-04	1.40E-04	6.13E-05
148	561366.69	4192378.95	3.54E-04	2.70E-04	2.63E-04	2.64E-04	2.63E-04	1.95E-04	1.18E-04	2.53E-04	2.11E-04	2.04E-04	2.05E-04	2.04E-04	1.36E-04	5.96E-05
149	561369.11	4192369.85	3.45E-04	2.63E-04	2.56E-04	2.57E-04	2.56E-04	1.90E-04	1.15E-04	2.46E-04	2.05E-04	1.99E-04	1.99E-04	1.99E-04	1.33E-04	5.80E-05
150	561371.53	4192360.75	3.36E-04	2.56E-04	2.50E-04	2.50E-04	2.50E-04	1.85E-04	1.12E-04	2.40E-04	2.00E-04	1.94E-04	1.94E-04	1.94E-04	1.29E-04	5.65E-05
151	561373.95	4192351.65	3.27E-04	2.50E-04	2.43E-04	2.44E-04	2.43E-04	1.80E-04	1.09E-04	2.34E-04	1.95E-04	1.89E-04	1.89E-04	1.89E-04	1.26E-04	5.51E-05
152	561376.37	4192342.55	3.20E-04	2.44E-04	2.38E-04	2.39E-04	2.38E-04	1.76E-04	1.07E-04	2.29E-04	1.90E-04	1.84E-04	1.85E-04	1.84E-04	1.23E-04	5.39E-05
153	561378.79	4192333.46	3.14E-04	2.39E-04	2.33E-04	2.34E-04	2.33E-04	1.73E-04	1.05E-04	2.24E-04	1.86E-04	1.81E-04	1.81E-04	1.81E-04	1.21E-04	5.28E-05
154	561381.21	4192324.36	3.08E-04	2.35E-04	2.29E-04	2.30E-04	2.29E-04	1.70E-04	1.03E-04	2.20E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.18E-04	5.19E-05
155	561383.63	4192315.26	3.03E-04	2.31E-04	2.26E-04	2.26E-04	2.26E-04	1.67E-04	1.01E-04	2.17E-04	1.80E-04	1.75E-04	1.75E-04	1.75E-04	1.17E-04	5.11E-05
156	561369.09	4192408.81	3.50E-04	2.67E-04	2.60E-04	2.61E-04	2.60E-04	1.93E-04	1.17E-04	2.50E-04	2.08E-04	2.02E-04	2.02E-04	2.02E-04	1.34E-04	5.89E-05
157	561371.51	4192399.72	3.40E-04	2.59E-04	2.53E-04	2.53E-04	2.53E-04	1.87E-04	1.14E-04	2.43E-04	2.02E-04	1.96E-04	1.97E-04	1.96E-04	1.31E-04	5.72E-05
158	561373.93	4192390.62	3.31E-04	2.52E-04	2.46E-04	2.47E-04	2.46E-04	1.82E-04	1.11E-04	2.36E-04	1.97E-04	1.91E-04	1.91E-04	1.91E-04	1.27E-04	5.57E-05
159	561376.35	4192381.52	3.22E-04	2.46E-04	2.40E-04	2.40E-04	2.40E-04	1.78E-04	1.08E-04	2.30E-04	1.92E-04	1.86E-04	1.86E-04	1.86E-04	1.24E-04	5.43E-05
160	561378.77	4192372.42	3.14E-04	2.40E-04	2.34E-04	2.35E-04	2.34E-04	1.73E-04	1.05E-04	2.25E-04	1.87E-04	1.81E-04	1.82E-04	1.81E-04	1.21E-04	5.30E-05
161	561381.19	4192363.32	3.07E-04	2.35E-04	2.29E-04	2.29E-04	2.29E-04	1.70E-04	1.03E-04	2.20E-04	1.83E-04	1.77E-04	1.78E-04	1.77E-04	1.18E-04	5.17E-05
162	561383.61	4192354.22	3.00E-04	2.29E-04	2.23E-04	2.24E-04	2.23E-04	1.66E-04	1.00E-04	2.15E-04	1.79E-04	1.73E-04	1.74E-04	1.73E-04	1.15E-04	5.06E-05
163	561386.04	4192345.13	2.94E-04	2.24E-04	2.19E-04	2.19E-04	2.19E-04	1.62E-04	9.83E-05	2.10E-04	1.75E-04	1.70E-04	1.70E-04	1.70E-04	1.13E-04	4.95E-05
164	561388.46	4192336.03	2.89E-04	2.20E-04	2.15E-04	2.15E-04	2.15E-04	1.59E-04	9.65E-05	2.06E-04	1.72E-04	1.67E-04	1.67E-04	1.67E-04	1.11E-04	4.86E-05
165	561390.88	4192326.93	2.84E-04	2.17E-04	2.11E-04	2.12E-04	2.11E-04	1.57E-04	9.50E-05	2.03E-04	1.69E-04	1.64E-04	1.64E-04	1.64E-04	1.09E-04	4.78E-05
166	561393.3	4192317.83	2.80E-04	2.14E-04	2.08E-04	2.09E-04	2.08E-04	1.55E-04	9.37E-05	2.00E-04	1.67E-04	1.62E-04	1.62E-04	1.62E-04	1.08E-04	4.72E-05
167	561378.75	4192411.39	3.17E-04	2.42E-04	2.36E-04	2.37E-04	2.36E-04	1.75E-04	1.06E-04	2.27E-04	1.89E-04	1.83E-04	1.84E-04	1.83E-04	1.22E-04	5.34E-05
168	561381.17	4192402.29	3.09E-04	2.36E-04	2.30E-04	2.30E-04	2.30E-04	1.70E-04	1.03E-04	2.21E-04	1.84E-04	1.78E-04	1.79E-04	1.78E-04	1.19E-04	5.20E-05
169	561383.6	4192393.19	3.01E-04	2.30E-04	2.24E-04	2.24E-04	2.24E-04	1.66E-04	1.01E-04	2.15E-04	1.79E-04	1.74E-04	1.74E-04	1.74E-04	1.16E-04	5.07E-05
170	561386.02	4192384.09	2.94E-04	2.25E-04	2.19E-04	2.19E-04	2.19E-04	1.62E-04	9.84E-05	2.10E-04	1.75E-04	1.70E-04	1.70E-04	1.70E-04	1.13E-04	4.95E-05
171	561388.44	4192374.99	2.88E-04	2.20E-04	2.14E-04	2.15E-04	2.14E-04	1.59E-04	9.63E-05	2.06E-04	1.71E-04	1.66E-04	1.67E-04	1.66E-04	1.11E-04	4.85E-05
172	561390.86	4192365.89	2.82E-04	2.15E-04	2.10E-04	2.11E-04	2.10E-04	1.56E-04	9.44E-05	2.02E-04	1.68E-04	1.63E-04	1.63E-04	1.63E-04	1.09E-04	4.75E-05
173	561393.28	4192356.79	2.76E-04	2.11E-04	2.06E-04	2.06E-04	2.06E-04	1.52E-04	9.24E-05	1.98E-04	1.64E-04	1.59E-04	1.60E-04	1.59E-04	1.06E-04	4.65E-05
174	561395.7	4192347.7	2.71E-04	2.07E-04	2.02E-04	2.02E-04	2.02E-04	1.50E-04	9.07E-05	1.94E-04	1.61E-04	1.56E-04	1.57E-04	1.56E-04	1.04E-04	4.57E-05
175	561398.12	4192338.6	2.67E-04	2.04E-04	1.98E-04	1.99E-04	1.98E-04	1.47E-04	8.92E-05	1.91E-04	1.59E-04	1.54E-04	1.54E-04	1.54E-04	1.03E-04	4.49E-05
176	561400.54	4192329.5	2.63E-04	2.01E-04	1.95E-04	1.96E-04	1.95E-04	1.45E-04	8.79E-05	1.88E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.01E-04	4.43E-05
177	561402.96	4192320.4	2.59E-04	1.98E-04	1.93E-04	1.94E-04	1.93E-04	1.43E-04	8.68E-05	1.86E-04	1.54E-04	1.50E-04	1.50E-04	1.50E-04	9.98E-05	4.37E-05
178	561407.75	4192419.1	2.44E-04	1.86E-04	1.81E-04	1.82E-04	1.81E-04	1.34E-04	8.15E-05	1.74E-04	1.45E-04	1.41E-04	1.41E-04	1.41E-04	9.37E-05	4.10E-05
179	561410.17	4192410	2.38E-04	1.82E-04	1.77E-04	1.78E-04	1.77E-04	1.31E-04	7.97E-05	1.70E-04	1.42E-04	1.37E-04	1.38E-04	1.37E-04	9.17E-05	4.01E-05
180	561412.59	4192400.9	2.33E-04	1.78E-04	1.74E-04	1.74E-04	1.74E-04	1.29E-04	7.80E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	8.97E-05	3.93E-05
181	561415.01	4192391.8	2.29E-04	1.75E-04	1.70E-04	1.71E-04	1.70E-04	1.26E-04	7.65E-05	1.64E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.80E-05	3.85E-05
182	561417.43	4192382.71	2.25E-04	1.72E-04	1.67E-04	1.68E-04	1.67E-04	1.24E-04	7.53E-05	1.61E-04	1.34E-04	1.30E-04	1.30E-04	1.30E-04	8.66E-05	3.79E-05
183	561419.85	4192373.61	2.22E-04	1.69E-04	1.65E-04	1.65E-04	1.65E-04	1.22E-04	7.41E-05	1.58E-04	1.32E-04	1.28E-04	1.28E-04	1.28E-04	8.52E-05	3.73E-05
184	561422.27	4192364.51	2.18E-04	1.67E-04	1.62E-04	1.63E-04	1.62E-04	1.20E-04	7.30E-05	1.56E-04	1.30E-04	1.26E-04	1.26E-04	1.26E-04	8.39E-05	3.68E-05
185	561424.69	4192355.41	2.15E-04	1.64E-04	1.60E-04	1.60E-04	1.60E-04	1.19E-04	7.19E-05	1.54E-04	1.28E-04	1.24E-04	1.24E-04	1.24E-04	8.27E-05	3.62E-05
186	561427.11	4192346.31	2.12E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.17E-04	7.10E-05	1.52E-04	1.26E-04	1.22E-04	1.23E-04	1.22E-04	8.16E-05	3.57E-05
187	561429.53	4192337.21	2.10E-04	1.60E-04	1.56E-04	1.57E-04	1.56E-04	1.16E-04	7.02E-05	1.50E-04	1.25E-04	1.21E-04	1.21E-04	1.21E-04	8.07E-05	3.54E-05
188	561431.95	4192328.11	2.08E-04	1.59E-04	1.55E-04	1.55E-04	1.55E-04	1.15E-04	6.96E-05	1.49E-04	1.24E-04	1.20E-04	1.20E-04	1.20E-04	8.01E-05	3.51E-05

189	561417.41	4192421.67	2.24E-04	1.71E-04	1.67E-04	1.67E-04	1.67E-04	1.24E-04	7.50E-05	1.60E-04	1.33E-04	1.29E-04	1.30E-04	1.29E-04	8.62E-05	3.78E-05
190	561419.83	4192412.57	2.20E-04	1.68E-04	1.63E-04	1.64E-04	1.63E-04	1.21E-04	7.34E-05	1.57E-04	1.31E-04	1.27E-04	1.27E-04	1.27E-04	8.45E-05	3.70E-05
191	561422.25	4192403.47	2.15E-04	1.64E-04	1.60E-04	1.61E-04	1.60E-04	1.19E-04	7.20E-05	1.54E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	8.28E-05	3.63E-05
192	561424.67	4192394.37	2.11E-04	1.61E-04	1.57E-04	1.58E-04	1.57E-04	1.17E-04	7.07E-05	1.51E-04	1.26E-04	1.22E-04	1.22E-04	1.22E-04	8.13E-05	3.56E-05
193	561427.09	4192385.28	2.08E-04	1.59E-04	1.55E-04	1.55E-04	1.55E-04	1.15E-04	6.96E-05	1.49E-04	1.24E-04	1.20E-04	1.20E-04	1.20E-04	8.00E-05	3.50E-05
194	561429.51	4192376.18	2.05E-04	1.56E-04	1.53E-04	1.53E-04	1.53E-04	1.13E-04	6.86E-05	1.47E-04	1.22E-04	1.18E-04	1.19E-04	1.18E-04	7.89E-05	3.45E-05
195	561431.93	4192367.08	2.02E-04	1.54E-04	1.50E-04	1.51E-04	1.50E-04	1.12E-04	6.76E-05	1.45E-04	1.20E-04	1.17E-04	1.17E-04	1.17E-04	7.78E-05	3.41E-05
196	561434.35	4192357.98	2.00E-04	1.52E-04	1.48E-04	1.49E-04	1.48E-04	1.10E-04	6.68E-05	1.43E-04	1.19E-04	1.15E-04	1.15E-04	1.15E-04	7.68E-05	3.36E-05
197	561436.78	4192348.88	1.97E-04	1.51E-04	1.47E-04	1.47E-04	1.47E-04	1.09E-04	6.60E-05	1.41E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	7.59E-05	3.32E-05
198	561439.2	4192339.78	1.95E-04	1.49E-04	1.45E-04	1.46E-04	1.45E-04	1.08E-04	6.53E-05	1.40E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	7.51E-05	3.29E-05
199	561441.62	4192330.69	1.94E-04	1.48E-04	1.44E-04	1.45E-04	1.44E-04	1.07E-04	6.49E-05	1.39E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	7.46E-05	3.27E-05
200	561429.49	4192415.14	2.03E-04	1.55E-04	1.51E-04	1.51E-04	1.51E-04	1.12E-04	6.77E-05	1.45E-04	1.20E-04	1.17E-04	1.17E-04	1.17E-04	7.79E-05	3.41E-05
201	561431.91	4192406.04	1.99E-04	1.52E-04	1.48E-04	1.49E-04	1.48E-04	1.10E-04	6.66E-05	1.42E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	7.66E-05	3.35E-05
202	561434.34	4192396.95	1.96E-04	1.50E-04	1.46E-04	1.46E-04	1.46E-04	1.08E-04	6.55E-05	1.40E-04	1.17E-04	1.13E-04	1.13E-04	1.13E-04	7.54E-05	3.30E-05
203	561436.76	4192387.85	1.93E-04	1.47E-04	1.44E-04	1.44E-04	1.44E-04	1.06E-04	6.45E-05	1.38E-04	1.15E-04	1.11E-04	1.12E-04	1.11E-04	7.42E-05	3.25E-05
204	561439.18	4192378.75	1.90E-04	1.45E-04	1.42E-04	1.42E-04	1.42E-04	1.05E-04	6.36E-05	1.36E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	7.32E-05	3.20E-05
205	561441.6	4192369.65	1.88E-04	1.43E-04	1.40E-04	1.40E-04	1.40E-04	1.04E-04	6.28E-05	1.34E-04	1.12E-04	1.08E-04	1.09E-04	1.08E-04	7.22E-05	3.16E-05
206	561444.02	4192360.55	1.86E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	1.02E-04	6.21E-05	1.33E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.14E-05	3.13E-05
207	561446.44	4192351.45	1.84E-04	1.40E-04	1.37E-04	1.37E-04	1.37E-04	1.01E-04	6.15E-05	1.31E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.07E-05	3.10E-05
208	561448.86	4192342.36	1.82E-04	1.39E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.10E-05	1.30E-04	1.08E-04	1.05E-04	1.06E-04	1.05E-04	7.02E-05	3.07E-05
209	561451.28	4192333.26	1.81E-04	1.38E-04	1.35E-04	1.35E-04	1.35E-04	1.00E-04	6.07E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	6.98E-05	3.05E-05
210	561439.16	4192417.71	1.87E-04	1.43E-04	1.39E-04	1.40E-04	1.39E-04	1.03E-04	6.26E-05	1.34E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.20E-05	3.15E-05
211	561441.58	4192408.62	1.84E-04	1.41E-04	1.37E-04	1.38E-04	1.37E-04	1.02E-04	6.17E-05	1.32E-04	1.10E-04	1.06E-04	1.07E-04	1.06E-04	7.09E-05	3.10E-05
212	561444	4192399.52	1.82E-04	1.39E-04	1.35E-04	1.36E-04	1.35E-04	1.00E-04	6.08E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.00E-05	3.06E-05
213	561446.42	4192390.42	1.79E-04	1.37E-04	1.33E-04	1.34E-04	1.33E-04	9.89E-05	6.00E-05	1.28E-04	1.07E-04	1.03E-04	1.04E-04	1.03E-04	6.90E-05	3.02E-05
214	561448.84	4192381.32	1.77E-04	1.35E-04	1.32E-04	1.32E-04	1.32E-04	9.76E-05	5.91E-05	1.26E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	6.80E-05	2.98E-05
215	561451.26	4192372.22	1.75E-04	1.33E-04	1.30E-04	1.30E-04	1.30E-04	9.64E-05	5.84E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.72E-05	2.94E-05
216	561453.68	4192363.12	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.54E-05	5.79E-05	1.24E-04	1.03E-04	9.98E-05	1.00E-04	9.98E-05	6.65E-05	2.91E-05
217	561456.1	4192354.03	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.47E-05	5.74E-05	1.23E-04	1.02E-04	9.91E-05	9.93E-05	9.91E-05	6.60E-05	2.89E-05
218	561458.52	4192344.93	1.71E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	9.42E-05	5.71E-05	1.22E-04	1.02E-04	9.85E-05	9.88E-05	9.85E-05	6.57E-05	2.87E-05
219	561460.94	4192335.83	1.70E-04	1.30E-04	1.26E-04	1.27E-04	1.26E-04	9.38E-05	5.69E-05	1.22E-04	1.01E-04	9.81E-05	9.83E-05	9.81E-05	6.54E-05	2.86E-05
220	561448.82	4192420.29	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.57E-05	5.80E-05	1.24E-04	1.03E-04	1.00E-04	1.00E-04	1.00E-04	6.67E-05	2.92E-05
221	561451.24	4192411.19	1.71E-04	1.31E-04	1.27E-04	1.28E-04	1.27E-04	9.43E-05	5.72E-05	1.22E-04	1.02E-04	9.87E-05	9.89E-05	9.87E-05	6.58E-05	2.88E-05
222	561453.66	4192402.09	1.69E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.31E-05	5.64E-05	1.21E-04	1.00E-04	9.74E-05	9.76E-05	9.74E-05	6.49E-05	2.84E-05
223	561456.08	4192392.99	1.67E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.19E-05	5.57E-05	1.19E-04	9.91E-05	9.61E-05	9.64E-05	9.61E-05	6.41E-05	2.81E-05
224	561458.5	4192383.89	1.65E-04	1.26E-04	1.22E-04	1.23E-04	1.22E-04	9.08E-05	5.51E-05	1.18E-04	9.79E-05	9.50E-05	9.52E-05	9.50E-05	6.33E-05	2.77E-05
225	561460.92	4192374.79	1.63E-04	1.24E-04	1.21E-04	1.22E-04	1.21E-04	8.99E-05	5.45E-05	1.16E-04	9.69E-05	9.40E-05	9.42E-05	9.40E-05	6.27E-05	2.74E-05
226	561463.35	4192365.69	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.91E-05	5.40E-05	1.15E-04	9.60E-05	9.31E-05	9.34E-05	9.31E-05	6.21E-05	2.72E-05
227	561465.77	4192356.6	1.61E-04	1.23E-04	1.19E-04	1.20E-04	1.19E-04	8.86E-05	5.37E-05	1.15E-04	9.55E-05	9.26E-05	9.29E-05	9.26E-05	6.18E-05	2.70E-05
228	561468.19	4192347.5	1.60E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	8.83E-05	5.35E-05	1.14E-04	9.51E-05	9.23E-05	9.25E-05	9.23E-05	6.15E-05	2.69E-05
229	561470.61	4192338.4	1.60E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	8.80E-05	5.34E-05	1.14E-04	9.49E-05	9.20E-05	9.23E-05	9.20E-05	6.14E-05	2.69E-05
230	561458.48	4192422.86	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.89E-05	5.39E-05	1.15E-04	9.59E-05	9.30E-05	9.32E-05	9.30E-05	6.20E-05	2.71E-05
231	561460.91	4192413.76	1.59E-04	1.21E-04	1.18E-04	1.19E-04	1.18E-04	8.77E-05	5.32E-05	1.14E-04	9.45E-05	9.17E-05	9.20E-05	9.17E-05	6.11E-05	2.68E-05
232	561463.33	4192404.66	1.57E-04	1.20E-04	1.17E-04	1.17E-04	1.17E-04	8.66E-05	5.25E-05	1.12E-04	9.34E-05	9.06E-05	9.08E-05	9.06E-05	6.04E-05	2.64E-05
233	561465.75	4192395.56	1.55E-04	1.18E-04	1.15E-04	1.16E-04	1.15E-04	8.56E-05	5.19E-05	1.11E-04	9.23E-05	8.95E-05	8.98E-05	8.95E-05	5.97E-05	2.61E-05
234	561468.17	4192386.46	1.53E-04	1.17E-04	1.14E-04	1.15E-04	1.14E-04	8.47E-05	5.13E-05	1.10E-04	9.13E-05	8.85E-05	8.88E-05	8.85E-05	5.90E-05	2.58E-05
235	561470.59	4192377.36	1.52E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.39E-05	5.09E-05	1.09E-04	9.05E-05	8.77E-05	8.80E-05	8.77E-05	5.85E-05	2.56E-05
236	561473.01	4192368.27	1.51E-04	1.15E-04	1.12E-04	1.13E-04	1.12E-04	8.33E-05	5.05E-05	1.08E-04	8.98E-05	8.71E-05	8.73E-05	8.71E-05	5.81E-05	2.54E-05

237	561475.43	4192359.17	1.50E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	8.30E-05	5.03E-05	1.08E-04	8.94E-05	8.68E-05	8.70E-05	8.68E-05	5.78E-05	2.53E-05
238	561477.85	4192350.07	1.50E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	8.28E-05	5.02E-05	1.07E-04	8.92E-05	8.65E-05	8.68E-05	8.65E-05	5.77E-05	2.53E-05
239	561480.27	4192340.97	1.50E-04	1.14E-04	1.11E-04	1.12E-04	1.11E-04	8.26E-05	5.01E-05	1.07E-04	8.91E-05	8.64E-05	8.66E-05	8.64E-05	5.76E-05	2.52E-05
240	561468.15	4192425.43	1.50E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	8.28E-05	5.02E-05	1.07E-04	8.93E-05	8.66E-05	8.68E-05	8.66E-05	5.77E-05	2.53E-05
241	561470.57	4192416.33	1.48E-04	1.13E-04	1.10E-04	1.11E-04	1.10E-04	8.17E-05	4.95E-05	1.06E-04	8.81E-05	8.55E-05	8.57E-05	8.55E-05	5.70E-05	2.49E-05
242	561472.99	4192407.23	1.46E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	8.07E-05	4.89E-05	1.05E-04	8.70E-05	8.44E-05	8.47E-05	8.44E-05	5.63E-05	2.46E-05
243	561475.41	4192398.13	1.45E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.99E-05	4.84E-05	1.04E-04	8.61E-05	8.35E-05	8.38E-05	8.35E-05	5.57E-05	2.44E-05
244	561477.83	4192389.03	1.44E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.92E-05	4.80E-05	1.03E-04	8.54E-05	8.28E-05	8.30E-05	8.28E-05	5.52E-05	2.42E-05
245	561480.25	4192379.94	1.43E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.86E-05	4.77E-05	1.02E-04	8.48E-05	8.22E-05	8.24E-05	8.22E-05	5.48E-05	2.40E-05
246	561482.67	4192370.84	1.42E-04	1.08E-04	1.05E-04	1.06E-04	1.05E-04	7.82E-05	4.74E-05	1.01E-04	8.43E-05	8.17E-05	8.20E-05	8.17E-05	5.45E-05	2.39E-05
247	561485.09	4192361.74	1.41E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.79E-05	4.72E-05	1.01E-04	8.40E-05	8.15E-05	8.17E-05	8.15E-05	5.43E-05	2.38E-05
248	561487.51	4192352.64	1.41E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.77E-05	4.71E-05	1.01E-04	8.38E-05	8.13E-05	8.15E-05	8.13E-05	5.42E-05	2.37E-05
249	561489.94	4192343.54	1.41E-04	1.07E-04	1.05E-04	1.05E-04	1.05E-04	7.76E-05	4.70E-05	1.01E-04	8.37E-05	8.12E-05	8.14E-05	8.12E-05	5.41E-05	2.37E-05
250	561477.81	4192428	1.40E-04	1.07E-04	1.04E-04	1.05E-04	1.04E-04	7.73E-05	4.69E-05	1.00E-04	8.33E-05	8.08E-05	8.11E-05	8.08E-05	5.39E-05	2.36E-05
251	561480.23	4192418.9	1.38E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	7.64E-05	4.63E-05	9.90E-05	8.23E-05	7.98E-05	8.01E-05	7.98E-05	5.32E-05	2.33E-05
252	561482.65	4192409.8	1.37E-04	1.04E-04	1.02E-04	1.02E-04	1.02E-04	7.55E-05	4.58E-05	9.79E-05	8.14E-05	7.90E-05	7.92E-05	7.90E-05	5.27E-05	2.31E-05
253	561485.07	4192400.7	1.36E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	7.48E-05	4.54E-05	9.70E-05	8.07E-05	7.83E-05	7.85E-05	7.83E-05	5.22E-05	2.28E-05
254	561487.5	4192391.61	1.35E-04	1.03E-04	1.00E-04	1.00E-04	1.00E-04	7.43E-05	4.50E-05	9.63E-05	8.01E-05	7.77E-05	7.79E-05	7.77E-05	5.18E-05	2.27E-05
255	561489.92	4192382.51	1.34E-04	1.02E-04	9.96E-05	9.98E-05	9.96E-05	7.38E-05	4.48E-05	9.57E-05	7.96E-05	7.72E-05	7.74E-05	7.72E-05	5.15E-05	2.25E-05
256	561492.34	4192373.41	1.33E-04	1.02E-04	9.91E-05	9.94E-05	9.91E-05	7.35E-05	4.46E-05	9.53E-05	7.92E-05	7.69E-05	7.71E-05	7.69E-05	5.12E-05	2.24E-05
257	561494.76	4192364.31	1.33E-04	1.01E-04	9.88E-05	9.91E-05	9.88E-05	7.33E-05	4.44E-05	9.50E-05	7.90E-05	7.66E-05	7.68E-05	7.66E-05	5.11E-05	2.24E-05
258	561497.18	4192355.21	1.33E-04	1.01E-04	9.86E-05	9.89E-05	9.86E-05	7.31E-05	4.43E-05	9.48E-05	7.88E-05	7.65E-05	7.67E-05	7.65E-05	5.10E-05	2.23E-05
259	561499.6	4192346.11	1.32E-04	1.01E-04	9.85E-05	9.88E-05	9.85E-05	7.30E-05	4.43E-05	9.47E-05	7.87E-05	7.64E-05	7.66E-05	7.64E-05	5.09E-05	2.23E-05
260	561487.48	4192430.57	1.31E-04	1.00E-04	9.75E-05	9.77E-05	9.75E-05	7.23E-05	4.38E-05	9.37E-05	7.79E-05	7.56E-05	7.58E-05	7.56E-05	5.04E-05	2.21E-05
261	561489.9	4192421.47	1.30E-04	9.89E-05	9.64E-05	9.66E-05	9.64E-05	7.15E-05	4.33E-05	9.26E-05	7.70E-05	7.47E-05	7.49E-05	7.47E-05	4.98E-05	2.18E-05
262	561492.32	4192412.37	1.28E-04	9.79E-05	9.54E-05	9.57E-05	9.54E-05	7.08E-05	4.29E-05	9.17E-05	7.63E-05	7.40E-05	7.42E-05	7.40E-05	4.93E-05	2.16E-05
263	561494.74	4192403.27	1.27E-04	9.71E-05	9.47E-05	9.49E-05	9.47E-05	7.02E-05	4.26E-05	9.10E-05	7.57E-05	7.34E-05	7.36E-05	7.34E-05	4.89E-05	2.14E-05
264	561497.16	4192394.18	1.26E-04	9.65E-05	9.41E-05	9.43E-05	9.41E-05	6.98E-05	4.23E-05	9.04E-05	7.52E-05	7.29E-05	7.31E-05	7.29E-05	4.86E-05	2.13E-05
265	561499.58	4192385.08	1.26E-04	9.60E-05	9.36E-05	9.39E-05	9.36E-05	6.94E-05	4.21E-05	9.00E-05	7.48E-05	7.26E-05	7.28E-05	7.26E-05	4.84E-05	2.12E-05
266	561502	4192375.98	1.25E-04	9.57E-05	9.33E-05	9.35E-05	9.33E-05	6.92E-05	4.19E-05	8.97E-05	7.46E-05	7.23E-05	7.25E-05	7.23E-05	4.82E-05	2.11E-05
267	561504.42	4192366.88	1.25E-04	9.55E-05	9.31E-05	9.33E-05	9.31E-05	6.90E-05	4.18E-05	8.95E-05	7.44E-05	7.22E-05	7.24E-05	7.22E-05	4.81E-05	2.11E-05
268	561506.84	4192357.78	1.25E-04	9.54E-05	9.30E-05	9.32E-05	9.30E-05	6.89E-05	4.18E-05	8.94E-05	7.43E-05	7.21E-05	7.23E-05	7.21E-05	4.81E-05	2.10E-05
269	561509.26	4192348.68	1.25E-04	9.53E-05	9.29E-05	9.32E-05	9.29E-05	6.89E-05	4.18E-05	8.93E-05	7.43E-05	7.21E-05	7.23E-05	7.21E-05	4.80E-05	2.10E-05
270	561401.78	4192218.01	2.62E-04	2.00E-04	1.95E-04	1.95E-04	1.95E-04	1.44E-04	8.76E-05	1.87E-04	1.56E-04	1.51E-04	1.51E-04	1.51E-04	1.01E-04	4.41E-05
271	561403.11	4192227.59	2.63E-04	2.01E-04	1.95E-04	1.96E-04	1.95E-04	1.45E-04	8.79E-05	1.88E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.01E-04	4.42E-05
272	561410.29	4192212.23	2.44E-04	1.86E-04	1.82E-04	1.82E-04	1.82E-04	1.35E-04	8.16E-05	1.75E-04	1.45E-04	1.41E-04	1.41E-04	1.41E-04	9.39E-05	4.11E-05
273	561411.6	4192221.7	2.45E-04	1.87E-04	1.82E-04	1.83E-04	1.82E-04	1.35E-04	8.20E-05	1.75E-04	1.46E-04	1.41E-04	1.42E-04	1.41E-04	9.43E-05	4.13E-05
274	561412.91	4192231.18	2.46E-04	1.87E-04	1.83E-04	1.83E-04	1.83E-04	1.36E-04	8.21E-05	1.76E-04	1.46E-04	1.42E-04	1.42E-04	1.42E-04	9.45E-05	4.14E-05
275	561417.52	4192197.16	2.26E-04	1.73E-04	1.68E-04	1.69E-04	1.68E-04	1.25E-04	7.57E-05	1.62E-04	1.35E-04	1.31E-04	1.31E-04	1.31E-04	8.71E-05	3.81E-05
276	561418.81	4192206.53	2.28E-04	1.74E-04	1.70E-04	1.70E-04	1.70E-04	1.26E-04	7.63E-05	1.63E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.78E-05	3.84E-05
277	561420.11	4192215.9	2.30E-04	1.75E-04	1.71E-04	1.71E-04	1.71E-04	1.27E-04	7.68E-05	1.64E-04	1.37E-04	1.32E-04	1.33E-04	1.32E-04	8.83E-05	3.87E-05
278	561421.41	4192225.28	2.30E-04	1.76E-04	1.71E-04	1.72E-04	1.71E-04	1.27E-04	7.71E-05	1.65E-04	1.37E-04	1.33E-04	1.33E-04	1.33E-04	8.87E-05	3.88E-05
279	561422.7	4192234.65	2.31E-04	1.76E-04	1.72E-04	1.72E-04	1.72E-04	1.27E-04	7.71E-05	1.65E-04	1.37E-04	1.33E-04	1.33E-04	1.33E-04	8.87E-05	3.88E-05
280	561424.77	4192182.33	2.10E-04	1.60E-04	1.56E-04	1.57E-04	1.56E-04	1.16E-04	7.03E-05	1.50E-04	1.25E-04	1.21E-04	1.22E-04	1.21E-04	8.08E-05	3.54E-05
281	561426.06	4192191.61	2.12E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.17E-04	7.10E-05	1.52E-04	1.26E-04	1.22E-04	1.23E-04	1.22E-04	8.16E-05	3.57E-05
282	561427.34	4192200.89	2.14E-04	1.63E-04	1.59E-04	1.60E-04	1.59E-04	1.18E-04	7.16E-05	1.53E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	8.24E-05	3.61E-05
283	561428.62	4192210.18	2.16E-04	1.65E-04	1.60E-04	1.61E-04	1.60E-04	1.19E-04	7.21E-05	1.54E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	8.29E-05	3.63E-05
284	561429.91	4192219.46	2.17E-04	1.65E-04	1.61E-04	1.62E-04	1.61E-04	1.20E-04	7.25E-05	1.55E-04	1.29E-04	1.25E-04	1.25E-04	1.25E-04	8.33E-05	3.65E-05

285	561431.19	4192228.75	2.17E-04	1.66E-04	1.61E-04	1.62E-04	1.61E-04	1.20E-04	7.26E-05	1.55E-04	1.29E-04	1.25E-04	1.26E-04	1.25E-04	8.35E-05	3.66E-05
286	561432.48	4192238.03	2.17E-04	1.66E-04	1.61E-04	1.62E-04	1.61E-04	1.20E-04	7.25E-05	1.55E-04	1.29E-04	1.25E-04	1.25E-04	1.25E-04	8.34E-05	3.65E-05
287	561434.94	4192188.53	2.00E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	1.10E-04	6.69E-05	1.43E-04	1.19E-04	1.15E-04	1.16E-04	1.15E-04	7.69E-05	3.37E-05
288	561436.28	4192198.22	2.02E-04	1.54E-04	1.50E-04	1.51E-04	1.50E-04	1.11E-04	6.75E-05	1.44E-04	1.20E-04	1.16E-04	1.17E-04	1.16E-04	7.76E-05	3.40E-05
289	561437.62	4192207.91	2.03E-04	1.55E-04	1.51E-04	1.52E-04	1.51E-04	1.12E-04	6.80E-05	1.45E-04	1.21E-04	1.17E-04	1.18E-04	1.17E-04	7.82E-05	3.42E-05
290	561438.96	4192217.59	2.04E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.13E-04	6.83E-05	1.46E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	7.86E-05	3.44E-05
291	561445.66	4192266.03	2.00E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	1.10E-04	6.70E-05	1.43E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	7.70E-05	3.37E-05
292	561429.07	4192129.23	1.82E-04	1.39E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.10E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.01E-05	3.07E-05
293	561438.17	4192144.58	1.79E-04	1.37E-04	1.33E-04	1.34E-04	1.33E-04	9.88E-05	5.99E-05	1.28E-04	1.06E-04	1.03E-04	1.04E-04	1.03E-04	6.89E-05	3.02E-05
294	561439.49	4192154.17	1.81E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	1.00E-04	6.07E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	6.98E-05	3.06E-05
295	561440.82	4192163.75	1.84E-04	1.40E-04	1.37E-04	1.37E-04	1.37E-04	1.01E-04	6.15E-05	1.31E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.07E-05	3.10E-05
296	561444.8	4192192.51	1.90E-04	1.45E-04	1.41E-04	1.42E-04	1.41E-04	1.05E-04	6.35E-05	1.36E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	7.31E-05	3.20E-05
297	561452.75	4192250.04	1.91E-04	1.46E-04	1.42E-04	1.43E-04	1.42E-04	1.06E-04	6.40E-05	1.37E-04	1.14E-04	1.10E-04	1.11E-04	1.10E-04	7.36E-05	3.22E-05
298	561454.08	4192259.62	1.90E-04	1.45E-04	1.41E-04	1.42E-04	1.41E-04	1.05E-04	6.35E-05	1.36E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	7.30E-05	3.20E-05
299	561455.41	4192269.21	1.88E-04	1.43E-04	1.40E-04	1.40E-04	1.40E-04	1.04E-04	6.28E-05	1.34E-04	1.12E-04	1.08E-04	1.09E-04	1.08E-04	7.22E-05	3.16E-05
300	561459.39	4192297.97	1.79E-04	1.37E-04	1.34E-04	1.34E-04	1.34E-04	9.90E-05	6.00E-05	1.28E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.90E-05	3.02E-05
301	561460.71	4192307.56	1.76E-04	1.35E-04	1.31E-04	1.31E-04	1.31E-04	9.72E-05	5.89E-05	1.26E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	6.78E-05	2.97E-05
302	561430.05	4192118.47	1.77E-04	1.35E-04	1.32E-04	1.32E-04	1.32E-04	9.77E-05	5.92E-05	1.27E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	6.81E-05	2.98E-05
303	561437.74	4192124.18	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.47E-05	5.74E-05	1.23E-04	1.02E-04	9.91E-05	9.93E-05	9.91E-05	6.60E-05	2.89E-05
304	561446.76	4192139.39	1.69E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.31E-05	5.64E-05	1.21E-04	1.00E-04	9.74E-05	9.76E-05	9.74E-05	6.49E-05	2.84E-05
305	561448.07	4192148.89	1.71E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	9.43E-05	5.72E-05	1.22E-04	1.02E-04	9.86E-05	9.89E-05	9.86E-05	6.57E-05	2.88E-05
306	561449.38	4192158.38	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.54E-05	5.78E-05	1.24E-04	1.03E-04	9.98E-05	1.00E-04	9.98E-05	6.65E-05	2.91E-05
307	561450.7	4192167.88	1.75E-04	1.34E-04	1.30E-04	1.31E-04	1.30E-04	9.65E-05	5.85E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.73E-05	2.95E-05
308	561462.52	4192253.34	1.80E-04	1.38E-04	1.34E-04	1.34E-04	1.34E-04	9.94E-05	6.03E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.93E-05	3.03E-05
309	561463.83	4192262.83	1.79E-04	1.36E-04	1.33E-04	1.33E-04	1.33E-04	9.85E-05	5.97E-05	1.28E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.87E-05	3.01E-05
310	561465.15	4192272.33	1.76E-04	1.35E-04	1.31E-04	1.32E-04	1.31E-04	9.73E-05	5.90E-05	1.26E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	6.79E-05	2.97E-05
311	561466.46	4192281.82	1.74E-04	1.33E-04	1.29E-04	1.30E-04	1.29E-04	9.60E-05	5.82E-05	1.24E-04	1.03E-04	1.00E-04	1.01E-04	1.00E-04	6.69E-05	2.93E-05
312	561467.77	4192291.32	1.71E-04	1.31E-04	1.27E-04	1.28E-04	1.27E-04	9.45E-05	5.73E-05	1.23E-04	1.02E-04	9.88E-05	9.91E-05	9.88E-05	6.59E-05	2.88E-05
313	561469.09	4192300.81	1.68E-04	1.29E-04	1.25E-04	1.26E-04	1.25E-04	9.29E-05	5.63E-05	1.20E-04	1.00E-04	9.71E-05	9.74E-05	9.71E-05	6.48E-05	2.84E-05
314	561470.4	4192310.31	1.65E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	9.12E-05	5.53E-05	1.18E-04	9.83E-05	9.54E-05	9.56E-05	9.54E-05	6.36E-05	2.78E-05
315	561431.15	4192107.81	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.49E-05	5.75E-05	1.23E-04	1.02E-04	9.92E-05	9.95E-05	9.92E-05	6.61E-05	2.90E-05
316	561438.78	4192113.47	1.67E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.21E-05	5.58E-05	1.19E-04	9.92E-05	9.63E-05	9.65E-05	9.63E-05	6.42E-05	2.81E-05
317	561446.41	4192119.14	1.62E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.94E-05	5.42E-05	1.16E-04	9.64E-05	9.35E-05	9.37E-05	9.35E-05	6.23E-05	2.73E-05
318	561455.35	4192134.21	1.59E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	8.79E-05	5.33E-05	1.14E-04	9.48E-05	9.19E-05	9.22E-05	9.19E-05	6.13E-05	2.68E-05
319	561456.65	4192143.62	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.89E-05	5.39E-05	1.15E-04	9.58E-05	9.30E-05	9.32E-05	9.30E-05	6.20E-05	2.71E-05
320	561457.95	4192153.03	1.63E-04	1.24E-04	1.21E-04	1.22E-04	1.21E-04	8.99E-05	5.45E-05	1.17E-04	9.69E-05	9.40E-05	9.42E-05	9.40E-05	6.27E-05	2.74E-05
321	561464.46	4192200.1	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.48E-05	5.75E-05	1.23E-04	1.02E-04	9.92E-05	9.94E-05	9.92E-05	6.61E-05	2.89E-05
322	561465.76	4192209.51	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.53E-05	5.78E-05	1.24E-04	1.03E-04	9.97E-05	9.99E-05	9.97E-05	6.64E-05	2.91E-05
323	561467.07	4192218.92	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.55E-05	5.79E-05	1.24E-04	1.03E-04	9.99E-05	1.00E-04	9.99E-05	6.66E-05	2.92E-05
324	561472.28	4192256.57	1.70E-04	1.30E-04	1.26E-04	1.27E-04	1.26E-04	9.37E-05	5.68E-05	1.21E-04	1.01E-04	9.79E-05	9.82E-05	9.79E-05	6.53E-05	2.86E-05
325	561473.58	4192265.98	1.68E-04	1.28E-04	1.25E-04	1.25E-04	1.25E-04	9.27E-05	5.62E-05	1.20E-04	9.99E-05	9.69E-05	9.72E-05	9.69E-05	6.46E-05	2.83E-05
326	561474.88	4192275.4	1.66E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.16E-05	5.55E-05	1.19E-04	9.87E-05	9.58E-05	9.60E-05	9.58E-05	6.39E-05	2.80E-05
327	561476.18	4192284.81	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.03E-05	5.47E-05	1.17E-04	9.73E-05	9.44E-05	9.47E-05	9.44E-05	6.29E-05	2.76E-05
328	561477.48	4192294.22	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.88E-05	5.39E-05	1.15E-04	9.58E-05	9.29E-05	9.32E-05	9.29E-05	6.19E-05	2.71E-05
329	561478.79	4192303.63	1.58E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.73E-05	5.29E-05	1.13E-04	9.41E-05	9.13E-05	9.15E-05	9.13E-05	6.09E-05	2.66E-05
330	561480.09	4192313.05	1.55E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.57E-05	5.19E-05	1.11E-04	9.24E-05	8.96E-05	8.98E-05	8.96E-05	5.97E-05	2.62E-05
331	561432.37	4192097.23	1.67E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	9.22E-05	5.59E-05	1.19E-04	9.94E-05	9.64E-05	9.66E-05	9.64E-05	6.43E-05	2.81E-05
332	561439.94	4192102.85	1.62E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.95E-05	5.42E-05	1.16E-04	9.64E-05	9.35E-05	9.38E-05	9.35E-05	6.24E-05	2.73E-05

333	561447.51	4192108.47	1.58E-04	1.20E-04	1.17E-04	1.18E-04	1.17E-04	8.69E-05	5.27E-05	1.13E-04	9.37E-05	9.09E-05	9.11E-05	9.09E-05	6.06E-05	2.65E-05
334	561455.08	4192114.08	1.53E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	8.45E-05	5.12E-05	1.10E-04	9.11E-05	8.83E-05	8.86E-05	8.83E-05	5.89E-05	2.58E-05
335	561463.94	4192129.04	1.51E-04	1.15E-04	1.12E-04	1.13E-04	1.12E-04	8.32E-05	5.04E-05	1.08E-04	8.97E-05	8.70E-05	8.72E-05	8.70E-05	5.80E-05	2.54E-05
336	561470.4	4192175.72	1.60E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	8.83E-05	5.35E-05	1.14E-04	9.52E-05	9.23E-05	9.26E-05	9.23E-05	6.15E-05	2.69E-05
337	561472.98	4192194.39	1.63E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.98E-05	5.44E-05	1.16E-04	9.68E-05	9.39E-05	9.41E-05	9.39E-05	6.26E-05	2.74E-05
338	561474.27	4192203.73	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.03E-05	5.47E-05	1.17E-04	9.73E-05	9.44E-05	9.47E-05	9.44E-05	6.29E-05	2.76E-05
339	561475.56	4192213.07	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.06E-05	5.49E-05	1.17E-04	9.76E-05	9.47E-05	9.50E-05	9.47E-05	6.31E-05	2.76E-05
340	561476.86	4192222.4	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.06E-05	5.49E-05	1.17E-04	9.76E-05	9.47E-05	9.50E-05	9.47E-05	6.31E-05	2.76E-05
341	561482.02	4192259.75	1.60E-04	1.22E-04	1.19E-04	1.20E-04	1.19E-04	8.85E-05	5.36E-05	1.15E-04	9.54E-05	9.25E-05	9.28E-05	9.25E-05	6.17E-05	2.70E-05
342	561483.31	4192269.09	1.59E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.75E-05	5.30E-05	1.13E-04	9.43E-05	9.15E-05	9.17E-05	9.15E-05	6.10E-05	2.67E-05
343	561484.61	4192278.42	1.56E-04	1.19E-04	1.16E-04	1.17E-04	1.16E-04	8.63E-05	5.23E-05	1.12E-04	9.30E-05	9.02E-05	9.05E-05	9.02E-05	6.02E-05	2.63E-05
344	561485.9	4192287.76	1.54E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.50E-05	5.15E-05	1.10E-04	9.16E-05	8.89E-05	8.91E-05	8.89E-05	5.93E-05	2.59E-05
345	561487.19	4192297.1	1.52E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.36E-05	5.07E-05	1.08E-04	9.01E-05	8.74E-05	8.77E-05	8.74E-05	5.83E-05	2.55E-05
346	561488.48	4192306.43	1.49E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	8.22E-05	4.98E-05	1.06E-04	8.86E-05	8.59E-05	8.61E-05	8.59E-05	5.73E-05	2.51E-05
347	561489.77	4192315.77	1.46E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	8.06E-05	4.89E-05	1.05E-04	8.69E-05	8.43E-05	8.45E-05	8.43E-05	5.62E-05	2.46E-05
348	561439.89	4192091.33	1.58E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.74E-05	5.30E-05	1.13E-04	9.42E-05	9.14E-05	9.16E-05	9.14E-05	6.09E-05	2.67E-05
349	561447.73	4192097.15	1.54E-04	1.17E-04	1.14E-04	1.15E-04	1.14E-04	8.48E-05	5.14E-05	1.10E-04	9.14E-05	8.87E-05	8.89E-05	8.87E-05	5.91E-05	2.59E-05
350	561455.57	4192102.97	1.49E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	8.24E-05	4.99E-05	1.07E-04	8.88E-05	8.61E-05	8.64E-05	8.61E-05	5.74E-05	2.51E-05
351	561463.41	4192108.78	1.45E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	8.01E-05	4.85E-05	1.04E-04	8.63E-05	8.37E-05	8.40E-05	8.37E-05	5.58E-05	2.44E-05
352	561476.6	4192153.28	1.47E-04	1.12E-04	1.10E-04	1.10E-04	1.10E-04	8.13E-05	4.93E-05	1.05E-04	8.76E-05	8.50E-05	8.52E-05	8.50E-05	5.67E-05	2.48E-05
353	561477.94	4192162.95	1.49E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	8.22E-05	4.98E-05	1.07E-04	8.86E-05	8.60E-05	8.62E-05	8.60E-05	5.73E-05	2.51E-05
354	561479.28	4192172.62	1.52E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.37E-05	5.07E-05	1.08E-04	9.02E-05	8.75E-05	8.77E-05	8.75E-05	5.83E-05	2.55E-05
355	561483.29	4192201.63	1.55E-04	1.18E-04	1.15E-04	1.16E-04	1.15E-04	8.56E-05	5.19E-05	1.11E-04	9.22E-05	8.95E-05	8.97E-05	8.95E-05	5.97E-05	2.61E-05
356	561484.63	4192211.3	1.56E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.59E-05	5.21E-05	1.11E-04	9.26E-05	8.98E-05	9.01E-05	8.98E-05	5.99E-05	2.62E-05
357	561485.97	4192220.97	1.56E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.60E-05	5.21E-05	1.11E-04	9.27E-05	8.99E-05	9.01E-05	8.99E-05	5.99E-05	2.62E-05
358	561487.3	4192230.64	1.55E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.58E-05	5.20E-05	1.11E-04	9.24E-05	8.97E-05	8.99E-05	8.97E-05	5.98E-05	2.62E-05
359	561491.32	4192259.65	1.52E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.39E-05	5.09E-05	1.09E-04	9.05E-05	8.78E-05	8.80E-05	8.78E-05	5.85E-05	2.56E-05
360	561492.66	4192269.32	1.50E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	8.29E-05	5.03E-05	1.07E-04	8.94E-05	8.67E-05	8.69E-05	8.67E-05	5.78E-05	2.53E-05
361	561493.99	4192278.99	1.48E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	8.17E-05	4.95E-05	1.06E-04	8.81E-05	8.54E-05	8.57E-05	8.54E-05	5.70E-05	2.49E-05
362	561495.33	4192288.66	1.46E-04	1.11E-04	1.08E-04	1.09E-04	1.08E-04	8.04E-05	4.88E-05	1.04E-04	8.67E-05	8.41E-05	8.44E-05	8.41E-05	5.61E-05	2.46E-05
363	561496.67	4192298.33	1.43E-04	1.09E-04	1.07E-04	1.07E-04	1.07E-04	7.91E-05	4.79E-05	1.02E-04	8.52E-05	8.27E-05	8.29E-05	8.27E-05	5.51E-05	2.41E-05
364	561498.01	4192308	1.41E-04	1.07E-04	1.05E-04	1.05E-04	1.05E-04	7.76E-05	4.70E-05	1.01E-04	8.36E-05	8.11E-05	8.14E-05	8.11E-05	5.41E-05	2.37E-05
365	561499.34	4192317.67	1.38E-04	1.05E-04	1.03E-04	1.03E-04	1.03E-04	7.61E-05	4.61E-05	9.86E-05	8.20E-05	7.95E-05	7.98E-05	7.95E-05	5.30E-05	2.32E-05
366	561409.9	4192057.6	1.75E-04	1.34E-04	1.30E-04	1.31E-04	1.30E-04	9.67E-05	5.86E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.74E-05	2.95E-05
367	561433.22	4192074.9	1.59E-04	1.21E-04	1.18E-04	1.19E-04	1.18E-04	8.77E-05	5.31E-05	1.14E-04	9.45E-05	9.17E-05	9.19E-05	9.17E-05	6.11E-05	2.68E-05
368	561440.99	4192080.67	1.54E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.50E-05	5.15E-05	1.10E-04	9.16E-05	8.89E-05	8.91E-05	8.89E-05	5.93E-05	2.59E-05
369	561448.76	4192086.44	1.50E-04	1.14E-04	1.11E-04	1.12E-04	1.11E-04	8.25E-05	5.00E-05	1.07E-04	8.90E-05	8.63E-05	8.65E-05	8.63E-05	5.75E-05	2.52E-05
370	561456.54	4192092.2	1.45E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	8.02E-05	4.86E-05	1.04E-04	8.64E-05	8.39E-05	8.41E-05	8.39E-05	5.59E-05	2.45E-05
371	561464.31	4192097.97	1.41E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.80E-05	4.73E-05	1.01E-04	8.41E-05	8.16E-05	8.18E-05	8.16E-05	5.44E-05	2.38E-05
372	561482.51	4192128.68	1.37E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	7.56E-05	4.58E-05	9.80E-05	8.15E-05	7.90E-05	7.92E-05	7.90E-05	5.27E-05	2.31E-05
373	561483.83	4192138.26	1.38E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	7.64E-05	4.63E-05	9.90E-05	8.23E-05	7.98E-05	8.01E-05	7.98E-05	5.32E-05	2.33E-05
374	561485.16	4192147.85	1.40E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	7.72E-05	4.68E-05	1.00E-04	8.32E-05	8.07E-05	8.09E-05	8.07E-05	5.38E-05	2.35E-05
375	561486.48	4192157.44	1.41E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.80E-05	4.73E-05	1.01E-04	8.40E-05	8.15E-05	8.17E-05	8.15E-05	5.44E-05	2.38E-05
376	561487.81	4192167.02	1.43E-04	1.09E-04	1.06E-04	1.07E-04	1.06E-04	7.88E-05	4.78E-05	1.02E-04	8.50E-05	8.24E-05	8.26E-05	8.24E-05	5.50E-05	2.41E-05
377	561489.14	4192176.61	1.45E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.99E-05	4.84E-05	1.04E-04	8.61E-05	8.36E-05	8.38E-05	8.36E-05	5.57E-05	2.44E-05
378	561493.12	4192205.37	1.48E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	8.15E-05	4.94E-05	1.06E-04	8.78E-05	8.52E-05	8.54E-05	8.52E-05	5.68E-05	2.49E-05
379	561494.44	4192214.96	1.48E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	8.17E-05	4.95E-05	1.06E-04	8.80E-05	8.54E-05	8.56E-05	8.54E-05	5.69E-05	2.49E-05
380	561495.77	4192224.54	1.48E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	8.16E-05	4.95E-05	1.06E-04	8.80E-05	8.53E-05	8.56E-05	8.53E-05	5.69E-05	2.49E-05

381	561497.09	4192234.13	1.48E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	8.14E-05	4.94E-05	1.06E-04	8.78E-05	8.51E-05	8.54E-05	8.51E-05	5.68E-05	2.48E-05
382	561498.42	4192243.72	1.47E-04	1.12E-04	1.09E-04	1.10E-04	1.09E-04	8.10E-05	4.91E-05	1.05E-04	8.73E-05	8.47E-05	8.49E-05	8.47E-05	5.65E-05	2.47E-05
383	561499.75	4192253.3	1.46E-04	1.11E-04	1.08E-04	1.09E-04	1.08E-04	8.03E-05	4.87E-05	1.04E-04	8.66E-05	8.40E-05	8.42E-05	8.40E-05	5.60E-05	2.45E-05
384	561501.07	4192262.89	1.44E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.94E-05	4.81E-05	1.03E-04	8.56E-05	8.30E-05	8.33E-05	8.30E-05	5.54E-05	2.42E-05
385	561502.4	4192272.48	1.42E-04	1.08E-04	1.06E-04	1.06E-04	1.06E-04	7.83E-05	4.75E-05	1.02E-04	8.44E-05	8.19E-05	8.21E-05	8.19E-05	5.46E-05	2.39E-05
386	561503.73	4192282.06	1.40E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	7.72E-05	4.68E-05	1.00E-04	8.32E-05	8.07E-05	8.09E-05	8.07E-05	5.38E-05	2.36E-05
387	561505.05	4192291.65	1.38E-04	1.05E-04	1.02E-04	1.03E-04	1.02E-04	7.60E-05	4.61E-05	9.85E-05	8.19E-05	7.94E-05	7.97E-05	7.94E-05	5.30E-05	2.32E-05
388	561506.38	4192301.24	1.35E-04	1.03E-04	1.01E-04	1.01E-04	1.01E-04	7.47E-05	4.53E-05	9.68E-05	8.05E-05	7.81E-05	7.83E-05	7.81E-05	5.20E-05	2.28E-05
389	561507.71	4192310.83	1.33E-04	1.01E-04	9.88E-05	9.91E-05	9.88E-05	7.33E-05	4.44E-05	9.50E-05	7.90E-05	7.66E-05	7.68E-05	7.66E-05	5.11E-05	2.24E-05
390	561509.03	4192320.41	1.30E-04	9.94E-05	9.69E-05	9.71E-05	9.69E-05	7.18E-05	4.36E-05	9.31E-05	7.74E-05	7.51E-05	7.53E-05	7.51E-05	5.01E-05	2.19E-05
391	561411.35	4192047.2	1.70E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	9.40E-05	5.70E-05	1.22E-04	1.01E-04	9.83E-05	9.85E-05	9.83E-05	6.55E-05	2.87E-05
392	561419.06	4192052.92	1.65E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	9.09E-05	5.51E-05	1.18E-04	9.80E-05	9.50E-05	9.53E-05	9.50E-05	6.34E-05	2.77E-05
393	561426.77	4192058.64	1.59E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	8.80E-05	5.33E-05	1.14E-04	9.49E-05	9.20E-05	9.23E-05	9.20E-05	6.13E-05	2.69E-05
394	561434.48	4192064.36	1.55E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.53E-05	5.17E-05	1.11E-04	9.19E-05	8.92E-05	8.94E-05	8.92E-05	5.95E-05	2.60E-05
395	561442.19	4192070.08	1.50E-04	1.14E-04	1.12E-04	1.12E-04	1.12E-04	8.27E-05	5.02E-05	1.07E-04	8.92E-05	8.65E-05	8.67E-05	8.65E-05	5.77E-05	2.53E-05
396	561449.9	4192075.8	1.46E-04	1.11E-04	1.08E-04	1.09E-04	1.08E-04	8.03E-05	4.87E-05	1.04E-04	8.66E-05	8.40E-05	8.42E-05	8.40E-05	5.60E-05	2.45E-05
397	561457.61	4192081.52	1.42E-04	1.08E-04	1.05E-04	1.06E-04	1.05E-04	7.81E-05	4.73E-05	1.01E-04	8.42E-05	8.17E-05	8.19E-05	8.17E-05	5.44E-05	2.38E-05
398	561465.32	4192087.24	1.38E-04	1.05E-04	1.02E-04	1.03E-04	1.02E-04	7.60E-05	4.61E-05	9.85E-05	8.19E-05	7.94E-05	7.97E-05	7.94E-05	5.30E-05	2.32E-05
399	561473.04	4192092.96	1.34E-04	1.02E-04	9.97E-05	1.00E-04	9.97E-05	7.40E-05	4.48E-05	9.59E-05	7.97E-05	7.73E-05	7.76E-05	7.73E-05	5.16E-05	2.26E-05
400	561489.77	4192113.91	1.28E-04	9.79E-05	9.54E-05	9.57E-05	9.54E-05	7.08E-05	4.29E-05	9.17E-05	7.63E-05	7.40E-05	7.42E-05	7.40E-05	4.93E-05	2.16E-05
401	561491.09	4192123.42	1.30E-04	9.91E-05	9.66E-05	9.69E-05	9.66E-05	7.16E-05	4.34E-05	9.29E-05	7.72E-05	7.49E-05	7.51E-05	7.49E-05	4.99E-05	2.19E-05
402	561492.4	4192132.93	1.31E-04	1.00E-04	9.77E-05	9.80E-05	9.77E-05	7.25E-05	4.39E-05	9.39E-05	7.81E-05	7.58E-05	7.60E-05	7.58E-05	5.05E-05	2.21E-05
403	561493.72	4192142.44	1.33E-04	1.01E-04	9.88E-05	9.90E-05	9.88E-05	7.32E-05	4.44E-05	9.49E-05	7.90E-05	7.66E-05	7.68E-05	7.66E-05	5.11E-05	2.24E-05
404	561495.03	4192151.95	1.34E-04	1.02E-04	9.99E-05	1.00E-04	9.99E-05	7.41E-05	4.49E-05	9.60E-05	7.98E-05	7.74E-05	7.76E-05	7.74E-05	5.16E-05	2.26E-05
405	561496.35	4192161.46	1.36E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	7.48E-05	4.54E-05	9.70E-05	8.07E-05	7.83E-05	7.85E-05	7.83E-05	5.22E-05	2.28E-05
406	561497.67	4192170.97	1.37E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	7.57E-05	4.59E-05	9.82E-05	8.16E-05	7.92E-05	7.94E-05	7.92E-05	5.28E-05	2.31E-05
407	561498.98	4192180.48	1.38E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	7.64E-05	4.63E-05	9.90E-05	8.23E-05	7.99E-05	8.01E-05	7.99E-05	5.32E-05	2.33E-05
408	561502.93	4192209.02	1.41E-04	1.07E-04	1.05E-04	1.05E-04	1.05E-04	7.76E-05	4.70E-05	1.01E-04	8.36E-05	8.11E-05	8.14E-05	8.11E-05	5.41E-05	2.37E-05
409	561504.24	4192218.53	1.41E-04	1.07E-04	1.05E-04	1.05E-04	1.05E-04	7.77E-05	4.71E-05	1.01E-04	8.38E-05	8.12E-05	8.15E-05	8.12E-05	5.42E-05	2.37E-05
410	561505.56	4192228.04	1.41E-04	1.07E-04	1.05E-04	1.05E-04	1.05E-04	7.76E-05	4.71E-05	1.01E-04	8.37E-05	8.12E-05	8.14E-05	8.12E-05	5.41E-05	2.37E-05
411	561506.88	4192237.55	1.40E-04	1.07E-04	1.04E-04	1.05E-04	1.04E-04	7.73E-05	4.69E-05	1.00E-04	8.34E-05	8.09E-05	8.11E-05	8.09E-05	5.39E-05	2.36E-05
412	561508.19	4192247.06	1.39E-04	1.06E-04	1.04E-04	1.04E-04	1.04E-04	7.69E-05	4.66E-05	9.96E-05	8.29E-05	8.04E-05	8.06E-05	8.04E-05	5.36E-05	2.35E-05
413	561509.51	4192256.57	1.38E-04	1.05E-04	1.03E-04	1.03E-04	1.03E-04	7.61E-05	4.61E-05	9.87E-05	8.21E-05	7.96E-05	7.98E-05	7.96E-05	5.31E-05	2.32E-05
414	561510.82	4192266.08	1.36E-04	1.04E-04	1.01E-04	1.02E-04	1.01E-04	7.52E-05	4.56E-05	9.75E-05	8.11E-05	7.87E-05	7.89E-05	7.87E-05	5.24E-05	2.30E-05
415	561512.14	4192275.59	1.34E-04	1.03E-04	1.00E-04	1.00E-04	1.00E-04	7.42E-05	4.50E-05	9.62E-05	8.00E-05	7.76E-05	7.78E-05	7.76E-05	5.17E-05	2.26E-05
416	561513.45	4192285.1	1.33E-04	1.01E-04	9.86E-05	9.89E-05	9.86E-05	7.31E-05	4.43E-05	9.48E-05	7.88E-05	7.64E-05	7.67E-05	7.64E-05	5.10E-05	2.23E-05
417	561514.77	4192294.61	1.30E-04	9.95E-05	9.70E-05	9.73E-05	9.70E-05	7.19E-05	4.36E-05	9.32E-05	7.75E-05	7.52E-05	7.54E-05	7.52E-05	5.02E-05	2.20E-05
418	561516.09	4192304.12	1.28E-04	9.78E-05	9.53E-05	9.56E-05	9.53E-05	7.07E-05	4.28E-05	9.16E-05	7.62E-05	7.39E-05	7.41E-05	7.39E-05	4.93E-05	2.16E-05
419	561517.4	4192313.63	1.26E-04	9.59E-05	9.35E-05	9.38E-05	9.35E-05	6.93E-05	4.20E-05	8.99E-05	7.48E-05	7.25E-05	7.27E-05	7.25E-05	4.83E-05	2.12E-05
420	561518.72	4192323.14	1.23E-04	9.40E-05	9.17E-05	9.19E-05	9.17E-05	6.80E-05	4.12E-05	8.81E-05	7.33E-05	7.11E-05	7.13E-05	7.11E-05	4.74E-05	2.07E-05
421	560985.67	4192041.55	3.61E-04	2.75E-04	2.68E-04	2.69E-04	2.68E-04	1.99E-04	1.21E-04	2.58E-04	2.15E-04	2.08E-04	2.09E-04	2.08E-04	1.39E-04	6.08E-05
422	560991.7	4192030.36	3.52E-04	2.69E-04	2.62E-04	2.63E-04	2.62E-04	1.94E-04	1.18E-04	2.52E-04	2.09E-04	2.03E-04	2.04E-04	2.03E-04	1.35E-04	5.93E-05
423	560982.51	4192032.06	3.39E-04	2.59E-04	2.52E-04	2.53E-04	2.52E-04	1.87E-04	1.13E-04	2.43E-04	2.02E-04	1.96E-04	1.96E-04	1.96E-04	1.31E-04	5.71E-05
424	560988.58	4192020.87	3.32E-04	2.53E-04	2.47E-04	2.47E-04	2.47E-04	1.83E-04	1.11E-04	2.37E-04	1.97E-04	1.91E-04	1.92E-04	1.91E-04	1.28E-04	5.58E-05
425	560979.35	4192022.57	3.20E-04	2.44E-04	2.38E-04	2.39E-04	2.38E-04	1.76E-04	1.07E-04	2.29E-04	1.90E-04	1.84E-04	1.85E-04	1.84E-04	1.23E-04	5.38E-05
426	560985.46	4192011.38	3.13E-04	2.39E-04	2.33E-04	2.33E-04	2.33E-04	1.73E-04	1.05E-04	2.24E-04	1.86E-04	1.80E-04	1.81E-04	1.80E-04	1.20E-04	5.27E-05
427	560994.83	4192011	3.26E-04	2.49E-04	2.43E-04	2.43E-04	2.43E-04	1.80E-04	1.09E-04	2.33E-04	1.94E-04	1.88E-04	1.89E-04	1.88E-04	1.25E-04	5.49E-05
428	560976.2	4192013.08	3.02E-04	2.30E-04	2.24E-04	2.25E-04	2.24E-04	1.66E-04	1.01E-04	2.16E-04	1.79E-04	1.74E-04	1.75E-04	1.74E-04	1.16E-04	5.08E-05

429	560982.33	4192001.89	2.96E-04	2.26E-04	2.20E-04	2.21E-04	2.20E-04	1.63E-04	9.89E-05	2.11E-04	1.76E-04	1.71E-04	1.71E-04	1.71E-04	1.14E-04	4.98E-05
430	560991.77	4192001.51	3.08E-04	2.35E-04	2.29E-04	2.30E-04	2.29E-04	1.70E-04	1.03E-04	2.20E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.18E-04	5.19E-05
431	561001.21	4192001.13	3.20E-04	2.44E-04	2.38E-04	2.39E-04	2.38E-04	1.77E-04	1.07E-04	2.29E-04	1.90E-04	1.85E-04	1.85E-04	1.85E-04	1.23E-04	5.39E-05
432	560973.04	4192003.6	2.85E-04	2.18E-04	2.12E-04	2.13E-04	2.12E-04	1.57E-04	9.54E-05	2.04E-04	1.70E-04	1.65E-04	1.65E-04	1.65E-04	1.10E-04	4.80E-05
433	560979.2	4191992.4	2.80E-04	2.14E-04	2.08E-04	2.09E-04	2.08E-04	1.54E-04	9.36E-05	2.00E-04	1.66E-04	1.61E-04	1.62E-04	1.61E-04	1.08E-04	4.71E-05
434	560988.7	4191992.01	2.91E-04	2.22E-04	2.17E-04	2.17E-04	2.17E-04	1.61E-04	9.74E-05	2.08E-04	1.73E-04	1.68E-04	1.69E-04	1.68E-04	1.12E-04	4.91E-05
435	560998.2	4191991.63	3.03E-04	2.31E-04	2.25E-04	2.26E-04	2.25E-04	1.67E-04	1.01E-04	2.17E-04	1.80E-04	1.75E-04	1.75E-04	1.75E-04	1.16E-04	5.10E-05
436	560969.88	4191994.11	2.70E-04	2.06E-04	2.01E-04	2.02E-04	2.01E-04	1.49E-04	9.04E-05	1.93E-04	1.61E-04	1.56E-04	1.56E-04	1.56E-04	1.04E-04	4.55E-05
437	560976.08	4191982.91	2.65E-04	2.03E-04	1.97E-04	1.98E-04	1.97E-04	1.46E-04	8.87E-05	1.90E-04	1.58E-04	1.53E-04	1.53E-04	1.53E-04	1.02E-04	4.47E-05
438	560985.63	4191982.52	2.76E-04	2.11E-04	2.05E-04	2.06E-04	2.05E-04	1.52E-04	9.23E-05	1.97E-04	1.64E-04	1.59E-04	1.60E-04	1.59E-04	1.06E-04	4.65E-05
439	560995.18	4191982.14	2.87E-04	2.19E-04	2.13E-04	2.14E-04	2.13E-04	1.58E-04	9.59E-05	2.05E-04	1.71E-04	1.65E-04	1.66E-04	1.65E-04	1.10E-04	4.83E-05
440	561004.73	4191981.75	2.98E-04	2.27E-04	2.21E-04	2.22E-04	2.21E-04	1.64E-04	9.95E-05	2.13E-04	1.77E-04	1.72E-04	1.72E-04	1.72E-04	1.14E-04	5.01E-05
441	560966.73	4191984.62	2.56E-04	1.96E-04	1.91E-04	1.91E-04	1.91E-04	1.41E-04	8.57E-05	1.83E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	9.85E-05	4.31E-05
442	560972.94	4191973.42	2.52E-04	1.92E-04	1.87E-04	1.88E-04	1.87E-04	1.39E-04	8.42E-05	1.80E-04	1.50E-04	1.45E-04	1.46E-04	1.45E-04	9.69E-05	4.24E-05
443	560982.55	4191973.03	2.62E-04	2.00E-04	1.95E-04	1.95E-04	1.95E-04	1.45E-04	8.76E-05	1.87E-04	1.56E-04	1.51E-04	1.52E-04	1.51E-04	1.01E-04	4.41E-05
444	560992.15	4191972.64	2.72E-04	2.08E-04	2.02E-04	2.03E-04	2.02E-04	1.50E-04	9.10E-05	1.95E-04	1.62E-04	1.57E-04	1.57E-04	1.57E-04	1.05E-04	4.58E-05
445	561001.76	4191972.26	2.82E-04	2.15E-04	2.10E-04	2.11E-04	2.10E-04	1.56E-04	9.44E-05	2.02E-04	1.68E-04	1.63E-04	1.63E-04	1.63E-04	1.09E-04	4.75E-05
446	561011.36	4191971.87	2.92E-04	2.23E-04	2.17E-04	2.18E-04	2.17E-04	1.61E-04	9.77E-05	2.09E-04	1.74E-04	1.69E-04	1.69E-04	1.69E-04	1.12E-04	4.92E-05
447	560963.57	4191975.13	2.43E-04	1.86E-04	1.81E-04	1.82E-04	1.81E-04	1.34E-04	8.14E-05	1.74E-04	1.45E-04	1.40E-04	1.41E-04	1.40E-04	9.36E-05	4.10E-05
448	560969.66	4191963.93	2.39E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.32E-04	8.00E-05	1.71E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	9.20E-05	4.03E-05
449	560979.01	4191963.56	2.48E-04	1.90E-04	1.85E-04	1.85E-04	1.85E-04	1.37E-04	8.31E-05	1.78E-04	1.48E-04	1.43E-04	1.44E-04	1.43E-04	9.56E-05	4.18E-05
450	560988.36	4191963.18	2.58E-04	1.97E-04	1.92E-04	1.92E-04	1.92E-04	1.42E-04	8.62E-05	1.84E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	9.91E-05	4.34E-05
451	560997.71	4191962.8	2.67E-04	2.04E-04	1.99E-04	1.99E-04	1.99E-04	1.47E-04	8.93E-05	1.91E-04	1.59E-04	1.54E-04	1.54E-04	1.54E-04	1.03E-04	4.49E-05
452	561007.06	4191962.43	2.76E-04	2.11E-04	2.05E-04	2.06E-04	2.05E-04	1.52E-04	9.23E-05	1.97E-04	1.64E-04	1.59E-04	1.60E-04	1.59E-04	1.06E-04	4.65E-05
453	560960.42	4191965.64	2.31E-04	1.77E-04	1.72E-04	1.73E-04	1.72E-04	1.28E-04	7.74E-05	1.65E-04	1.38E-04	1.33E-04	1.34E-04	1.33E-04	8.90E-05	3.90E-05
454	560966.53	4191954.44	2.28E-04	1.74E-04	1.69E-04	1.70E-04	1.69E-04	1.26E-04	7.62E-05	1.63E-04	1.35E-04	1.31E-04	1.32E-04	1.31E-04	8.76E-05	3.83E-05
455	560975.93	4191954.06	2.36E-04	1.80E-04	1.76E-04	1.76E-04	1.76E-04	1.30E-04	7.91E-05	1.69E-04	1.41E-04	1.36E-04	1.37E-04	1.36E-04	9.09E-05	3.98E-05
456	560985.34	4191953.69	2.45E-04	1.87E-04	1.82E-04	1.83E-04	1.82E-04	1.35E-04	8.20E-05	1.75E-04	1.46E-04	1.41E-04	1.42E-04	1.41E-04	9.43E-05	4.13E-05
457	560994.74	4191953.31	2.54E-04	1.94E-04	1.89E-04	1.89E-04	1.89E-04	1.40E-04	8.49E-05	1.81E-04	1.51E-04	1.46E-04	1.47E-04	1.46E-04	9.76E-05	4.27E-05
458	561004.14	4191952.93	2.62E-04	2.00E-04	1.95E-04	1.96E-04	1.95E-04	1.45E-04	8.77E-05	1.88E-04	1.56E-04	1.51E-04	1.52E-04	1.51E-04	1.01E-04	4.42E-05
459	561013.54	4191952.55	2.71E-04	2.07E-04	2.01E-04	2.02E-04	2.01E-04	1.49E-04	9.06E-05	1.94E-04	1.61E-04	1.56E-04	1.57E-04	1.56E-04	1.04E-04	4.56E-05
460	560957.26	4191956.15	2.20E-04	1.68E-04	1.64E-04	1.64E-04	1.64E-04	1.22E-04	7.37E-05	1.58E-04	1.31E-04	1.27E-04	1.27E-04	1.27E-04	8.47E-05	3.71E-05
461	560963.4	4191944.95	2.17E-04	1.66E-04	1.61E-04	1.62E-04	1.61E-04	1.20E-04	7.26E-05	1.55E-04	1.29E-04	1.25E-04	1.26E-04	1.25E-04	8.35E-05	3.65E-05
462	560972.85	4191944.57	2.25E-04	1.72E-04	1.68E-04	1.68E-04	1.68E-04	1.24E-04	7.53E-05	1.61E-04	1.34E-04	1.30E-04	1.30E-04	1.30E-04	8.66E-05	3.79E-05
463	560982.3	4191944.19	2.33E-04	1.78E-04	1.74E-04	1.74E-04	1.74E-04	1.29E-04	7.81E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	8.98E-05	3.93E-05
464	560991.76	4191943.81	2.42E-04	1.84E-04	1.80E-04	1.80E-04	1.80E-04	1.33E-04	8.08E-05	1.73E-04	1.44E-04	1.39E-04	1.40E-04	1.39E-04	9.29E-05	4.07E-05
465	561001.21	4191943.43	2.50E-04	1.91E-04	1.86E-04	1.86E-04	1.86E-04	1.38E-04	8.35E-05	1.79E-04	1.48E-04	1.44E-04	1.44E-04	1.44E-04	9.60E-05	4.20E-05
466	561010.66	4191943.05	2.58E-04	1.97E-04	1.92E-04	1.92E-04	1.92E-04	1.42E-04	8.62E-05	1.84E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	9.91E-05	4.34E-05
467	561020.11	4191942.67	2.65E-04	2.03E-04	1.97E-04	1.98E-04	1.97E-04	1.46E-04	8.88E-05	1.90E-04	1.58E-04	1.53E-04	1.54E-04	1.53E-04	1.02E-04	4.47E-05
468	560954.1	4191946.66	2.10E-04	1.60E-04	1.56E-04	1.57E-04	1.56E-04	1.16E-04	7.02E-05	1.50E-04	1.25E-04	1.21E-04	1.21E-04	1.21E-04	8.08E-05	3.54E-05
469	560960.27	4191935.46	2.07E-04	1.58E-04	1.54E-04	1.54E-04	1.54E-04	1.14E-04	6.93E-05	1.48E-04	1.23E-04	1.19E-04	1.20E-04	1.19E-04	7.96E-05	3.49E-05
470	560969.77	4191935.08	2.15E-04	1.64E-04	1.60E-04	1.60E-04	1.60E-04	1.19E-04	7.18E-05	1.54E-04	1.28E-04	1.24E-04	1.24E-04	1.24E-04	8.26E-05	3.62E-05
471	560979.26	4191934.7	2.23E-04	1.70E-04	1.66E-04	1.66E-04	1.66E-04	1.23E-04	7.44E-05	1.59E-04	1.32E-04	1.28E-04	1.29E-04	1.28E-04	8.56E-05	3.75E-05
472	560988.76	4191934.32	2.30E-04	1.76E-04	1.71E-04	1.72E-04	1.71E-04	1.27E-04	7.70E-05	1.65E-04	1.37E-04	1.33E-04	1.33E-04	1.33E-04	8.86E-05	3.88E-05
473	560998.26	4191933.94	2.38E-04	1.82E-04	1.77E-04	1.77E-04	1.77E-04	1.31E-04	7.96E-05	1.70E-04	1.41E-04	1.37E-04	1.38E-04	1.37E-04	9.15E-05	4.01E-05
474	561007.76	4191933.55	2.45E-04	1.87E-04	1.83E-04	1.83E-04	1.83E-04	1.35E-04	8.21E-05	1.76E-04	1.46E-04	1.42E-04	1.42E-04	1.42E-04	9.44E-05	4.13E-05
475	561017.26	4191933.17	2.53E-04	1.93E-04	1.88E-04	1.89E-04	1.88E-04	1.39E-04	8.45E-05	1.81E-04	1.50E-04	1.46E-04	1.46E-04	1.46E-04	9.72E-05	4.26E-05
476	560950.95	4191937.17	2.00E-04	1.53E-04	1.49E-04	1.50E-04	1.49E-04	1.11E-04	6.70E-05	1.43E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	7.71E-05	3.38E-05

477	560957.13	4191925.97	1.98E-04	1.51E-04	1.47E-04	1.48E-04	1.47E-04	1.09E-04	6.62E-05	1.41E-04	1.18E-04	1.14E-04	1.14E-04	1.14E-04	7.61E-05	3.33E-05
478	560966.68	4191925.59	2.05E-04	1.57E-04	1.53E-04	1.53E-04	1.53E-04	1.13E-04	6.86E-05	1.47E-04	1.22E-04	1.18E-04	1.19E-04	1.18E-04	7.89E-05	3.45E-05
479	560976.22	4191925.21	2.12E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.17E-04	7.10E-05	1.52E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	8.17E-05	3.58E-05
480	560985.76	4191924.82	2.20E-04	1.68E-04	1.63E-04	1.64E-04	1.63E-04	1.21E-04	7.35E-05	1.57E-04	1.31E-04	1.27E-04	1.27E-04	1.27E-04	8.45E-05	3.70E-05
481	560995.3	4191924.44	2.27E-04	1.73E-04	1.69E-04	1.69E-04	1.69E-04	1.25E-04	7.59E-05	1.62E-04	1.35E-04	1.31E-04	1.31E-04	1.31E-04	8.73E-05	3.82E-05
482	561004.85	4191924.06	2.34E-04	1.79E-04	1.74E-04	1.75E-04	1.74E-04	1.29E-04	7.83E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	9.00E-05	3.94E-05
483	561014.39	4191923.67	2.41E-04	1.84E-04	1.79E-04	1.80E-04	1.79E-04	1.33E-04	8.06E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.27E-05	4.06E-05
484	561023.93	4191923.29	2.48E-04	1.89E-04	1.84E-04	1.85E-04	1.84E-04	1.37E-04	8.28E-05	1.77E-04	1.47E-04	1.43E-04	1.43E-04	1.43E-04	9.53E-05	4.17E-05
485	560947.79	4191927.68	1.92E-04	1.46E-04	1.42E-04	1.43E-04	1.42E-04	1.06E-04	6.41E-05	1.37E-04	1.14E-04	1.10E-04	1.11E-04	1.10E-04	7.37E-05	3.23E-05
486	560941.54	4192192.34	6.01E-04	4.59E-04	4.47E-04	4.48E-04	4.47E-04	3.32E-04	2.01E-04	4.30E-04	3.58E-04	3.47E-04	3.48E-04	3.47E-04	2.31E-04	1.01E-04
487	560936.25	4192207.6	6.21E-04	4.74E-04	4.62E-04	4.63E-04	4.62E-04	3.43E-04	2.08E-04	4.44E-04	3.69E-04	3.58E-04	3.59E-04	3.58E-04	2.39E-04	1.05E-04
488	560932.95	4192223.59	6.50E-04	4.96E-04	4.84E-04	4.85E-04	4.84E-04	3.59E-04	2.17E-04	4.65E-04	3.87E-04	3.75E-04	3.76E-04	3.75E-04	2.50E-04	1.09E-04
489	560931.59	4192190.65	5.48E-04	4.18E-04	4.08E-04	4.09E-04	4.08E-04	3.02E-04	1.83E-04	3.92E-04	3.26E-04	3.16E-04	3.17E-04	3.16E-04	2.11E-04	9.22E-05
490	560938.54	4192176.79	5.39E-04	4.12E-04	4.01E-04	4.02E-04	4.01E-04	2.98E-04	1.80E-04	3.86E-04	3.21E-04	3.11E-04	3.12E-04	3.11E-04	2.08E-04	9.09E-05
491	560945.5	4192162.92	5.29E-04	4.04E-04	3.94E-04	3.95E-04	3.94E-04	2.92E-04	1.77E-04	3.78E-04	3.15E-04	3.05E-04	3.06E-04	3.05E-04	2.04E-04	8.91E-05
492	560952.46	4192149.05	5.16E-04	3.94E-04	3.84E-04	3.85E-04	3.84E-04	2.85E-04	1.72E-04	3.69E-04	3.07E-04	2.98E-04	2.98E-04	2.98E-04	1.98E-04	8.69E-05
493	560926.46	4192205.58	5.64E-04	4.31E-04	4.20E-04	4.21E-04	4.20E-04	3.11E-04	1.89E-04	4.03E-04	3.36E-04	3.25E-04	3.26E-04	3.25E-04	2.17E-04	9.50E-05
494	560923.16	4192221.57	5.88E-04	4.49E-04	4.37E-04	4.38E-04	4.37E-04	3.24E-04	1.97E-04	4.20E-04	3.50E-04	3.39E-04	3.40E-04	3.39E-04	2.26E-04	9.90E-05
495	560921.66	4192188.89	5.01E-04	3.82E-04	3.73E-04	3.74E-04	3.73E-04	2.76E-04	1.68E-04	3.58E-04	2.98E-04	2.89E-04	2.90E-04	2.89E-04	1.93E-04	8.44E-05
496	560928.36	4192175.53	4.95E-04	3.78E-04	3.68E-04	3.69E-04	3.68E-04	2.73E-04	1.65E-04	3.54E-04	2.94E-04	2.85E-04	2.86E-04	2.85E-04	1.90E-04	8.33E-05
497	560935.06	4192162.18	4.86E-04	3.71E-04	3.62E-04	3.63E-04	3.62E-04	2.68E-04	1.63E-04	3.48E-04	2.89E-04	2.81E-04	2.81E-04	2.81E-04	1.87E-04	8.19E-05
498	560941.76	4192148.83	4.77E-04	3.64E-04	3.55E-04	3.56E-04	3.55E-04	2.63E-04	1.60E-04	3.41E-04	2.84E-04	2.75E-04	2.76E-04	2.75E-04	1.83E-04	8.03E-05
499	560954.7	4192131.37	4.75E-04	3.63E-04	3.53E-04	3.54E-04	3.53E-04	2.62E-04	1.59E-04	3.40E-04	2.82E-04	2.74E-04	2.75E-04	2.74E-04	1.83E-04	8.00E-05
500	560916.66	4192203.56	5.14E-04	3.92E-04	3.83E-04	3.84E-04	3.83E-04	2.84E-04	1.72E-04	3.68E-04	3.06E-04	2.97E-04	2.97E-04	2.97E-04	1.98E-04	8.66E-05
501	560913.36	4192219.55	5.33E-04	4.07E-04	3.97E-04	3.98E-04	3.97E-04	2.94E-04	1.78E-04	3.81E-04	3.17E-04	3.08E-04	3.08E-04	3.08E-04	2.05E-04	8.98E-05
502	560912.13	4192186.35	4.59E-04	3.50E-04	3.41E-04	3.42E-04	3.41E-04	2.53E-04	1.53E-04	3.28E-04	2.73E-04	2.65E-04	2.65E-04	2.65E-04	1.76E-04	7.72E-05
503	560919.34	4192171.97	4.54E-04	3.46E-04	3.38E-04	3.39E-04	3.38E-04	2.50E-04	1.52E-04	3.25E-04	2.70E-04	2.62E-04	2.63E-04	2.62E-04	1.75E-04	7.64E-05
504	560926.56	4192157.59	4.46E-04	3.41E-04	3.32E-04	3.33E-04	3.32E-04	2.46E-04	1.49E-04	3.19E-04	2.65E-04	2.57E-04	2.58E-04	2.57E-04	1.72E-04	7.51E-05
505	560933.77	4192143.21	4.37E-04	3.34E-04	3.25E-04	3.26E-04	3.25E-04	2.41E-04	1.46E-04	3.13E-04	2.60E-04	2.52E-04	2.53E-04	2.52E-04	1.68E-04	7.36E-05
506	560947.71	4192124.41	4.36E-04	3.32E-04	3.24E-04	3.25E-04	3.24E-04	2.40E-04	1.46E-04	3.11E-04	2.59E-04	2.51E-04	2.52E-04	2.51E-04	1.68E-04	7.33E-05
507	560961.14	4192115.55	4.56E-04	3.48E-04	3.39E-04	3.40E-04	3.39E-04	2.52E-04	1.53E-04	3.26E-04	2.71E-04	2.63E-04	2.64E-04	2.63E-04	1.75E-04	7.68E-05
508	560906.87	4192201.54	4.70E-04	3.58E-04	3.49E-04	3.50E-04	3.49E-04	2.59E-04	1.57E-04	3.36E-04	2.79E-04	2.71E-04	2.72E-04	2.71E-04	1.81E-04	7.91E-05
509	560903.57	4192217.53	4.86E-04	3.71E-04	3.61E-04	3.62E-04	3.61E-04	2.68E-04	1.62E-04	3.47E-04	2.89E-04	2.80E-04	2.81E-04	2.80E-04	1.87E-04	8.18E-05
510	560902.2	4192184.59	4.22E-04	3.22E-04	3.14E-04	3.15E-04	3.14E-04	2.33E-04	1.41E-04	3.02E-04	2.51E-04	2.43E-04	2.44E-04	2.43E-04	1.62E-04	7.10E-05
511	560909.16	4192170.72	4.18E-04	3.19E-04	3.11E-04	3.12E-04	3.11E-04	2.30E-04	1.40E-04	2.99E-04	2.48E-04	2.41E-04	2.42E-04	2.41E-04	1.61E-04	7.03E-05
512	560916.12	4192156.86	4.13E-04	3.15E-04	3.07E-04	3.08E-04	3.07E-04	2.28E-04	1.38E-04	2.95E-04	2.45E-04	2.38E-04	2.39E-04	2.38E-04	1.59E-04	6.95E-05
513	560923.08	4192142.99	4.05E-04	3.09E-04	3.02E-04	3.02E-04	3.02E-04	2.24E-04	1.36E-04	2.90E-04	2.41E-04	2.34E-04	2.34E-04	2.34E-04	1.56E-04	6.82E-05
514	560930.04	4192129.12	3.96E-04	3.02E-04	2.94E-04	2.95E-04	2.94E-04	2.18E-04	1.32E-04	2.83E-04	2.35E-04	2.28E-04	2.29E-04	2.28E-04	1.52E-04	6.66E-05
515	560939.99	4192117.92	4.00E-04	3.05E-04	2.97E-04	2.98E-04	2.97E-04	2.21E-04	1.34E-04	2.86E-04	2.38E-04	2.31E-04	2.31E-04	2.31E-04	1.54E-04	6.73E-05
516	560952.95	4192109.38	4.18E-04	3.19E-04	3.11E-04	3.12E-04	3.11E-04	2.31E-04	1.40E-04	2.99E-04	2.49E-04	2.41E-04	2.42E-04	2.41E-04	1.61E-04	7.04E-05
517	560965.9	4192100.85	4.36E-04	3.32E-04	3.24E-04	3.25E-04	3.24E-04	2.40E-04	1.46E-04	3.11E-04	2.59E-04	2.51E-04	2.52E-04	2.51E-04	1.68E-04	7.33E-05
518	560897.08	4192199.52	4.33E-04	3.30E-04	3.22E-04	3.23E-04	3.22E-04	2.39E-04	1.45E-04	3.09E-04	2.57E-04	2.50E-04	2.50E-04	2.50E-04	1.66E-04	7.28E-05
519	560893.78	4192215.51	4.47E-04	3.41E-04	3.33E-04	3.34E-04	3.33E-04	2.47E-04	1.50E-04	3.20E-04	2.66E-04	2.58E-04	2.59E-04	2.58E-04	1.72E-04	7.53E-05
520	560892.31	4192182.78	3.92E-04	2.99E-04	2.91E-04	2.92E-04	2.91E-04	2.16E-04	1.31E-04	2.80E-04	2.33E-04	2.26E-04	2.27E-04	2.26E-04	1.51E-04	6.59E-05
521	560899.05	4192169.33	3.87E-04	2.95E-04	2.88E-04	2.88E-04	2.88E-04	2.13E-04	1.29E-04	2.77E-04	2.30E-04	2.23E-04	2.24E-04	2.23E-04	1.49E-04	6.51E-05
522	560905.8	4192155.88	3.83E-04	2.92E-04	2.85E-04	2.86E-04	2.85E-04	2.11E-04	1.28E-04	2.74E-04	2.28E-04	2.21E-04	2.21E-04	2.21E-04	1.47E-04	6.45E-05
523	560912.55	4192142.44	3.76E-04	2.87E-04	2.80E-04	2.81E-04	2.80E-04	2.08E-04	1.26E-04	2.69E-04	2.24E-04	2.17E-04	2.18E-04	2.17E-04	1.45E-04	6.34E-05
524	560919.29	4192128.99	3.70E-04	2.82E-04	2.75E-04	2.76E-04	2.75E-04	2.04E-04	1.24E-04	2.64E-04	2.20E-04	2.13E-04	2.14E-04	2.13E-04	1.42E-04	6.23E-05

525	560932.32	4192111.41	3.68E-04	2.81E-04	2.74E-04	2.75E-04	2.74E-04	2.03E-04	1.23E-04	2.63E-04	2.19E-04	2.12E-04	2.13E-04	2.12E-04	1.42E-04	6.20E-05
526	560944.88	4192103.13	3.84E-04	2.93E-04	2.86E-04	2.87E-04	2.86E-04	2.12E-04	1.28E-04	2.75E-04	2.28E-04	2.22E-04	2.22E-04	2.22E-04	1.48E-04	6.47E-05
527	560957.45	4192094.85	4.00E-04	3.05E-04	2.98E-04	2.98E-04	2.98E-04	2.21E-04	1.34E-04	2.86E-04	2.38E-04	2.31E-04	2.31E-04	2.31E-04	1.54E-04	6.73E-05
528	560970.01	4192086.57	4.15E-04	3.17E-04	3.09E-04	3.09E-04	3.09E-04	2.29E-04	1.39E-04	2.97E-04	2.47E-04	2.39E-04	2.40E-04	2.39E-04	1.60E-04	6.98E-05
529	560887.28	4192197.5	4.00E-04	3.06E-04	2.98E-04	2.99E-04	2.98E-04	2.21E-04	1.34E-04	2.86E-04	2.38E-04	2.31E-04	2.32E-04	2.31E-04	1.54E-04	6.74E-05
530	560883.98	4192213.49	4.13E-04	3.15E-04	3.07E-04	3.08E-04	3.07E-04	2.28E-04	1.38E-04	2.95E-04	2.45E-04	2.38E-04	2.39E-04	2.38E-04	1.59E-04	6.95E-05
531	560882.72	4192180.34	3.64E-04	2.78E-04	2.71E-04	2.71E-04	2.71E-04	2.01E-04	1.22E-04	2.60E-04	2.16E-04	2.10E-04	2.10E-04	2.10E-04	1.40E-04	6.13E-05
532	560889.89	4192166.05	3.60E-04	2.75E-04	2.68E-04	2.68E-04	2.68E-04	1.99E-04	1.20E-04	2.57E-04	2.14E-04	2.08E-04	2.08E-04	2.08E-04	1.38E-04	6.06E-05
533	560897.06	4192151.76	3.55E-04	2.71E-04	2.64E-04	2.65E-04	2.64E-04	1.96E-04	1.19E-04	2.54E-04	2.11E-04	2.05E-04	2.05E-04	2.05E-04	1.36E-04	5.97E-05
534	560904.23	4192137.48	3.49E-04	2.66E-04	2.59E-04	2.60E-04	2.59E-04	1.92E-04	1.17E-04	2.49E-04	2.07E-04	2.01E-04	2.02E-04	2.01E-04	1.34E-04	5.87E-05
535	560911.4	4192123.19	3.42E-04	2.61E-04	2.54E-04	2.55E-04	2.54E-04	1.89E-04	1.14E-04	2.45E-04	2.03E-04	1.97E-04	1.98E-04	1.97E-04	1.32E-04	5.76E-05
536	560925.24	4192104.5	3.41E-04	2.60E-04	2.54E-04	2.54E-04	2.54E-04	1.88E-04	1.14E-04	2.44E-04	2.03E-04	1.97E-04	1.97E-04	1.97E-04	1.31E-04	5.74E-05
537	560938.59	4192095.71	3.56E-04	2.72E-04	2.65E-04	2.66E-04	2.65E-04	1.96E-04	1.19E-04	2.55E-04	2.12E-04	2.05E-04	2.06E-04	2.05E-04	1.37E-04	6.00E-05
538	560951.94	4192086.91	3.71E-04	2.83E-04	2.76E-04	2.77E-04	2.76E-04	2.05E-04	1.24E-04	2.66E-04	2.21E-04	2.14E-04	2.15E-04	2.14E-04	1.43E-04	6.25E-05
539	560965.28	4192078.12	3.86E-04	2.95E-04	2.87E-04	2.88E-04	2.87E-04	2.13E-04	1.29E-04	2.76E-04	2.30E-04	2.23E-04	2.23E-04	2.23E-04	1.48E-04	6.50E-05
540	560978.63	4192069.32	3.99E-04	3.05E-04	2.97E-04	2.98E-04	2.97E-04	2.20E-04	1.34E-04	2.86E-04	2.37E-04	2.30E-04	2.31E-04	2.30E-04	1.54E-04	6.72E-05
541	560877.49	4192195.47	3.71E-04	2.83E-04	2.76E-04	2.77E-04	2.76E-04	2.05E-04	1.24E-04	2.65E-04	2.21E-04	2.14E-04	2.15E-04	2.14E-04	1.43E-04	6.25E-05
542	560874.19	4192211.46	3.82E-04	2.91E-04	2.84E-04	2.85E-04	2.84E-04	2.11E-04	1.28E-04	2.73E-04	2.27E-04	2.20E-04	2.21E-04	2.20E-04	1.47E-04	6.43E-05
543	560872.82	4192178.53	3.39E-04	2.58E-04	2.52E-04	2.53E-04	2.52E-04	1.87E-04	1.13E-04	2.42E-04	2.01E-04	1.95E-04	1.96E-04	1.95E-04	1.30E-04	5.70E-05
544	560879.78	4192164.66	3.36E-04	2.56E-04	2.50E-04	2.50E-04	2.50E-04	1.85E-04	1.12E-04	2.40E-04	2.00E-04	1.94E-04	1.94E-04	1.94E-04	1.29E-04	5.65E-05
545	560886.74	4192150.79	3.31E-04	2.52E-04	2.46E-04	2.47E-04	2.46E-04	1.82E-04	1.11E-04	2.37E-04	1.97E-04	1.91E-04	1.91E-04	1.91E-04	1.27E-04	5.57E-05
546	560893.7	4192136.93	3.26E-04	2.48E-04	2.42E-04	2.43E-04	2.42E-04	1.80E-04	1.09E-04	2.33E-04	1.94E-04	1.88E-04	1.88E-04	1.88E-04	1.25E-04	5.48E-05
547	560900.66	4192123.06	3.20E-04	2.44E-04	2.38E-04	2.39E-04	2.38E-04	1.76E-04	1.07E-04	2.29E-04	1.90E-04	1.84E-04	1.85E-04	1.84E-04	1.23E-04	5.39E-05
548	560907.61	4192109.19	3.13E-04	2.39E-04	2.33E-04	2.34E-04	2.33E-04	1.73E-04	1.05E-04	2.24E-04	1.86E-04	1.81E-04	1.81E-04	1.81E-04	1.21E-04	5.28E-05
549	560917.57	4192097.99	3.16E-04	2.41E-04	2.35E-04	2.36E-04	2.35E-04	1.74E-04	1.06E-04	2.26E-04	1.88E-04	1.82E-04	1.83E-04	1.82E-04	1.21E-04	5.32E-05
550	560930.52	4192089.45	3.29E-04	2.51E-04	2.45E-04	2.45E-04	2.45E-04	1.82E-04	1.10E-04	2.35E-04	1.96E-04	1.90E-04	1.90E-04	1.90E-04	1.27E-04	5.54E-05
551	560943.48	4192080.92	3.43E-04	2.62E-04	2.55E-04	2.56E-04	2.55E-04	1.89E-04	1.15E-04	2.45E-04	2.04E-04	1.98E-04	1.98E-04	1.98E-04	1.32E-04	5.77E-05
552	560956.43	4192072.38	3.56E-04	2.72E-04	2.65E-04	2.66E-04	2.65E-04	1.96E-04	1.19E-04	2.55E-04	2.12E-04	2.05E-04	2.06E-04	2.05E-04	1.37E-04	6.00E-05
553	560969.39	4192063.84	3.69E-04	2.81E-04	2.74E-04	2.75E-04	2.74E-04	2.03E-04	1.23E-04	2.64E-04	2.19E-04	2.13E-04	2.13E-04	2.13E-04	1.42E-04	6.21E-05
554	560867.7	4192193.45	3.45E-04	2.63E-04	2.57E-04	2.57E-04	2.57E-04	1.90E-04	1.15E-04	2.47E-04	2.05E-04	1.99E-04	2.00E-04	1.99E-04	1.33E-04	5.81E-05
555	560864.4	4192209.44	3.54E-04	2.70E-04	2.63E-04	2.64E-04	2.63E-04	1.95E-04	1.18E-04	2.53E-04	2.11E-04	2.04E-04	2.05E-04	2.04E-04	1.36E-04	5.96E-05
556	560862.94	4192176.68	3.16E-04	2.41E-04	2.35E-04	2.36E-04	2.35E-04	1.74E-04	1.06E-04	2.26E-04	1.88E-04	1.82E-04	1.83E-04	1.82E-04	1.22E-04	5.32E-05
557	560869.72	4192163.17	3.12E-04	2.38E-04	2.32E-04	2.33E-04	2.32E-04	1.72E-04	1.04E-04	2.23E-04	1.86E-04	1.80E-04	1.81E-04	1.80E-04	1.20E-04	5.26E-05
558	560876.5	4192149.66	3.08E-04	2.35E-04	2.29E-04	2.30E-04	2.29E-04	1.70E-04	1.03E-04	2.21E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.19E-04	5.19E-05
559	560883.28	4192136.15	3.04E-04	2.32E-04	2.26E-04	2.27E-04	2.26E-04	1.68E-04	1.02E-04	2.18E-04	1.81E-04	1.75E-04	1.76E-04	1.75E-04	1.17E-04	5.12E-05
560	560890.06	4192122.64	2.99E-04	2.29E-04	2.23E-04	2.23E-04	2.23E-04	1.65E-04	1.00E-04	2.14E-04	1.78E-04	1.73E-04	1.73E-04	1.73E-04	1.15E-04	5.04E-05
561	560896.84	4192109.13	2.94E-04	2.24E-04	2.18E-04	2.19E-04	2.18E-04	1.62E-04	9.82E-05	2.10E-04	1.75E-04	1.69E-04	1.70E-04	1.69E-04	1.13E-04	4.95E-05
562	560909.93	4192091.46	2.93E-04	2.24E-04	2.18E-04	2.19E-04	2.18E-04	1.62E-04	9.80E-05	2.10E-04	1.74E-04	1.69E-04	1.70E-04	1.69E-04	1.13E-04	4.93E-05
563	560922.55	4192083.14	3.05E-04	2.33E-04	2.27E-04	2.27E-04	2.27E-04	1.68E-04	1.02E-04	2.18E-04	1.81E-04	1.76E-04	1.76E-04	1.76E-04	1.17E-04	5.13E-05
564	560935.17	4192074.82	3.17E-04	2.42E-04	2.36E-04	2.36E-04	2.36E-04	1.75E-04	1.06E-04	2.27E-04	1.89E-04	1.83E-04	1.83E-04	1.83E-04	1.22E-04	5.34E-05
565	560947.8	4192066.5	3.29E-04	2.51E-04	2.45E-04	2.46E-04	2.45E-04	1.82E-04	1.10E-04	2.35E-04	1.96E-04	1.90E-04	1.90E-04	1.90E-04	1.27E-04	5.54E-05
566	560960.42	4192058.19	3.41E-04	2.60E-04	2.54E-04	2.54E-04	2.54E-04	1.88E-04	1.14E-04	2.44E-04	2.03E-04	1.97E-04	1.97E-04	1.97E-04	1.31E-04	5.74E-05
567	560973.04	4192049.87	3.52E-04	2.68E-04	2.62E-04	2.62E-04	2.62E-04	1.94E-04	1.18E-04	2.51E-04	2.09E-04	2.03E-04	2.03E-04	2.03E-04	1.35E-04	5.92E-05
568	560857.9	4192191.43	3.22E-04	2.46E-04	2.39E-04	2.40E-04	2.39E-04	1.78E-04	1.08E-04	2.30E-04	1.91E-04	1.86E-04	1.86E-04	1.86E-04	1.24E-04	5.42E-05
569	560854.6	4192207.42	3.30E-04	2.52E-04	2.45E-04	2.46E-04	2.45E-04	1.82E-04	1.10E-04	2.36E-04	1.96E-04	1.90E-04	1.91E-04	1.90E-04	1.27E-04	5.55E-05
570	560853.33	4192174.3	2.96E-04	2.26E-04	2.20E-04	2.21E-04	2.20E-04	1.63E-04	9.90E-05	2.12E-04	1.76E-04	1.71E-04	1.71E-04	1.71E-04	1.14E-04	4.98E-05
571	560860.46	4192160.08	2.92E-04	2.23E-04	2.17E-04	2.18E-04	2.17E-04	1.61E-04	9.77E-05	2.09E-04	1.74E-04	1.69E-04	1.69E-04	1.69E-04	1.12E-04	4.92E-05
572	560867.6	4192145.86	2.88E-04	2.20E-04	2.14E-04	2.15E-04	2.14E-04	1.59E-04	9.64E-05	2.06E-04	1.71E-04	1.66E-04	1.67E-04	1.66E-04	1.11E-04	4.85E-05

573	560874.74	4192131.64	2.83E-04	2.16E-04	2.11E-04	2.11E-04	2.11E-04	1.56E-04	9.48E-05	2.03E-04	1.69E-04	1.63E-04	1.64E-04	1.63E-04	1.09E-04	4.77E-05
574	560881.87	4192117.42	2.79E-04	2.13E-04	2.07E-04	2.08E-04	2.07E-04	1.54E-04	9.32E-05	1.99E-04	1.66E-04	1.61E-04	1.61E-04	1.61E-04	1.07E-04	4.69E-05
575	560889.01	4192103.19	2.73E-04	2.09E-04	2.03E-04	2.04E-04	2.03E-04	1.51E-04	9.14E-05	1.95E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.05E-04	4.60E-05
576	560902.79	4192084.59	2.73E-04	2.08E-04	2.03E-04	2.04E-04	2.03E-04	1.51E-04	9.14E-05	1.95E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.05E-04	4.60E-05
577	560916.07	4192075.84	2.84E-04	2.17E-04	2.12E-04	2.12E-04	2.12E-04	1.57E-04	9.51E-05	2.03E-04	1.69E-04	1.64E-04	1.65E-04	1.64E-04	1.09E-04	4.79E-05
578	560929.36	4192067.08	2.96E-04	2.26E-04	2.20E-04	2.21E-04	2.20E-04	1.63E-04	9.90E-05	2.12E-04	1.76E-04	1.71E-04	1.71E-04	1.71E-04	1.14E-04	4.99E-05
579	560942.65	4192058.33	3.08E-04	2.35E-04	2.29E-04	2.30E-04	2.29E-04	1.70E-04	1.03E-04	2.20E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.18E-04	5.19E-05
580	560955.94	4192049.57	3.20E-04	2.44E-04	2.38E-04	2.38E-04	2.38E-04	1.76E-04	1.07E-04	2.28E-04	1.90E-04	1.84E-04	1.85E-04	1.84E-04	1.23E-04	5.38E-05
581	560969.22	4192040.82	3.30E-04	2.52E-04	2.46E-04	2.46E-04	2.46E-04	1.82E-04	1.10E-04	2.36E-04	1.96E-04	1.90E-04	1.91E-04	1.90E-04	1.27E-04	5.56E-05
582	560848.11	4192189.41	3.01E-04	2.30E-04	2.24E-04	2.25E-04	2.24E-04	1.66E-04	1.01E-04	2.15E-04	1.79E-04	1.74E-04	1.74E-04	1.74E-04	1.16E-04	5.07E-05
583	560844.81	4192205.4	3.08E-04	2.35E-04	2.29E-04	2.30E-04	2.29E-04	1.70E-04	1.03E-04	2.20E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.18E-04	5.19E-05
584	560843.44	4192172.46	2.78E-04	2.12E-04	2.07E-04	2.07E-04	2.07E-04	1.53E-04	9.29E-05	1.99E-04	1.65E-04	1.60E-04	1.61E-04	1.60E-04	1.07E-04	4.68E-05
585	560850.4	4192158.59	2.75E-04	2.10E-04	2.04E-04	2.05E-04	2.04E-04	1.52E-04	9.18E-05	1.96E-04	1.63E-04	1.58E-04	1.59E-04	1.58E-04	1.06E-04	4.62E-05
586	560857.36	4192144.73	2.71E-04	2.07E-04	2.02E-04	2.02E-04	2.02E-04	1.50E-04	9.07E-05	1.94E-04	1.61E-04	1.56E-04	1.57E-04	1.56E-04	1.04E-04	4.56E-05
587	560864.32	4192130.86	2.67E-04	2.04E-04	1.98E-04	1.99E-04	1.98E-04	1.47E-04	8.92E-05	1.91E-04	1.59E-04	1.54E-04	1.54E-04	1.54E-04	1.03E-04	4.49E-05
588	560871.27	4192116.99	2.62E-04	2.00E-04	1.95E-04	1.95E-04	1.95E-04	1.45E-04	8.76E-05	1.87E-04	1.56E-04	1.51E-04	1.52E-04	1.51E-04	1.01E-04	4.41E-05
589	560878.23	4192103.13	2.57E-04	1.96E-04	1.91E-04	1.92E-04	1.91E-04	1.42E-04	8.60E-05	1.84E-04	1.53E-04	1.48E-04	1.49E-04	1.48E-04	9.89E-05	4.33E-05
590	560885.19	4192089.26	2.52E-04	1.93E-04	1.88E-04	1.88E-04	1.88E-04	1.39E-04	8.44E-05	1.80E-04	1.50E-04	1.46E-04	1.46E-04	1.46E-04	9.71E-05	4.25E-05
591	560895.15	4192078.06	2.55E-04	1.94E-04	1.90E-04	1.90E-04	1.90E-04	1.41E-04	8.52E-05	1.82E-04	1.52E-04	1.47E-04	1.47E-04	1.47E-04	9.80E-05	4.29E-05
592	560908.1	4192069.52	2.65E-04	2.02E-04	1.97E-04	1.97E-04	1.97E-04	1.46E-04	8.85E-05	1.89E-04	1.57E-04	1.53E-04	1.53E-04	1.53E-04	1.02E-04	4.46E-05
593	560921.06	4192060.99	2.75E-04	2.10E-04	2.05E-04	2.05E-04	2.05E-04	1.52E-04	9.20E-05	1.97E-04	1.64E-04	1.59E-04	1.59E-04	1.59E-04	1.06E-04	4.63E-05
594	560934.01	4192052.45	2.86E-04	2.18E-04	2.13E-04	2.13E-04	2.13E-04	1.58E-04	9.56E-05	2.04E-04	1.70E-04	1.65E-04	1.65E-04	1.65E-04	1.10E-04	4.81E-05
595	560946.97	4192043.91	2.97E-04	2.26E-04	2.21E-04	2.21E-04	2.21E-04	1.64E-04	9.92E-05	2.12E-04	1.76E-04	1.71E-04	1.72E-04	1.71E-04	1.14E-04	4.99E-05
596	560959.92	4192035.38	3.07E-04	2.34E-04	2.28E-04	2.29E-04	2.28E-04	1.69E-04	1.03E-04	2.19E-04	1.82E-04	1.77E-04	1.77E-04	1.77E-04	1.18E-04	5.16E-05
597	560838.31	4192187.39	2.82E-04	2.15E-04	2.10E-04	2.11E-04	2.10E-04	1.56E-04	9.44E-05	2.02E-04	1.68E-04	1.63E-04	1.63E-04	1.63E-04	1.09E-04	4.75E-05
598	560835.01	4192203.38	2.88E-04	2.20E-04	2.15E-04	2.15E-04	2.15E-04	1.59E-04	9.65E-05	2.06E-04	1.72E-04	1.66E-04	1.67E-04	1.66E-04	1.11E-04	4.86E-05
599	560833.82	4192170.11	2.61E-04	2.00E-04	1.95E-04	1.95E-04	1.95E-04	1.44E-04	8.74E-05	1.87E-04	1.55E-04	1.51E-04	1.51E-04	1.51E-04	1.01E-04	4.40E-05
600	560841.1	4192155.58	2.59E-04	1.97E-04	1.92E-04	1.93E-04	1.92E-04	1.43E-04	8.65E-05	1.85E-04	1.54E-04	1.49E-04	1.50E-04	1.49E-04	9.94E-05	4.35E-05
601	560848.39	4192141.06	2.55E-04	1.95E-04	1.90E-04	1.90E-04	1.90E-04	1.41E-04	8.52E-05	1.82E-04	1.52E-04	1.47E-04	1.47E-04	1.47E-04	9.80E-05	4.29E-05
602	560855.68	4192126.53	2.50E-04	1.91E-04	1.86E-04	1.87E-04	1.86E-04	1.38E-04	8.38E-05	1.79E-04	1.49E-04	1.44E-04	1.45E-04	1.44E-04	9.63E-05	4.22E-05
603	560862.97	4192112	2.46E-04	1.88E-04	1.83E-04	1.84E-04	1.83E-04	1.36E-04	8.23E-05	1.76E-04	1.46E-04	1.42E-04	1.42E-04	1.42E-04	9.47E-05	4.14E-05
604	560870.26	4192097.48	2.41E-04	1.84E-04	1.79E-04	1.80E-04	1.79E-04	1.33E-04	8.07E-05	1.72E-04	1.43E-04	1.39E-04	1.40E-04	1.39E-04	9.28E-05	4.06E-05
605	560877.55	4192082.95	2.36E-04	1.80E-04	1.76E-04	1.76E-04	1.76E-04	1.30E-04	7.90E-05	1.69E-04	1.41E-04	1.36E-04	1.37E-04	1.36E-04	9.09E-05	3.98E-05
606	560887.98	4192071.21	2.39E-04	1.82E-04	1.77E-04	1.78E-04	1.77E-04	1.32E-04	7.98E-05	1.71E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	9.17E-05	4.02E-05
607	560901.55	4192062.27	2.48E-04	1.89E-04	1.84E-04	1.85E-04	1.84E-04	1.37E-04	8.29E-05	1.77E-04	1.47E-04	1.43E-04	1.43E-04	1.43E-04	9.54E-05	4.18E-05
608	560915.12	4192053.33	2.58E-04	1.97E-04	1.92E-04	1.92E-04	1.92E-04	1.42E-04	8.63E-05	1.84E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	9.92E-05	4.34E-05
609	560928.7	4192044.38	2.68E-04	2.05E-04	2.00E-04	2.00E-04	2.00E-04	1.48E-04	8.98E-05	1.92E-04	1.60E-04	1.55E-04	1.55E-04	1.55E-04	1.03E-04	4.52E-05
610	560942.27	4192035.44	2.79E-04	2.13E-04	2.07E-04	2.08E-04	2.07E-04	1.54E-04	9.33E-05	1.99E-04	1.66E-04	1.61E-04	1.61E-04	1.61E-04	1.07E-04	4.70E-05
611	560955.84	4192026.5	2.89E-04	2.20E-04	2.15E-04	2.15E-04	2.15E-04	1.59E-04	9.66E-05	2.06E-04	1.72E-04	1.67E-04	1.67E-04	1.67E-04	1.11E-04	4.86E-05
612	560828.52	4192185.37	2.65E-04	2.03E-04	1.97E-04	1.98E-04	1.97E-04	1.46E-04	8.87E-05	1.90E-04	1.58E-04	1.53E-04	1.54E-04	1.53E-04	1.02E-04	4.47E-05
613	560825.22	4192201.36	2.71E-04	2.07E-04	2.01E-04	2.02E-04	2.01E-04	1.49E-04	9.06E-05	1.94E-04	1.61E-04	1.56E-04	1.57E-04	1.56E-04	1.04E-04	4.56E-05
614	560823.93	4192168.27	2.47E-04	1.88E-04	1.83E-04	1.84E-04	1.83E-04	1.36E-04	8.25E-05	1.76E-04	1.47E-04	1.42E-04	1.43E-04	1.42E-04	9.49E-05	4.15E-05
615	560831.05	4192154.09	2.45E-04	1.87E-04	1.82E-04	1.82E-04	1.82E-04	1.35E-04	8.18E-05	1.75E-04	1.45E-04	1.41E-04	1.42E-04	1.41E-04	9.41E-05	4.12E-05
616	560838.16	4192139.92	2.41E-04	1.84E-04	1.79E-04	1.80E-04	1.79E-04	1.33E-04	8.07E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.28E-05	4.06E-05
617	560845.27	4192125.74	2.37E-04	1.81E-04	1.76E-04	1.77E-04	1.76E-04	1.31E-04	7.92E-05	1.69E-04	1.41E-04	1.37E-04	1.37E-04	1.37E-04	9.11E-05	3.99E-05
618	560852.38	4192111.57	2.33E-04	1.78E-04	1.74E-04	1.74E-04	1.74E-04	1.29E-04	7.80E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	8.97E-05	3.93E-05
619	560859.5	4192097.39	2.29E-04	1.75E-04	1.70E-04	1.71E-04	1.70E-04	1.26E-04	7.66E-05	1.64E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.81E-05	3.86E-05
620	560866.61	4192083.22	2.24E-04	1.71E-04	1.67E-04	1.67E-04	1.67E-04	1.24E-04	7.50E-05	1.60E-04	1.33E-04	1.29E-04	1.30E-04	1.29E-04	8.62E-05	3.78E-05

621	560880.34	4192064.68	2.24E-04	1.71E-04	1.66E-04	1.67E-04	1.66E-04	1.23E-04	7.48E-05	1.60E-04	1.33E-04	1.29E-04	1.29E-04	1.29E-04	8.60E-05	3.76E-05
622	560893.59	4192055.95	2.32E-04	1.77E-04	1.73E-04	1.73E-04	1.73E-04	1.28E-04	7.76E-05	1.66E-04	1.38E-04	1.34E-04	1.34E-04	1.34E-04	8.92E-05	3.91E-05
623	560906.83	4192047.23	2.41E-04	1.84E-04	1.79E-04	1.80E-04	1.79E-04	1.33E-04	8.05E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.26E-05	4.05E-05
624	560920.07	4192038.5	2.50E-04	1.91E-04	1.86E-04	1.87E-04	1.86E-04	1.38E-04	8.36E-05	1.79E-04	1.49E-04	1.44E-04	1.45E-04	1.44E-04	9.62E-05	4.21E-05
625	560933.31	4192029.77	2.60E-04	1.98E-04	1.93E-04	1.94E-04	1.93E-04	1.43E-04	8.68E-05	1.86E-04	1.54E-04	1.50E-04	1.50E-04	1.50E-04	9.98E-05	4.37E-05
626	560946.56	4192021.05	2.69E-04	2.05E-04	2.00E-04	2.01E-04	2.00E-04	1.48E-04	8.99E-05	1.92E-04	1.60E-04	1.55E-04	1.56E-04	1.55E-04	1.03E-04	4.53E-05
627	560959.8	4192012.32	2.78E-04	2.12E-04	2.06E-04	2.07E-04	2.06E-04	1.53E-04	9.28E-05	1.98E-04	1.65E-04	1.60E-04	1.61E-04	1.60E-04	1.07E-04	4.67E-05
628	560818.73	4192183.35	2.50E-04	1.91E-04	1.86E-04	1.87E-04	1.86E-04	1.38E-04	8.36E-05	1.79E-04	1.49E-04	1.44E-04	1.45E-04	1.44E-04	9.62E-05	4.21E-05
629	560815.43	4192199.34	2.55E-04	1.95E-04	1.90E-04	1.90E-04	1.90E-04	1.41E-04	8.52E-05	1.82E-04	1.52E-04	1.47E-04	1.47E-04	1.47E-04	9.80E-05	4.29E-05
630	560814.06	4192166.4	2.33E-04	1.78E-04	1.73E-04	1.74E-04	1.73E-04	1.29E-04	7.80E-05	1.67E-04	1.39E-04	1.34E-04	1.35E-04	1.34E-04	8.97E-05	3.93E-05
631	560821.02	4192152.53	2.32E-04	1.77E-04	1.72E-04	1.73E-04	1.72E-04	1.28E-04	7.74E-05	1.66E-04	1.38E-04	1.34E-04	1.34E-04	1.34E-04	8.91E-05	3.90E-05
632	560827.98	4192138.66	2.29E-04	1.75E-04	1.70E-04	1.71E-04	1.70E-04	1.26E-04	7.65E-05	1.64E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.80E-05	3.85E-05
633	560834.94	4192124.8	2.25E-04	1.72E-04	1.67E-04	1.68E-04	1.67E-04	1.24E-04	7.53E-05	1.61E-04	1.34E-04	1.30E-04	1.30E-04	1.30E-04	8.66E-05	3.79E-05
634	560841.89	4192110.93	2.21E-04	1.69E-04	1.65E-04	1.65E-04	1.65E-04	1.22E-04	7.40E-05	1.58E-04	1.32E-04	1.28E-04	1.28E-04	1.28E-04	8.52E-05	3.73E-05
635	560848.85	4192097.06	2.17E-04	1.66E-04	1.62E-04	1.62E-04	1.62E-04	1.20E-04	7.27E-05	1.55E-04	1.29E-04	1.25E-04	1.26E-04	1.25E-04	8.36E-05	3.66E-05
636	560855.81	4192083.2	2.13E-04	1.63E-04	1.59E-04	1.59E-04	1.59E-04	1.18E-04	7.13E-05	1.52E-04	1.27E-04	1.23E-04	1.23E-04	1.23E-04	8.20E-05	3.59E-05
637	560862.77	4192069.33	2.09E-04	1.59E-04	1.55E-04	1.56E-04	1.55E-04	1.15E-04	6.99E-05	1.49E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.04E-05	3.52E-05
638	560872.72	4192058.13	2.10E-04	1.61E-04	1.57E-04	1.57E-04	1.57E-04	1.16E-04	7.04E-05	1.50E-04	1.25E-04	1.21E-04	1.22E-04	1.21E-04	8.09E-05	3.54E-05
639	560885.68	4192049.59	2.18E-04	1.66E-04	1.62E-04	1.62E-04	1.62E-04	1.20E-04	7.29E-05	1.56E-04	1.30E-04	1.26E-04	1.26E-04	1.26E-04	8.38E-05	3.67E-05
640	560898.63	4192041.06	2.25E-04	1.72E-04	1.68E-04	1.68E-04	1.68E-04	1.24E-04	7.54E-05	1.61E-04	1.34E-04	1.30E-04	1.30E-04	1.30E-04	8.67E-05	3.79E-05
641	560911.59	4192032.52	2.33E-04	1.78E-04	1.74E-04	1.74E-04	1.74E-04	1.29E-04	7.81E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	8.98E-05	3.93E-05
642	560924.54	4192023.98	2.42E-04	1.85E-04	1.80E-04	1.81E-04	1.80E-04	1.34E-04	8.10E-05	1.73E-04	1.44E-04	1.40E-04	1.40E-04	1.40E-04	9.32E-05	4.08E-05
643	560937.5	4192015.45	2.51E-04	1.91E-04	1.87E-04	1.87E-04	1.87E-04	1.38E-04	8.39E-05	1.79E-04	1.49E-04	1.45E-04	1.45E-04	1.45E-04	9.65E-05	4.22E-05
644	560950.45	4192006.91	2.59E-04	1.98E-04	1.93E-04	1.93E-04	1.93E-04	1.43E-04	8.67E-05	1.85E-04	1.54E-04	1.49E-04	1.50E-04	1.49E-04	9.97E-05	4.36E-05
645	560808.93	4192181.33	2.36E-04	1.80E-04	1.76E-04	1.76E-04	1.76E-04	1.30E-04	7.90E-05	1.69E-04	1.40E-04	1.36E-04	1.37E-04	1.36E-04	9.08E-05	3.98E-05
646	560805.63	4192197.32	2.40E-04	1.83E-04	1.79E-04	1.79E-04	1.79E-04	1.33E-04	8.04E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.25E-05	4.05E-05
647	560804.41	4192164.09	2.21E-04	1.68E-04	1.64E-04	1.65E-04	1.64E-04	1.22E-04	7.38E-05	1.58E-04	1.31E-04	1.27E-04	1.28E-04	1.27E-04	8.49E-05	3.72E-05
648	560811.66	4192149.64	2.19E-04	1.67E-04	1.63E-04	1.64E-04	1.63E-04	1.21E-04	7.33E-05	1.57E-04	1.30E-04	1.26E-04	1.27E-04	1.26E-04	8.43E-05	3.69E-05
649	560818.91	4192135.2	2.17E-04	1.65E-04	1.61E-04	1.62E-04	1.61E-04	1.19E-04	7.24E-05	1.55E-04	1.29E-04	1.25E-04	1.25E-04	1.25E-04	8.33E-05	3.65E-05
650	560826.16	4192120.75	2.13E-04	1.63E-04	1.59E-04	1.59E-04	1.59E-04	1.18E-04	7.13E-05	1.52E-04	1.27E-04	1.23E-04	1.23E-04	1.23E-04	8.20E-05	3.59E-05
651	560833.41	4192106.31	2.09E-04	1.60E-04	1.56E-04	1.56E-04	1.56E-04	1.15E-04	7.00E-05	1.50E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.04E-05	3.52E-05
652	560840.65	4192091.87	2.05E-04	1.56E-04	1.53E-04	1.53E-04	1.53E-04	1.13E-04	6.86E-05	1.47E-04	1.22E-04	1.18E-04	1.19E-04	1.18E-04	7.89E-05	3.45E-05
653	560847.9	4192077.42	2.01E-04	1.53E-04	1.49E-04	1.50E-04	1.49E-04	1.11E-04	6.72E-05	1.44E-04	1.20E-04	1.16E-04	1.16E-04	1.16E-04	7.73E-05	3.38E-05
654	560855.15	4192062.98	1.97E-04	1.50E-04	1.47E-04	1.47E-04	1.47E-04	1.09E-04	6.59E-05	1.41E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	7.58E-05	3.32E-05
655	560865.52	4192051.31	1.99E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	1.10E-04	6.64E-05	1.42E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	7.64E-05	3.34E-05
656	560879.01	4192042.42	2.06E-04	1.57E-04	1.53E-04	1.53E-04	1.53E-04	1.13E-04	6.87E-05	1.47E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	7.90E-05	3.46E-05
657	560892.51	4192033.52	2.13E-04	1.62E-04	1.58E-04	1.59E-04	1.58E-04	1.17E-04	7.12E-05	1.52E-04	1.27E-04	1.23E-04	1.23E-04	1.23E-04	8.19E-05	3.58E-05
658	560906	4192024.63	2.20E-04	1.68E-04	1.64E-04	1.64E-04	1.64E-04	1.21E-04	7.36E-05	1.57E-04	1.31E-04	1.27E-04	1.27E-04	1.27E-04	8.47E-05	3.71E-05
659	560919.5	4192015.74	2.29E-04	1.75E-04	1.70E-04	1.71E-04	1.70E-04	1.26E-04	7.65E-05	1.64E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.79E-05	3.85E-05
660	560932.99	4192006.85	2.37E-04	1.81E-04	1.76E-04	1.77E-04	1.76E-04	1.31E-04	7.93E-05	1.70E-04	1.41E-04	1.37E-04	1.37E-04	1.37E-04	9.12E-05	3.99E-05
661	560946.49	4191997.96	2.45E-04	1.87E-04	1.82E-04	1.83E-04	1.82E-04	1.35E-04	8.20E-05	1.75E-04	1.46E-04	1.41E-04	1.42E-04	1.41E-04	9.43E-05	4.13E-05
662	560799.14	4192179.31	2.23E-04	1.71E-04	1.66E-04	1.67E-04	1.66E-04	1.23E-04	7.47E-05	1.60E-04	1.33E-04	1.29E-04	1.29E-04	1.29E-04	8.59E-05	3.76E-05
663	560795.84	4192195.3	2.27E-04	1.73E-04	1.69E-04	1.69E-04	1.69E-04	1.25E-04	7.60E-05	1.62E-04	1.35E-04	1.31E-04	1.31E-04	1.31E-04	8.74E-05	3.82E-05
664	560794.54	4192162.22	2.09E-04	1.60E-04	1.56E-04	1.56E-04	1.56E-04	1.16E-04	7.00E-05	1.50E-04	1.25E-04	1.21E-04	1.21E-04	1.21E-04	8.05E-05	3.53E-05
665	560801.64	4192148.08	2.08E-04	1.59E-04	1.55E-04	1.55E-04	1.55E-04	1.15E-04	6.96E-05	1.49E-04	1.24E-04	1.20E-04	1.20E-04	1.20E-04	8.01E-05	3.50E-05
666	560808.73	4192133.94	2.06E-04	1.57E-04	1.53E-04	1.54E-04	1.53E-04	1.14E-04	6.88E-05	1.47E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	7.92E-05	3.47E-05
667	560815.83	4192119.8	2.03E-04	1.55E-04	1.51E-04	1.51E-04	1.51E-04	1.12E-04	6.78E-05	1.45E-04	1.21E-04	1.17E-04	1.17E-04	1.17E-04	7.80E-05	3.41E-05
668	560822.92	4192105.67	1.99E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	1.10E-04	6.66E-05	1.42E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	7.66E-05	3.35E-05

669	560830.02	4192091.53	1.95E-04	1.49E-04	1.45E-04	1.46E-04	1.45E-04	1.08E-04	6.53E-05	1.40E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	7.51E-05	3.29E-05
670	560837.11	4192077.39	1.91E-04	1.46E-04	1.42E-04	1.43E-04	1.42E-04	1.06E-04	6.40E-05	1.37E-04	1.14E-04	1.10E-04	1.11E-04	1.10E-04	7.36E-05	3.22E-05
671	560844.2	4192063.25	1.88E-04	1.43E-04	1.40E-04	1.40E-04	1.40E-04	1.03E-04	6.27E-05	1.34E-04	1.12E-04	1.08E-04	1.09E-04	1.08E-04	7.22E-05	3.16E-05
672	560857.9	4192044.76	1.87E-04	1.43E-04	1.39E-04	1.40E-04	1.39E-04	1.03E-04	6.25E-05	1.34E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.19E-05	3.15E-05
673	560871.11	4192036.06	1.93E-04	1.47E-04	1.44E-04	1.44E-04	1.44E-04	1.07E-04	6.46E-05	1.38E-04	1.15E-04	1.11E-04	1.12E-04	1.11E-04	7.43E-05	3.25E-05
674	560884.32	4192027.35	2.00E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	1.10E-04	6.69E-05	1.43E-04	1.19E-04	1.15E-04	1.16E-04	1.15E-04	7.69E-05	3.37E-05
675	560897.53	4192018.65	2.07E-04	1.58E-04	1.54E-04	1.54E-04	1.54E-04	1.14E-04	6.91E-05	1.48E-04	1.23E-04	1.19E-04	1.20E-04	1.19E-04	7.95E-05	3.48E-05
676	560910.74	4192009.94	2.14E-04	1.63E-04	1.59E-04	1.60E-04	1.59E-04	1.18E-04	7.16E-05	1.53E-04	1.27E-04	1.23E-04	1.24E-04	1.23E-04	8.23E-05	3.60E-05
677	560923.95	4192001.24	2.22E-04	1.69E-04	1.65E-04	1.65E-04	1.65E-04	1.22E-04	7.42E-05	1.59E-04	1.32E-04	1.28E-04	1.28E-04	1.28E-04	8.53E-05	3.74E-05
678	560937.16	4191992.54	2.30E-04	1.75E-04	1.71E-04	1.71E-04	1.71E-04	1.27E-04	7.68E-05	1.64E-04	1.36E-04	1.32E-04	1.33E-04	1.32E-04	8.83E-05	3.86E-05
679	560950.36	4191983.83	2.37E-04	1.81E-04	1.76E-04	1.77E-04	1.76E-04	1.31E-04	7.92E-05	1.69E-04	1.41E-04	1.37E-04	1.37E-04	1.37E-04	9.11E-05	3.99E-05
680	560789.35	4192177.28	2.12E-04	1.62E-04	1.58E-04	1.58E-04	1.58E-04	1.17E-04	7.08E-05	1.51E-04	1.26E-04	1.22E-04	1.22E-04	1.22E-04	8.14E-05	3.57E-05
681	560786.05	4192193.27	2.15E-04	1.64E-04	1.60E-04	1.60E-04	1.60E-04	1.19E-04	7.19E-05	1.54E-04	1.28E-04	1.24E-04	1.24E-04	1.24E-04	8.27E-05	3.62E-05
682	560784.68	4192160.33	1.99E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	1.10E-04	6.65E-05	1.42E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	7.65E-05	3.35E-05
683	560791.64	4192146.47	1.98E-04	1.51E-04	1.47E-04	1.48E-04	1.47E-04	1.09E-04	6.62E-05	1.42E-04	1.18E-04	1.14E-04	1.15E-04	1.14E-04	7.61E-05	3.33E-05
684	560798.6	4192132.6	1.96E-04	1.50E-04	1.46E-04	1.46E-04	1.46E-04	1.08E-04	6.55E-05	1.40E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	7.53E-05	3.30E-05
685	560805.56	4192118.73	1.93E-04	1.47E-04	1.44E-04	1.44E-04	1.44E-04	1.07E-04	6.46E-05	1.38E-04	1.15E-04	1.11E-04	1.12E-04	1.11E-04	7.43E-05	3.25E-05
686	560812.51	4192104.87	1.90E-04	1.45E-04	1.41E-04	1.42E-04	1.41E-04	1.05E-04	6.35E-05	1.36E-04	1.13E-04	1.09E-04	1.10E-04	1.09E-04	7.30E-05	3.19E-05
687	560819.47	4192091	1.86E-04	1.42E-04	1.38E-04	1.39E-04	1.38E-04	1.03E-04	6.22E-05	1.33E-04	1.11E-04	1.07E-04	1.08E-04	1.07E-04	7.16E-05	3.13E-05
688	560826.43	4192077.13	1.82E-04	1.39E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.10E-05	1.30E-04	1.09E-04	1.05E-04	1.06E-04	1.05E-04	7.02E-05	3.07E-05
689	560833.39	4192063.27	1.79E-04	1.37E-04	1.33E-04	1.33E-04	1.33E-04	9.87E-05	5.98E-05	1.28E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.88E-05	3.01E-05
690	560840.35	4192049.4	1.76E-04	1.34E-04	1.31E-04	1.31E-04	1.31E-04	9.69E-05	5.87E-05	1.26E-04	1.04E-04	1.01E-04	1.02E-04	1.01E-04	6.75E-05	2.96E-05
691	560850.3	4192038.2	1.77E-04	1.35E-04	1.31E-04	1.32E-04	1.31E-04	9.74E-05	5.90E-05	1.26E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	6.79E-05	2.97E-05
692	560863.26	4192029.66	1.82E-04	1.39E-04	1.35E-04	1.36E-04	1.35E-04	1.00E-04	6.09E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.00E-05	3.06E-05
693	560876.21	4192021.13	1.88E-04	1.44E-04	1.40E-04	1.40E-04	1.40E-04	1.04E-04	6.29E-05	1.34E-04	1.12E-04	1.08E-04	1.09E-04	1.08E-04	7.23E-05	3.17E-05
694	560889.17	4192012.59	1.95E-04	1.49E-04	1.45E-04	1.45E-04	1.45E-04	1.07E-04	6.51E-05	1.39E-04	1.16E-04	1.12E-04	1.13E-04	1.12E-04	7.49E-05	3.28E-05
695	560902.12	4192004.05	2.01E-04	1.53E-04	1.49E-04	1.50E-04	1.49E-04	1.11E-04	6.71E-05	1.44E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	7.72E-05	3.38E-05
696	560915.08	4191995.52	2.08E-04	1.59E-04	1.55E-04	1.55E-04	1.55E-04	1.15E-04	6.95E-05	1.49E-04	1.24E-04	1.20E-04	1.20E-04	1.20E-04	8.00E-05	3.50E-05
697	560928.03	4191986.98	2.15E-04	1.64E-04	1.60E-04	1.60E-04	1.60E-04	1.19E-04	7.19E-05	1.54E-04	1.28E-04	1.24E-04	1.24E-04	1.24E-04	8.27E-05	3.62E-05
698	560940.98	4191978.44	2.22E-04	1.69E-04	1.65E-04	1.66E-04	1.65E-04	1.22E-04	7.42E-05	1.59E-04	1.32E-04	1.28E-04	1.28E-04	1.28E-04	8.54E-05	3.74E-05
699	560779.55	4192175.26	2.01E-04	1.53E-04	1.50E-04	1.50E-04	1.50E-04	1.11E-04	6.72E-05	1.44E-04	1.20E-04	1.16E-04	1.16E-04	1.16E-04	7.73E-05	3.39E-05
700	560776.25	4192191.25	2.04E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.12E-04	6.82E-05	1.46E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	7.84E-05	3.43E-05
701	560775.02	4192158.06	1.89E-04	1.45E-04	1.41E-04	1.41E-04	1.41E-04	1.04E-04	6.33E-05	1.35E-04	1.13E-04	1.09E-04	1.10E-04	1.09E-04	7.28E-05	3.19E-05
702	560782.23	4192143.68	1.88E-04	1.44E-04	1.40E-04	1.41E-04	1.40E-04	1.04E-04	6.30E-05	1.35E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	7.25E-05	3.17E-05
703	560789.45	4192129.3	1.86E-04	1.42E-04	1.39E-04	1.39E-04	1.39E-04	1.03E-04	6.23E-05	1.33E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.17E-05	3.14E-05
704	560796.66	4192114.92	1.84E-04	1.40E-04	1.37E-04	1.37E-04	1.37E-04	1.01E-04	6.14E-05	1.31E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.06E-05	3.09E-05
705	560803.88	4192100.54	1.80E-04	1.38E-04	1.34E-04	1.35E-04	1.34E-04	9.95E-05	6.03E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.94E-05	3.04E-05
706	560811.09	4192086.16	1.77E-04	1.35E-04	1.31E-04	1.32E-04	1.31E-04	9.75E-05	5.91E-05	1.26E-04	1.05E-04	1.02E-04	1.02E-04	1.02E-04	6.80E-05	2.98E-05
707	560818.31	4192071.78	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.55E-05	5.79E-05	1.24E-04	1.03E-04	9.98E-05	1.00E-04	9.98E-05	6.66E-05	2.91E-05
708	560825.53	4192057.39	1.69E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.35E-05	5.67E-05	1.21E-04	1.01E-04	9.78E-05	9.80E-05	9.78E-05	6.52E-05	2.85E-05
709	560832.74	4192043.01	1.66E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.17E-05	5.56E-05	1.19E-04	9.88E-05	9.59E-05	9.61E-05	9.59E-05	6.39E-05	2.80E-05
710	560843.07	4192031.4	1.67E-04	1.27E-04	1.24E-04	1.25E-04	1.24E-04	9.21E-05	5.58E-05	1.19E-04	9.93E-05	9.63E-05	9.66E-05	9.63E-05	6.42E-05	2.81E-05
711	560856.5	4192022.55	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.50E-05	5.76E-05	1.23E-04	1.02E-04	9.93E-05	9.96E-05	9.93E-05	6.62E-05	2.90E-05
712	560869.94	4192013.69	1.78E-04	1.36E-04	1.32E-04	1.33E-04	1.32E-04	9.82E-05	5.95E-05	1.27E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.84E-05	3.00E-05
713	560883.37	4192004.84	1.84E-04	1.41E-04	1.37E-04	1.37E-04	1.37E-04	1.02E-04	6.16E-05	1.32E-04	1.10E-04	1.06E-04	1.07E-04	1.06E-04	7.09E-05	3.10E-05
714	560896.81	4191995.99	1.91E-04	1.45E-04	1.42E-04	1.42E-04	1.42E-04	1.05E-04	6.37E-05	1.36E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	7.33E-05	3.21E-05
715	560910.24	4191987.13	1.97E-04	1.51E-04	1.47E-04	1.47E-04	1.47E-04	1.09E-04	6.60E-05	1.41E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	7.58E-05	3.32E-05
716	560923.67	4191978.28	2.04E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.13E-04	6.83E-05	1.46E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	7.86E-05	3.44E-05

717	560937.11	4191969.43	2.11E-04	1.61E-04	1.57E-04	1.57E-04	1.57E-04	1.16E-04	7.06E-05	1.51E-04	1.26E-04	1.22E-04	1.22E-04	1.22E-04	8.12E-05	3.55E-05
718	560769.76	4192173.24	1.91E-04	1.46E-04	1.42E-04	1.43E-04	1.42E-04	1.05E-04	6.39E-05	1.37E-04	1.14E-04	1.10E-04	1.11E-04	1.10E-04	7.35E-05	3.22E-05
719	560766.46	4192189.23	1.94E-04	1.48E-04	1.44E-04	1.44E-04	1.44E-04	1.07E-04	6.47E-05	1.38E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	7.45E-05	3.26E-05
720	560765.16	4192156.17	1.80E-04	1.38E-04	1.34E-04	1.35E-04	1.34E-04	9.96E-05	6.04E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.94E-05	3.04E-05
721	560772.24	4192142.06	1.80E-04	1.37E-04	1.34E-04	1.34E-04	1.34E-04	9.91E-05	6.01E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.91E-05	3.03E-05
722	560779.32	4192127.95	1.78E-04	1.36E-04	1.32E-04	1.33E-04	1.32E-04	9.82E-05	5.95E-05	1.27E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.85E-05	3.00E-05
723	560786.4	4192113.84	1.75E-04	1.34E-04	1.31E-04	1.31E-04	1.31E-04	9.68E-05	5.87E-05	1.26E-04	1.04E-04	1.01E-04	1.02E-04	1.01E-04	6.75E-05	2.96E-05
724	560793.48	4192099.73	1.72E-04	1.32E-04	1.28E-04	1.29E-04	1.28E-04	9.51E-05	5.77E-05	1.23E-04	1.03E-04	9.95E-05	9.98E-05	9.95E-05	6.63E-05	2.90E-05
725	560800.56	4192085.62	1.69E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.33E-05	5.66E-05	1.21E-04	1.01E-04	9.76E-05	9.78E-05	9.76E-05	6.50E-05	2.85E-05
726	560807.64	4192071.51	1.66E-04	1.26E-04	1.23E-04	1.24E-04	1.23E-04	9.14E-05	5.54E-05	1.18E-04	9.85E-05	9.55E-05	9.58E-05	9.55E-05	6.37E-05	2.79E-05
727	560814.72	4192057.4	1.62E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.95E-05	5.42E-05	1.16E-04	9.65E-05	9.36E-05	9.38E-05	9.36E-05	6.24E-05	2.73E-05
728	560821.8	4192043.29	1.59E-04	1.21E-04	1.18E-04	1.19E-04	1.18E-04	8.77E-05	5.32E-05	1.14E-04	9.45E-05	9.17E-05	9.20E-05	9.17E-05	6.11E-05	2.68E-05
729	560835.47	4192024.84	1.58E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.72E-05	5.29E-05	1.13E-04	9.40E-05	9.12E-05	9.14E-05	9.12E-05	6.08E-05	2.66E-05
730	560848.65	4192016.15	1.63E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.97E-05	5.44E-05	1.16E-04	9.67E-05	9.38E-05	9.41E-05	9.38E-05	6.26E-05	2.74E-05
731	560861.83	4192007.47	1.68E-04	1.28E-04	1.25E-04	1.25E-04	1.25E-04	9.26E-05	5.61E-05	1.20E-04	9.98E-05	9.68E-05	9.71E-05	9.68E-05	6.46E-05	2.83E-05
732	560875.01	4191998.78	1.74E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.58E-05	5.80E-05	1.24E-04	1.03E-04	1.00E-04	1.00E-04	1.00E-04	6.68E-05	2.92E-05
733	560888.19	4191990.09	1.80E-04	1.37E-04	1.34E-04	1.34E-04	1.34E-04	9.92E-05	6.01E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.91E-05	3.03E-05
734	560901.38	4191981.41	1.85E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	1.02E-04	6.20E-05	1.33E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.13E-05	3.12E-05
735	560914.56	4191972.72	1.92E-04	1.46E-04	1.43E-04	1.43E-04	1.43E-04	1.06E-04	6.42E-05	1.37E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	7.38E-05	3.23E-05
736	560927.74	4191964.03	1.98E-04	1.51E-04	1.48E-04	1.48E-04	1.48E-04	1.09E-04	6.63E-05	1.42E-04	1.18E-04	1.14E-04	1.15E-04	1.14E-04	7.63E-05	3.34E-05
737	560940.92	4191955.35	2.04E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.13E-04	6.84E-05	1.46E-04	1.22E-04	1.18E-04	1.18E-04	1.18E-04	7.86E-05	3.44E-05
738	560759.97	4192171.22	1.82E-04	1.39E-04	1.35E-04	1.36E-04	1.35E-04	1.00E-04	6.08E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.00E-05	3.06E-05
739	560756.67	4192187.21	1.84E-04	1.40E-04	1.37E-04	1.37E-04	1.37E-04	1.02E-04	6.16E-05	1.32E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.08E-05	3.10E-05
740	560755.3	4192154.27	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.50E-05	5.76E-05	1.23E-04	1.02E-04	9.93E-05	9.96E-05	9.93E-05	6.62E-05	2.90E-05
741	560762.26	4192140.4	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.47E-05	5.74E-05	1.23E-04	1.02E-04	9.90E-05	9.93E-05	9.90E-05	6.60E-05	2.89E-05
742	560769.22	4192126.54	1.70E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	9.39E-05	5.69E-05	1.22E-04	1.01E-04	9.82E-05	9.84E-05	9.82E-05	6.54E-05	2.87E-05
743	560776.17	4192112.67	1.68E-04	1.28E-04	1.25E-04	1.25E-04	1.25E-04	9.26E-05	5.62E-05	1.20E-04	9.99E-05	9.69E-05	9.71E-05	9.69E-05	6.46E-05	2.83E-05
744	560783.13	4192098.8	1.65E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	9.11E-05	5.52E-05	1.18E-04	9.82E-05	9.53E-05	9.55E-05	9.53E-05	6.35E-05	2.78E-05
745	560790.09	4192084.94	1.62E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.94E-05	5.42E-05	1.16E-04	9.64E-05	9.35E-05	9.37E-05	9.35E-05	6.23E-05	2.73E-05
746	560797.05	4192071.07	1.59E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.76E-05	5.31E-05	1.14E-04	9.44E-05	9.16E-05	9.19E-05	9.16E-05	6.11E-05	2.67E-05
747	560804.01	4192057.2	1.56E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.58E-05	5.20E-05	1.11E-04	9.25E-05	8.97E-05	9.00E-05	8.97E-05	5.98E-05	2.62E-05
748	560810.96	4192043.34	1.52E-04	1.16E-04	1.13E-04	1.14E-04	1.13E-04	8.40E-05	5.09E-05	1.09E-04	9.06E-05	8.79E-05	8.81E-05	8.79E-05	5.86E-05	2.57E-05
749	560817.92	4192029.47	1.49E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	8.24E-05	5.00E-05	1.07E-04	8.89E-05	8.62E-05	8.64E-05	8.62E-05	5.75E-05	2.52E-05
750	560827.88	4192018.27	1.50E-04	1.14E-04	1.12E-04	1.12E-04	1.12E-04	8.27E-05	5.01E-05	1.07E-04	8.92E-05	8.65E-05	8.67E-05	8.65E-05	5.77E-05	2.52E-05
751	560840.83	4192009.73	1.54E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.49E-05	5.15E-05	1.10E-04	9.16E-05	8.88E-05	8.91E-05	8.88E-05	5.92E-05	2.59E-05
752	560853.79	4192001.2	1.59E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.75E-05	5.30E-05	1.13E-04	9.43E-05	9.15E-05	9.17E-05	9.15E-05	6.10E-05	2.67E-05
753	560866.74	4191992.66	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.03E-05	5.48E-05	1.17E-04	9.74E-05	9.45E-05	9.47E-05	9.45E-05	6.30E-05	2.76E-05
754	560879.7	4191984.12	1.69E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.34E-05	5.66E-05	1.21E-04	1.01E-04	9.77E-05	9.80E-05	9.77E-05	6.51E-05	2.85E-05
755	560892.65	4191975.59	1.75E-04	1.34E-04	1.30E-04	1.31E-04	1.30E-04	9.65E-05	5.85E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.73E-05	2.95E-05
756	560905.61	4191967.05	1.80E-04	1.38E-04	1.34E-04	1.35E-04	1.34E-04	9.96E-05	6.04E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.94E-05	3.04E-05
757	560918.56	4191958.51	1.87E-04	1.42E-04	1.39E-04	1.39E-04	1.39E-04	1.03E-04	6.24E-05	1.33E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.18E-05	3.14E-05
758	560931.52	4191949.98	1.92E-04	1.47E-04	1.43E-04	1.44E-04	1.43E-04	1.06E-04	6.44E-05	1.38E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	7.40E-05	3.24E-05
759	560750.17	4192169.2	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.57E-05	5.80E-05	1.24E-04	1.03E-04	1.00E-04	1.00E-04	1.00E-04	6.67E-05	2.92E-05
760	560746.87	4192185.19	1.75E-04	1.34E-04	1.30E-04	1.31E-04	1.30E-04	9.67E-05	5.86E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.74E-05	2.95E-05
761	560745.62	4192152.02	1.64E-04	1.26E-04	1.22E-04	1.23E-04	1.22E-04	9.07E-05	5.50E-05	1.18E-04	9.78E-05	9.49E-05	9.51E-05	9.49E-05	6.33E-05	2.77E-05
762	560752.81	4192137.69	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.05E-05	5.48E-05	1.17E-04	9.75E-05	9.46E-05	9.49E-05	9.46E-05	6.31E-05	2.76E-05
763	560760	4192123.36	1.63E-04	1.24E-04	1.21E-04	1.21E-04	1.21E-04	8.97E-05	5.44E-05	1.16E-04	9.67E-05	9.38E-05	9.41E-05	9.38E-05	6.25E-05	2.74E-05
764	560767.19	4192109.03	1.60E-04	1.22E-04	1.19E-04	1.20E-04	1.19E-04	8.85E-05	5.37E-05	1.15E-04	9.54E-05	9.26E-05	9.28E-05	9.26E-05	6.17E-05	2.70E-05

765	560774.38	4192094.7	1.58E-04	1.20E-04	1.17E-04	1.18E-04	1.17E-04	8.70E-05	5.28E-05	1.13E-04	9.38E-05	9.10E-05	9.12E-05	9.10E-05	6.07E-05	2.66E-05
766	560781.57	4192080.37	1.55E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.53E-05	5.17E-05	1.11E-04	9.20E-05	8.92E-05	8.95E-05	8.92E-05	5.95E-05	2.60E-05
767	560788.76	4192066.05	1.51E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.35E-05	5.06E-05	1.08E-04	9.00E-05	8.73E-05	8.76E-05	8.73E-05	5.82E-05	2.55E-05
768	560795.95	4192051.72	1.48E-04	1.13E-04	1.10E-04	1.11E-04	1.10E-04	8.17E-05	4.95E-05	1.06E-04	8.81E-05	8.55E-05	8.57E-05	8.55E-05	5.70E-05	2.49E-05
769	560803.14	4192037.39	1.45E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	8.00E-05	4.85E-05	1.04E-04	8.62E-05	8.36E-05	8.39E-05	8.36E-05	5.58E-05	2.44E-05
770	560810.33	4192023.06	1.42E-04	1.08E-04	1.06E-04	1.06E-04	1.06E-04	7.84E-05	4.75E-05	1.02E-04	8.45E-05	8.20E-05	8.22E-05	8.20E-05	5.46E-05	2.39E-05
771	560820.62	4192011.48	1.42E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.86E-05	4.76E-05	1.02E-04	8.47E-05	8.22E-05	8.24E-05	8.22E-05	5.48E-05	2.40E-05
772	560834.01	4192002.66	1.46E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	8.07E-05	4.89E-05	1.05E-04	8.70E-05	8.44E-05	8.46E-05	8.44E-05	5.63E-05	2.46E-05
773	560847.39	4191993.84	1.51E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	8.31E-05	5.04E-05	1.08E-04	8.96E-05	8.69E-05	8.71E-05	8.69E-05	5.79E-05	2.54E-05
774	560860.78	4191985.02	1.56E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.58E-05	5.20E-05	1.11E-04	9.25E-05	8.98E-05	9.00E-05	8.98E-05	5.98E-05	2.62E-05
775	560874.17	4191976.2	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.88E-05	5.38E-05	1.15E-04	9.58E-05	9.29E-05	9.31E-05	9.29E-05	6.19E-05	2.71E-05
776	560887.55	4191967.38	1.67E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.20E-05	5.58E-05	1.19E-04	9.92E-05	9.62E-05	9.65E-05	9.62E-05	6.41E-05	2.81E-05
777	560900.94	4191958.56	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.49E-05	5.75E-05	1.23E-04	1.02E-04	9.92E-05	9.95E-05	9.92E-05	6.62E-05	2.90E-05
778	560914.33	4191949.74	1.78E-04	1.36E-04	1.32E-04	1.33E-04	1.32E-04	9.81E-05	5.95E-05	1.27E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.84E-05	3.00E-05
779	560927.71	4191940.92	1.84E-04	1.40E-04	1.37E-04	1.37E-04	1.37E-04	1.01E-04	6.14E-05	1.31E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.06E-05	3.09E-05
780	560740.38	4192167.18	1.66E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	9.13E-05	5.54E-05	1.18E-04	9.84E-05	9.55E-05	9.57E-05	9.55E-05	6.37E-05	2.79E-05
781	560737.08	4192183.17	1.67E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	9.22E-05	5.59E-05	1.19E-04	9.94E-05	9.64E-05	9.66E-05	9.64E-05	6.43E-05	2.81E-05
782	560929.86	4192237.22	6.65E-04	5.08E-04	4.95E-04	4.96E-04	4.95E-04	3.67E-04	2.22E-04	4.76E-04	3.96E-04	3.84E-04	3.85E-04	3.84E-04	2.56E-04	1.12E-04
783	560920.14	4192234.86	5.99E-04	4.57E-04	4.46E-04	4.47E-04	4.46E-04	3.31E-04	2.00E-04	4.28E-04	3.56E-04	3.46E-04	3.47E-04	3.46E-04	2.30E-04	1.01E-04
784	560917.86	4192244.25	6.03E-04	4.60E-04	4.49E-04	4.50E-04	4.49E-04	3.33E-04	2.02E-04	4.31E-04	3.59E-04	3.48E-04	3.49E-04	3.48E-04	2.32E-04	1.02E-04
785	560915.58	4192253.64	6.05E-04	4.62E-04	4.50E-04	4.51E-04	4.50E-04	3.34E-04	2.02E-04	4.33E-04	3.60E-04	3.49E-04	3.50E-04	3.49E-04	2.33E-04	1.02E-04
786	560913.29	4192263.03	6.04E-04	4.61E-04	4.49E-04	4.50E-04	4.49E-04	3.33E-04	2.02E-04	4.32E-04	3.59E-04	3.48E-04	3.49E-04	3.48E-04	2.32E-04	1.02E-04
787	560911.01	4192272.42	6.00E-04	4.58E-04	4.46E-04	4.48E-04	4.46E-04	3.31E-04	2.01E-04	4.29E-04	3.57E-04	3.46E-04	3.47E-04	3.46E-04	2.31E-04	1.01E-04
788	560910.43	4192232.49	5.43E-04	4.14E-04	4.04E-04	4.05E-04	4.04E-04	2.99E-04	1.82E-04	3.88E-04	3.23E-04	3.13E-04	3.14E-04	3.13E-04	2.09E-04	9.14E-05
789	560908.14	4192241.88	5.46E-04	4.17E-04	4.06E-04	4.08E-04	4.06E-04	3.01E-04	1.83E-04	3.91E-04	3.25E-04	3.15E-04	3.16E-04	3.15E-04	2.10E-04	9.20E-05
790	560905.86	4192251.28	5.48E-04	4.18E-04	4.07E-04	4.09E-04	4.07E-04	3.02E-04	1.83E-04	3.92E-04	3.26E-04	3.16E-04	3.17E-04	3.16E-04	2.11E-04	9.22E-05
791	560903.58	4192260.67	5.47E-04	4.17E-04	4.07E-04	4.08E-04	4.07E-04	3.02E-04	1.83E-04	3.91E-04	3.25E-04	3.15E-04	3.16E-04	3.15E-04	2.10E-04	9.21E-05
792	560901.29	4192270.06	5.43E-04	4.15E-04	4.04E-04	4.05E-04	4.04E-04	3.00E-04	1.82E-04	3.88E-04	3.23E-04	3.13E-04	3.14E-04	3.13E-04	2.09E-04	9.15E-05
793	560899.01	4192279.45	5.37E-04	4.10E-04	4.00E-04	4.01E-04	4.00E-04	2.97E-04	1.80E-04	3.84E-04	3.20E-04	3.10E-04	3.11E-04	3.10E-04	2.07E-04	9.05E-05
794	560896.73	4192288.84	5.30E-04	4.05E-04	3.94E-04	3.95E-04	3.94E-04	2.92E-04	1.77E-04	3.79E-04	3.15E-04	3.06E-04	3.07E-04	3.06E-04	2.04E-04	8.92E-05
795	560894.44	4192298.23	5.21E-04	3.97E-04	3.87E-04	3.88E-04	3.87E-04	2.87E-04	1.74E-04	3.72E-04	3.10E-04	3.00E-04	3.01E-04	3.00E-04	2.00E-04	8.77E-05
796	560900.71	4192230.13	4.95E-04	3.78E-04	3.68E-04	3.69E-04	3.68E-04	2.73E-04	1.65E-04	3.54E-04	2.94E-04	2.85E-04	2.86E-04	2.85E-04	1.90E-04	8.33E-05
797	560898.43	4192239.52	4.98E-04	3.80E-04	3.71E-04	3.72E-04	3.71E-04	2.75E-04	1.67E-04	3.56E-04	2.96E-04	2.88E-04	2.88E-04	2.88E-04	1.92E-04	8.39E-05
798	560896.14	4192248.91	5.00E-04	3.81E-04	3.72E-04	3.73E-04	3.72E-04	2.76E-04	1.67E-04	3.57E-04	2.97E-04	2.88E-04	2.89E-04	2.88E-04	1.92E-04	8.42E-05
799	560893.86	4192258.3	4.99E-04	3.81E-04	3.71E-04	3.72E-04	3.71E-04	2.75E-04	1.67E-04	3.57E-04	2.96E-04	2.88E-04	2.88E-04	2.88E-04	1.92E-04	8.39E-05
800	560891.58	4192267.7	4.95E-04	3.78E-04	3.68E-04	3.69E-04	3.68E-04	2.73E-04	1.66E-04	3.54E-04	2.94E-04	2.86E-04	2.86E-04	2.86E-04	1.90E-04	8.34E-05
801	560889.29	4192277.09	4.89E-04	3.73E-04	3.64E-04	3.65E-04	3.64E-04	2.70E-04	1.64E-04	3.50E-04	2.91E-04	2.82E-04	2.83E-04	2.82E-04	1.88E-04	8.24E-05
802	560887.01	4192286.48	4.82E-04	3.68E-04	3.59E-04	3.60E-04	3.59E-04	2.66E-04	1.61E-04	3.45E-04	2.87E-04	2.78E-04	2.79E-04	2.78E-04	1.86E-04	8.12E-05
803	560884.72	4192295.87	4.74E-04	3.62E-04	3.53E-04	3.54E-04	3.53E-04	2.62E-04	1.59E-04	3.39E-04	2.82E-04	2.74E-04	2.74E-04	2.74E-04	1.82E-04	7.99E-05
804	560890.99	4192227.77	4.54E-04	3.47E-04	3.38E-04	3.39E-04	3.38E-04	2.51E-04	1.52E-04	3.25E-04	2.70E-04	2.62E-04	2.63E-04	2.62E-04	1.75E-04	7.65E-05
805	560888.71	4192237.16	4.58E-04	3.49E-04	3.40E-04	3.41E-04	3.40E-04	2.52E-04	1.53E-04	3.27E-04	2.72E-04	2.64E-04	2.65E-04	2.64E-04	1.76E-04	7.71E-05
806	560886.43	4192246.55	4.58E-04	3.50E-04	3.41E-04	3.42E-04	3.41E-04	2.53E-04	1.53E-04	3.28E-04	2.73E-04	2.64E-04	2.65E-04	2.64E-04	1.76E-04	7.72E-05
807	560884.14	4192255.94	4.57E-04	3.49E-04	3.40E-04	3.41E-04	3.40E-04	2.52E-04	1.53E-04	3.27E-04	2.72E-04	2.64E-04	2.64E-04	2.64E-04	1.76E-04	7.70E-05
808	560881.86	4192265.33	4.53E-04	3.46E-04	3.37E-04	3.38E-04	3.37E-04	2.50E-04	1.52E-04	3.24E-04	2.70E-04	2.62E-04	2.62E-04	2.62E-04	1.74E-04	7.64E-05
809	560879.58	4192274.72	4.48E-04	3.42E-04	3.33E-04	3.34E-04	3.33E-04	2.47E-04	1.50E-04	3.20E-04	2.66E-04	2.58E-04	2.59E-04	2.58E-04	1.72E-04	7.54E-05
810	560877.29	4192284.11	4.42E-04	3.37E-04	3.28E-04	3.29E-04	3.28E-04	2.44E-04	1.48E-04	3.16E-04	2.63E-04	2.55E-04	2.55E-04	2.55E-04	1.70E-04	7.43E-05
811	560875.01	4192293.51	4.34E-04	3.31E-04	3.23E-04	3.24E-04	3.23E-04	2.39E-04	1.45E-04	3.10E-04	2.58E-04	2.50E-04	2.51E-04	2.50E-04	1.67E-04	7.31E-05
812	560881.28	4192225.4	4.18E-04	3.19E-04	3.11E-04	3.12E-04	3.11E-04	2.31E-04	1.40E-04	2.99E-04	2.49E-04	2.41E-04	2.42E-04	2.41E-04	1.61E-04	7.04E-05

813	560878.99	4192234.8	4.21E-04	3.21E-04	3.13E-04	3.14E-04	3.13E-04	2.32E-04	1.41E-04	3.01E-04	2.50E-04	2.43E-04	2.43E-04	2.43E-04	1.62E-04	7.08E-05
814	560876.71	4192244.19	4.21E-04	3.22E-04	3.13E-04	3.14E-04	3.13E-04	2.32E-04	1.41E-04	3.01E-04	2.51E-04	2.43E-04	2.44E-04	2.43E-04	1.62E-04	7.09E-05
815	560874.43	4192253.58	4.20E-04	3.21E-04	3.13E-04	3.13E-04	3.13E-04	2.32E-04	1.41E-04	3.00E-04	2.50E-04	2.42E-04	2.43E-04	2.42E-04	1.62E-04	7.08E-05
816	560872.14	4192262.97	4.17E-04	3.19E-04	3.11E-04	3.11E-04	3.11E-04	2.30E-04	1.40E-04	2.98E-04	2.48E-04	2.41E-04	2.41E-04	2.41E-04	1.61E-04	7.03E-05
817	560869.86	4192272.36	4.12E-04	3.15E-04	3.07E-04	3.08E-04	3.07E-04	2.27E-04	1.38E-04	2.95E-04	2.45E-04	2.38E-04	2.39E-04	2.38E-04	1.59E-04	6.94E-05
818	560867.57	4192281.75	4.07E-04	3.10E-04	3.02E-04	3.03E-04	3.02E-04	2.24E-04	1.36E-04	2.91E-04	2.42E-04	2.35E-04	2.35E-04	2.35E-04	1.56E-04	6.85E-05
819	560865.29	4192291.14	4.00E-04	3.05E-04	2.98E-04	2.98E-04	2.98E-04	2.21E-04	1.34E-04	2.86E-04	2.38E-04	2.31E-04	2.31E-04	2.31E-04	1.54E-04	6.74E-05
820	560871.56	4192223.04	3.86E-04	2.95E-04	2.87E-04	2.88E-04	2.87E-04	2.13E-04	1.29E-04	2.76E-04	2.30E-04	2.23E-04	2.24E-04	2.23E-04	1.49E-04	6.51E-05
821	560869.28	4192232.43	3.88E-04	2.96E-04	2.89E-04	2.90E-04	2.89E-04	2.14E-04	1.30E-04	2.78E-04	2.31E-04	2.24E-04	2.25E-04	2.24E-04	1.49E-04	6.54E-05
822	560866.99	4192241.82	3.89E-04	2.97E-04	2.89E-04	2.90E-04	2.89E-04	2.14E-04	1.30E-04	2.78E-04	2.31E-04	2.24E-04	2.25E-04	2.24E-04	1.49E-04	6.55E-05
823	560864.71	4192251.22	3.88E-04	2.96E-04	2.88E-04	2.89E-04	2.88E-04	2.14E-04	1.30E-04	2.77E-04	2.31E-04	2.24E-04	2.24E-04	2.24E-04	1.49E-04	6.53E-05
824	560862.43	4192260.61	3.85E-04	2.94E-04	2.87E-04	2.87E-04	2.87E-04	2.13E-04	1.29E-04	2.75E-04	2.29E-04	2.22E-04	2.23E-04	2.22E-04	1.48E-04	6.49E-05
825	560860.14	4192270	3.81E-04	2.91E-04	2.84E-04	2.84E-04	2.84E-04	2.10E-04	1.28E-04	2.73E-04	2.27E-04	2.20E-04	2.21E-04	2.20E-04	1.47E-04	6.42E-05
826	560857.86	4192279.39	3.76E-04	2.87E-04	2.80E-04	2.81E-04	2.80E-04	2.08E-04	1.26E-04	2.69E-04	2.24E-04	2.17E-04	2.18E-04	2.17E-04	1.45E-04	6.34E-05
827	560855.57	4192288.78	3.70E-04	2.82E-04	2.75E-04	2.76E-04	2.75E-04	2.04E-04	1.24E-04	2.65E-04	2.20E-04	2.13E-04	2.14E-04	2.13E-04	1.42E-04	6.23E-05
828	560861.84	4192220.68	3.58E-04	2.73E-04	2.66E-04	2.67E-04	2.66E-04	1.98E-04	1.20E-04	2.56E-04	2.13E-04	2.07E-04	2.07E-04	2.07E-04	1.38E-04	6.03E-05
829	560859.56	4192230.07	3.60E-04	2.75E-04	2.68E-04	2.68E-04	2.68E-04	1.98E-04	1.20E-04	2.57E-04	2.14E-04	2.08E-04	2.08E-04	2.08E-04	1.38E-04	6.06E-05
830	560857.28	4192239.46	3.60E-04	2.75E-04	2.68E-04	2.69E-04	2.68E-04	1.99E-04	1.20E-04	2.57E-04	2.14E-04	2.08E-04	2.08E-04	2.08E-04	1.38E-04	6.06E-05
831	560854.99	4192248.85	3.59E-04	2.74E-04	2.67E-04	2.68E-04	2.67E-04	1.98E-04	1.20E-04	2.57E-04	2.13E-04	2.07E-04	2.08E-04	2.07E-04	1.38E-04	6.04E-05
832	560852.71	4192258.24	3.57E-04	2.72E-04	2.65E-04	2.66E-04	2.65E-04	1.97E-04	1.19E-04	2.55E-04	2.12E-04	2.06E-04	2.06E-04	2.06E-04	1.37E-04	6.01E-05
833	560850.42	4192267.63	3.53E-04	2.69E-04	2.63E-04	2.63E-04	2.63E-04	1.95E-04	1.18E-04	2.52E-04	2.10E-04	2.04E-04	2.04E-04	2.04E-04	1.36E-04	5.95E-05
834	560848.14	4192277.03	3.48E-04	2.66E-04	2.59E-04	2.60E-04	2.59E-04	1.92E-04	1.17E-04	2.49E-04	2.07E-04	2.01E-04	2.02E-04	2.01E-04	1.34E-04	5.87E-05
835	560845.86	4192286.42	3.43E-04	2.61E-04	2.55E-04	2.56E-04	2.55E-04	1.89E-04	1.15E-04	2.45E-04	2.04E-04	1.98E-04	1.98E-04	1.98E-04	1.32E-04	5.77E-05
836	560852.13	4192218.32	3.33E-04	2.54E-04	2.48E-04	2.49E-04	2.48E-04	1.84E-04	1.11E-04	2.38E-04	1.98E-04	1.92E-04	1.93E-04	1.92E-04	1.28E-04	5.61E-05
837	560849.84	4192227.71	3.34E-04	2.55E-04	2.49E-04	2.49E-04	2.49E-04	1.85E-04	1.12E-04	2.39E-04	1.99E-04	1.93E-04	1.93E-04	1.93E-04	1.29E-04	5.63E-05
838	560847.56	4192237.1	3.35E-04	2.55E-04	2.49E-04	2.50E-04	2.49E-04	1.85E-04	1.12E-04	2.39E-04	1.99E-04	1.93E-04	1.94E-04	1.93E-04	1.29E-04	5.63E-05
839	560845.28	4192246.49	3.34E-04	2.55E-04	2.48E-04	2.49E-04	2.48E-04	1.84E-04	1.12E-04	2.39E-04	1.98E-04	1.92E-04	1.93E-04	1.92E-04	1.28E-04	5.62E-05
840	560842.99	4192255.88	3.31E-04	2.53E-04	2.47E-04	2.47E-04	2.47E-04	1.83E-04	1.11E-04	2.37E-04	1.97E-04	1.91E-04	1.92E-04	1.91E-04	1.27E-04	5.58E-05
841	560840.71	4192265.27	3.28E-04	2.50E-04	2.44E-04	2.45E-04	2.44E-04	1.81E-04	1.10E-04	2.35E-04	1.95E-04	1.89E-04	1.90E-04	1.89E-04	1.26E-04	5.52E-05
842	560838.42	4192274.66	3.24E-04	2.47E-04	2.41E-04	2.41E-04	2.41E-04	1.79E-04	1.08E-04	2.31E-04	1.92E-04	1.87E-04	1.87E-04	1.87E-04	1.24E-04	5.45E-05
843	560836.14	4192284.05	3.18E-04	2.43E-04	2.37E-04	2.37E-04	2.37E-04	1.76E-04	1.06E-04	2.28E-04	1.89E-04	1.84E-04	1.84E-04	1.84E-04	1.22E-04	5.36E-05
844	560842.41	4192215.95	3.11E-04	2.37E-04	2.31E-04	2.32E-04	2.31E-04	1.71E-04	1.04E-04	2.22E-04	1.85E-04	1.79E-04	1.80E-04	1.79E-04	1.20E-04	5.23E-05
845	560840.13	4192225.34	3.12E-04	2.38E-04	2.32E-04	2.33E-04	2.32E-04	1.72E-04	1.04E-04	2.23E-04	1.85E-04	1.80E-04	1.80E-04	1.80E-04	1.20E-04	5.25E-05
846	560837.84	4192234.74	3.12E-04	2.38E-04	2.32E-04	2.33E-04	2.32E-04	1.72E-04	1.04E-04	2.23E-04	1.86E-04	1.80E-04	1.80E-04	1.80E-04	1.20E-04	5.25E-05
847	560835.56	4192244.13	3.11E-04	2.37E-04	2.31E-04	2.32E-04	2.31E-04	1.72E-04	1.04E-04	2.22E-04	1.85E-04	1.79E-04	1.80E-04	1.79E-04	1.20E-04	5.24E-05
848	560833.27	4192253.52	3.09E-04	2.36E-04	2.30E-04	2.30E-04	2.30E-04	1.70E-04	1.03E-04	2.21E-04	1.84E-04	1.78E-04	1.79E-04	1.78E-04	1.19E-04	5.20E-05
849	560830.99	4192262.91	3.06E-04	2.33E-04	2.27E-04	2.28E-04	2.27E-04	1.69E-04	1.02E-04	2.19E-04	1.82E-04	1.76E-04	1.77E-04	1.76E-04	1.18E-04	5.15E-05
850	560828.71	4192272.3	3.02E-04	2.30E-04	2.24E-04	2.25E-04	2.24E-04	1.66E-04	1.01E-04	2.16E-04	1.79E-04	1.74E-04	1.74E-04	1.74E-04	1.16E-04	5.08E-05
851	560826.42	4192281.69	2.96E-04	2.26E-04	2.21E-04	2.21E-04	2.21E-04	1.64E-04	9.91E-05	2.12E-04	1.76E-04	1.71E-04	1.71E-04	1.71E-04	1.14E-04	4.99E-05
852	560832.69	4192213.59	2.91E-04	2.22E-04	2.16E-04	2.17E-04	2.16E-04	1.60E-04	9.73E-05	2.08E-04	1.73E-04	1.68E-04	1.68E-04	1.68E-04	1.12E-04	4.90E-05
853	560830.41	4192222.98	2.92E-04	2.23E-04	2.17E-04	2.18E-04	2.17E-04	1.61E-04	9.76E-05	2.09E-04	1.73E-04	1.68E-04	1.69E-04	1.68E-04	1.12E-04	4.91E-05
854	560828.13	4192232.37	2.92E-04	2.23E-04	2.17E-04	2.18E-04	2.17E-04	1.61E-04	9.75E-05	2.09E-04	1.73E-04	1.68E-04	1.69E-04	1.68E-04	1.12E-04	4.91E-05
855	560825.84	4192241.76	2.91E-04	2.22E-04	2.16E-04	2.17E-04	2.16E-04	1.60E-04	9.72E-05	2.08E-04	1.73E-04	1.68E-04	1.68E-04	1.68E-04	1.12E-04	4.89E-05
856	560823.56	4192251.15	2.89E-04	2.20E-04	2.15E-04	2.15E-04	2.15E-04	1.59E-04	9.65E-05	2.06E-04	1.72E-04	1.66E-04	1.67E-04	1.66E-04	1.11E-04	4.86E-05
857	560821.27	4192260.55	2.86E-04	2.18E-04	2.12E-04	2.13E-04	2.12E-04	1.58E-04	9.55E-05	2.04E-04	1.70E-04	1.65E-04	1.65E-04	1.65E-04	1.10E-04	4.81E-05
858	560818.99	4192269.94	2.82E-04	2.15E-04	2.10E-04	2.10E-04	2.10E-04	1.55E-04	9.42E-05	2.01E-04	1.68E-04	1.63E-04	1.63E-04	1.63E-04	1.08E-04	4.74E-05
859	560816.71	4192279.33	2.77E-04	2.11E-04	2.06E-04	2.07E-04	2.06E-04	1.53E-04	9.26E-05	1.98E-04	1.65E-04	1.60E-04	1.60E-04	1.60E-04	1.07E-04	4.66E-05
860	560822.98	4192211.23	2.73E-04	2.08E-04	2.03E-04	2.04E-04	2.03E-04	1.51E-04	9.12E-05	1.95E-04	1.62E-04	1.57E-04	1.58E-04	1.57E-04	1.05E-04	4.59E-05

861	560820.69	4192220.62	2.74E-04	2.09E-04	2.03E-04	2.04E-04	2.03E-04	1.51E-04	9.15E-05	1.96E-04	1.63E-04	1.58E-04	1.58E-04	1.58E-04	1.05E-04	4.61E-05
862	560818.41	4192230.01	2.73E-04	2.09E-04	2.03E-04	2.04E-04	2.03E-04	1.51E-04	9.14E-05	1.95E-04	1.63E-04	1.58E-04	1.58E-04	1.58E-04	1.05E-04	4.60E-05
863	560816.12	4192239.4	2.72E-04	2.08E-04	2.03E-04	2.03E-04	2.03E-04	1.50E-04	9.11E-05	1.95E-04	1.62E-04	1.57E-04	1.58E-04	1.57E-04	1.05E-04	4.59E-05
864	560813.84	4192248.79	2.70E-04	2.06E-04	2.01E-04	2.02E-04	2.01E-04	1.49E-04	9.04E-05	1.93E-04	1.61E-04	1.56E-04	1.56E-04	1.56E-04	1.04E-04	4.55E-05
865	560811.56	4192258.18	2.68E-04	2.04E-04	1.99E-04	2.00E-04	1.99E-04	1.48E-04	8.95E-05	1.91E-04	1.59E-04	1.54E-04	1.55E-04	1.54E-04	1.03E-04	4.50E-05
866	560809.27	4192267.57	2.64E-04	2.01E-04	1.96E-04	1.97E-04	1.96E-04	1.46E-04	8.82E-05	1.89E-04	1.57E-04	1.52E-04	1.53E-04	1.52E-04	1.01E-04	4.44E-05
867	560806.99	4192276.97	2.59E-04	1.98E-04	1.93E-04	1.93E-04	1.93E-04	1.43E-04	8.67E-05	1.85E-04	1.54E-04	1.50E-04	1.50E-04	1.50E-04	9.97E-05	4.37E-05
868	560813.26	4192208.86	2.56E-04	1.96E-04	1.91E-04	1.91E-04	1.91E-04	1.42E-04	8.58E-05	1.83E-04	1.53E-04	1.48E-04	1.48E-04	1.48E-04	9.87E-05	4.32E-05
869	560810.98	4192218.26	2.57E-04	1.96E-04	1.91E-04	1.92E-04	1.91E-04	1.42E-04	8.60E-05	1.84E-04	1.53E-04	1.48E-04	1.49E-04	1.48E-04	9.89E-05	4.33E-05
870	560808.69	4192227.65	2.57E-04	1.96E-04	1.91E-04	1.92E-04	1.91E-04	1.42E-04	8.59E-05	1.84E-04	1.53E-04	1.48E-04	1.49E-04	1.48E-04	9.88E-05	4.33E-05
871	560806.41	4192237.04	2.56E-04	1.95E-04	1.90E-04	1.91E-04	1.90E-04	1.41E-04	8.55E-05	1.83E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	9.84E-05	4.31E-05
872	560804.12	4192246.43	2.54E-04	1.94E-04	1.89E-04	1.89E-04	1.89E-04	1.40E-04	8.49E-05	1.82E-04	1.51E-04	1.46E-04	1.47E-04	1.46E-04	9.76E-05	4.27E-05
873	560801.84	4192255.82	2.51E-04	1.92E-04	1.87E-04	1.87E-04	1.87E-04	1.39E-04	8.40E-05	1.80E-04	1.49E-04	1.45E-04	1.45E-04	1.45E-04	9.66E-05	4.23E-05
874	560799.56	4192265.21	2.48E-04	1.89E-04	1.84E-04	1.85E-04	1.84E-04	1.37E-04	8.28E-05	1.77E-04	1.47E-04	1.43E-04	1.43E-04	1.43E-04	9.52E-05	4.17E-05
875	560797.27	4192274.6	2.43E-04	1.86E-04	1.81E-04	1.81E-04	1.81E-04	1.34E-04	8.14E-05	1.74E-04	1.45E-04	1.40E-04	1.41E-04	1.40E-04	9.36E-05	4.10E-05
876	560803.54	4192206.5	2.42E-04	1.84E-04	1.80E-04	1.80E-04	1.80E-04	1.33E-04	8.08E-05	1.73E-04	1.44E-04	1.39E-04	1.40E-04	1.39E-04	9.30E-05	4.07E-05
877	560801.26	4192215.89	2.42E-04	1.85E-04	1.80E-04	1.81E-04	1.80E-04	1.34E-04	8.10E-05	1.73E-04	1.44E-04	1.40E-04	1.40E-04	1.40E-04	9.31E-05	4.08E-05
878	560798.98	4192225.28	2.42E-04	1.85E-04	1.80E-04	1.80E-04	1.80E-04	1.33E-04	8.09E-05	1.73E-04	1.44E-04	1.40E-04	1.40E-04	1.40E-04	9.30E-05	4.07E-05
879	560796.69	4192234.67	2.41E-04	1.84E-04	1.79E-04	1.80E-04	1.79E-04	1.33E-04	8.05E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.26E-05	4.05E-05
880	560794.41	4192244.07	2.39E-04	1.82E-04	1.78E-04	1.78E-04	1.78E-04	1.32E-04	7.99E-05	1.71E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	9.19E-05	4.02E-05
881	560792.12	4192253.46	2.36E-04	1.80E-04	1.76E-04	1.76E-04	1.76E-04	1.30E-04	7.90E-05	1.69E-04	1.40E-04	1.36E-04	1.37E-04	1.36E-04	9.09E-05	3.98E-05
882	560789.84	4192262.85	2.33E-04	1.78E-04	1.73E-04	1.74E-04	1.73E-04	1.28E-04	7.79E-05	1.67E-04	1.38E-04	1.34E-04	1.35E-04	1.34E-04	8.96E-05	3.92E-05
883	560787.56	4192272.24	2.29E-04	1.75E-04	1.70E-04	1.71E-04	1.70E-04	1.26E-04	7.65E-05	1.64E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.80E-05	3.85E-05
884	560793.83	4192204.14	2.28E-04	1.74E-04	1.70E-04	1.70E-04	1.70E-04	1.26E-04	7.63E-05	1.63E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.78E-05	3.84E-05
885	560791.54	4192213.53	2.29E-04	1.74E-04	1.70E-04	1.70E-04	1.70E-04	1.26E-04	7.64E-05	1.63E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.79E-05	3.85E-05
886	560789.26	4192222.92	2.28E-04	1.74E-04	1.70E-04	1.70E-04	1.70E-04	1.26E-04	7.63E-05	1.63E-04	1.36E-04	1.32E-04	1.32E-04	1.32E-04	8.78E-05	3.84E-05
887	560786.97	4192232.31	2.27E-04	1.73E-04	1.69E-04	1.69E-04	1.69E-04	1.25E-04	7.59E-05	1.62E-04	1.35E-04	1.31E-04	1.31E-04	1.31E-04	8.73E-05	3.82E-05
888	560784.69	4192241.7	2.25E-04	1.72E-04	1.68E-04	1.68E-04	1.68E-04	1.24E-04	7.53E-05	1.61E-04	1.34E-04	1.30E-04	1.30E-04	1.30E-04	8.66E-05	3.79E-05
889	560782.41	4192251.09	2.23E-04	1.70E-04	1.66E-04	1.66E-04	1.66E-04	1.23E-04	7.45E-05	1.59E-04	1.32E-04	1.28E-04	1.29E-04	1.28E-04	8.56E-05	3.75E-05
890	560780.12	4192260.49	2.19E-04	1.67E-04	1.63E-04	1.64E-04	1.63E-04	1.21E-04	7.34E-05	1.57E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	8.44E-05	3.69E-05
891	560777.84	4192269.88	2.15E-04	1.64E-04	1.60E-04	1.61E-04	1.60E-04	1.19E-04	7.21E-05	1.54E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	8.29E-05	3.63E-05
892	560781.83	4192211.17	2.16E-04	1.65E-04	1.61E-04	1.61E-04	1.61E-04	1.19E-04	7.23E-05	1.55E-04	1.29E-04	1.25E-04	1.25E-04	1.25E-04	8.31E-05	3.64E-05
893	560779.54	4192220.56	2.16E-04	1.65E-04	1.60E-04	1.61E-04	1.60E-04	1.19E-04	7.21E-05	1.54E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	8.29E-05	3.63E-05
894	560777.26	4192229.95	2.14E-04	1.64E-04	1.60E-04	1.60E-04	1.60E-04	1.18E-04	7.17E-05	1.53E-04	1.28E-04	1.24E-04	1.24E-04	1.24E-04	8.25E-05	3.61E-05
895	560774.97	4192239.34	2.13E-04	1.62E-04	1.58E-04	1.59E-04	1.58E-04	1.17E-04	7.11E-05	1.52E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	8.18E-05	3.58E-05
896	560772.69	4192248.73	2.10E-04	1.60E-04	1.56E-04	1.57E-04	1.56E-04	1.16E-04	7.03E-05	1.50E-04	1.25E-04	1.21E-04	1.22E-04	1.21E-04	8.09E-05	3.54E-05
897	560770.41	4192258.12	2.07E-04	1.58E-04	1.54E-04	1.55E-04	1.54E-04	1.14E-04	6.93E-05	1.48E-04	1.23E-04	1.19E-04	1.20E-04	1.19E-04	7.97E-05	3.49E-05
898	560768.12	4192267.51	2.03E-04	1.55E-04	1.51E-04	1.52E-04	1.51E-04	1.12E-04	6.80E-05	1.45E-04	1.21E-04	1.17E-04	1.18E-04	1.17E-04	7.82E-05	3.42E-05
899	560772.11	4192208.8	2.05E-04	1.56E-04	1.52E-04	1.53E-04	1.52E-04	1.13E-04	6.84E-05	1.46E-04	1.22E-04	1.18E-04	1.18E-04	1.18E-04	7.87E-05	3.45E-05
900	560769.82	4192218.19	2.04E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.13E-04	6.83E-05	1.46E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	7.85E-05	3.44E-05
901	560767.54	4192227.59	2.03E-04	1.55E-04	1.51E-04	1.51E-04	1.51E-04	1.12E-04	6.79E-05	1.45E-04	1.21E-04	1.17E-04	1.17E-04	1.17E-04	7.81E-05	3.42E-05
902	560765.26	4192236.98	2.01E-04	1.54E-04	1.50E-04	1.50E-04	1.50E-04	1.11E-04	6.73E-05	1.44E-04	1.20E-04	1.16E-04	1.16E-04	1.16E-04	7.74E-05	3.39E-05
903	560762.97	4192246.37	1.99E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	1.10E-04	6.65E-05	1.42E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	7.65E-05	3.35E-05
904	560760.69	4192255.76	1.96E-04	1.49E-04	1.46E-04	1.46E-04	1.46E-04	1.08E-04	6.55E-05	1.40E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	7.53E-05	3.30E-05
905	560758.41	4192265.15	1.92E-04	1.47E-04	1.43E-04	1.43E-04	1.43E-04	1.06E-04	6.43E-05	1.37E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	7.39E-05	3.24E-05
906	560762.39	4192206.44	1.94E-04	1.48E-04	1.44E-04	1.45E-04	1.44E-04	1.07E-04	6.49E-05	1.39E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	7.46E-05	3.27E-05
907	560760.11	4192215.83	1.93E-04	1.48E-04	1.44E-04	1.44E-04	1.44E-04	1.07E-04	6.47E-05	1.38E-04	1.15E-04	1.12E-04	1.12E-04	1.12E-04	7.44E-05	3.26E-05
908	560757.82	4192225.22	1.92E-04	1.47E-04	1.43E-04	1.43E-04	1.43E-04	1.06E-04	6.43E-05	1.38E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	7.40E-05	3.24E-05

909	560755.54	4192234.61	1.91E-04	1.45E-04	1.42E-04	1.42E-04	1.42E-04	1.05E-04	6.37E-05	1.36E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	7.33E-05	3.21E-05
910	560753.26	4192244.01	1.88E-04	1.44E-04	1.40E-04	1.40E-04	1.40E-04	1.04E-04	6.30E-05	1.35E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	7.24E-05	3.17E-05
911	560750.97	4192253.4	1.85E-04	1.41E-04	1.38E-04	1.38E-04	1.38E-04	1.02E-04	6.20E-05	1.33E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.13E-05	3.12E-05
912	560748.69	4192262.79	1.82E-04	1.39E-04	1.35E-04	1.36E-04	1.35E-04	1.00E-04	6.09E-05	1.30E-04	1.08E-04	1.05E-04	1.05E-04	1.05E-04	7.00E-05	3.06E-05
913	560752.67	4192204.08	1.84E-04	1.41E-04	1.37E-04	1.37E-04	1.37E-04	1.02E-04	6.16E-05	1.32E-04	1.10E-04	1.06E-04	1.07E-04	1.06E-04	7.09E-05	3.10E-05
914	560750.39	4192213.47	1.84E-04	1.40E-04	1.37E-04	1.37E-04	1.37E-04	1.01E-04	6.14E-05	1.31E-04	1.09E-04	1.06E-04	1.06E-04	1.06E-04	7.06E-05	3.09E-05
915	560748.11	4192222.86	1.83E-04	1.39E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.10E-05	1.31E-04	1.09E-04	1.05E-04	1.06E-04	1.05E-04	7.02E-05	3.07E-05
916	560745.82	4192232.25	1.81E-04	1.38E-04	1.35E-04	1.35E-04	1.35E-04	9.98E-05	6.05E-05	1.29E-04	1.08E-04	1.04E-04	1.05E-04	1.04E-04	6.95E-05	3.04E-05
917	560743.54	4192241.64	1.79E-04	1.36E-04	1.33E-04	1.33E-04	1.33E-04	9.85E-05	5.97E-05	1.28E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.87E-05	3.01E-05
918	560741.26	4192251.03	1.76E-04	1.34E-04	1.31E-04	1.31E-04	1.31E-04	9.70E-05	5.88E-05	1.26E-04	1.05E-04	1.01E-04	1.02E-04	1.01E-04	6.76E-05	2.96E-05
919	560738.97	4192260.43	1.72E-04	1.32E-04	1.28E-04	1.29E-04	1.28E-04	9.51E-05	5.77E-05	1.23E-04	1.03E-04	9.95E-05	9.98E-05	9.95E-05	6.63E-05	2.90E-05
920	560742.96	4192201.71	1.75E-04	1.34E-04	1.30E-04	1.31E-04	1.30E-04	9.67E-05	5.86E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.74E-05	2.95E-05
921	560740.67	4192211.11	1.75E-04	1.33E-04	1.30E-04	1.30E-04	1.30E-04	9.63E-05	5.84E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.72E-05	2.94E-05
922	560738.39	4192220.5	1.73E-04	1.32E-04	1.29E-04	1.29E-04	1.29E-04	9.57E-05	5.80E-05	1.24E-04	1.03E-04	1.00E-04	1.00E-04	1.00E-04	6.67E-05	2.92E-05
923	560736.11	4192229.89	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.48E-05	5.74E-05	1.23E-04	1.02E-04	9.91E-05	9.94E-05	9.91E-05	6.61E-05	2.89E-05
924	560733.82	4192239.28	1.70E-04	1.29E-04	1.26E-04	1.26E-04	1.26E-04	9.35E-05	5.67E-05	1.21E-04	1.01E-04	9.78E-05	9.81E-05	9.78E-05	6.52E-05	2.86E-05
925	560731.54	4192248.67	1.67E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.21E-05	5.58E-05	1.19E-04	9.92E-05	9.63E-05	9.65E-05	9.63E-05	6.42E-05	2.81E-05
926	560729.26	4192258.06	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.03E-05	5.47E-05	1.17E-04	9.73E-05	9.44E-05	9.47E-05	9.44E-05	6.30E-05	2.76E-05
927	560733.24	4192199.35	1.67E-04	1.27E-04	1.24E-04	1.25E-04	1.24E-04	9.21E-05	5.58E-05	1.19E-04	9.93E-05	9.63E-05	9.66E-05	9.63E-05	6.42E-05	2.81E-05
928	560730.96	4192208.74	1.66E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.17E-05	5.56E-05	1.19E-04	9.89E-05	9.59E-05	9.62E-05	9.59E-05	6.39E-05	2.80E-05
929	560728.67	4192218.13	1.65E-04	1.26E-04	1.23E-04	1.23E-04	1.23E-04	9.10E-05	5.52E-05	1.18E-04	9.81E-05	9.52E-05	9.55E-05	9.52E-05	6.35E-05	2.78E-05
930	560726.39	4192227.53	1.63E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.01E-05	5.46E-05	1.17E-04	9.71E-05	9.42E-05	9.45E-05	9.42E-05	6.28E-05	2.75E-05
931	560724.11	4192236.92	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.89E-05	5.39E-05	1.15E-04	9.59E-05	9.30E-05	9.33E-05	9.30E-05	6.20E-05	2.71E-05
932	560721.82	4192246.31	1.59E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.75E-05	5.30E-05	1.13E-04	9.43E-05	9.15E-05	9.17E-05	9.15E-05	6.10E-05	2.67E-05
933	560719.54	4192255.7	1.56E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.58E-05	5.20E-05	1.11E-04	9.25E-05	8.97E-05	9.00E-05	8.97E-05	5.98E-05	2.62E-05
934	560891.64	4192311.4	5.07E-04	3.87E-04	3.78E-04	3.79E-04	3.78E-04	2.80E-04	1.70E-04	3.63E-04	3.02E-04	2.93E-04	2.94E-04	2.93E-04	1.95E-04	8.55E-05
935	560888.03	4192328.88	4.86E-04	3.71E-04	3.62E-04	3.63E-04	3.62E-04	2.68E-04	1.63E-04	3.48E-04	2.89E-04	2.81E-04	2.81E-04	2.81E-04	1.87E-04	8.19E-05
936	560884.42	4192346.37	4.61E-04	3.52E-04	3.43E-04	3.44E-04	3.43E-04	2.55E-04	1.54E-04	3.30E-04	2.74E-04	2.66E-04	2.67E-04	2.66E-04	1.77E-04	7.77E-05
937	560880.81	4192363.85	4.32E-04	3.30E-04	3.21E-04	3.22E-04	3.21E-04	2.38E-04	1.45E-04	3.09E-04	2.57E-04	2.49E-04	2.50E-04	2.49E-04	1.66E-04	7.28E-05
938	560877.2	4192381.34	3.99E-04	3.04E-04	2.97E-04	2.98E-04	2.97E-04	2.20E-04	1.33E-04	2.85E-04	2.37E-04	2.30E-04	2.31E-04	2.30E-04	1.53E-04	6.72E-05
939	560881.85	4192309.38	4.62E-04	3.52E-04	3.44E-04	3.44E-04	3.44E-04	2.55E-04	1.54E-04	3.30E-04	2.75E-04	2.66E-04	2.67E-04	2.66E-04	1.78E-04	7.78E-05
940	560878.24	4192326.86	4.42E-04	3.38E-04	3.29E-04	3.30E-04	3.29E-04	2.44E-04	1.48E-04	3.16E-04	2.63E-04	2.55E-04	2.56E-04	2.55E-04	1.70E-04	7.45E-05
941	560874.63	4192344.34	4.19E-04	3.20E-04	3.12E-04	3.13E-04	3.12E-04	2.31E-04	1.40E-04	3.00E-04	2.49E-04	2.42E-04	2.42E-04	2.42E-04	1.61E-04	7.06E-05
942	560871.01	4192361.83	3.92E-04	2.99E-04	2.92E-04	2.93E-04	2.92E-04	2.16E-04	1.31E-04	2.81E-04	2.33E-04	2.26E-04	2.27E-04	2.26E-04	1.51E-04	6.61E-05
943	560867.4	4192379.31	3.61E-04	2.76E-04	2.69E-04	2.70E-04	2.69E-04	1.99E-04	1.21E-04	2.58E-04	2.15E-04	2.09E-04	2.09E-04	2.09E-04	1.39E-04	6.09E-05
944	560872.05	4192307.35	4.22E-04	3.22E-04	3.14E-04	3.15E-04	3.14E-04	2.33E-04	1.41E-04	3.02E-04	2.51E-04	2.44E-04	2.44E-04	2.44E-04	1.62E-04	7.11E-05
945	560868.44	4192324.84	4.05E-04	3.09E-04	3.01E-04	3.02E-04	3.01E-04	2.23E-04	1.35E-04	2.90E-04	2.41E-04	2.34E-04	2.34E-04	2.34E-04	1.56E-04	6.82E-05
946	560864.83	4192342.32	3.84E-04	2.93E-04	2.85E-04	2.86E-04	2.85E-04	2.12E-04	1.28E-04	2.74E-04	2.28E-04	2.21E-04	2.22E-04	2.21E-04	1.48E-04	6.46E-05
947	560861.22	4192359.81	3.59E-04	2.74E-04	2.67E-04	2.68E-04	2.67E-04	1.98E-04	1.20E-04	2.57E-04	2.13E-04	2.07E-04	2.08E-04	2.07E-04	1.38E-04	6.04E-05
948	560857.61	4192377.29	3.30E-04	2.52E-04	2.45E-04	2.46E-04	2.45E-04	1.82E-04	1.10E-04	2.36E-04	1.96E-04	1.90E-04	1.91E-04	1.90E-04	1.27E-04	5.55E-05
949	560862.26	4192305.33	3.89E-04	2.97E-04	2.90E-04	2.90E-04	2.90E-04	2.15E-04	1.30E-04	2.78E-04	2.31E-04	2.25E-04	2.25E-04	2.25E-04	1.50E-04	6.55E-05
950	560858.65	4192322.81	3.73E-04	2.85E-04	2.77E-04	2.78E-04	2.77E-04	2.06E-04	1.25E-04	2.67E-04	2.22E-04	2.15E-04	2.16E-04	2.15E-04	1.43E-04	6.28E-05
951	560855.04	4192340.3	3.53E-04	2.69E-04	2.62E-04	2.63E-04	2.62E-04	1.95E-04	1.18E-04	2.52E-04	2.10E-04	2.03E-04	2.04E-04	2.03E-04	1.36E-04	5.94E-05
952	560851.43	4192357.78	3.29E-04	2.51E-04	2.45E-04	2.45E-04	2.45E-04	1.81E-04	1.10E-04	2.35E-04	1.96E-04	1.90E-04	1.90E-04	1.90E-04	1.27E-04	5.54E-05
953	560847.82	4192375.27	3.02E-04	2.31E-04	2.25E-04	2.25E-04	2.25E-04	1.67E-04	1.01E-04	2.16E-04	1.80E-04	1.74E-04	1.75E-04	1.74E-04	1.16E-04	5.09E-05
954	560852.47	4192303.31	3.59E-04	2.74E-04	2.67E-04	2.68E-04	2.67E-04	1.98E-04	1.20E-04	2.57E-04	2.14E-04	2.07E-04	2.08E-04	2.07E-04	1.38E-04	6.05E-05
955	560848.86	4192320.79	3.44E-04	2.62E-04	2.56E-04	2.56E-04	2.56E-04	1.90E-04	1.15E-04	2.46E-04	2.04E-04	1.98E-04	1.99E-04	1.98E-04	1.32E-04	5.78E-05
956	560845.25	4192338.28	3.24E-04	2.48E-04	2.41E-04	2.42E-04	2.41E-04	1.79E-04	1.09E-04	2.32E-04	1.93E-04	1.87E-04	1.88E-04	1.87E-04	1.25E-04	5.46E-05

957	560841.63	4192355.76	3.02E-04	2.31E-04	2.25E-04	2.26E-04	2.25E-04	1.67E-04	1.01E-04	2.16E-04	1.80E-04	1.74E-04	1.75E-04	1.74E-04	1.16E-04	5.09E-05
958	560838.02	4192373.25	2.77E-04	2.12E-04	2.06E-04	2.07E-04	2.06E-04	1.53E-04	9.28E-05	1.98E-04	1.65E-04	1.60E-04	1.60E-04	1.60E-04	1.07E-04	4.67E-05
959	560842.67	4192301.28	3.32E-04	2.54E-04	2.47E-04	2.48E-04	2.47E-04	1.83E-04	1.11E-04	2.38E-04	1.98E-04	1.92E-04	1.92E-04	1.92E-04	1.28E-04	5.60E-05
960	560839.06	4192318.77	3.18E-04	2.42E-04	2.36E-04	2.37E-04	2.36E-04	1.75E-04	1.06E-04	2.27E-04	1.89E-04	1.83E-04	1.84E-04	1.83E-04	1.22E-04	5.35E-05
961	560835.45	4192336.25	3.00E-04	2.29E-04	2.23E-04	2.24E-04	2.23E-04	1.65E-04	1.00E-04	2.14E-04	1.78E-04	1.73E-04	1.73E-04	1.73E-04	1.15E-04	5.05E-05
962	560831.84	4192353.74	2.79E-04	2.13E-04	2.08E-04	2.08E-04	2.08E-04	1.54E-04	9.33E-05	1.99E-04	1.66E-04	1.61E-04	1.61E-04	1.61E-04	1.07E-04	4.70E-05
963	560828.23	4192371.22	2.56E-04	1.95E-04	1.90E-04	1.91E-04	1.90E-04	1.41E-04	8.55E-05	1.83E-04	1.52E-04	1.48E-04	1.48E-04	1.48E-04	9.84E-05	4.31E-05
964	560832.88	4192299.26	3.08E-04	2.35E-04	2.29E-04	2.30E-04	2.29E-04	1.70E-04	1.03E-04	2.20E-04	1.83E-04	1.78E-04	1.78E-04	1.78E-04	1.19E-04	5.19E-05
965	560829.27	4192316.75	2.94E-04	2.25E-04	2.19E-04	2.20E-04	2.19E-04	1.62E-04	9.85E-05	2.11E-04	1.75E-04	1.70E-04	1.70E-04	1.70E-04	1.13E-04	4.96E-05
966	560825.66	4192334.23	2.78E-04	2.12E-04	2.07E-04	2.07E-04	2.07E-04	1.53E-04	9.29E-05	1.99E-04	1.65E-04	1.60E-04	1.61E-04	1.60E-04	1.07E-04	4.68E-05
967	560822.05	4192351.72	2.58E-04	1.97E-04	1.92E-04	1.93E-04	1.92E-04	1.42E-04	8.64E-05	1.85E-04	1.54E-04	1.49E-04	1.49E-04	1.49E-04	9.93E-05	4.35E-05
968	560818.44	4192369.2	2.37E-04	1.81E-04	1.76E-04	1.76E-04	1.76E-04	1.31E-04	7.91E-05	1.69E-04	1.41E-04	1.36E-04	1.37E-04	1.36E-04	9.10E-05	3.98E-05
969	560823.09	4192297.24	2.87E-04	2.19E-04	2.13E-04	2.14E-04	2.13E-04	1.58E-04	9.60E-05	2.05E-04	1.71E-04	1.66E-04	1.66E-04	1.66E-04	1.10E-04	4.83E-05
970	560819.48	4192314.72	2.74E-04	2.09E-04	2.04E-04	2.04E-04	2.04E-04	1.51E-04	9.16E-05	1.96E-04	1.63E-04	1.58E-04	1.58E-04	1.58E-04	1.05E-04	4.61E-05
971	560815.87	4192332.21	2.58E-04	1.97E-04	1.92E-04	1.92E-04	1.92E-04	1.42E-04	8.63E-05	1.84E-04	1.53E-04	1.49E-04	1.49E-04	1.49E-04	9.92E-05	4.34E-05
972	560812.25	4192349.69	2.40E-04	1.83E-04	1.78E-04	1.79E-04	1.78E-04	1.32E-04	8.02E-05	1.71E-04	1.43E-04	1.38E-04	1.39E-04	1.38E-04	9.22E-05	4.04E-05
973	560808.64	4192367.18	2.20E-04	1.68E-04	1.63E-04	1.64E-04	1.63E-04	1.21E-04	7.34E-05	1.57E-04	1.31E-04	1.27E-04	1.27E-04	1.27E-04	8.44E-05	3.70E-05
974	560813.29	4192295.22	2.68E-04	2.04E-04	1.99E-04	2.00E-04	1.99E-04	1.48E-04	8.95E-05	1.91E-04	1.59E-04	1.54E-04	1.55E-04	1.54E-04	1.03E-04	4.51E-05
975	560809.68	4192312.7	2.55E-04	1.95E-04	1.90E-04	1.90E-04	1.90E-04	1.41E-04	8.54E-05	1.83E-04	1.52E-04	1.47E-04	1.48E-04	1.47E-04	9.82E-05	4.30E-05
976	560806.07	4192330.19	2.40E-04	1.83E-04	1.79E-04	1.79E-04	1.79E-04	1.33E-04	8.04E-05	1.72E-04	1.43E-04	1.39E-04	1.39E-04	1.39E-04	9.24E-05	4.05E-05
977	560802.46	4192347.67	2.23E-04	1.70E-04	1.66E-04	1.67E-04	1.66E-04	1.23E-04	7.47E-05	1.60E-04	1.33E-04	1.29E-04	1.29E-04	1.29E-04	8.59E-05	3.76E-05
978	560798.85	4192365.15	2.04E-04	1.56E-04	1.52E-04	1.52E-04	1.52E-04	1.13E-04	6.83E-05	1.46E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	7.86E-05	3.44E-05
979	560803.5	4192293.19	2.50E-04	1.91E-04	1.86E-04	1.87E-04	1.86E-04	1.38E-04	8.37E-05	1.79E-04	1.49E-04	1.44E-04	1.45E-04	1.44E-04	9.63E-05	4.22E-05
980	560799.89	4192310.68	2.39E-04	1.82E-04	1.77E-04	1.78E-04	1.77E-04	1.32E-04	7.98E-05	1.71E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	9.18E-05	4.02E-05
981	560796.28	4192328.16	2.24E-04	1.71E-04	1.67E-04	1.67E-04	1.67E-04	1.24E-04	7.51E-05	1.61E-04	1.33E-04	1.29E-04	1.30E-04	1.29E-04	8.63E-05	3.78E-05
982	560792.67	4192345.65	2.08E-04	1.59E-04	1.55E-04	1.55E-04	1.55E-04	1.15E-04	6.97E-05	1.49E-04	1.24E-04	1.20E-04	1.21E-04	1.20E-04	8.01E-05	3.51E-05
983	560789.06	4192363.13	1.91E-04	1.45E-04	1.42E-04	1.42E-04	1.42E-04	1.05E-04	6.38E-05	1.36E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	7.33E-05	3.21E-05
984	560793.71	4192291.17	2.35E-04	1.79E-04	1.75E-04	1.75E-04	1.75E-04	1.29E-04	7.85E-05	1.68E-04	1.40E-04	1.35E-04	1.36E-04	1.35E-04	9.02E-05	3.95E-05
985	560790.1	4192308.66	2.23E-04	1.71E-04	1.66E-04	1.67E-04	1.66E-04	1.23E-04	7.47E-05	1.60E-04	1.33E-04	1.29E-04	1.29E-04	1.29E-04	8.59E-05	3.76E-05
986	560786.49	4192326.14	2.10E-04	1.60E-04	1.56E-04	1.57E-04	1.56E-04	1.16E-04	7.03E-05	1.50E-04	1.25E-04	1.21E-04	1.22E-04	1.21E-04	8.08E-05	3.54E-05
987	560782.87	4192343.62	1.95E-04	1.49E-04	1.45E-04	1.45E-04	1.45E-04	1.08E-04	6.52E-05	1.39E-04	1.16E-04	1.12E-04	1.13E-04	1.12E-04	7.50E-05	3.28E-05
988	560779.26	4192361.11	1.78E-04	1.36E-04	1.33E-04	1.33E-04	1.33E-04	9.84E-05	5.96E-05	1.27E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.86E-05	3.00E-05
989	560783.91	4192289.15	2.20E-04	1.68E-04	1.64E-04	1.64E-04	1.64E-04	1.22E-04	7.37E-05	1.58E-04	1.31E-04	1.27E-04	1.27E-04	1.27E-04	8.47E-05	3.71E-05
990	560780.3	4192306.63	2.10E-04	1.60E-04	1.56E-04	1.56E-04	1.56E-04	1.16E-04	7.01E-05	1.50E-04	1.25E-04	1.21E-04	1.21E-04	1.21E-04	8.06E-05	3.53E-05
991	560776.69	4192324.12	1.97E-04	1.50E-04	1.47E-04	1.47E-04	1.47E-04	1.09E-04	6.59E-05	1.41E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	7.58E-05	3.32E-05
992	560773.08	4192341.6	1.83E-04	1.39E-04	1.36E-04	1.36E-04	1.36E-04	1.01E-04	6.11E-05	1.31E-04	1.09E-04	1.05E-04	1.06E-04	1.05E-04	7.03E-05	3.08E-05
993	560769.47	4192359.09	1.67E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	9.22E-05	5.59E-05	1.20E-04	9.94E-05	9.64E-05	9.67E-05	9.64E-05	6.43E-05	2.81E-05
994	560774.12	4192287.13	2.07E-04	1.58E-04	1.54E-04	1.55E-04	1.54E-04	1.14E-04	6.93E-05	1.48E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	7.97E-05	3.49E-05
995	560770.51	4192304.61	1.97E-04	1.50E-04	1.47E-04	1.47E-04	1.47E-04	1.09E-04	6.59E-05	1.41E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	7.58E-05	3.32E-05
996	560766.9	4192322.1	1.85E-04	1.41E-04	1.38E-04	1.38E-04	1.38E-04	1.02E-04	6.19E-05	1.32E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.12E-05	3.12E-05
997	560763.29	4192339.58	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.47E-05	5.74E-05	1.23E-04	1.02E-04	9.90E-05	9.93E-05	9.90E-05	6.60E-05	2.89E-05
998	560759.68	4192357.06	1.57E-04	1.20E-04	1.17E-04	1.17E-04	1.17E-04	8.66E-05	5.25E-05	1.12E-04	9.34E-05	9.06E-05	9.08E-05	9.06E-05	6.04E-05	2.64E-05
999	560764.33	4192285.1	1.95E-04	1.49E-04	1.45E-04	1.46E-04	1.45E-04	1.08E-04	6.53E-05	1.40E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	7.51E-05	3.29E-05
1000	560760.72	4192302.59	1.86E-04	1.42E-04	1.38E-04	1.38E-04	1.38E-04	1.02E-04	6.21E-05	1.33E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.14E-05	3.13E-05
1001	560757.11	4192320.07	1.74E-04	1.33E-04	1.30E-04	1.30E-04	1.30E-04	9.62E-05	5.83E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.70E-05	2.93E-05
1002	560753.5	4192337.56	1.62E-04	1.23E-04	1.20E-04	1.21E-04	1.20E-04	8.91E-05	5.40E-05	1.16E-04	9.61E-05	9.32E-05	9.34E-05	9.32E-05	6.21E-05	2.72E-05
1003	560749.88	4192355.04	1.48E-04	1.13E-04	1.10E-04	1.10E-04	1.10E-04	8.15E-05	4.94E-05	1.06E-04	8.79E-05	8.52E-05	8.55E-05	8.52E-05	5.68E-05	2.49E-05
1004	560756.34	4192274.34	1.88E-04	1.44E-04	1.40E-04	1.41E-04	1.40E-04	1.04E-04	6.30E-05	1.35E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	7.24E-05	3.17E-05

1005	560752.73	4192291.82	1.80E-04	1.37E-04	1.34E-04	1.34E-04	1.34E-04	9.93E-05	6.02E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.92E-05	3.03E-05
1006	560749.12	4192309.31	1.70E-04	1.30E-04	1.26E-04	1.27E-04	1.26E-04	9.37E-05	5.68E-05	1.22E-04	1.01E-04	9.80E-05	9.83E-05	9.80E-05	6.54E-05	2.86E-05
1007	560745.51	4192326.79	1.58E-04	1.21E-04	1.18E-04	1.18E-04	1.18E-04	8.74E-05	5.30E-05	1.13E-04	9.42E-05	9.14E-05	9.17E-05	9.14E-05	6.09E-05	2.67E-05
1008	560741.9	4192344.28	1.46E-04	1.11E-04	1.09E-04	1.09E-04	1.09E-04	8.05E-05	4.88E-05	1.04E-04	8.68E-05	8.42E-05	8.44E-05	8.42E-05	5.61E-05	2.46E-05
1009	560746.55	4192272.32	1.78E-04	1.36E-04	1.33E-04	1.33E-04	1.33E-04	9.83E-05	5.96E-05	1.27E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.85E-05	3.00E-05
1010	560742.94	4192289.8	1.70E-04	1.30E-04	1.27E-04	1.27E-04	1.27E-04	9.38E-05	5.69E-05	1.22E-04	1.01E-04	9.81E-05	9.84E-05	9.81E-05	6.54E-05	2.86E-05
1011	560739.33	4192307.28	1.60E-04	1.23E-04	1.19E-04	1.20E-04	1.19E-04	8.85E-05	5.37E-05	1.15E-04	9.55E-05	9.26E-05	9.28E-05	9.26E-05	6.17E-05	2.70E-05
1012	560735.71	4192324.77	1.50E-04	1.14E-04	1.11E-04	1.12E-04	1.11E-04	8.25E-05	5.00E-05	1.07E-04	8.90E-05	8.63E-05	8.66E-05	8.63E-05	5.75E-05	2.52E-05
1013	560732.1	4192342.25	1.38E-04	1.05E-04	1.03E-04	1.03E-04	1.03E-04	7.60E-05	4.61E-05	9.85E-05	8.19E-05	7.95E-05	7.97E-05	7.95E-05	5.30E-05	2.32E-05
1014	560736.75	4192270.29	1.69E-04	1.29E-04	1.25E-04	1.26E-04	1.25E-04	9.30E-05	5.64E-05	1.21E-04	1.00E-04	9.73E-05	9.76E-05	9.73E-05	6.49E-05	2.84E-05
1015	560733.14	4192287.78	1.61E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	8.88E-05	5.38E-05	1.15E-04	9.57E-05	9.28E-05	9.31E-05	9.28E-05	6.19E-05	2.71E-05
1016	560729.53	4192305.26	1.52E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.37E-05	5.08E-05	1.09E-04	9.03E-05	8.76E-05	8.78E-05	8.76E-05	5.84E-05	2.56E-05
1017	560725.92	4192322.75	1.41E-04	1.08E-04	1.05E-04	1.06E-04	1.05E-04	7.81E-05	4.73E-05	1.01E-04	8.41E-05	8.16E-05	8.18E-05	8.16E-05	5.44E-05	2.38E-05
1018	560722.31	4192340.23	1.30E-04	9.95E-05	9.69E-05	9.72E-05	9.69E-05	7.19E-05	4.36E-05	9.32E-05	7.75E-05	7.52E-05	7.54E-05	7.52E-05	5.01E-05	2.19E-05
1019	560726.96	4192268.27	1.60E-04	1.22E-04	1.19E-04	1.19E-04	1.19E-04	8.82E-05	5.35E-05	1.14E-04	9.51E-05	9.22E-05	9.25E-05	9.22E-05	6.15E-05	2.69E-05
1020	560723.35	4192285.76	1.52E-04	1.16E-04	1.13E-04	1.14E-04	1.13E-04	8.41E-05	5.10E-05	1.09E-04	9.07E-05	8.80E-05	8.82E-05	8.80E-05	5.86E-05	2.57E-05
1021	560719.74	4192303.24	1.44E-04	1.10E-04	1.07E-04	1.07E-04	1.07E-04	7.93E-05	4.81E-05	1.03E-04	8.55E-05	8.29E-05	8.32E-05	8.29E-05	5.53E-05	2.42E-05
1022	560716.13	4192320.72	1.34E-04	1.02E-04	9.97E-05	1.00E-04	9.97E-05	7.39E-05	4.48E-05	9.59E-05	7.97E-05	7.73E-05	7.75E-05	7.73E-05	5.16E-05	2.26E-05
1023	560712.52	4192338.21	1.23E-04	9.42E-05	9.18E-05	9.21E-05	9.18E-05	6.81E-05	4.13E-05	8.83E-05	7.34E-05	7.12E-05	7.14E-05	7.12E-05	4.75E-05	2.08E-05
1024	560717.17	4192266.25	1.52E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	8.37E-05	5.08E-05	1.09E-04	9.03E-05	8.75E-05	8.78E-05	8.75E-05	5.84E-05	2.56E-05
1025	560713.56	4192283.73	1.45E-04	1.10E-04	1.08E-04	1.08E-04	1.08E-04	7.98E-05	4.84E-05	1.03E-04	8.61E-05	8.35E-05	8.37E-05	8.35E-05	5.57E-05	2.44E-05
1026	560709.95	4192301.22	1.36E-04	1.04E-04	1.01E-04	1.02E-04	1.01E-04	7.53E-05	4.56E-05	9.76E-05	8.11E-05	7.87E-05	7.89E-05	7.87E-05	5.25E-05	2.30E-05
1027	560706.33	4192318.7	1.27E-04	9.70E-05	9.46E-05	9.48E-05	9.46E-05	7.01E-05	4.25E-05	9.09E-05	7.56E-05	7.33E-05	7.35E-05	7.33E-05	4.89E-05	2.14E-05
1028	560702.72	4192336.19	1.17E-04	8.94E-05	8.71E-05	8.74E-05	8.71E-05	6.46E-05	3.92E-05	8.38E-05	6.97E-05	6.76E-05	6.78E-05	6.76E-05	4.51E-05	1.97E-05
1029	560873.71	4192396.88	3.65E-04	2.78E-04	2.71E-04	2.72E-04	2.71E-04	2.01E-04	1.22E-04	2.61E-04	2.17E-04	2.10E-04	2.11E-04	2.10E-04	1.40E-04	6.14E-05
1030	560863.95	4192394.71	3.30E-04	2.52E-04	2.46E-04	2.46E-04	2.46E-04	1.82E-04	1.10E-04	2.36E-04	1.96E-04	1.90E-04	1.91E-04	1.90E-04	1.27E-04	5.56E-05
1031	560860.04	4192412.26	2.92E-04	2.23E-04	2.18E-04	2.18E-04	2.18E-04	1.61E-04	9.78E-05	2.09E-04	1.74E-04	1.69E-04	1.69E-04	1.69E-04	1.12E-04	4.92E-05
1032	560856.12	4192429.81	2.54E-04	1.94E-04	1.89E-04	1.90E-04	1.89E-04	1.40E-04	8.50E-05	1.82E-04	1.51E-04	1.47E-04	1.47E-04	1.47E-04	9.78E-05	4.28E-05
1033	560854.19	4192392.53	3.00E-04	2.29E-04	2.24E-04	2.24E-04	2.24E-04	1.66E-04	1.00E-04	2.15E-04	1.79E-04	1.73E-04	1.74E-04	1.73E-04	1.16E-04	5.06E-05
1034	560850.28	4192410.08	2.66E-04	2.03E-04	1.98E-04	1.98E-04	1.98E-04	1.47E-04	8.89E-05	1.90E-04	1.58E-04	1.53E-04	1.54E-04	1.53E-04	1.02E-04	4.48E-05
1035	560846.36	4192427.63	2.31E-04	1.76E-04	1.72E-04	1.72E-04	1.72E-04	1.27E-04	7.72E-05	1.65E-04	1.37E-04	1.33E-04	1.34E-04	1.33E-04	8.88E-05	3.89E-05
1036	560844.43	4192390.35	2.75E-04	2.10E-04	2.05E-04	2.05E-04	2.05E-04	1.52E-04	9.20E-05	1.97E-04	1.64E-04	1.59E-04	1.59E-04	1.59E-04	1.06E-04	4.63E-05
1037	560842.48	4192399.13	2.59E-04	1.98E-04	1.93E-04	1.93E-04	1.93E-04	1.43E-04	8.66E-05	1.85E-04	1.54E-04	1.49E-04	1.50E-04	1.49E-04	9.96E-05	4.36E-05
1038	560838.56	4192416.68	2.27E-04	1.74E-04	1.69E-04	1.70E-04	1.69E-04	1.25E-04	7.61E-05	1.63E-04	1.35E-04	1.31E-04	1.32E-04	1.31E-04	8.75E-05	3.83E-05
1039	560834.65	4192434.23	1.97E-04	1.50E-04	1.46E-04	1.47E-04	1.46E-04	1.08E-04	6.57E-05	1.41E-04	1.17E-04	1.13E-04	1.14E-04	1.13E-04	7.56E-05	3.31E-05
1040	560834.67	4192388.18	2.54E-04	1.94E-04	1.89E-04	1.89E-04	1.89E-04	1.40E-04	8.48E-05	1.81E-04	1.51E-04	1.46E-04	1.47E-04	1.46E-04	9.76E-05	4.27E-05
1041	560830.76	4192405.73	2.24E-04	1.71E-04	1.67E-04	1.67E-04	1.67E-04	1.24E-04	7.50E-05	1.60E-04	1.33E-04	1.29E-04	1.30E-04	1.29E-04	8.63E-05	3.78E-05
1042	560826.84	4192423.28	1.95E-04	1.49E-04	1.45E-04	1.46E-04	1.45E-04	1.08E-04	6.54E-05	1.40E-04	1.16E-04	1.13E-04	1.13E-04	1.13E-04	7.52E-05	3.29E-05
1043	560824.91	4192386	2.34E-04	1.79E-04	1.74E-04	1.75E-04	1.74E-04	1.29E-04	7.83E-05	1.67E-04	1.39E-04	1.35E-04	1.35E-04	1.35E-04	9.00E-05	3.94E-05
1044	560821	4192403.55	2.07E-04	1.58E-04	1.54E-04	1.55E-04	1.54E-04	1.14E-04	6.93E-05	1.48E-04	1.23E-04	1.20E-04	1.20E-04	1.20E-04	7.97E-05	3.49E-05
1045	560817.08	4192421.1	1.80E-04	1.38E-04	1.34E-04	1.35E-04	1.34E-04	9.95E-05	6.03E-05	1.29E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	6.94E-05	3.04E-05
1046	560815.13	4192429.88	1.67E-04	1.28E-04	1.25E-04	1.25E-04	1.25E-04	9.24E-05	5.60E-05	1.20E-04	9.96E-05	9.66E-05	9.69E-05	9.66E-05	6.44E-05	2.82E-05
1047	560815.15	4192383.82	2.17E-04	1.65E-04	1.61E-04	1.62E-04	1.61E-04	1.19E-04	7.24E-05	1.55E-04	1.29E-04	1.25E-04	1.25E-04	1.25E-04	8.33E-05	3.65E-05
1048	560811.24	4192401.38	1.92E-04	1.46E-04	1.43E-04	1.43E-04	1.43E-04	1.06E-04	6.42E-05	1.37E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	7.38E-05	3.23E-05
1049	560807.32	4192418.93	1.67E-04	1.28E-04	1.24E-04	1.25E-04	1.24E-04	9.23E-05	5.59E-05	1.20E-04	9.94E-05	9.65E-05	9.67E-05	9.65E-05	6.43E-05	2.82E-05
1050	560805.39	4192381.65	2.01E-04	1.54E-04	1.50E-04	1.50E-04	1.50E-04	1.11E-04	6.73E-05	1.44E-04	1.20E-04	1.16E-04	1.16E-04	1.16E-04	7.74E-05	3.39E-05
1051	560801.48	4192399.2	1.78E-04	1.36E-04	1.33E-04	1.33E-04	1.33E-04	9.84E-05	5.96E-05	1.28E-04	1.06E-04	1.03E-04	1.03E-04	1.03E-04	6.86E-05	3.00E-05
1052	560797.56	4192416.75	1.56E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.58E-05	5.20E-05	1.11E-04	9.25E-05	8.98E-05	9.00E-05	8.98E-05	5.98E-05	2.62E-05

1053	560795.63	4192379.47	1.87E-04	1.43E-04	1.39E-04	1.40E-04	1.39E-04	1.03E-04	6.27E-05	1.34E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	7.21E-05	3.16E-05
1054	560791.72	4192397.02	1.66E-04	1.27E-04	1.24E-04	1.24E-04	1.24E-04	9.17E-05	5.56E-05	1.19E-04	9.89E-05	9.59E-05	9.62E-05	9.59E-05	6.39E-05	2.80E-05
1055	560787.8	4192414.57	1.45E-04	1.11E-04	1.08E-04	1.08E-04	1.08E-04	8.01E-05	4.86E-05	1.04E-04	8.64E-05	8.38E-05	8.40E-05	8.38E-05	5.59E-05	2.45E-05
1056	560785.87	4192377.29	1.75E-04	1.34E-04	1.30E-04	1.31E-04	1.30E-04	9.66E-05	5.85E-05	1.25E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	6.73E-05	2.95E-05
1057	560781.96	4192394.85	1.55E-04	1.19E-04	1.16E-04	1.16E-04	1.16E-04	8.57E-05	5.20E-05	1.11E-04	9.24E-05	8.97E-05	8.99E-05	8.97E-05	5.98E-05	2.62E-05
1058	560778.04	4192412.4	1.36E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	7.50E-05	4.55E-05	9.73E-05	8.09E-05	7.85E-05	7.87E-05	7.85E-05	5.23E-05	2.29E-05
1059	560776.11	4192375.12	1.64E-04	1.25E-04	1.22E-04	1.22E-04	1.22E-04	9.04E-05	5.48E-05	1.17E-04	9.75E-05	9.46E-05	9.48E-05	9.46E-05	6.31E-05	2.76E-05
1060	560774.15	4192383.89	1.55E-04	1.18E-04	1.15E-04	1.15E-04	1.15E-04	8.54E-05	5.18E-05	1.11E-04	9.21E-05	8.93E-05	8.96E-05	8.93E-05	5.95E-05	2.61E-05
1061	560770.24	4192401.44	1.37E-04	1.04E-04	1.02E-04	1.02E-04	1.02E-04	7.54E-05	4.57E-05	9.77E-05	8.12E-05	7.88E-05	7.90E-05	7.88E-05	5.25E-05	2.30E-05
1062	560766.32	4192419	1.19E-04	9.08E-05	8.85E-05	8.88E-05	8.85E-05	6.56E-05	3.98E-05	8.51E-05	7.08E-05	6.86E-05	6.88E-05	6.86E-05	4.58E-05	2.00E-05
1063	560766.35	4192372.94	1.54E-04	1.17E-04	1.14E-04	1.15E-04	1.14E-04	8.49E-05	5.15E-05	1.10E-04	9.15E-05	8.88E-05	8.90E-05	8.88E-05	5.92E-05	2.59E-05
1064	560762.44	4192390.49	1.37E-04	1.04E-04	1.02E-04	1.02E-04	1.02E-04	7.55E-05	4.58E-05	9.79E-05	8.14E-05	7.90E-05	7.92E-05	7.90E-05	5.26E-05	2.30E-05
1065	560758.52	4192408.04	1.20E-04	9.17E-05	8.94E-05	8.96E-05	8.94E-05	6.63E-05	4.02E-05	8.59E-05	7.15E-05	6.93E-05	6.95E-05	6.93E-05	4.62E-05	2.02E-05
1066	560756.59	4192370.76	1.45E-04	1.10E-04	1.08E-04	1.08E-04	1.08E-04	7.99E-05	4.84E-05	1.04E-04	8.61E-05	8.35E-05	8.37E-05	8.35E-05	5.57E-05	2.44E-05
1067	560752.68	4192388.32	1.29E-04	9.84E-05	9.59E-05	9.61E-05	9.59E-05	7.11E-05	4.31E-05	9.22E-05	7.66E-05	7.43E-05	7.46E-05	7.43E-05	4.96E-05	2.17E-05
1068	560748.76	4192405.87	1.13E-04	8.65E-05	8.43E-05	8.45E-05	8.43E-05	6.25E-05	3.79E-05	8.10E-05	6.74E-05	6.54E-05	6.56E-05	6.54E-05	4.36E-05	1.91E-05
1069	560746.8	4192414.64	1.06E-04	8.08E-05	7.87E-05	7.89E-05	7.87E-05	5.84E-05	3.54E-05	7.57E-05	6.29E-05	6.10E-05	6.12E-05	6.10E-05	4.07E-05	1.78E-05
1070	560746.83	4192368.59	1.36E-04	1.04E-04	1.01E-04	1.02E-04	1.01E-04	7.53E-05	4.56E-05	9.76E-05	8.11E-05	7.87E-05	7.89E-05	7.87E-05	5.25E-05	2.30E-05
1071	560742.92	4192386.14	1.22E-04	9.28E-05	9.05E-05	9.07E-05	9.05E-05	6.71E-05	4.07E-05	8.70E-05	7.23E-05	7.02E-05	7.03E-05	7.02E-05	4.68E-05	2.05E-05
1072	560739	4192403.69	1.07E-04	8.17E-05	7.97E-05	7.99E-05	7.97E-05	5.91E-05	3.58E-05	7.66E-05	6.37E-05	6.18E-05	6.20E-05	6.18E-05	4.12E-05	1.80E-05
1073	560739.03	4192357.63	1.36E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	7.49E-05	4.54E-05	9.71E-05	8.07E-05	7.83E-05	7.85E-05	7.83E-05	5.22E-05	2.29E-05
1074	560735.11	4192375.19	1.22E-04	9.30E-05	9.07E-05	9.09E-05	9.07E-05	6.72E-05	4.08E-05	8.72E-05	7.25E-05	7.03E-05	7.05E-05	7.03E-05	4.69E-05	2.05E-05
1075	560731.2	4192392.74	1.08E-04	8.25E-05	8.04E-05	8.07E-05	8.04E-05	5.96E-05	3.62E-05	7.73E-05	6.43E-05	6.24E-05	6.25E-05	6.24E-05	4.16E-05	1.82E-05
1076	560727.28	4192410.29	9.49E-05	7.24E-05	7.06E-05	7.08E-05	7.06E-05	5.23E-05	3.17E-05	6.79E-05	5.64E-05	5.47E-05	5.49E-05	5.47E-05	3.65E-05	1.60E-05
1077	560729.27	4192355.46	1.28E-04	9.79E-05	9.55E-05	9.57E-05	9.55E-05	7.08E-05	4.29E-05	9.18E-05	7.63E-05	7.40E-05	7.42E-05	7.40E-05	4.94E-05	2.16E-05
1078	560725.35	4192373.01	1.15E-04	8.80E-05	8.58E-05	8.60E-05	8.58E-05	6.36E-05	3.86E-05	8.25E-05	6.86E-05	6.65E-05	6.67E-05	6.65E-05	4.44E-05	1.94E-05
1079	560721.44	4192390.56	1.02E-04	7.82E-05	7.62E-05	7.64E-05	7.62E-05	5.65E-05	3.43E-05	7.33E-05	6.09E-05	5.91E-05	5.93E-05	5.91E-05	3.94E-05	1.73E-05
1080	560717.52	4192408.11	9.01E-05	6.88E-05	6.70E-05	6.72E-05	6.70E-05	4.97E-05	3.01E-05	6.44E-05	5.36E-05	5.20E-05	5.21E-05	5.20E-05	3.47E-05	1.52E-05
1081	560719.51	4192353.28	1.22E-04	9.28E-05	9.04E-05	9.07E-05	9.04E-05	6.71E-05	4.06E-05	8.69E-05	7.23E-05	7.01E-05	7.03E-05	7.01E-05	4.67E-05	2.05E-05
1082	560715.59	4192370.83	1.09E-04	8.35E-05	8.14E-05	8.16E-05	8.14E-05	6.03E-05	3.66E-05	7.82E-05	6.50E-05	6.31E-05	6.33E-05	6.31E-05	4.21E-05	1.84E-05
1083	560711.68	4192388.38	9.73E-05	7.43E-05	7.24E-05	7.26E-05	7.24E-05	5.37E-05	3.25E-05	6.96E-05	5.79E-05	5.61E-05	5.63E-05	5.61E-05	3.74E-05	1.64E-05
1084	560707.76	4192405.94	8.57E-05	6.54E-05	6.37E-05	6.39E-05	6.37E-05	4.73E-05	2.87E-05	6.13E-05	5.10E-05	4.94E-05	4.96E-05	4.94E-05	3.30E-05	1.44E-05
1085	560709.75	4192351.1	1.15E-04	8.80E-05	8.58E-05	8.60E-05	8.58E-05	6.36E-05	3.86E-05	8.24E-05	6.86E-05	6.65E-05	6.67E-05	6.65E-05	4.43E-05	1.94E-05
1086	560707.79	4192359.88	1.10E-04	8.36E-05	8.15E-05	8.17E-05	8.15E-05	6.04E-05	3.66E-05	7.84E-05	6.52E-05	6.32E-05	6.34E-05	6.32E-05	4.21E-05	1.84E-05
1087	560703.87	4192377.43	9.81E-05	7.49E-05	7.30E-05	7.32E-05	7.30E-05	5.41E-05	3.28E-05	7.02E-05	5.84E-05	5.66E-05	5.68E-05	5.66E-05	3.77E-05	1.65E-05
1088	560699.96	4192394.98	8.70E-05	6.64E-05	6.47E-05	6.49E-05	6.47E-05	4.80E-05	2.91E-05	6.22E-05	5.17E-05	5.02E-05	5.03E-05	5.02E-05	3.35E-05	1.46E-05
1089	560699.99	4192348.93	1.09E-04	8.36E-05	8.15E-05	8.17E-05	8.15E-05	6.04E-05	3.66E-05	7.83E-05	6.51E-05	6.32E-05	6.33E-05	6.32E-05	4.21E-05	1.84E-05
1090	560696.07	4192366.48	9.87E-05	7.53E-05	7.34E-05	7.36E-05	7.34E-05	5.45E-05	3.30E-05	7.06E-05	5.87E-05	5.69E-05	5.71E-05	5.69E-05	3.80E-05	1.66E-05
1091	560692.16	4192384.03	8.81E-05	6.72E-05	6.55E-05	6.57E-05	6.55E-05	4.86E-05	2.95E-05	6.30E-05	5.24E-05	5.08E-05	5.09E-05	5.08E-05	3.39E-05	1.48E-05
1092	560688.24	4192401.58	7.78E-05	5.94E-05	5.79E-05	5.81E-05	5.79E-05	4.29E-05	2.60E-05	5.57E-05	4.63E-05	4.49E-05	4.50E-05	4.49E-05	2.99E-05	1.31E-05
1093	560852.07	4192453.7	2.09E-04	1.59E-04	1.55E-04	1.56E-04	1.55E-04	1.15E-04	6.98E-05	1.49E-04	1.24E-04	1.20E-04	1.21E-04	1.20E-04	8.02E-05	3.51E-05
1094	560842.16	4192452.6	1.88E-04	1.43E-04	1.40E-04	1.40E-04	1.40E-04	1.04E-04	6.28E-05	1.34E-04	1.12E-04	1.08E-04	1.09E-04	1.08E-04	7.22E-05	3.16E-05
1095	560840.53	4192469.82	1.65E-04	1.26E-04	1.22E-04	1.23E-04	1.22E-04	9.08E-05	5.51E-05	1.18E-04	9.79E-05	9.50E-05	9.53E-05	9.50E-05	6.33E-05	2.77E-05
1096	560832.25	4192451.5	1.71E-04	1.31E-04	1.27E-04	1.28E-04	1.27E-04	9.44E-05	5.72E-05	1.22E-04	1.02E-04	9.87E-05	9.89E-05	9.87E-05	6.58E-05	2.88E-05
1097	560830.55	4192469.27	1.49E-04	1.14E-04	1.11E-04	1.11E-04	1.11E-04	8.24E-05	4.99E-05	1.07E-04	8.88E-05	8.61E-05	8.64E-05	8.61E-05	5.74E-05	2.51E-05
1098	560822.03	4192452.7	1.53E-04	1.17E-04	1.14E-04	1.14E-04	1.14E-04	8.45E-05	5.12E-05	1.10E-04	9.11E-05	8.84E-05	8.86E-05	8.84E-05	5.89E-05	2.58E-05
1099	560823.93	4192438.94	1.72E-04	1.31E-04	1.28E-04	1.28E-04	1.28E-04	9.47E-05	5.74E-05	1.23E-04	1.02E-04	9.90E-05	9.92E-05	9.90E-05	6.60E-05	2.89E-05
1100	560820.56	4192468.71	1.35E-04	1.03E-04	1.01E-04	1.01E-04	1.01E-04	7.47E-05	4.53E-05	9.68E-05	8.05E-05	7.81E-05	7.83E-05	7.81E-05	5.20E-05	2.28E-05

1101	560812.1	4192451.74	1.40E-04	1.07E-04	1.04E-04	1.04E-04	1.04E-04	7.73E-05	4.68E-05	1.00E-04	8.33E-05	8.08E-05	8.10E-05	8.08E-05	5.39E-05	2.36E-05
1102	560810.58	4192468.15	1.23E-04	9.40E-05	9.16E-05	9.19E-05	9.16E-05	6.80E-05	4.12E-05	8.81E-05	7.33E-05	7.11E-05	7.13E-05	7.11E-05	4.74E-05	2.07E-05
1103	560802.17	4192450.77	1.29E-04	9.82E-05	9.58E-05	9.60E-05	9.58E-05	7.10E-05	4.30E-05	9.21E-05	7.66E-05	7.43E-05	7.45E-05	7.43E-05	4.95E-05	2.17E-05
1104	560804.3	4192435.39	1.46E-04	1.12E-04	1.09E-04	1.09E-04	1.09E-04	8.06E-05	4.89E-05	1.04E-04	8.69E-05	8.43E-05	8.45E-05	8.43E-05	5.62E-05	2.46E-05
1105	560800.6	4192467.59	1.13E-04	8.60E-05	8.39E-05	8.41E-05	8.39E-05	6.22E-05	3.77E-05	8.06E-05	6.70E-05	6.50E-05	6.52E-05	6.50E-05	4.34E-05	1.90E-05
1106	560792.24	4192449.81	1.19E-04	9.07E-05	8.84E-05	8.86E-05	8.84E-05	6.55E-05	3.97E-05	8.50E-05	7.07E-05	6.85E-05	6.87E-05	6.85E-05	4.57E-05	2.00E-05
1107	560794.48	4192433.62	1.36E-04	1.04E-04	1.01E-04	1.01E-04	1.01E-04	7.48E-05	4.54E-05	9.70E-05	8.07E-05	7.83E-05	7.85E-05	7.83E-05	5.22E-05	2.28E-05
1108	560782.31	4192448.85	1.10E-04	8.40E-05	8.19E-05	8.21E-05	8.19E-05	6.07E-05	3.68E-05	7.87E-05	6.55E-05	6.35E-05	6.37E-05	6.35E-05	4.23E-05	1.85E-05
1109	560784.67	4192431.85	1.26E-04	9.65E-05	9.40E-05	9.43E-05	9.40E-05	6.97E-05	4.23E-05	9.04E-05	7.52E-05	7.29E-05	7.31E-05	7.29E-05	4.86E-05	2.13E-05
1110	560772.39	4192447.89	1.02E-04	7.81E-05	7.62E-05	7.64E-05	7.62E-05	5.65E-05	3.42E-05	7.32E-05	6.09E-05	5.91E-05	5.92E-05	5.91E-05	3.94E-05	1.72E-05
1111	560773.62	4192438.98	1.10E-04	8.40E-05	8.19E-05	8.21E-05	8.19E-05	6.07E-05	3.68E-05	7.87E-05	6.55E-05	6.35E-05	6.37E-05	6.35E-05	4.23E-05	1.85E-05
1112	560774.85	4192430.08	1.18E-04	9.02E-05	8.79E-05	8.82E-05	8.79E-05	6.52E-05	3.95E-05	8.45E-05	7.03E-05	6.82E-05	6.84E-05	6.82E-05	4.55E-05	1.99E-05
1113	560762.2	4192448.78	9.41E-05	7.18E-05	7.00E-05	7.02E-05	7.00E-05	5.19E-05	3.15E-05	6.73E-05	5.59E-05	5.43E-05	5.44E-05	5.43E-05	3.62E-05	1.58E-05
1114	560764.26	4192433.89	1.06E-04	8.09E-05	7.89E-05	7.91E-05	7.89E-05	5.85E-05	3.55E-05	7.58E-05	6.31E-05	6.12E-05	6.13E-05	6.12E-05	4.08E-05	1.79E-05
1115	560752.26	4192447.9	8.79E-05	6.71E-05	6.54E-05	6.56E-05	6.54E-05	4.85E-05	2.94E-05	6.29E-05	5.23E-05	5.07E-05	5.09E-05	5.07E-05	3.38E-05	1.48E-05
1116	560754.41	4192432.36	9.95E-05	7.60E-05	7.40E-05	7.42E-05	7.40E-05	5.49E-05	3.33E-05	7.12E-05	5.92E-05	5.74E-05	5.76E-05	5.74E-05	3.83E-05	1.68E-05
1117	560742.32	4192447.02	8.24E-05	6.29E-05	6.13E-05	6.15E-05	6.13E-05	4.55E-05	2.76E-05	5.90E-05	4.90E-05	4.76E-05	4.77E-05	4.76E-05	3.17E-05	1.39E-05
1118	560744.56	4192430.83	9.36E-05	7.15E-05	6.97E-05	6.99E-05	6.97E-05	5.17E-05	3.13E-05	6.70E-05	5.57E-05	5.40E-05	5.42E-05	5.40E-05	3.60E-05	1.58E-05
1119	560732.38	4192446.14	7.75E-05	5.91E-05	5.76E-05	5.78E-05	5.76E-05	4.27E-05	2.59E-05	5.54E-05	4.61E-05	4.47E-05	4.48E-05	4.47E-05	2.98E-05	1.30E-05
1120	560734.71	4192429.3	8.83E-05	6.74E-05	6.57E-05	6.59E-05	6.57E-05	4.87E-05	2.95E-05	6.31E-05	5.25E-05	5.09E-05	5.11E-05	5.09E-05	3.40E-05	1.49E-05
1121	560722.44	4192445.26	7.30E-05	5.57E-05	5.43E-05	5.44E-05	5.43E-05	4.03E-05	2.44E-05	5.22E-05	4.34E-05	4.21E-05	4.22E-05	4.21E-05	2.81E-05	1.23E-05
1122	560724.86	4192427.77	8.34E-05	6.37E-05	6.21E-05	6.22E-05	6.21E-05	4.60E-05	2.79E-05	5.97E-05	4.96E-05	4.81E-05	4.83E-05	4.81E-05	3.21E-05	1.41E-05
1123	560712.29	4192445.89	6.81E-05	5.19E-05	5.06E-05	5.08E-05	5.06E-05	3.75E-05	2.28E-05	4.87E-05	4.05E-05	3.93E-05	3.94E-05	3.93E-05	2.62E-05	1.15E-05
1124	560714.38	4192430.78	7.63E-05	5.83E-05	5.68E-05	5.70E-05	5.68E-05	4.21E-05	2.55E-05	5.46E-05	4.54E-05	4.40E-05	4.42E-05	4.40E-05	2.94E-05	1.29E-05
1125	560702.35	4192445.06	6.43E-05	4.91E-05	4.79E-05	4.80E-05	4.79E-05	3.55E-05	2.15E-05	4.60E-05	3.83E-05	3.71E-05	3.72E-05	3.71E-05	2.47E-05	1.08E-05
1126	560704.51	4192429.41	7.23E-05	5.52E-05	5.38E-05	5.40E-05	5.38E-05	3.99E-05	2.42E-05	5.17E-05	4.30E-05	4.17E-05	4.19E-05	4.17E-05	2.78E-05	1.22E-05
1127	560692.4	4192444.23	6.09E-05	4.65E-05	4.53E-05	4.55E-05	4.53E-05	3.36E-05	2.04E-05	4.36E-05	3.62E-05	3.51E-05	3.52E-05	3.51E-05	2.34E-05	1.03E-05
1128	560694.64	4192428.04	6.87E-05	5.24E-05	5.11E-05	5.12E-05	5.11E-05	3.79E-05	2.30E-05	4.91E-05	4.08E-05	3.96E-05	3.97E-05	3.96E-05	2.64E-05	1.16E-05
1129	560696.88	4192411.85	7.72E-05	5.89E-05	5.74E-05	5.76E-05	5.74E-05	4.26E-05	2.58E-05	5.52E-05	4.59E-05	4.45E-05	4.46E-05	4.45E-05	2.97E-05	1.30E-05
1130	560682.45	4192443.41	5.78E-05	4.41E-05	4.30E-05	4.31E-05	4.30E-05	3.19E-05	1.93E-05	4.13E-05	3.44E-05	3.33E-05	3.34E-05	3.33E-05	2.22E-05	9.73E-06
1131	560684.77	4192426.68	6.53E-05	4.98E-05	4.86E-05	4.87E-05	4.86E-05	3.60E-05	2.18E-05	4.67E-05	3.88E-05	3.77E-05	3.78E-05	3.77E-05	2.51E-05	1.10E-05
1132	561570.52	4192469.82	7.64E-05	5.83E-05	5.68E-05	5.70E-05	5.68E-05	4.21E-05	2.56E-05	5.46E-05	4.54E-05	4.41E-05	4.42E-05	4.41E-05	2.94E-05	1.29E-05
1133	561116.53	4192515.88	1.46E-02	1.11E-02	1.08E-02	1.09E-02	1.08E-02	8.03E-03	4.87E-03	1.04E-02	8.66E-03	8.40E-03	8.42E-03	8.40E-03	5.60E-03	2.45E-03
1134	561122.24	4192517.22	1.45E-02	1.10E-02	1.08E-02	1.08E-02	1.08E-02	7.98E-03	4.84E-03	1.03E-02	8.61E-03	8.35E-03	8.37E-03	8.35E-03	5.57E-03	2.44E-03
1135	561127.38	4192518.55	1.43E-02	1.09E-02	1.06E-02	1.06E-02	1.06E-02	7.86E-03	4.77E-03	1.02E-02	8.48E-03	8.22E-03	8.24E-03	8.22E-03	5.48E-03	2.40E-03
1136	561132.34	4192519.69	1.40E-02	1.06E-02	1.04E-02	1.04E-02	1.04E-02	7.70E-03	4.67E-03	9.98E-03	8.30E-03	8.05E-03	8.07E-03	8.05E-03	5.37E-03	2.35E-03
1137	561136.53	4192520.84	1.36E-02	1.04E-02	1.01E-02	1.02E-02	1.01E-02	7.51E-03	4.55E-03	9.74E-03	8.10E-03	7.86E-03	7.88E-03	7.86E-03	5.24E-03	2.29E-03
1138	561141.67	4192521.79	1.31E-02	9.99E-03	9.74E-03	9.76E-03	9.74E-03	7.22E-03	4.38E-03	9.36E-03	7.78E-03	7.55E-03	7.57E-03	7.55E-03	5.03E-03	2.20E-03
1139	561146.43	4192522.74	1.24E-02	9.48E-03	9.24E-03	9.26E-03	9.24E-03	6.85E-03	4.15E-03	8.88E-03	7.38E-03	7.16E-03	7.18E-03	7.16E-03	4.78E-03	2.09E-03
1140	561149.48	4192523.69	1.18E-02	9.04E-03	8.81E-03	8.84E-03	8.81E-03	6.53E-03	3.96E-03	8.47E-03	7.04E-03	6.83E-03	6.85E-03	6.83E-03	4.56E-03	1.99E-03

	Max Yr	**1**	7.28E-02	5.21E-02
	Row	**32**	T4iRev	T4fRev
		Col	**4**	**5**
		Adjustment	**100%**	**72%**
	UTM X	UTM Y	Year 1	Year 1
1	561383.5	4192288	1.55E-03	1.11E-03
2	561389.4	4192263	1.49E-03	1.07E-03
3	561390.6	4192272	1.48E-03	1.06E-03
4	561391.9	4192281	1.46E-03	1.04E-03
5	561393.2	4192290	1.43E-03	1.02E-03
6	561396	4192243	1.41E-03	1.01E-03
7	561397.3	4192253	1.40E-03	1.00E-03
8	561398.7	4192263	1.39E-03	9.93E-04
9	561400	4192272	1.37E-03	9.82E-04
10	561401.4	4192282	1.35E-03	9.67E-04
11	561402.7	4192292	1.33E-03	9.51E-04
12	561404.4	4192237	1.31E-03	9.40E-04
13	561405.8	4192247	1.31E-03	9.37E-04
14	561407.1	4192256	1.30E-03	9.31E-04
15	561408.4	4192266	1.29E-03	9.22E-04
16	561409.7	4192276	1.27E-03	9.11E-04
17	561411.1	4192285	1.25E-03	8.97E-04
18	561412.4	4192295	1.23E-03	8.83E-04
19	561414.2	4192241	1.23E-03	8.77E-04
20	561415.5	4192250	1.22E-03	8.74E-04
21	561416.9	4192260	1.21E-03	8.67E-04
22	561418.2	4192269	1.20E-03	8.59E-04
23	561419.5	4192279	1.19E-03	8.48E-04
24	561420.8	4192288	1.17E-03	8.36E-04
25	561424	4192244	1.15E-03	8.23E-04
26	561425.3	4192253	1.14E-03	8.18E-04
27	561426.6	4192263	1.13E-03	8.12E-04
28	561356.3	4192418	2.01E-03	1.44E-03
29	561366	4192420	1.81E-03	1.29E-03
30	561375.8	4192422	1.64E-03	1.17E-03
31	561385.6	4192424	1.49E-03	1.06E-03
32	561405.1	4192428	1.25E-03	8.93E-04
33	561116	4192791	4.82E-03	3.44E-03
34	561414.9	4192431	1.15E-03	8.20E-04
35	561122.5	4192800	4.62E-03	3.31E-03
36	561424.6	4192433	1.05E-03	7.54E-04
37	561150.7	4192805	4.56E-03	3.26E-03
38	561140.9	4192806	4.52E-03	3.23E-03
39	561131.2	4192808	4.45E-03	3.18E-03
40	561121.5	4192809	4.37E-03	3.13E-03
41	561111.7	4192810	4.27E-03	3.06E-03
42	561432.3	4192444	9.88E-04	7.07E-04
43	561434.4	4192435	9.70E-04	6.94E-04
44	561166.7	4192812	4.36E-03	3.12E-03
45	561157	4192813	4.36E-03	3.12E-03
46	561147.4	4192815	4.33E-03	3.09E-03

47	561137.8	4192816	4.27E-03	3.06E-03
48	561128.1	4192817	4.20E-03	3.01E-03
49	561118.5	4192819	4.12E-03	2.95E-03
50	561422.8	4192533	1.08E-03	7.75E-04
51	561425	4192524	1.06E-03	7.58E-04
52	561442	4192447	9.11E-04	6.52E-04
53	561444.1	4192437	8.96E-04	6.41E-04
54	561182.4	4192819	4.13E-03	2.95E-03
55	561172.9	4192820	4.16E-03	2.97E-03
56	561163.3	4192822	4.16E-03	2.97E-03
57	561153.8	4192823	4.14E-03	2.96E-03
58	561144.2	4192824	4.10E-03	2.93E-03
59	561134.7	4192826	4.04E-03	2.89E-03
60	561125.1	4192827	3.97E-03	2.84E-03
61	561115.5	4192828	3.89E-03	2.78E-03
62	561432.6	4192535	1.01E-03	7.19E-04
63	561434.7	4192526	9.84E-04	7.03E-04
64	561451.8	4192449	8.44E-04	6.04E-04
65	561453.9	4192439	8.31E-04	5.94E-04
66	561216.9	4192823	3.69E-03	2.64E-03
67	561207.4	4192825	3.79E-03	2.71E-03
68	561197.9	4192826	3.87E-03	2.76E-03
69	561179	4192829	3.96E-03	2.83E-03
70	561169.5	4192830	3.97E-03	2.84E-03
71	561160	4192831	3.96E-03	2.83E-03
72	561150.5	4192833	3.93E-03	2.81E-03
73	561141.1	4192834	3.89E-03	2.78E-03
74	561131.6	4192835	3.83E-03	2.74E-03
75	561122.1	4192837	3.75E-03	2.68E-03
76	561112.6	4192838	3.67E-03	2.62E-03
77	561442.4	4192538	9.35E-04	6.69E-04
78	561444.5	4192528	9.14E-04	6.54E-04
79	561461.5	4192451	7.84E-04	5.61E-04
80	561463.7	4192441	7.73E-04	5.53E-04
81	561241.5	4192829	3.26E-03	2.33E-03
82	561232	4192830	3.38E-03	2.42E-03
83	561222.6	4192832	3.50E-03	2.50E-03
84	561213.2	4192833	3.59E-03	2.57E-03
85	561203.8	4192834	3.67E-03	2.62E-03
86	561185	4192837	3.77E-03	2.70E-03
87	561175.6	4192838	3.79E-03	2.71E-03
88	561166.2	4192840	3.79E-03	2.71E-03
89	561156.8	4192841	3.77E-03	2.70E-03
90	561147.4	4192842	3.74E-03	2.67E-03
91	561138	4192844	3.69E-03	2.64E-03
92	561128.6	4192845	3.62E-03	2.59E-03
93	561119.2	4192846	3.55E-03	2.54E-03
94	561109.7	4192848	3.47E-03	2.48E-03
95	561452.1	4192540	8.71E-04	6.23E-04
96	561454.2	4192530	8.51E-04	6.09E-04
97	561471.3	4192453	7.30E-04	5.22E-04
98	561473.4	4192443	7.20E-04	5.15E-04

99	561264.2	4192835	2.85E-03	2.04E-03
100	561254.4	4192837	2.99E-03	2.14E-03
101	561244.7	4192838	3.12E-03	2.23E-03
102	561235	4192839	3.24E-03	2.32E-03
103	561225.2	4192841	3.35E-03	2.39E-03
104	561215.5	4192842	3.44E-03	2.46E-03
105	561205.8	4192843	3.52E-03	2.51E-03
106	561196	4192845	3.57E-03	2.56E-03
107	561176.6	4192848	3.63E-03	2.60E-03
108	561166.8	4192849	3.63E-03	2.59E-03
109	561157.1	4192850	3.60E-03	2.58E-03
110	561147.4	4192852	3.57E-03	2.55E-03
111	561137.6	4192853	3.51E-03	2.51E-03
112	561127.9	4192855	3.45E-03	2.47E-03
113	561118.2	4192856	3.37E-03	2.41E-03
114	561461.9	4192542	8.12E-04	5.81E-04
115	561464	4192532	7.94E-04	5.68E-04
116	561476.8	4192475	7.02E-04	5.02E-04
117	561481.1	4192455	6.81E-04	4.87E-04
118	561483.2	4192446	6.71E-04	4.80E-04
119	561269.6	4192844	2.70E-03	1.93E-03
120	561260	4192845	2.83E-03	2.03E-03
121	561250.3	4192846	2.96E-03	2.12E-03
122	561240.7	4192848	3.07E-03	2.20E-03
123	561231	4192849	3.18E-03	2.27E-03
124	561221.4	4192851	3.27E-03	2.34E-03
125	561211.7	4192852	3.35E-03	2.39E-03
126	561202.1	4192853	3.40E-03	2.43E-03
127	561173.1	4192857	3.48E-03	2.49E-03
128	561163.4	4192859	3.46E-03	2.48E-03
129	561153.8	4192860	3.43E-03	2.45E-03
130	561144.1	4192861	3.39E-03	2.42E-03
131	561134.5	4192863	3.33E-03	2.38E-03
132	561325.6	4192378	2.78E-03	1.98E-03
133	561328	4192369	2.67E-03	1.91E-03
134	561330.5	4192360	2.58E-03	1.85E-03
135	561335.3	4192380	2.48E-03	1.77E-03
136	561337.7	4192371	2.39E-03	1.71E-03
137	561340.1	4192362	2.31E-03	1.65E-03
138	561344.9	4192383	2.23E-03	1.60E-03
139	561347.4	4192374	2.16E-03	1.54E-03
140	561349.8	4192365	2.09E-03	1.49E-03
141	561354.6	4192385	2.01E-03	1.44E-03
142	561357	4192376	1.95E-03	1.40E-03
143	561359.5	4192367	1.89E-03	1.35E-03
144	561361.9	4192358	1.84E-03	1.31E-03
145	561359.4	4192406	1.93E-03	1.38E-03
146	561361.9	4192397	1.88E-03	1.34E-03
147	561364.3	4192388	1.82E-03	1.30E-03
148	561366.7	4192379	1.77E-03	1.27E-03
149	561369.1	4192370	1.72E-03	1.23E-03
150	561371.5	4192361	1.68E-03	1.20E-03

151	561374	4192352	1.64E-03	1.17E-03
152	561376.4	4192343	1.60E-03	1.14E-03
153	561378.8	4192333	1.57E-03	1.12E-03
154	561381.2	4192324	1.54E-03	1.10E-03
155	561383.6	4192315	1.52E-03	1.08E-03
156	561369.1	4192409	1.75E-03	1.25E-03
157	561371.5	4192400	1.70E-03	1.21E-03
158	561373.9	4192391	1.65E-03	1.18E-03
159	561376.4	4192382	1.61E-03	1.15E-03
160	561378.8	4192372	1.57E-03	1.12E-03
161	561381.2	4192363	1.54E-03	1.10E-03
162	561383.6	4192354	1.50E-03	1.07E-03
163	561386	4192345	1.47E-03	1.05E-03
164	561388.5	4192336	1.44E-03	1.03E-03
165	561390.9	4192327	1.42E-03	1.02E-03
166	561393.3	4192318	1.40E-03	1.00E-03
167	561378.8	4192411	1.59E-03	1.13E-03
168	561381.2	4192402	1.54E-03	1.10E-03
169	561383.6	4192393	1.50E-03	1.08E-03
170	561386	4192384	1.47E-03	1.05E-03
171	561388.4	4192375	1.44E-03	1.03E-03
172	561390.9	4192366	1.41E-03	1.01E-03
173	561393.3	4192357	1.38E-03	9.88E-04
174	561395.7	4192348	1.36E-03	9.69E-04
175	561398.1	4192339	1.33E-03	9.53E-04
176	561400.5	4192330	1.31E-03	9.40E-04
177	561403	4192320	1.30E-03	9.28E-04
178	561407.8	4192419	1.22E-03	8.71E-04
179	561410.2	4192410	1.19E-03	8.52E-04
180	561412.6	4192401	1.17E-03	8.34E-04
181	561415	4192392	1.14E-03	8.18E-04
182	561417.4	4192383	1.13E-03	8.05E-04
183	561419.9	4192374	1.11E-03	7.92E-04
184	561422.3	4192365	1.09E-03	7.80E-04
185	561424.7	4192355	1.08E-03	7.69E-04
186	561427.1	4192346	1.06E-03	7.59E-04
187	561429.5	4192337	1.05E-03	7.51E-04
188	561432	4192328	1.04E-03	7.45E-04
189	561417.4	4192422	1.12E-03	8.02E-04
190	561419.8	4192413	1.10E-03	7.85E-04
191	561422.3	4192403	1.08E-03	7.70E-04
192	561424.7	4192394	1.06E-03	7.56E-04
193	561427.1	4192385	1.04E-03	7.44E-04
194	561429.5	4192376	1.03E-03	7.33E-04
195	561431.9	4192367	1.01E-03	7.23E-04
196	561434.4	4192358	9.98E-04	7.14E-04
197	561436.8	4192349	9.86E-04	7.05E-04
198	561439.2	4192340	9.77E-04	6.99E-04
199	561441.6	4192331	9.70E-04	6.94E-04
200	561429.5	4192415	1.01E-03	7.24E-04
201	561431.9	4192406	9.95E-04	7.12E-04
202	561434.3	4192397	9.80E-04	7.01E-04

203	561436.8	4192388	9.65E-04	6.90E-04
204	561439.2	4192379	9.51E-04	6.80E-04
205	561441.6	4192370	9.39E-04	6.71E-04
206	561444	4192361	9.28E-04	6.64E-04
207	561446.4	4192351	9.19E-04	6.57E-04
208	561448.9	4192342	9.12E-04	6.52E-04
209	561451.3	4192333	9.07E-04	6.49E-04
210	561439.2	4192418	9.36E-04	6.69E-04
211	561441.6	4192409	9.22E-04	6.59E-04
212	561444	4192400	9.09E-04	6.50E-04
213	561446.4	4192390	8.96E-04	6.41E-04
214	561448.8	4192381	8.84E-04	6.32E-04
215	561451.3	4192372	8.74E-04	6.25E-04
216	561453.7	4192363	8.65E-04	6.19E-04
217	561456.1	4192354	8.59E-04	6.14E-04
218	561458.5	4192345	8.54E-04	6.10E-04
219	561460.9	4192336	8.50E-04	6.08E-04
220	561448.8	4192420	8.67E-04	6.20E-04
221	561451.2	4192411	8.55E-04	6.11E-04
222	561453.7	4192402	8.44E-04	6.03E-04
223	561456.1	4192393	8.33E-04	5.96E-04
224	561458.5	4192384	8.23E-04	5.89E-04
225	561460.9	4192375	8.14E-04	5.82E-04
226	561463.4	4192366	8.07E-04	5.77E-04
227	561465.8	4192357	8.03E-04	5.74E-04
228	561468.2	4192348	8.00E-04	5.72E-04
229	561470.6	4192338	7.98E-04	5.71E-04
230	561458.5	4192423	8.06E-04	5.76E-04
231	561460.9	4192414	7.95E-04	5.68E-04
232	561463.3	4192405	7.85E-04	5.61E-04
233	561465.8	4192396	7.76E-04	5.55E-04
234	561468.2	4192386	7.67E-04	5.49E-04
235	561470.6	4192377	7.60E-04	5.44E-04
236	561473	4192368	7.55E-04	5.40E-04
237	561475.4	4192359	7.52E-04	5.38E-04
238	561477.9	4192350	7.50E-04	5.36E-04
239	561480.3	4192341	7.49E-04	5.35E-04
240	561468.2	4192425	7.51E-04	5.37E-04
241	561470.6	4192416	7.41E-04	5.30E-04
242	561473	4192407	7.32E-04	5.23E-04
243	561475.4	4192398	7.24E-04	5.18E-04
244	561477.8	4192389	7.18E-04	5.13E-04
245	561480.3	4192380	7.13E-04	5.10E-04
246	561482.7	4192371	7.09E-04	5.07E-04
247	561485.1	4192362	7.06E-04	5.05E-04
248	561487.5	4192353	7.05E-04	5.04E-04
249	561489.9	4192344	7.03E-04	5.03E-04
250	561477.8	4192428	7.01E-04	5.01E-04
251	561480.2	4192419	6.92E-04	4.95E-04
252	561482.7	4192410	6.85E-04	4.90E-04
253	561485.1	4192401	6.78E-04	4.85E-04
254	561487.5	4192392	6.73E-04	4.81E-04

255	561489.9	4192383	6.69E-04	4.79E-04
256	561492.3	4192373	6.66E-04	4.76E-04
257	561494.8	4192364	6.64E-04	4.75E-04
258	561497.2	4192355	6.63E-04	4.74E-04
259	561499.6	4192346	6.62E-04	4.73E-04
260	561487.5	4192431	6.55E-04	4.68E-04
261	561489.9	4192421	6.48E-04	4.63E-04
262	561492.3	4192412	6.41E-04	4.59E-04
263	561494.7	4192403	6.36E-04	4.55E-04
264	561497.2	4192394	6.32E-04	4.52E-04
265	561499.6	4192385	6.29E-04	4.50E-04
266	561502	4192376	6.27E-04	4.48E-04
267	561504.4	4192367	6.26E-04	4.47E-04
268	561506.8	4192358	6.25E-04	4.47E-04
269	561509.3	4192349	6.25E-04	4.47E-04
270	561401.8	4192218	1.31E-03	9.36E-04
271	561403.1	4192228	1.31E-03	9.39E-04
272	561410.3	4192212	1.22E-03	8.73E-04
273	561411.6	4192222	1.23E-03	8.77E-04
274	561412.9	4192231	1.23E-03	8.78E-04
275	561417.5	4192197	1.13E-03	8.09E-04
276	561418.8	4192207	1.14E-03	8.16E-04
277	561420.1	4192216	1.15E-03	8.21E-04
278	561421.4	4192225	1.15E-03	8.24E-04
279	561422.7	4192235	1.15E-03	8.25E-04
280	561424.8	4192182	1.05E-03	7.51E-04
281	561426.1	4192192	1.06E-03	7.59E-04
282	561427.3	4192201	1.07E-03	7.66E-04
283	561428.6	4192210	1.08E-03	7.71E-04
284	561429.9	4192219	1.08E-03	7.75E-04
285	561431.2	4192229	1.09E-03	7.76E-04
286	561432.5	4192238	1.08E-03	7.75E-04
287	561434.9	4192189	1.00E-03	7.15E-04
288	561436.3	4192198	1.01E-03	7.22E-04
289	561437.6	4192208	1.02E-03	7.27E-04
290	561439	4192218	1.02E-03	7.30E-04
291	561445.7	4192266	1.00E-03	7.16E-04
292	561429.1	4192129	9.11E-04	6.52E-04
293	561438.2	4192145	8.95E-04	6.40E-04
294	561439.5	4192154	9.07E-04	6.49E-04
295	561440.8	4192164	9.19E-04	6.57E-04
296	561444.8	4192193	9.50E-04	6.79E-04
297	561452.8	4192250	9.57E-04	6.85E-04
298	561454.1	4192260	9.49E-04	6.79E-04
299	561455.4	4192269	9.39E-04	6.72E-04
300	561459.4	4192298	8.97E-04	6.42E-04
301	561460.7	4192308	8.81E-04	6.30E-04
302	561430.1	4192118	8.85E-04	6.33E-04
303	561437.7	4192124	8.59E-04	6.14E-04
304	561446.8	4192139	8.44E-04	6.03E-04
305	561448.1	4192149	8.54E-04	6.11E-04
306	561449.4	4192158	8.65E-04	6.18E-04

307	561450.7	4192168	8.75E-04	6.26E-04
308	561462.5	4192253	9.01E-04	6.44E-04
309	561463.8	4192263	8.93E-04	6.38E-04
310	561465.2	4192272	8.82E-04	6.31E-04
311	561466.5	4192282	8.70E-04	6.22E-04
312	561467.8	4192291	8.57E-04	6.13E-04
313	561469.1	4192301	8.42E-04	6.02E-04
314	561470.4	4192310	8.27E-04	5.91E-04
315	561431.2	4192108	8.60E-04	6.15E-04
316	561438.8	4192113	8.34E-04	5.97E-04
317	561446.4	4192119	8.10E-04	5.79E-04
318	561455.4	4192134	7.97E-04	5.70E-04
319	561456.7	4192144	8.06E-04	5.76E-04
320	561458	4192153	8.15E-04	5.83E-04
321	561464.5	4192200	8.59E-04	6.15E-04
322	561465.8	4192210	8.64E-04	6.18E-04
323	561467.1	4192219	8.66E-04	6.19E-04
324	561472.3	4192257	8.49E-04	6.07E-04
325	561473.6	4192266	8.40E-04	6.01E-04
326	561474.9	4192275	8.30E-04	5.94E-04
327	561476.2	4192285	8.18E-04	5.85E-04
328	561477.5	4192294	8.05E-04	5.76E-04
329	561478.8	4192304	7.91E-04	5.66E-04
330	561480.1	4192313	7.77E-04	5.55E-04
331	561432.4	4192097	8.35E-04	5.97E-04
332	561439.9	4192103	8.11E-04	5.80E-04
333	561447.5	4192108	7.88E-04	5.63E-04
334	561455.1	4192114	7.66E-04	5.48E-04
335	561463.9	4192129	7.54E-04	5.39E-04
336	561470.4	4192176	8.00E-04	5.72E-04
337	561473	4192194	8.13E-04	5.82E-04
338	561474.3	4192204	8.18E-04	5.85E-04
339	561475.6	4192213	8.21E-04	5.87E-04
340	561476.9	4192222	8.21E-04	5.87E-04
341	561482	4192260	8.02E-04	5.73E-04
342	561483.3	4192269	7.93E-04	5.67E-04
343	561484.6	4192278	7.82E-04	5.59E-04
344	561485.9	4192288	7.70E-04	5.51E-04
345	561487.2	4192297	7.58E-04	5.42E-04
346	561488.5	4192306	7.44E-04	5.32E-04
347	561489.8	4192316	7.31E-04	5.23E-04
348	561439.9	4192091	7.92E-04	5.66E-04
349	561447.7	4192097	7.68E-04	5.50E-04
350	561455.6	4192103	7.46E-04	5.34E-04
351	561463.4	4192109	7.26E-04	5.19E-04
352	561476.6	4192153	7.37E-04	5.27E-04
353	561477.9	4192163	7.45E-04	5.33E-04
354	561479.3	4192173	7.58E-04	5.42E-04
355	561483.3	4192202	7.76E-04	5.55E-04
356	561484.6	4192211	7.78E-04	5.57E-04
357	561486	4192221	7.79E-04	5.57E-04
358	561487.3	4192231	7.77E-04	5.56E-04

359	561491.3	4192260	7.61E-04	5.44E-04
360	561492.7	4192269	7.51E-04	5.37E-04
361	561494	4192279	7.40E-04	5.30E-04
362	561495.3	4192289	7.29E-04	5.21E-04
363	561496.7	4192298	7.17E-04	5.12E-04
364	561498	4192308	7.03E-04	5.03E-04
365	561499.3	4192318	6.89E-04	4.93E-04
366	561409.9	4192058	8.77E-04	6.27E-04
367	561433.2	4192075	7.94E-04	5.68E-04
368	561441	4192081	7.70E-04	5.51E-04
369	561448.8	4192086	7.48E-04	5.35E-04
370	561456.5	4192092	7.27E-04	5.20E-04
371	561464.3	4192098	7.07E-04	5.05E-04
372	561482.5	4192129	6.85E-04	4.90E-04
373	561483.8	4192138	6.92E-04	4.95E-04
374	561485.2	4192148	6.99E-04	5.00E-04
375	561486.5	4192157	7.07E-04	5.05E-04
376	561487.8	4192167	7.14E-04	5.11E-04
377	561489.1	4192177	7.24E-04	5.18E-04
378	561493.1	4192205	7.38E-04	5.28E-04
379	561494.4	4192215	7.40E-04	5.29E-04
380	561495.8	4192225	7.40E-04	5.29E-04
381	561497.1	4192234	7.38E-04	5.28E-04
382	561498.4	4192244	7.34E-04	5.25E-04
383	561499.8	4192253	7.28E-04	5.21E-04
384	561501.1	4192263	7.20E-04	5.15E-04
385	561502.4	4192272	7.10E-04	5.08E-04
386	561503.7	4192282	6.99E-04	5.00E-04
387	561505.1	4192292	6.88E-04	4.92E-04
388	561506.4	4192301	6.77E-04	4.84E-04
389	561507.7	4192311	6.64E-04	4.75E-04
390	561509	4192320	6.51E-04	4.66E-04
391	561411.4	4192047	8.52E-04	6.09E-04
392	561419.1	4192053	8.24E-04	5.89E-04
393	561426.8	4192059	7.97E-04	5.70E-04
394	561434.5	4192064	7.73E-04	5.53E-04
395	561442.2	4192070	7.50E-04	5.36E-04
396	561449.9	4192076	7.28E-04	5.21E-04
397	561457.6	4192082	7.08E-04	5.06E-04
398	561465.3	4192087	6.89E-04	4.92E-04
399	561473	4192093	6.70E-04	4.79E-04
400	561489.8	4192114	6.41E-04	4.59E-04
401	561491.1	4192123	6.49E-04	4.64E-04
402	561492.4	4192133	6.57E-04	4.70E-04
403	561493.7	4192142	6.64E-04	4.75E-04
404	561495	4192152	6.71E-04	4.80E-04
405	561496.4	4192161	6.78E-04	4.85E-04
406	561497.7	4192171	6.86E-04	4.91E-04
407	561499	4192180	6.92E-04	4.95E-04
408	561502.9	4192209	7.03E-04	5.03E-04
409	561504.2	4192219	7.04E-04	5.04E-04
410	561505.6	4192228	7.03E-04	5.03E-04

411	561506.9	4192238	7.01E-04	5.01E-04
412	561508.2	4192247	6.97E-04	4.98E-04
413	561509.5	4192257	6.90E-04	4.93E-04
414	561510.8	4192266	6.82E-04	4.88E-04
415	561512.1	4192276	6.72E-04	4.81E-04
416	561513.5	4192285	6.63E-04	4.74E-04
417	561514.8	4192295	6.52E-04	4.66E-04
418	561516.1	4192304	6.40E-04	4.58E-04
419	561517.4	4192314	6.28E-04	4.49E-04
420	561518.7	4192323	6.16E-04	4.41E-04
421	560985.7	4192042	1.80E-03	1.29E-03
422	560991.7	4192030	1.76E-03	1.26E-03
423	560982.5	4192032	1.70E-03	1.21E-03
424	560988.6	4192021	1.66E-03	1.19E-03
425	560979.4	4192023	1.60E-03	1.14E-03
426	560985.5	4192011	1.56E-03	1.12E-03
427	560994.8	4192011	1.63E-03	1.17E-03
428	560976.2	4192013	1.51E-03	1.08E-03
429	560982.3	4192002	1.48E-03	1.06E-03
430	560991.8	4192002	1.54E-03	1.10E-03
431	561001.2	4192001	1.60E-03	1.15E-03
432	560973	4192004	1.43E-03	1.02E-03
433	560979.2	4191992	1.40E-03	1.00E-03
434	560988.7	4191992	1.46E-03	1.04E-03
435	560998.2	4191992	1.51E-03	1.08E-03
436	560969.9	4191994	1.35E-03	9.66E-04
437	560976.1	4191983	1.33E-03	9.49E-04
438	560985.6	4191983	1.38E-03	9.87E-04
439	560995.2	4191982	1.43E-03	1.03E-03
440	561004.7	4191982	1.49E-03	1.06E-03
441	560966.7	4191985	1.28E-03	9.16E-04
442	560972.9	4191973	1.26E-03	9.01E-04
443	560982.6	4191973	1.31E-03	9.37E-04
444	560992.2	4191973	1.36E-03	9.73E-04
445	561001.8	4191972	1.41E-03	1.01E-03
446	561011.4	4191972	1.46E-03	1.04E-03
447	560963.6	4191975	1.22E-03	8.70E-04
448	560969.7	4191964	1.20E-03	8.56E-04
449	560979	4191964	1.24E-03	8.89E-04
450	560988.4	4191963	1.29E-03	9.22E-04
451	560997.7	4191963	1.33E-03	9.54E-04
452	561007.1	4191962	1.38E-03	9.87E-04
453	560960.4	4191966	1.16E-03	8.27E-04
454	560966.5	4191954	1.14E-03	8.14E-04
455	560975.9	4191954	1.18E-03	8.45E-04
456	560985.3	4191954	1.23E-03	8.77E-04
457	560994.7	4191953	1.27E-03	9.07E-04
458	561004.1	4191953	1.31E-03	9.38E-04
459	561013.5	4191953	1.35E-03	9.68E-04
460	560957.3	4191956	1.10E-03	7.88E-04
461	560963.4	4191945	1.09E-03	7.76E-04
462	560972.9	4191945	1.13E-03	8.05E-04

463	560982.3	4191944	1.17E-03	8.35E-04
464	560991.8	4191944	1.21E-03	8.64E-04
465	561001.2	4191943	1.25E-03	8.93E-04
466	561010.7	4191943	1.29E-03	9.21E-04
467	561020.1	4191943	1.33E-03	9.49E-04
468	560954.1	4191947	1.05E-03	7.51E-04
469	560960.3	4191935	1.04E-03	7.40E-04
470	560969.8	4191935	1.07E-03	7.68E-04
471	560979.3	4191935	1.11E-03	7.96E-04
472	560988.8	4191934	1.15E-03	8.23E-04
473	560998.3	4191934	1.19E-03	8.51E-04
474	561007.8	4191934	1.23E-03	8.78E-04
475	561017.3	4191933	1.26E-03	9.04E-04
476	560951	4191937	1.00E-03	7.17E-04
477	560957.1	4191926	9.89E-04	7.07E-04
478	560966.7	4191926	1.03E-03	7.33E-04
479	560976.2	4191925	1.06E-03	7.60E-04
480	560985.8	4191925	1.10E-03	7.86E-04
481	560995.3	4191924	1.13E-03	8.11E-04
482	561004.9	4191924	1.17E-03	8.37E-04
483	561014.4	4191924	1.20E-03	8.62E-04
484	561023.9	4191923	1.24E-03	8.86E-04
485	560947.8	4191928	9.58E-04	6.85E-04
486	560941.5	4192192	3.01E-03	2.15E-03
487	560936.3	4192208	3.11E-03	2.22E-03
488	560933	4192224	3.25E-03	2.32E-03
489	560931.6	4192191	2.74E-03	1.96E-03
490	560938.5	4192177	2.70E-03	1.93E-03
491	560945.5	4192163	2.65E-03	1.89E-03
492	560952.5	4192149	2.58E-03	1.84E-03
493	560926.5	4192206	2.82E-03	2.02E-03
494	560923.2	4192222	2.94E-03	2.10E-03
495	560921.7	4192189	2.51E-03	1.79E-03
496	560928.4	4192176	2.47E-03	1.77E-03
497	560935.1	4192162	2.43E-03	1.74E-03
498	560941.8	4192149	2.38E-03	1.71E-03
499	560954.7	4192131	2.37E-03	1.70E-03
500	560916.7	4192204	2.57E-03	1.84E-03
501	560913.4	4192220	2.67E-03	1.91E-03
502	560912.1	4192186	2.29E-03	1.64E-03
503	560919.3	4192172	2.27E-03	1.62E-03
504	560926.6	4192158	2.23E-03	1.60E-03
505	560933.8	4192143	2.19E-03	1.56E-03
506	560947.7	4192124	2.18E-03	1.56E-03
507	560961.1	4192116	2.28E-03	1.63E-03
508	560906.9	4192202	2.35E-03	1.68E-03
509	560903.6	4192218	2.43E-03	1.74E-03
510	560902.2	4192185	2.11E-03	1.51E-03
511	560909.2	4192171	2.09E-03	1.49E-03
512	560916.1	4192157	2.06E-03	1.48E-03
513	560923.1	4192143	2.03E-03	1.45E-03
514	560930	4192129	1.98E-03	1.42E-03

515	560940	4192118	2.00E-03	1.43E-03
516	560953	4192109	2.09E-03	1.49E-03
517	560965.9	4192101	2.18E-03	1.56E-03
518	560897.1	4192200	2.16E-03	1.55E-03
519	560893.8	4192216	2.24E-03	1.60E-03
520	560892.3	4192183	1.96E-03	1.40E-03
521	560899.1	4192169	1.93E-03	1.38E-03
522	560905.8	4192156	1.91E-03	1.37E-03
523	560912.6	4192142	1.88E-03	1.35E-03
524	560919.3	4192129	1.85E-03	1.32E-03
525	560932.3	4192111	1.84E-03	1.32E-03
526	560944.9	4192103	1.92E-03	1.37E-03
527	560957.5	4192095	2.00E-03	1.43E-03
528	560970	4192087	2.07E-03	1.48E-03
529	560887.3	4192198	2.00E-03	1.43E-03
530	560884	4192213	2.06E-03	1.48E-03
531	560882.7	4192180	1.82E-03	1.30E-03
532	560889.9	4192166	1.80E-03	1.29E-03
533	560897.1	4192152	1.77E-03	1.27E-03
534	560904.2	4192137	1.74E-03	1.25E-03
535	560911.4	4192123	1.71E-03	1.22E-03
536	560925.2	4192105	1.71E-03	1.22E-03
537	560938.6	4192096	1.78E-03	1.27E-03
538	560951.9	4192087	1.86E-03	1.33E-03
539	560965.3	4192078	1.93E-03	1.38E-03
540	560978.6	4192069	2.00E-03	1.43E-03
541	560877.5	4192195	1.86E-03	1.33E-03
542	560874.2	4192211	1.91E-03	1.36E-03
543	560872.8	4192179	1.69E-03	1.21E-03
544	560879.8	4192165	1.68E-03	1.20E-03
545	560886.7	4192151	1.65E-03	1.18E-03
546	560893.7	4192137	1.63E-03	1.16E-03
547	560900.7	4192123	1.60E-03	1.14E-03
548	560907.6	4192109	1.57E-03	1.12E-03
549	560917.6	4192098	1.58E-03	1.13E-03
550	560930.5	4192089	1.64E-03	1.18E-03
551	560943.5	4192081	1.71E-03	1.23E-03
552	560956.4	4192072	1.78E-03	1.27E-03
553	560969.4	4192064	1.84E-03	1.32E-03
554	560867.7	4192193	1.73E-03	1.23E-03
555	560864.4	4192209	1.77E-03	1.27E-03
556	560862.9	4192177	1.58E-03	1.13E-03
557	560869.7	4192163	1.56E-03	1.12E-03
558	560876.5	4192150	1.54E-03	1.10E-03
559	560883.3	4192136	1.52E-03	1.09E-03
560	560890.1	4192123	1.50E-03	1.07E-03
561	560896.8	4192109	1.47E-03	1.05E-03
562	560909.9	4192091	1.47E-03	1.05E-03
563	560922.6	4192083	1.52E-03	1.09E-03
564	560935.2	4192075	1.58E-03	1.13E-03
565	560947.8	4192067	1.65E-03	1.18E-03
566	560960.4	4192058	1.70E-03	1.22E-03

567	560973	4192050	1.76E-03	1.26E-03
568	560857.9	4192191	1.61E-03	1.15E-03
569	560854.6	4192207	1.65E-03	1.18E-03
570	560853.3	4192174	1.48E-03	1.06E-03
571	560860.5	4192160	1.46E-03	1.04E-03
572	560867.6	4192146	1.44E-03	1.03E-03
573	560874.7	4192132	1.42E-03	1.01E-03
574	560881.9	4192117	1.39E-03	9.96E-04
575	560889	4192103	1.37E-03	9.77E-04
576	560902.8	4192085	1.37E-03	9.77E-04
577	560916.1	4192076	1.42E-03	1.02E-03
578	560929.4	4192067	1.48E-03	1.06E-03
579	560942.7	4192058	1.54E-03	1.10E-03
580	560955.9	4192050	1.60E-03	1.14E-03
581	560969.2	4192041	1.65E-03	1.18E-03
582	560848.1	4192189	1.50E-03	1.08E-03
583	560844.8	4192205	1.54E-03	1.10E-03
584	560843.4	4192172	1.39E-03	9.94E-04
585	560850.4	4192159	1.37E-03	9.82E-04
586	560857.4	4192145	1.36E-03	9.69E-04
587	560864.3	4192131	1.33E-03	9.53E-04
588	560871.3	4192117	1.31E-03	9.37E-04
589	560878.2	4192103	1.29E-03	9.19E-04
590	560885.2	4192089	1.26E-03	9.02E-04
591	560895.2	4192078	1.27E-03	9.11E-04
592	560908.1	4192070	1.32E-03	9.46E-04
593	560921.1	4192061	1.38E-03	9.84E-04
594	560934	4192052	1.43E-03	1.02E-03
595	560947	4192044	1.48E-03	1.06E-03
596	560959.9	4192035	1.53E-03	1.10E-03
597	560838.3	4192187	1.41E-03	1.01E-03
598	560835	4192203	1.44E-03	1.03E-03
599	560833.8	4192170	1.31E-03	9.35E-04
600	560841.1	4192156	1.29E-03	9.24E-04
601	560848.4	4192141	1.27E-03	9.11E-04
602	560855.7	4192127	1.25E-03	8.96E-04
603	560863	4192112	1.23E-03	8.80E-04
604	560870.3	4192097	1.21E-03	8.62E-04
605	560877.6	4192083	1.18E-03	8.45E-04
606	560888	4192071	1.19E-03	8.53E-04
607	560901.6	4192062	1.24E-03	8.87E-04
608	560915.1	4192053	1.29E-03	9.22E-04
609	560928.7	4192044	1.34E-03	9.60E-04
610	560942.3	4192035	1.39E-03	9.97E-04
611	560955.8	4192027	1.44E-03	1.03E-03
612	560828.5	4192185	1.33E-03	9.49E-04
613	560825.2	4192201	1.35E-03	9.68E-04
614	560823.9	4192168	1.23E-03	8.82E-04
615	560831.1	4192154	1.22E-03	8.75E-04
616	560838.2	4192140	1.21E-03	8.62E-04
617	560845.3	4192126	1.18E-03	8.47E-04
618	560852.4	4192112	1.17E-03	8.34E-04

619	560859.5	4192097	1.15E-03	8.19E-04
620	560866.6	4192083	1.12E-03	8.02E-04
621	560880.3	4192065	1.12E-03	7.99E-04
622	560893.6	4192056	1.16E-03	8.30E-04
623	560906.8	4192047	1.20E-03	8.61E-04
624	560920.1	4192039	1.25E-03	8.94E-04
625	560933.3	4192030	1.30E-03	9.28E-04
626	560946.6	4192021	1.34E-03	9.61E-04
627	560959.8	4192012	1.39E-03	9.92E-04
628	560818.7	4192183	1.25E-03	8.94E-04
629	560815.4	4192199	1.27E-03	9.11E-04
630	560814.1	4192166	1.17E-03	8.33E-04
631	560821	4192153	1.16E-03	8.28E-04
632	560828	4192139	1.14E-03	8.18E-04
633	560834.9	4192125	1.13E-03	8.05E-04
634	560841.9	4192111	1.11E-03	7.92E-04
635	560848.9	4192097	1.09E-03	7.77E-04
636	560855.8	4192083	1.07E-03	7.62E-04
637	560862.8	4192069	1.04E-03	7.47E-04
638	560872.7	4192058	1.05E-03	7.52E-04
639	560885.7	4192050	1.09E-03	7.79E-04
640	560898.6	4192041	1.13E-03	8.06E-04
641	560911.6	4192033	1.17E-03	8.35E-04
642	560924.5	4192024	1.21E-03	8.66E-04
643	560937.5	4192015	1.25E-03	8.97E-04
644	560950.5	4192007	1.30E-03	9.26E-04
645	560808.9	4192181	1.18E-03	8.44E-04
646	560805.6	4192197	1.20E-03	8.60E-04
647	560804.4	4192164	1.10E-03	7.89E-04
648	560811.7	4192150	1.10E-03	7.84E-04
649	560818.9	4192135	1.08E-03	7.74E-04
650	560826.2	4192121	1.07E-03	7.62E-04
651	560833.4	4192106	1.05E-03	7.48E-04
652	560840.7	4192092	1.03E-03	7.33E-04
653	560847.9	4192077	1.00E-03	7.19E-04
654	560855.2	4192063	9.86E-04	7.05E-04
655	560865.5	4192051	9.93E-04	7.10E-04
656	560879	4192042	1.03E-03	7.35E-04
657	560892.5	4192034	1.06E-03	7.61E-04
658	560906	4192025	1.10E-03	7.87E-04
659	560919.5	4192016	1.14E-03	8.18E-04
660	560933	4192007	1.19E-03	8.48E-04
661	560946.5	4191998	1.23E-03	8.77E-04
662	560799.1	4192179	1.12E-03	7.99E-04
663	560795.8	4192195	1.14E-03	8.12E-04
664	560794.5	4192162	1.05E-03	7.49E-04
665	560801.6	4192148	1.04E-03	7.44E-04
666	560808.7	4192134	1.03E-03	7.36E-04
667	560815.8	4192120	1.01E-03	7.25E-04
668	560822.9	4192106	9.95E-04	7.12E-04
669	560830	4192092	9.76E-04	6.98E-04
670	560837.1	4192077	9.57E-04	6.84E-04

671	560844.2	4192063	9.38E-04	6.71E-04
672	560857.9	4192045	9.35E-04	6.69E-04
673	560871.1	4192036	9.66E-04	6.91E-04
674	560884.3	4192027	1.00E-03	7.15E-04
675	560897.5	4192019	1.03E-03	7.39E-04
676	560910.7	4192010	1.07E-03	7.65E-04
677	560924	4192001	1.11E-03	7.93E-04
678	560937.2	4191993	1.15E-03	8.21E-04
679	560950.4	4191984	1.18E-03	8.46E-04
680	560789.4	4192177	1.06E-03	7.57E-04
681	560786.1	4192193	1.08E-03	7.69E-04
682	560784.7	4192160	9.95E-04	7.11E-04
683	560791.6	4192146	9.90E-04	7.08E-04
684	560798.6	4192133	9.79E-04	7.00E-04
685	560805.6	4192119	9.65E-04	6.90E-04
686	560812.5	4192105	9.49E-04	6.78E-04
687	560819.5	4192091	9.31E-04	6.66E-04
688	560826.4	4192077	9.12E-04	6.52E-04
689	560833.4	4192063	8.94E-04	6.40E-04
690	560840.4	4192049	8.78E-04	6.28E-04
691	560850.3	4192038	8.82E-04	6.31E-04
692	560863.3	4192030	9.10E-04	6.51E-04
693	560876.2	4192021	9.40E-04	6.72E-04
694	560889.2	4192013	9.73E-04	6.96E-04
695	560902.1	4192004	1.00E-03	7.18E-04
696	560915.1	4191996	1.04E-03	7.43E-04
697	560928	4191987	1.08E-03	7.69E-04
698	560941	4191978	1.11E-03	7.94E-04
699	560779.6	4192175	1.01E-03	7.19E-04
700	560776.3	4192191	1.02E-03	7.29E-04
701	560775	4192158	9.47E-04	6.77E-04
702	560782.2	4192144	9.42E-04	6.74E-04
703	560789.5	4192129	9.32E-04	6.67E-04
704	560796.7	4192115	9.18E-04	6.57E-04
705	560803.9	4192101	9.02E-04	6.45E-04
706	560811.1	4192086	8.84E-04	6.32E-04
707	560818.3	4192072	8.65E-04	6.19E-04
708	560825.5	4192057	8.47E-04	6.06E-04
709	560832.7	4192043	8.31E-04	5.94E-04
710	560843.1	4192031	8.35E-04	5.97E-04
711	560856.5	4192023	8.61E-04	6.15E-04
712	560869.9	4192014	8.90E-04	6.36E-04
713	560883.4	4192005	9.22E-04	6.59E-04
714	560896.8	4191996	9.53E-04	6.81E-04
715	560910.2	4191987	9.86E-04	7.05E-04
716	560923.7	4191978	1.02E-03	7.30E-04
717	560937.1	4191969	1.06E-03	7.55E-04
718	560769.8	4192173	9.56E-04	6.83E-04
719	560766.5	4192189	9.68E-04	6.92E-04
720	560765.2	4192156	9.02E-04	6.45E-04
721	560772.2	4192142	8.99E-04	6.43E-04
722	560779.3	4192128	8.90E-04	6.36E-04

723	560786.4	4192114	8.77E-04	6.28E-04
724	560793.5	4192100	8.62E-04	6.17E-04
725	560800.6	4192086	8.46E-04	6.05E-04
726	560807.6	4192072	8.28E-04	5.92E-04
727	560814.7	4192057	8.11E-04	5.80E-04
728	560821.8	4192043	7.95E-04	5.68E-04
729	560835.5	4192025	7.90E-04	5.65E-04
730	560848.7	4192016	8.13E-04	5.82E-04
731	560861.8	4192007	8.39E-04	6.00E-04
732	560875	4191999	8.68E-04	6.21E-04
733	560888.2	4191990	8.99E-04	6.43E-04
734	560901.4	4191981	9.27E-04	6.63E-04
735	560914.6	4191973	9.59E-04	6.86E-04
736	560927.7	4191964	9.91E-04	7.09E-04
737	560940.9	4191955	1.02E-03	7.31E-04
738	560760	4192171	9.10E-04	6.51E-04
739	560756.7	4192187	9.20E-04	6.58E-04
740	560755.3	4192154	8.61E-04	6.16E-04
741	560762.3	4192140	8.58E-04	6.14E-04
742	560769.2	4192127	8.51E-04	6.08E-04
743	560776.2	4192113	8.40E-04	6.00E-04
744	560783.1	4192099	8.26E-04	5.91E-04
745	560790.1	4192085	8.10E-04	5.79E-04
746	560797.1	4192071	7.94E-04	5.68E-04
747	560804	4192057	7.77E-04	5.56E-04
748	560811	4192043	7.62E-04	5.45E-04
749	560817.9	4192029	7.47E-04	5.34E-04
750	560827.9	4192018	7.49E-04	5.36E-04
751	560840.8	4192010	7.70E-04	5.50E-04
752	560853.8	4192001	7.93E-04	5.67E-04
753	560866.7	4191993	8.19E-04	5.85E-04
754	560879.7	4191984	8.47E-04	6.05E-04
755	560892.7	4191976	8.75E-04	6.26E-04
756	560905.6	4191967	9.02E-04	6.45E-04
757	560918.6	4191959	9.33E-04	6.67E-04
758	560931.5	4191950	9.62E-04	6.88E-04
759	560750.2	4192169	8.67E-04	6.20E-04
760	560746.9	4192185	8.76E-04	6.27E-04
761	560745.6	4192152	8.22E-04	5.88E-04
762	560752.8	4192138	8.20E-04	5.86E-04
763	560760	4192123	8.13E-04	5.81E-04
764	560767.2	4192109	8.02E-04	5.74E-04
765	560774.4	4192095	7.89E-04	5.64E-04
766	560781.6	4192080	7.73E-04	5.53E-04
767	560788.8	4192066	7.57E-04	5.41E-04
768	560796	4192052	7.41E-04	5.30E-04
769	560803.1	4192037	7.25E-04	5.18E-04
770	560810.3	4192023	7.10E-04	5.08E-04
771	560820.6	4192011	7.12E-04	5.09E-04
772	560834	4192003	7.31E-04	5.23E-04
773	560847.4	4191994	7.53E-04	5.39E-04
774	560860.8	4191985	7.78E-04	5.56E-04

775	560874.2	4191976	8.05E-04	5.76E-04
776	560887.6	4191967	8.34E-04	5.96E-04
777	560900.9	4191959	8.60E-04	6.15E-04
778	560914.3	4191950	8.89E-04	6.36E-04
779	560927.7	4191941	9.18E-04	6.57E-04
780	560740.4	4192167	8.28E-04	5.92E-04
781	560737.1	4192183	8.35E-04	5.97E-04
782	560929.9	4192237	3.33E-03	2.38E-03
783	560920.1	4192235	3.00E-03	2.14E-03
784	560917.9	4192244	3.02E-03	2.16E-03
785	560915.6	4192254	3.02E-03	2.16E-03
786	560913.3	4192263	3.02E-03	2.16E-03
787	560911	4192272	3.00E-03	2.15E-03
788	560910.4	4192232	2.71E-03	1.94E-03
789	560908.1	4192242	2.73E-03	1.95E-03
790	560905.9	4192251	2.74E-03	1.96E-03
791	560903.6	4192261	2.73E-03	1.95E-03
792	560901.3	4192270	2.72E-03	1.94E-03
793	560899	4192279	2.69E-03	1.92E-03
794	560896.7	4192289	2.65E-03	1.89E-03
795	560894.4	4192298	2.60E-03	1.86E-03
796	560900.7	4192230	2.47E-03	1.77E-03
797	560898.4	4192240	2.49E-03	1.78E-03
798	560896.1	4192249	2.50E-03	1.79E-03
799	560893.9	4192258	2.49E-03	1.78E-03
800	560891.6	4192268	2.47E-03	1.77E-03
801	560889.3	4192277	2.45E-03	1.75E-03
802	560887	4192286	2.41E-03	1.73E-03
803	560884.7	4192296	2.37E-03	1.70E-03
804	560891	4192228	2.27E-03	1.63E-03
805	560888.7	4192237	2.29E-03	1.64E-03
806	560886.4	4192247	2.29E-03	1.64E-03
807	560884.1	4192256	2.29E-03	1.63E-03
808	560881.9	4192265	2.27E-03	1.62E-03
809	560879.6	4192275	2.24E-03	1.60E-03
810	560877.3	4192284	2.21E-03	1.58E-03
811	560875	4192294	2.17E-03	1.55E-03
812	560881.3	4192225	2.09E-03	1.50E-03
813	560879	4192235	2.10E-03	1.50E-03
814	560876.7	4192244	2.11E-03	1.51E-03
815	560874.4	4192254	2.10E-03	1.50E-03
816	560872.1	4192263	2.09E-03	1.49E-03
817	560869.9	4192272	2.06E-03	1.47E-03
818	560867.6	4192282	2.03E-03	1.45E-03
819	560865.3	4192291	2.00E-03	1.43E-03
820	560871.6	4192223	1.93E-03	1.38E-03
821	560869.3	4192232	1.94E-03	1.39E-03
822	560867	4192242	1.94E-03	1.39E-03
823	560864.7	4192251	1.94E-03	1.39E-03
824	560862.4	4192261	1.93E-03	1.38E-03
825	560860.1	4192270	1.91E-03	1.36E-03
826	560857.9	4192279	1.88E-03	1.35E-03

827	560855.6	4192289	1.85E-03	1.32E-03
828	560861.8	4192221	1.79E-03	1.28E-03
829	560859.6	4192230	1.80E-03	1.29E-03
830	560857.3	4192239	1.80E-03	1.29E-03
831	560855	4192249	1.79E-03	1.28E-03
832	560852.7	4192258	1.78E-03	1.28E-03
833	560850.4	4192268	1.77E-03	1.26E-03
834	560848.1	4192277	1.74E-03	1.25E-03
835	560845.9	4192286	1.71E-03	1.22E-03
836	560852.1	4192218	1.67E-03	1.19E-03
837	560849.8	4192228	1.67E-03	1.20E-03
838	560847.6	4192237	1.67E-03	1.20E-03
839	560845.3	4192246	1.67E-03	1.19E-03
840	560843	4192256	1.66E-03	1.18E-03
841	560840.7	4192265	1.64E-03	1.17E-03
842	560838.4	4192275	1.62E-03	1.16E-03
843	560836.1	4192284	1.59E-03	1.14E-03
844	560842.4	4192216	1.55E-03	1.11E-03
845	560840.1	4192225	1.56E-03	1.12E-03
846	560837.8	4192235	1.56E-03	1.12E-03
847	560835.6	4192244	1.55E-03	1.11E-03
848	560833.3	4192254	1.54E-03	1.10E-03
849	560831	4192263	1.53E-03	1.09E-03
850	560828.7	4192272	1.51E-03	1.08E-03
851	560826.4	4192282	1.48E-03	1.06E-03
852	560832.7	4192214	1.45E-03	1.04E-03
853	560830.4	4192223	1.46E-03	1.04E-03
854	560828.1	4192232	1.46E-03	1.04E-03
855	560825.8	4192242	1.45E-03	1.04E-03
856	560823.6	4192251	1.44E-03	1.03E-03
857	560821.3	4192261	1.43E-03	1.02E-03
858	560819	4192270	1.41E-03	1.01E-03
859	560816.7	4192279	1.38E-03	9.90E-04
860	560823	4192211	1.36E-03	9.75E-04
861	560820.7	4192221	1.37E-03	9.78E-04
862	560818.4	4192230	1.37E-03	9.78E-04
863	560816.1	4192239	1.36E-03	9.74E-04
864	560813.8	4192249	1.35E-03	9.67E-04
865	560811.6	4192258	1.34E-03	9.57E-04
866	560809.3	4192268	1.32E-03	9.43E-04
867	560807	4192277	1.30E-03	9.27E-04
868	560813.3	4192209	1.28E-03	9.17E-04
869	560811	4192218	1.29E-03	9.19E-04
870	560808.7	4192228	1.28E-03	9.18E-04
871	560806.4	4192237	1.28E-03	9.15E-04
872	560804.1	4192246	1.27E-03	9.08E-04
873	560801.8	4192256	1.26E-03	8.98E-04
874	560799.6	4192265	1.24E-03	8.85E-04
875	560797.3	4192275	1.22E-03	8.70E-04
876	560803.5	4192207	1.21E-03	8.64E-04
877	560801.3	4192216	1.21E-03	8.66E-04
878	560799	4192225	1.21E-03	8.65E-04

879	560796.7	4192235	1.20E-03	8.61E-04
880	560794.4	4192244	1.19E-03	8.54E-04
881	560792.1	4192253	1.18E-03	8.45E-04
882	560789.8	4192263	1.16E-03	8.33E-04
883	560787.6	4192272	1.14E-03	8.18E-04
884	560793.8	4192204	1.14E-03	8.16E-04
885	560791.5	4192214	1.14E-03	8.17E-04
886	560789.3	4192223	1.14E-03	8.16E-04
887	560787	4192232	1.14E-03	8.12E-04
888	560784.7	4192242	1.13E-03	8.05E-04
889	560782.4	4192251	1.11E-03	7.96E-04
890	560780.1	4192260	1.10E-03	7.85E-04
891	560777.8	4192270	1.08E-03	7.71E-04
892	560781.8	4192211	1.08E-03	7.73E-04
893	560779.5	4192221	1.08E-03	7.71E-04
894	560777.3	4192230	1.07E-03	7.67E-04
895	560775	4192239	1.06E-03	7.60E-04
896	560772.7	4192249	1.05E-03	7.52E-04
897	560770.4	4192258	1.04E-03	7.41E-04
898	560768.1	4192268	1.02E-03	7.27E-04
899	560772.1	4192209	1.02E-03	7.32E-04
900	560769.8	4192218	1.02E-03	7.30E-04
901	560767.5	4192228	1.01E-03	7.26E-04
902	560765.3	4192237	1.01E-03	7.19E-04
903	560763	4192246	9.94E-04	7.11E-04
904	560760.7	4192256	9.79E-04	7.00E-04
905	560758.4	4192265	9.61E-04	6.87E-04
906	560762.4	4192206	9.70E-04	6.94E-04
907	560760.1	4192216	9.67E-04	6.92E-04
908	560757.8	4192225	9.62E-04	6.88E-04
909	560755.5	4192235	9.53E-04	6.82E-04
910	560753.3	4192244	9.41E-04	6.73E-04
911	560751	4192253	9.27E-04	6.63E-04
912	560748.7	4192263	9.10E-04	6.51E-04
913	560752.7	4192204	9.22E-04	6.59E-04
914	560750.4	4192213	9.18E-04	6.57E-04
915	560748.1	4192223	9.13E-04	6.53E-04
916	560745.8	4192232	9.04E-04	6.46E-04
917	560743.5	4192242	8.93E-04	6.38E-04
918	560741.3	4192251	8.79E-04	6.29E-04
919	560739	4192260	8.62E-04	6.17E-04
920	560743	4192202	8.77E-04	6.27E-04
921	560740.7	4192211	8.73E-04	6.24E-04
922	560738.4	4192221	8.67E-04	6.20E-04
923	560736.1	4192230	8.59E-04	6.14E-04
924	560733.8	4192239	8.48E-04	6.06E-04
925	560731.5	4192249	8.34E-04	5.97E-04
926	560729.3	4192258	8.18E-04	5.85E-04
927	560733.2	4192199	8.35E-04	5.97E-04
928	560731	4192209	8.31E-04	5.94E-04
929	560728.7	4192218	8.25E-04	5.90E-04
930	560726.4	4192228	8.17E-04	5.84E-04

931	560724.1	4192237	8.06E-04	5.76E-04
932	560721.8	4192246	7.93E-04	5.67E-04
933	560719.5	4192256	7.78E-04	5.56E-04
934	560891.6	4192311	2.54E-03	1.81E-03
935	560888	4192329	2.43E-03	1.74E-03
936	560884.4	4192346	2.31E-03	1.65E-03
937	560880.8	4192364	2.16E-03	1.55E-03
938	560877.2	4192381	1.99E-03	1.43E-03
939	560881.9	4192309	2.31E-03	1.65E-03
940	560878.2	4192327	2.21E-03	1.58E-03
941	560874.6	4192344	2.10E-03	1.50E-03
942	560871	4192362	1.96E-03	1.40E-03
943	560867.4	4192379	1.81E-03	1.29E-03
944	560872.1	4192307	2.11E-03	1.51E-03
945	560868.4	4192325	2.02E-03	1.45E-03
946	560864.8	4192342	1.92E-03	1.37E-03
947	560861.2	4192360	1.79E-03	1.28E-03
948	560857.6	4192377	1.65E-03	1.18E-03
949	560862.3	4192305	1.95E-03	1.39E-03
950	560858.7	4192323	1.86E-03	1.33E-03
951	560855	4192340	1.76E-03	1.26E-03
952	560851.4	4192358	1.64E-03	1.18E-03
953	560847.8	4192375	1.51E-03	1.08E-03
954	560852.5	4192303	1.80E-03	1.28E-03
955	560848.9	4192321	1.72E-03	1.23E-03
956	560845.3	4192338	1.62E-03	1.16E-03
957	560841.6	4192356	1.51E-03	1.08E-03
958	560838	4192373	1.39E-03	9.92E-04
959	560842.7	4192301	1.66E-03	1.19E-03
960	560839.1	4192319	1.59E-03	1.14E-03
961	560835.5	4192336	1.50E-03	1.07E-03
962	560831.8	4192354	1.39E-03	9.97E-04
963	560828.2	4192371	1.28E-03	9.14E-04
964	560832.9	4192299	1.54E-03	1.10E-03
965	560829.3	4192317	1.47E-03	1.05E-03
966	560825.7	4192334	1.39E-03	9.93E-04
967	560822.1	4192352	1.29E-03	9.23E-04
968	560818.4	4192369	1.18E-03	8.46E-04
969	560823.1	4192297	1.43E-03	1.03E-03
970	560819.5	4192315	1.37E-03	9.79E-04
971	560815.9	4192332	1.29E-03	9.22E-04
972	560812.3	4192350	1.20E-03	8.57E-04
973	560808.6	4192367	1.10E-03	7.85E-04
974	560813.3	4192295	1.34E-03	9.57E-04
975	560809.7	4192313	1.28E-03	9.13E-04
976	560806.1	4192330	1.20E-03	8.59E-04
977	560802.5	4192348	1.12E-03	7.98E-04
978	560798.9	4192365	1.02E-03	7.30E-04
979	560803.5	4192293	1.25E-03	8.95E-04
980	560799.9	4192311	1.19E-03	8.53E-04
981	560796.3	4192328	1.12E-03	8.03E-04
982	560792.7	4192346	1.04E-03	7.45E-04

983	560789.1	4192363	9.53E-04	6.82E-04
984	560793.7	4192291	1.17E-03	8.39E-04
985	560790.1	4192309	1.12E-03	7.99E-04
986	560786.5	4192326	1.05E-03	7.51E-04
987	560782.9	4192344	9.74E-04	6.97E-04
988	560779.3	4192361	8.91E-04	6.37E-04
989	560783.9	4192289	1.10E-03	7.88E-04
990	560780.3	4192307	1.05E-03	7.50E-04
991	560776.7	4192324	9.85E-04	7.04E-04
992	560773.1	4192342	9.14E-04	6.53E-04
993	560769.5	4192359	8.36E-04	5.98E-04
994	560774.1	4192287	1.04E-03	7.41E-04
995	560770.5	4192305	9.86E-04	7.05E-04
996	560766.9	4192322	9.26E-04	6.62E-04
997	560763.3	4192340	8.58E-04	6.14E-04
998	560759.7	4192357	7.85E-04	5.61E-04
999	560764.3	4192285	9.77E-04	6.98E-04
1000	560760.7	4192303	9.28E-04	6.64E-04
1001	560757.1	4192320	8.71E-04	6.23E-04
1002	560753.5	4192338	8.08E-04	5.78E-04
1003	560749.9	4192355	7.39E-04	5.28E-04
1004	560756.3	4192274	9.42E-04	6.73E-04
1005	560752.7	4192292	9.00E-04	6.43E-04
1006	560749.1	4192309	8.50E-04	6.08E-04
1007	560745.5	4192327	7.92E-04	5.67E-04
1008	560741.9	4192344	7.30E-04	5.22E-04
1009	560746.6	4192272	8.91E-04	6.37E-04
1010	560742.9	4192290	8.50E-04	6.08E-04
1011	560739.3	4192307	8.02E-04	5.74E-04
1012	560735.7	4192325	7.48E-04	5.35E-04
1013	560732.1	4192342	6.89E-04	4.93E-04
1014	560736.8	4192270	8.43E-04	6.03E-04
1015	560733.1	4192288	8.05E-04	5.75E-04
1016	560729.5	4192305	7.59E-04	5.43E-04
1017	560725.9	4192323	7.07E-04	5.06E-04
1018	560722.3	4192340	6.52E-04	4.66E-04
1019	560727	4192268	7.99E-04	5.72E-04
1020	560723.4	4192286	7.62E-04	5.45E-04
1021	560719.7	4192303	7.19E-04	5.14E-04
1022	560716.1	4192321	6.70E-04	4.79E-04
1023	560712.5	4192338	6.17E-04	4.41E-04
1024	560717.2	4192266	7.59E-04	5.43E-04
1025	560713.6	4192284	7.23E-04	5.17E-04
1026	560710	4192301	6.82E-04	4.88E-04
1027	560706.3	4192319	6.36E-04	4.55E-04
1028	560702.7	4192336	5.86E-04	4.19E-04
1029	560873.7	4192397	1.82E-03	1.30E-03
1030	560864	4192395	1.65E-03	1.18E-03
1031	560860	4192412	1.46E-03	1.05E-03
1032	560856.1	4192430	1.27E-03	9.09E-04
1033	560854.2	4192393	1.50E-03	1.07E-03
1034	560850.3	4192410	1.33E-03	9.50E-04

1035	560846.4	4192428	1.15E-03	8.26E-04
1036	560844.4	4192390	1.38E-03	9.84E-04
1037	560842.5	4192399	1.30E-03	9.26E-04
1038	560838.6	4192417	1.14E-03	8.13E-04
1039	560834.7	4192434	9.83E-04	7.03E-04
1040	560834.7	4192388	1.27E-03	9.07E-04
1041	560830.8	4192406	1.12E-03	8.02E-04
1042	560826.8	4192423	9.77E-04	6.99E-04
1043	560824.9	4192386	1.17E-03	8.37E-04
1044	560821	4192404	1.04E-03	7.41E-04
1045	560817.1	4192421	9.02E-04	6.45E-04
1046	560815.1	4192430	8.37E-04	5.99E-04
1047	560815.2	4192384	1.08E-03	7.74E-04
1048	560811.2	4192401	9.59E-04	6.86E-04
1049	560807.3	4192419	8.36E-04	5.98E-04
1050	560805.4	4192382	1.01E-03	7.19E-04
1051	560801.5	4192399	8.91E-04	6.38E-04
1052	560797.6	4192417	7.78E-04	5.56E-04
1053	560795.6	4192379	9.37E-04	6.70E-04
1054	560791.7	4192397	8.31E-04	5.94E-04
1055	560787.8	4192415	7.26E-04	5.19E-04
1056	560785.9	4192377	8.75E-04	6.26E-04
1057	560782	4192395	7.77E-04	5.56E-04
1058	560778	4192412	6.80E-04	4.86E-04
1059	560776.1	4192375	8.20E-04	5.86E-04
1060	560774.2	4192384	7.74E-04	5.54E-04
1061	560770.2	4192401	6.83E-04	4.88E-04
1062	560766.3	4192419	5.95E-04	4.25E-04
1063	560766.4	4192373	7.69E-04	5.50E-04
1064	560762.4	4192390	6.84E-04	4.89E-04
1065	560758.5	4192408	6.01E-04	4.30E-04
1066	560756.6	4192371	7.24E-04	5.18E-04
1067	560752.7	4192388	6.44E-04	4.61E-04
1068	560748.8	4192406	5.67E-04	4.05E-04
1069	560746.8	4192415	5.29E-04	3.78E-04
1070	560746.8	4192369	6.82E-04	4.88E-04
1071	560742.9	4192386	6.08E-04	4.35E-04
1072	560739	4192404	5.35E-04	3.83E-04
1073	560739	4192358	6.79E-04	4.85E-04
1074	560735.1	4192375	6.09E-04	4.36E-04
1075	560731.2	4192393	5.41E-04	3.87E-04
1076	560727.3	4192410	4.74E-04	3.39E-04
1077	560729.3	4192355	6.42E-04	4.59E-04
1078	560725.4	4192373	5.77E-04	4.12E-04
1079	560721.4	4192391	5.12E-04	3.66E-04
1080	560717.5	4192408	4.50E-04	3.22E-04
1081	560719.5	4192353	6.08E-04	4.35E-04
1082	560715.6	4192371	5.47E-04	3.91E-04
1083	560711.7	4192388	4.86E-04	3.48E-04
1084	560707.8	4192406	4.28E-04	3.06E-04
1085	560709.8	4192351	5.76E-04	4.12E-04
1086	560707.8	4192360	5.48E-04	3.92E-04

1087	560703.9	4192377	4.91E-04	3.51E-04
1088	560700	4192395	4.35E-04	3.11E-04
1089	560700	4192349	5.47E-04	3.92E-04
1090	560696.1	4192366	4.94E-04	3.53E-04
1091	560692.2	4192384	4.40E-04	3.15E-04
1092	560688.2	4192402	3.89E-04	2.78E-04
1093	560852.1	4192454	1.04E-03	7.46E-04
1094	560842.2	4192453	9.38E-04	6.71E-04
1095	560840.5	4192470	8.23E-04	5.89E-04
1096	560832.3	4192452	8.55E-04	6.12E-04
1097	560830.6	4192469	7.46E-04	5.34E-04
1098	560822	4192453	7.66E-04	5.48E-04
1099	560823.9	4192439	8.58E-04	6.13E-04
1100	560820.6	4192469	6.77E-04	4.84E-04
1101	560812.1	4192452	7.00E-04	5.01E-04
1102	560810.6	4192468	6.16E-04	4.40E-04
1103	560802.2	4192451	6.44E-04	4.60E-04
1104	560804.3	4192435	7.30E-04	5.22E-04
1105	560800.6	4192468	5.64E-04	4.03E-04
1106	560792.2	4192450	5.94E-04	4.25E-04
1107	560794.5	4192434	6.78E-04	4.85E-04
1108	560782.3	4192449	5.50E-04	3.94E-04
1109	560784.7	4192432	6.32E-04	4.52E-04
1110	560772.4	4192448	5.12E-04	3.66E-04
1111	560773.6	4192439	5.50E-04	3.94E-04
1112	560774.9	4192430	5.91E-04	4.23E-04
1113	560762.2	4192449	4.70E-04	3.36E-04
1114	560764.3	4192434	5.30E-04	3.79E-04
1115	560752.3	4192448	4.40E-04	3.14E-04
1116	560754.4	4192432	4.98E-04	3.56E-04
1117	560742.3	4192447	4.12E-04	2.95E-04
1118	560744.6	4192431	4.68E-04	3.35E-04
1119	560732.4	4192446	3.87E-04	2.77E-04
1120	560734.7	4192429	4.42E-04	3.16E-04
1121	560722.4	4192445	3.65E-04	2.61E-04
1122	560724.9	4192428	4.17E-04	2.98E-04
1123	560712.3	4192446	3.40E-04	2.43E-04
1124	560714.4	4192431	3.82E-04	2.73E-04
1125	560702.4	4192445	3.22E-04	2.30E-04
1126	560704.5	4192429	3.62E-04	2.59E-04
1127	560692.4	4192444	3.05E-04	2.18E-04
1128	560694.6	4192428	3.43E-04	2.46E-04
1129	560696.9	4192412	3.86E-04	2.76E-04
1130	560682.5	4192443	2.89E-04	2.07E-04
1131	560684.8	4192427	3.27E-04	2.34E-04
1132	561570.5	4192470	3.82E-04	2.73E-04
1133	561116.5	4192516	7.28E-02	5.21E-02
1134	561122.2	4192517	7.23E-02	5.17E-02
1135	561127.4	4192519	7.13E-02	5.10E-02
1136	561132.3	4192520	6.98E-02	4.99E-02
1137	561136.5	4192521	6.81E-02	4.87E-02
1138	561141.7	4192522	6.54E-02	4.68E-02

1139	561146.4	4192523	6.21E-02	4.44E-02
1140	561149.5	4192524	5.92E-02	4.24E-02

			T2								T2L3							
										7.33E-07								5.42E-07
	UTM X	UTM Y	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
1	560828.8	4192712	1.43E-08	1.80E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	9.18E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.21E-09	6.78E-08
2	560833.9	4192728	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.35E-09	9.16E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.30E-09	3.20E-09	6.77E-08
3	560824.7	4192721	1.39E-08	1.74E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.15E-09	8.87E-08	9.91E-09	1.36E-08	1.06E-08	1.06E-08	1.06E-08	7.07E-09	3.10E-09	6.55E-08
4	560827.4	4192736	1.37E-08	1.72E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.08E-09	8.77E-08	9.81E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.00E-09	3.06E-09	6.48E-08
5	560817.8	4192728	1.33E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	9.71E-09	5.89E-09	8.49E-08	9.49E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.77E-09	2.96E-09	6.27E-08
6	560832.6	4192752	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.97E-09	6.05E-09	8.72E-08	9.74E-09	1.34E-08	1.04E-08	1.05E-08	1.04E-08	6.95E-09	3.04E-09	6.44E-08
7	560823.2	4192745	1.32E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	9.70E-09	5.88E-09	8.47E-08	9.47E-09	1.30E-08	1.01E-08	1.02E-08	1.01E-08	6.76E-09	2.96E-09	6.26E-08
8	560813.8	4192738	1.28E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	9.40E-09	5.70E-09	8.22E-08	9.19E-09	1.26E-08	9.83E-09	9.86E-09	9.83E-09	6.55E-09	2.87E-09	6.07E-08
9	560828.2	4192761	1.31E-08	1.65E-08	1.30E-08	1.30E-08	1.30E-08	9.62E-09	5.83E-09	8.41E-08	9.40E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.71E-09	2.94E-09	6.21E-08
10	560818.9	4192754	1.28E-08	1.61E-08	1.26E-08	1.27E-08	1.26E-08	9.37E-09	5.68E-09	8.19E-08	9.16E-09	1.25E-08	9.80E-09	9.83E-09	9.80E-09	6.53E-09	2.86E-09	6.05E-08
11	560809.6	4192747	1.24E-08	1.56E-08	1.23E-08	1.23E-08	1.23E-08	9.10E-09	5.52E-09	7.95E-08	8.89E-09	1.22E-08	9.52E-09	9.54E-09	9.52E-09	6.34E-09	2.78E-09	5.88E-08
12	560800.4	4192740	1.20E-08	1.51E-08	1.19E-08	1.19E-08	1.19E-08	8.82E-09	5.34E-09	7.70E-08	8.61E-09	1.18E-08	9.22E-09	9.24E-09	9.22E-09	6.15E-09	2.69E-09	5.69E-08
13	560831.7	4192776	1.30E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	9.48E-09	5.75E-09	8.28E-08	9.26E-09	1.27E-08	9.91E-09	9.94E-09	9.91E-09	6.61E-09	2.89E-09	6.12E-08
14	560822.1	4192769	1.26E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.26E-09	5.61E-09	8.09E-08	9.04E-09	1.24E-08	9.68E-09	9.70E-09	9.68E-09	6.45E-09	2.82E-09	5.98E-08
15	560812.5	4192762	1.23E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	9.01E-09	5.46E-09	7.87E-08	8.80E-09	1.21E-08	9.42E-09	9.45E-09	9.42E-09	6.28E-09	2.75E-09	5.82E-08
16	560802.9	4192754	1.19E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.74E-09	5.30E-09	7.64E-08	8.54E-09	1.17E-08	9.14E-09	9.17E-09	9.14E-09	6.10E-09	2.67E-09	5.65E-08
17	560793.4	4192747	1.16E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.47E-09	5.13E-09	7.40E-08	8.27E-09	1.13E-08	8.85E-09	8.88E-09	8.85E-09	5.90E-09	2.58E-09	5.47E-08
18	560827.1	4192785	1.25E-08	1.57E-08	1.23E-08	1.24E-08	1.23E-08	9.15E-09	5.55E-09	8.00E-08	8.94E-09	1.23E-08	9.57E-09	9.59E-09	9.57E-09	6.38E-09	2.79E-09	5.91E-08
19	560817.7	4192778	1.22E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.95E-09	5.42E-09	7.82E-08	8.74E-09	1.20E-08	9.35E-09	9.38E-09	9.35E-09	6.24E-09	2.73E-09	5.78E-08
20	560808.2	4192771	1.19E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.72E-09	5.29E-09	7.62E-08	8.52E-09	1.17E-08	9.12E-09	9.14E-09	9.12E-09	6.08E-09	2.66E-09	5.63E-08
21	560798.8	4192764	1.16E-08	1.46E-08	1.14E-08	1.15E-08	1.14E-08	8.48E-09	5.14E-09	7.41E-08	8.28E-09	1.14E-08	8.86E-09	8.89E-09	8.86E-09	5.91E-09	2.59E-09	5.47E-08
22	560789.4	4192756	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.22E-09	4.98E-09	7.19E-08	8.03E-09	1.10E-08	8.60E-09	8.62E-09	8.60E-09	5.73E-09	2.51E-09	5.31E-08
23	560998.7	4192564	9.31E-08	1.17E-07	9.19E-08	9.21E-08	9.19E-08	6.81E-08	4.13E-08	5.95E-07	6.66E-08	9.12E-08	7.12E-08	7.14E-08	7.12E-08	4.75E-08	2.08E-08	4.40E-07
24	561014.6	4192568	1.03E-07	1.30E-07	1.02E-07	1.02E-07	1.02E-07	7.57E-08	4.59E-08	6.62E-07	7.40E-08	1.01E-07	7.92E-08	7.94E-08	7.92E-08	5.28E-08	2.31E-08	4.89E-07
25	561030.5	4192573	1.07E-07	1.35E-07	1.06E-07	1.06E-07	1.06E-07	7.87E-08	4.77E-08	6.88E-07	7.69E-08	1.05E-07	8.23E-08	8.25E-08	8.23E-08	5.48E-08	2.40E-08	5.08E-07
26	560991.4	4192572	7.79E-08	9.80E-08	7.69E-08	7.71E-08	7.69E-08	5.70E-08	3.46E-08	4.98E-07	5.57E-08	7.64E-08	5.96E-08	5.98E-08	5.96E-08	3.98E-08	1.74E-08	3.68E-07
27	561004.1	4192576	8.49E-08	1.07E-07	8.38E-08	8.40E-08	8.38E-08	6.21E-08	3.77E-08	5.43E-07	6.07E-08	8.32E-08	6.50E-08	6.52E-08	6.50E-08	4.33E-08	1.90E-08	4.01E-07
28	561020	4192580	9.11E-08	1.15E-07	9.00E-08	9.02E-08	9.00E-08	6.67E-08	4.04E-08	5.83E-07	6.52E-08	8.93E-08	6.98E-08	6.99E-08	6.98E-08	4.65E-08	2.04E-08	4.31E-07
29	561035.9	4192584	9.42E-08	1.18E-07	9.30E-08	9.32E-08	9.30E-08	6.90E-08	4.18E-08	6.03E-07	6.74E-08	9.23E-08	7.21E-08	7.23E-08	7.21E-08	4.81E-08	2.10E-08	4.45E-07
30	560987.6	4192581	6.83E-08	8.59E-08	6.74E-08	6.76E-08	6.74E-08	5.00E-08	3.03E-08	4.37E-07	4.89E-08	6.70E-08	5.23E-08	5.24E-08	5.23E-08	3.49E-08	1.53E-08	3.23E-07
31	561001.5	4192585	7.42E-08	9.34E-08	7.33E-08	7.35E-08	7.33E-08	5.43E-08	3.29E-08	4.75E-07	5.31E-08	7.27E-08	5.68E-08	5.70E-08	5.68E-08	3.79E-08	1.66E-08	3.51E-07
32	561017.4	4192590	7.96E-08	1.00E-07	7.86E-08	7.88E-08	7.86E-08	5.83E-08	3.53E-08	5.09E-07	5.70E-08	7.80E-08	6.09E-08	6.11E-08	6.09E-08	4.06E-08	1.78E-08	3.76E-07
33	561033.2	4192594	8.30E-08	1.04E-07	8.19E-08	8.22E-08	8.19E-08	6.08E-08	3.68E-08	5.31E-07	5.94E-08	8.13E-08	6.35E-08	6.37E-08	6.35E-08	4.24E-08	1.85E-08	3.92E-07
34	560983.8	4192590	6.08E-08	7.65E-08	6.00E-08	6.02E-08	6.00E-08	4.45E-08	2.70E-08	3.89E-07	4.35E-08	5.96E-08	4.65E-08	4.67E-08	4.65E-08	3.10E-08	1.36E-08	2.87E-07
35	560998.9	4192595	6.59E-08	8.29E-08	6.51E-08	6.53E-08	6.51E-08	4.83E-08	2.93E-08	4.22E-07	4.72E-08	6.46E-08	5.05E-08	5.06E-08	5.05E-08	3.36E-08	1.47E-08	3.12E-07
36	561014.8	4192599	7.06E-08	8.87E-08	6.96E-08	6.98E-08	6.96E-08	5.16E-08	3.13E-08	4.51E-07	5.05E-08	6.91E-08	5.40E-08	5.42E-08	5.40E-08	3.60E-08	1.58E-08	3.34E-07
37	561030.6	4192604	7.38E-08	9.29E-08	7.29E-08	7.31E-08	7.29E-08	5.40E-08	3.28E-08	4.72E-07	5.28E-08	7.24E-08	5.65E-08	5.67E-08	5.65E-08	3.77E-08	1.65E-08	3.49E-07
38	560982.8	4192600	5.55E-08	6.98E-08	5.48E-08	5.49E-08	5.48E-08	4.06E-08	2.46E-08	3.55E-07	3.97E-08	5.44E-08	4.25E-08	4.26E-08	4.25E-08	2.83E-08	1.24E-08	2.62E-07
39	560996.3	4192605	5.93E-08	7.45E-08	5.85E-08	5.87E-08	5.85E-08	4.34E-08	2.63E-08	3.79E-07	4.24E-08	5.81E-08	4.54E-08	4.55E-08	4.54E-08	3.02E-08	1.32E-08	2.80E-07
40	561012.2	4192609	6.33E-08	7.95E-08	6.24E-08	6.26E-08	6.24E-08	4.63E-08	2.81E-08	4.05E-07	4.52E-08	6.20E-08	4.84E-08	4.85E-08	4.84E-08	3.23E-08	1.41E-08	2.99E-07
41	561028	4192613	6.62E-08	8.33E-08	6.54E-08	6.55E-08	6.54E-08	4.85E-08	2.94E-08	4.24E-07	4.74E-08	6.49E-08	5.07E-08	5.08E-08	5.07E-08	3.38E-08	1.48E-08	3.13E-07
42	560979.4	4192610	5.05E-08	6.35E-08	4.98E-08	5.00E-08	4.98E-08	3.69E-08	2.24E-08	3.23E-07	3.61E-08	4.95E-08	3.86E-08	3.87E-08	3.86E-08	2.58E-08	1.13E-08	2.39E-07
43	560993.7	4192614	5.38E-08	6.77E-08	5.31E-08	5.32E-08	5.31E-08	3.94E-08	2.39E-08	3.44E-07	3.85E-08	5.27E-08	4.12E-08	4.13E-08	4.12E-08	2.75E-08	1.20E-08	2.54E-07
44	561009.5	4192619	5.72E-08	7.19E-08	5.65E-08	5.66E-08	5.65E-08	4.19E-08	2.54E-08	3.66E-07	4.09E-08	5.60E-08	4.38E-08	4.39E-08	4.38E-08	2.92E-08	1.28E-08	2.70E-07
45	561025.4	4192623	5.98E-08	7.53E-08	5.91E-08	5.92E-08	5.91E-08	4.38E-08	2.66E-08	3.83E-07	4.28E-08	5.86E-08	4.58E-08	4.59E-08	4.58E-08	3.05E-08	1.34E-08	2.83E-07
46	560976	4192619	4.62E-08	5.82E-08	4.56E-08	4.58E-08	4.56E-08	3.38E-08	2.05E-08	2.96E-07	3.31E-08	4.53E-08	3.54E-08	3.55E-08	3.54E-08	2.36E-08	1.03E-08	2.19E-07
47	560991.1	4192624	4.92E-08	6.19E-08	4.86E-08	4.87E-08	4.86E-08	3.60E-08	2.18E-08	3.15E-07	3.52E-08	4.82E-08	3.76E-08	3.78E-08	3.76E-08	2.51E-08	1.10E-08	2.33E-07
48	561006.9	4192628	5.21E-08	6.55E-08	5.14E-08	5.16E-08	5.14E-08	3.81E-08	2.31E-08	3.33E-07	3.73E-08	5.11E-08	3.99E-08	4.00E-08	3.99E-08	2.66E-08	1.16E-08	2.46E-07
49	561022.8	4192633	5.44E-08	6.84E-08	5.37E-08	5.38E-08	5.37E-08	3.98E-08	2.41E-08	3.48E-07	3.89E-08	5.33E-08	4.16E-08	4.18E-08	4.16E-08	2.78E-08	1.22E-08	2.57E-07
50	560974.6	4192629	4.29E-08	5.40E-08	4.24E-08	4.25E-08	4.24E-08	3.14E-08	1.91E-08	2.75E-07	3.07E-08	4.21E-08	3.29E-08	3.30E-08	3.29E-08	2.19E-08	9.59E-09	2.03E-07
51	560962.8	4192624	4.09E-08	5.14E-08	4.04E-08	4.05E-08	4.04E-08	2.99E-08	1.81E-08	2.62E-07	2.92E-08	4.01E-08	3.13E-08	3.14E-08	3.13E-08	2.09E-08	9.13E-09	1.93E-07
52	560988.5	4192634	4.53E-08	5.69E-08	4.47E-08	4.48E-08	4.47E-08	3.31E-08	2.01E-08	2.90E-07	3.24E-08	4.44E-08	3.46E-08	3.47E-08	3.46E-08	2.31E-08	1.01E-08	2.14E-07
53	561004.3	4192638	4.78E-08	6.01E-08	4.72E-08	4.73E-08	4.72E-08	3.50E-08	2.12E-08	3.06E-07	3.42E-08	4.68E-08	3.66E-08	3.67E-08	3.66E-08	2.44E-08	1.07E-08	2.26E-07
54	561020.2	4192642	4.98E-08	6.26E-08	4.91E-08	4.92E-08	4.91E-08	3.64E-08	2.21E-08	3.18E-07	3.56E-08	4.87E-08	3.81E-08	3.82E-08	3.81E-08	2.54E-08	1.11E-08	2.35E-07
55	560971.4	4192639	3.98E-08	5.00E-08	3.93E-08	3.94E-08	3.93E-08	2.91E-08	1.77E-08	2.55E-07	2.85E-08	3.90E-08	3.04E-08	3.05E-08	3.04E-08	2.03E-08	8.89E-09	1.88E-07
56	560958.4	4192633	3.78E-08	4.76E-08	3.73E-08	3.74E-08	3.73E-08	2.77E-08	1.68E-08	2.42E-07	2.71E-08	3.71E-08	2.89E-08	2.90E-08	2.89E-08	1.93E-08	8.45E-09	1.79E-07
57	560985.9	4192643	4.19E-08	5.27E-08	4.13E-08	4.14E-08	4.13E-08	3.06E-08	1.86E-08	2.68E-07	2.99E-08	4.10E-08	3.20E-08	3.21E-08	3.20E-08	2.14E-08	9.35E-09	1.98E-07
58	561001.7	4192648	4.40E-08	5.54E-08	4.34E-08	4.36E-08	4.34E-08	3.22E-08	1.95E-08	2.82E-07	3.15E-08	4.31E-08	3.37E-08	3.38E-08	3.37E-08	2.25E-08	9.83E-09	2.08E-07
59	561017.6	4192652	4.57E-08	5.75E-08	4.51E-08	4.52E-08	4.51E-08	3.35E-08	2.03E-08	2.92E-07	3.27E-08	4.48E-08	3.50E-08	3.51E-08	3.50E-08	2.33E-08	1.02E-08	2.16E-07
60	560968.2	4192648	3.70E-08	4.66E-08	3.65E-08	3.66E-08	3.65E-08	2.71E-08	1.64E-08	2.37E-07	2.65E-08	3.63E-08	2.83E-08	2.84E-08	2.83E-08	1.89E-08	8.27E-09	1.75E-07
61	560954.1	4192642	3.52E-08	4.42E-08	3.47E-08	3.48E-08	3.47E-08	2.57E-08	1.56E-08	2.25E-07	2.51E-08	3.45E-08	2.69E-08	2.70E-08	2.69E-08	1.79E-08	7.85E-09	1.66E-07
62	560983.2	4192653	3.89E-08	4.89E-08	3.84E-08	3.85E-08	3.84E-08	2.85E-08	1.73E-08	2.49E-07	2.78E-08	3.81E-08	2.98E-08	2.98E-08	2.98E-08	1.98E-08	8.69E-09	1.84E-07
63	560999.1	4192657	4.07E-08	5.12E-08	4.02E-08	4.03E-08	4.02E-08	2.98E-08	1.81E-08	2.61E-07	2.91E-08	3.99E-08	3.12E-08	3.13E-08	3.12E-08	2.08E-08	9.10E-09	1.93E-07
64	561015	4192662	4.22E-08	5.30E-08	4.16E-08	4.17E-08	4.16E-08	3.09E-08	1.87E-08	2.70E-07	3.02E-08	4.13E-08	3.23E-08	3.24E-08	3.23E-08	2.15E-08	9.42E-09	1.99E-07
65	560966.6	4192658	3.47E-08	4.37E-08	3.43E-08	3.44E-08	3.43E-08	2.54E-08	1.54E-08	2.22E-07	2.48E-08	3.40E-08	2.66E-08	2.67E-08	2.66E-08	1.77E-08	7.76E-09	1.64E-07
66	560954.3	4192653	3.34E-08	4.20E-08	3.29E-08	3.30E-08	3.29E-08	2.44E-08	1.48E-08	2.13E-07	2.39E-08	3.27E-08	2.55E-08	2.56E-08	2.55E-08	1.70E-08	7.46E-09	1.58E-07
67	560980.6	4192663	3.63E-08	4.56E-08	3.58E-08	3.59E-08	3.58E-08	2.65E-08	1.61E-08	2.32E-07	2.59E-08	3.55E-08	2.77E-08	2.78E-08	2.77E-08	1.85E-08	8.10E-09	1.71E-07
68	560996.5	4192667	3.79E-08	4.76E-08	3.74E-08	3.75E-08	3.74E-08	2.77E-08	1.68E-08	2.42E-07	2.71E-08	3.71E-08	2.90E-08	2.90E-08	2.90E-08	1.93E-08	8.46E-09	1.79E-07
69	561012.4	4192671	3.91E-08	4.91E-08	3.86E-08	3.87E-08	3.86E-08	2.86E-08	1.73E-08	2.50E-07	2.79E-08	3.83E-08	2.99E-08	3.00E-08	2.99E-08	1.99E-08	8.73E-09	1.85E-07
70	560963.5	4192667	3.26E-08	4.09E-08	3.21E-08	3.22E-08	3.21E-08	2.38E-08	1.44E-08	2.08E-07	2.33E-08	3.19E-08	2.49E-08	2.50E-08	2.49E-08	1.66E-08	7.27E-09	1.54E-07
71	560950.3	4192662	3.13E-08	3.93E-08	3.09E-08	3.09E-08	3.09E-08	2.29E-08	1.39E-08	2.00E-07	2.24E-08	3.06E-08	2.39E-08	2.40E-08	2.39E-08	1.60E-08	6.98E-09	1.48E-07
72	560978	4192672	3.39E-08	4.27E-08	3.35E-08	3.36E-08	3.35E-08	2.48E-08	1.50E-08	2.17E-07	2.43E-08	3.32E-08	2.60E-08	2.60E-08	2.60E-08	1.73E-08	7.58E-09	1.60E-07
73	560993.9	4192677	3.53E-08	4.44E-08	3.48E-08	3.49E-08	3.48E-08	2.58E-08	1.57E-08	2.26E-07	2.52E-08	3.46E-08	2.70E-08	2.71E-08	2.70E-08	1.80E-08	7.88E-09	1.67E-07
74	561009.8	4192681	3.63E-08	4.57E-08	3.58E-08	3.59E-08	3.58E-08	2.66E-08	1.61E-08	2.32E-07	2.60E-08	3.56E-08	2.78E-08	2.79E-08	2.78E-08	1.85E-08	8.11E-09	1.72E-07
75	560960.4	4192677	3.06E-08	3.85E-08	3.02E-08	3.03E-08	3.02E-08	2.24E-08	1.36E-08	1.96E-07	2.19E-08	3.00E-08	2.34E-08	2.35E-08	2.34E-08	1.56E-08	6.84E-09	1.45E-07
76	560946.2	4192671	2.94E-08	3.69E-08	2.90E-08	2.91E-08	2.90E-08	2.15E-08	1.30E-08	1.88E-07	2.10E-08	2.88E-08	2.25E-08	2.25E-08	2.25E-08	1.50E-08	6.56E-09	1.39E-07
77	560975.4	4192682	3.18E-08	4.00E-08	3.14E-08	3.15E-08	3.14E-08	2.33E-08	1.41E-08	2.03E-07	2.27E-08	3.12E-08	2.43E-08	2.44E-08	2.43E-08	1.62E-08	7.11E-09	1.50E-07
78	560991.3	4192686	3.30E-08	4.15E-08	3.26E-08	3.26E-08	3.26E-08	2.41E-08	1.46E-08	2.11E-07	2.36E-08	3.23E-08	2.52E-08	2.53E-08	2.52E-08	1.68E-08	7.37E-09	1.56E-07
79	561007.2	4192691	3.39E-08	4.26E-08	3.34E-08	3.35E-08	3.34E-08	2.48E-08	1.50E-08	2.17E-07	2.42E-08	3.32E-08	2.59E-08	2.60E-08	2.59E-08	1.73E-08	7.56E-09	1.60E-07
80	560957.3	4192686	2.88E-08	3.63E-08	2.84E-08	2.85E-08	2.84E-08	2.11E-08	1.28E-08	1.84E-07	2.06E-08	2.82E-08	2.21E-08	2.21E-08	2.21E-08	1.47E-08	6.44E-09	1.36E-07
81	560942.2	4192680	2.77E-08	3.48E-08	2.73E-08	2.74E-08	2.73E-08	2.03E-08	1.23E-08	1.77E-07	1.98E-08	2.71E-08	2.12E-08	2.12E-08	2.12E-08	1.41E-08	6.18E-09	1.31E-07
82	560972.8	4192692	2.99E-08	3.76E-08	2.95E-08	2.96E-08	2.95E-08	2.19E-08	1.33E-08	1.91E-07	2.14E-08	2.93E-08	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.68E-09	1.41E-07
83	560988.7	4192696	3.09E-08	3.89E-08	3.05E-08	3.06E-08	3.05E-08	2.26E-08	1.37E-08	1.98E-07	2.21E-08	3.03E-08	2.37E-08	2.37E-08	2.37E-08	1.58E-08	6.91E-09	1.46E-07
84	561004.6	4192700	3.17E-08	3.98E-08	3.13E-08	3.13E-08	3.13E-08	2.32E-08	1.40E-08	2.03E-07	2.26E-08	3.10E-08	2.42E-08	2.43E-08	2.42E-08	1.62E-08	7.07E-09	1.50E-07
85	560955.6	4192696	2.73E-08	3.43E-08	2.69E-08	2.70E-08	2.69E-08	2.00E-08	1.21E-08	1.75E-07	1.95E-08	2.67E-08	2.09E-08	2.09E-08	2.09E-08	1.39E-08	6.10E-09	1.29E-07
86	560942.2	4192691	2.64E-08	3.32E-08	2.61E-08	2.62E-08	2.61E-08	1.93E-08	1.17E-08	1.69E-07	1.89E-08	2.59E-08	2.02E-08	2.03E-08	2.02E-08	1.35E-08	5.90E-09	1.25E-07
87	560970.2	4192701	2.82E-08	3.54E-08	2.78E-08	2.79E-08	2.78E-08	2.06E-08	1.25E-08	1.80E-07	2.02E-08	2.76E-08	2.16E-08	2.16E-08	2.16E-08	1.44E-08	6.30E-09	1.33E-07

88	560986.1	4192706	2.91E-08	3.66E-08	2.87E-08	2.88E-08	2.87E-08	2.13E-08	1.29E-08	1.86E-07	2.08E-08	2.85E-08	2.22E-08	2.23E-08	2.22E-08	1.48E-08	6.49E-09	1.37E-07
89	561002	4192710	2.97E-08	3.73E-08	2.93E-08	2.94E-08	2.93E-08	2.17E-08	1.32E-08	1.90E-07	2.12E-08	2.91E-08	2.27E-08	2.28E-08	2.27E-08	1.51E-08	6.63E-09	1.40E-07
90	560952.6	4192706	2.58E-08	3.25E-08	2.55E-08	2.56E-08	2.55E-08	1.89E-08	1.15E-08	1.65E-07	1.85E-08	2.53E-08	1.98E-08	1.98E-08	1.98E-08	1.32E-08	5.77E-09	1.22E-07
91	560938.4	4192700	2.50E-08	3.14E-08	2.47E-08	2.47E-08	2.47E-08	1.83E-08	1.11E-08	1.60E-07	1.79E-08	2.45E-08	1.91E-08	1.92E-08	1.91E-08	1.28E-08	5.59E-09	1.18E-07
92	560967.6	4192711	2.66E-08	3.35E-08	2.63E-08	2.63E-08	2.63E-08	1.95E-08	1.18E-08	1.70E-07	1.90E-08	2.61E-08	2.04E-08	2.04E-08	2.04E-08	1.36E-08	5.95E-09	1.26E-07
93	560983.5	4192715	2.74E-08	3.44E-08	2.70E-08	2.71E-08	2.70E-08	2.00E-08	1.21E-08	1.75E-07	1.96E-08	2.68E-08	2.10E-08	2.10E-08	2.10E-08	1.40E-08	6.12E-09	1.29E-07
94	560999.4	4192720	2.79E-08	3.51E-08	2.75E-08	2.76E-08	2.75E-08	2.04E-08	1.24E-08	1.78E-07	2.00E-08	2.73E-08	2.14E-08	2.14E-08	2.14E-08	1.42E-08	6.23E-09	1.32E-07
95	560949.6	4192715	2.45E-08	3.08E-08	2.42E-08	2.42E-08	2.42E-08	1.79E-08	1.09E-08	1.57E-07	1.75E-08	2.40E-08	1.87E-08	1.88E-08	1.87E-08	1.25E-08	5.47E-09	1.16E-07
96	560934.7	4192709	2.37E-08	2.98E-08	2.34E-08	2.35E-08	2.34E-08	1.74E-08	1.05E-08	1.52E-07	1.70E-08	2.32E-08	1.81E-08	1.82E-08	1.81E-08	1.21E-08	5.30E-09	1.12E-07
97	560965	4192721	2.52E-08	3.17E-08	2.49E-08	2.49E-08	2.49E-08	1.84E-08	1.12E-08	1.61E-07	1.80E-08	2.47E-08	1.93E-08	1.93E-08	1.93E-08	1.28E-08	5.63E-09	1.19E-07
98	560980.9	4192725	2.58E-08	3.25E-08	2.55E-08	2.56E-08	2.55E-08	1.89E-08	1.15E-08	1.65E-07	1.85E-08	2.53E-08	1.98E-08	1.98E-08	1.98E-08	1.32E-08	5.77E-09	1.22E-07
99	560996.8	4192729	2.63E-08	3.30E-08	2.59E-08	2.60E-08	2.59E-08	1.92E-08	1.17E-08	1.68E-07	1.88E-08	2.58E-08	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.87E-09	1.24E-07
100	560947.7	4192725	2.33E-08	2.93E-08	2.30E-08	2.30E-08	2.30E-08	1.70E-08	1.03E-08	1.49E-07	1.66E-08	2.28E-08	1.78E-08	1.79E-08	1.78E-08	1.19E-08	5.20E-09	1.10E-07
101	560934.2	4192720	2.27E-08	2.85E-08	2.24E-08	2.25E-08	2.24E-08	1.66E-08	1.01E-08	1.45E-07	1.62E-08	2.22E-08	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.07E-09	1.07E-07
102	560962.4	4192730	2.39E-08	3.00E-08	2.36E-08	2.36E-08	2.36E-08	1.75E-08	1.06E-08	1.53E-07	1.71E-08	2.34E-08	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.33E-09	1.13E-07
103	560978.3	4192735	2.44E-08	3.07E-08	2.41E-08	2.42E-08	2.41E-08	1.79E-08	1.08E-08	1.56E-07	1.75E-08	2.39E-08	1.87E-08	1.87E-08	1.87E-08	1.25E-08	5.46E-09	1.15E-07
104	560994.2	4192739	2.48E-08	3.12E-08	2.45E-08	2.45E-08	2.45E-08	1.82E-08	1.10E-08	1.59E-07	1.77E-08	2.43E-08	1.90E-08	1.90E-08	1.90E-08	1.27E-08	5.54E-09	1.17E-07
105	560939.9	4192754	2.01E-08	2.53E-08	1.99E-08	1.99E-08	1.99E-08	1.47E-08	8.93E-09	1.29E-07	1.44E-08	1.97E-08	1.54E-08	1.54E-08	1.54E-08	1.03E-08	4.49E-09	9.51E-08
106	560926.3	4192749	1.97E-08	2.48E-08	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	9.32E-08
107	560954.6	4192759	2.05E-08	2.58E-08	2.02E-08	2.03E-08	2.02E-08	1.50E-08	9.10E-09	1.31E-07	1.47E-08	2.01E-08	1.57E-08	1.57E-08	1.57E-08	1.05E-08	4.58E-09	9.69E-08
108	560970.5	4192764	2.09E-08	2.62E-08	2.06E-08	2.07E-08	2.06E-08	1.53E-08	9.26E-09	1.34E-07	1.49E-08	2.05E-08	1.60E-08	1.60E-08	1.60E-08	1.06E-08	4.66E-09	9.87E-08
109	560986.4	4192768	2.11E-08	2.65E-08	2.08E-08	2.09E-08	2.08E-08	1.54E-08	9.36E-09	1.35E-07	1.51E-08	2.07E-08	1.61E-08	1.62E-08	1.61E-08	1.08E-08	4.71E-09	9.97E-08
110	560937	4192764	1.92E-08	2.41E-08	1.90E-08	1.90E-08	1.90E-08	1.41E-08	8.52E-09	1.23E-07	1.37E-08	1.88E-08	1.47E-08	1.47E-08	1.47E-08	9.80E-09	4.29E-09	9.08E-08
111	560922.8	4192758	1.88E-08	2.37E-08	1.86E-08	1.86E-08	1.86E-08	1.38E-08	8.36E-09	1.21E-07	1.35E-08	1.85E-08	1.44E-08	1.45E-08	1.44E-08	9.61E-09	4.21E-09	8.90E-08
112	560952	4192769	1.95E-08	2.46E-08	1.93E-08	1.93E-08	1.93E-08	1.43E-08	8.67E-09	1.25E-07	1.40E-08	1.92E-08	1.50E-08	1.50E-08	1.50E-08	9.97E-09	4.37E-09	9.24E-08
113	560967.9	4192773	1.99E-08	2.50E-08	1.96E-08	1.97E-08	1.96E-08	1.45E-08	8.81E-09	1.27E-07	1.42E-08	1.95E-08	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.44E-09	9.39E-08
114	560983.8	4192777	2.00E-08	2.52E-08	1.98E-08	1.98E-08	1.98E-08	1.47E-08	8.89E-09	1.28E-07	1.43E-08	1.96E-08	1.53E-08	1.54E-08	1.53E-08	1.02E-08	4.48E-09	9.48E-08
115	560934.1	4192773	1.84E-08	2.31E-08	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.14E-09	1.17E-07	1.31E-08	1.80E-08	1.40E-08	1.41E-08	1.40E-08	9.36E-09	4.10E-09	8.68E-08
116	560919.3	4192767	1.80E-08	2.27E-08	1.78E-08	1.78E-08	1.78E-08	1.32E-08	7.99E-09	1.15E-07	1.29E-08	1.77E-08	1.38E-08	1.38E-08	1.38E-08	9.19E-09	4.03E-09	8.52E-08
117	560949.4	4192779	1.87E-08	2.35E-08	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.52E-09	4.17E-09	8.82E-08
118	560965.3	4192783	1.89E-08	2.38E-08	1.87E-08	1.87E-08	1.87E-08	1.39E-08	8.40E-09	1.21E-07	1.35E-08	1.85E-08	1.45E-08	1.45E-08	1.45E-08	9.66E-09	4.23E-09	8.95E-08
119	560981.2	4192787	1.91E-08	2.40E-08	1.88E-08	1.89E-08	1.88E-08	1.40E-08	8.47E-09	1.22E-07	1.36E-08	1.87E-08	1.46E-08	1.46E-08	1.46E-08	9.74E-09	4.26E-09	9.02E-08
120	560932	4192783	1.76E-08	2.21E-08	1.73E-08	1.74E-08	1.73E-08	1.29E-08	7.80E-09	1.12E-07	1.26E-08	1.72E-08	1.34E-08	1.35E-08	1.34E-08	8.97E-09	3.93E-09	8.31E-08
121	560918.4	4192778	1.73E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.68E-09	1.11E-07	1.24E-08	1.70E-08	1.32E-08	1.33E-08	1.32E-08	8.83E-09	3.87E-09	8.18E-08
122	560946.8	4192788	1.78E-08	2.24E-08	1.76E-08	1.76E-08	1.76E-08	1.30E-08	7.91E-09	1.14E-07	1.27E-08	1.75E-08	1.36E-08	1.37E-08	1.36E-08	9.10E-09	3.98E-09	8.43E-08
123	560962.7	4192793	1.81E-08	2.27E-08	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.02E-09	1.16E-07	1.29E-08	1.77E-08	1.38E-08	1.39E-08	1.38E-08	9.22E-09	4.04E-09	8.54E-08
124	560978.6	4192797	1.82E-08	2.29E-08	1.80E-08	1.80E-08	1.80E-08	1.33E-08	8.07E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	9.28E-09	4.06E-09	8.60E-08
125	560929.2	4192793	1.68E-08	2.12E-08	1.66E-08	1.67E-08	1.66E-08	1.23E-08	7.47E-09	1.08E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.59E-09	3.76E-09	7.96E-08
126	560915	4192787	1.66E-08	2.09E-08	1.64E-08	1.64E-08	1.64E-08	1.21E-08	7.36E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.27E-08	1.27E-08	8.47E-09	3.71E-09	7.84E-08
127	560944.2	4192798	1.71E-08	2.14E-08	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.57E-09	1.09E-07	1.22E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	8.70E-09	3.81E-09	8.06E-08
128	560960.1	4192802	1.73E-08	2.17E-08	1.70E-08	1.71E-08	1.70E-08	1.26E-08	7.66E-09	1.10E-07	1.23E-08	1.69E-08	1.32E-08	1.32E-08	1.32E-08	8.81E-09	3.86E-09	8.16E-08
129	560976	4192806	1.74E-08	2.18E-08	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.70E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.86E-09	3.88E-09	8.21E-08
130	560926.3	4192802	1.61E-08	2.03E-08	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.16E-09	1.03E-07	1.15E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	8.23E-09	3.61E-09	7.63E-08
131	560911.6	4192796	1.59E-08	2.00E-08	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.06E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.12E-09	3.56E-09	7.52E-08
132	560941.6	4192808	1.63E-08	2.05E-08	1.61E-08	1.62E-08	1.61E-08	1.20E-08	7.25E-09	1.04E-07	1.17E-08	1.60E-08	1.25E-08	1.25E-08	1.25E-08	8.33E-09	3.65E-09	7.72E-08
133	560957.5	4192812	1.65E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.33E-09	1.06E-07	1.18E-08	1.62E-08	1.26E-08	1.27E-08	1.26E-08	8.42E-09	3.69E-09	7.80E-08
134	560973.4	4192816	1.66E-08	2.09E-08	1.64E-08	1.64E-08	1.64E-08	1.21E-08	7.36E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.27E-08	1.27E-08	8.47E-09	3.71E-09	7.84E-08
135	560924.2	4192812	1.55E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.87E-09	9.91E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.91E-09	3.46E-09	7.32E-08
136	560910.5	4192807	1.53E-08	1.93E-08	1.51E-08	1.52E-08	1.51E-08	1.12E-08	6.80E-09	9.80E-08	1.10E-08	1.50E-08	1.17E-08	1.18E-08	1.17E-08	7.82E-09	3.42E-09	7.24E-08
137	560939	4192817	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.95E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	7.40E-08
138	560954.9	4192821	1.58E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	7.47E-08
139	560970.8	4192826	1.59E-08	2.00E-08	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.05E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.10E-09	3.55E-09	7.51E-08
140	560921.4	4192822	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.60E-09	9.52E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.59E-09	3.32E-09	7.03E-08
141	560907.2	4192816	1.47E-08	1.85E-08	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.53E-09	9.42E-08	1.05E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	7.52E-09	3.29E-09	6.96E-08
142	560936.4	4192827	1.50E-08	1.89E-08	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	9.61E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	7.10E-08
143	560952.3	4192831	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	9.70E-08	1.08E-08	1.49E-08	1.16E-08	1.16E-08	1.16E-08	7.73E-09	3.39E-09	7.16E-08
144	560968.2	4192835	1.52E-08	1.91E-08	1.50E-08	1.51E-08	1.50E-08	1.11E-08	6.75E-09	9.73E-08	1.09E-08	1.49E-08	1.16E-08	1.17E-08	1.16E-08	7.76E-09	3.40E-09	7.19E-08
145	560918.5	4192831	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.35E-09	9.15E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.30E-09	3.20E-09	6.76E-08
146	560903.9	4192825	1.42E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.29E-09	9.06E-08	1.01E-08	1.39E-08	1.08E-08	1.09E-08	1.08E-08	7.23E-09	3.17E-09	6.70E-08
147	560933.8	4192837	1.44E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	1.06E-08	6.40E-09	9.23E-08	1.03E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	7.36E-09	3.22E-09	6.82E-08
148	560949.7	4192841	1.45E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.06E-08	6.45E-09	9.30E-08	1.04E-08	1.43E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	6.88E-08
149	560965.6	4192845	1.46E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	9.33E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.44E-09	3.26E-09	6.89E-08
150	561056.9	4192580	1.11E-07	1.39E-07	1.09E-07	1.09E-07	1.09E-07	8.09E-08	4.91E-08	7.07E-07	7.91E-08	1.08E-07	8.46E-08	8.49E-08	8.46E-08	5.64E-08	2.47E-08	5.23E-07
151	561066.1	4192582	1.13E-07	1.42E-07	1.11E-07	1.11E-07	1.11E-07	8.24E-08	5.00E-08	7.20E-07	8.05E-08	1.10E-07	8.62E-08	8.64E-08	8.62E-08	5.75E-08	2.52E-08	5.32E-07
152	561075.3	4192585	1.14E-07	1.44E-07	1.13E-07	1.13E-07	1.13E-07	8.36E-08	5.07E-08	7.30E-07	8.17E-08	1.12E-07	8.74E-08	8.76E-08	8.74E-08	5.83E-08	2.55E-08	5.40E-07
153	561084.5	4192587	1.15E-07	1.44E-07	1.13E-07	1.13E-07	1.13E-07	8.39E-08	5.09E-08	7.33E-07	8.20E-08	1.12E-07	8.77E-08	8.80E-08	8.77E-08	5.85E-08	2.56E-08	5.42E-07
154	561093.8	4192590	1.14E-07	1.43E-07	1.12E-07	1.12E-07	1.12E-07	8.32E-08	5.04E-08	7.27E-07	8.13E-08	1.11E-07	8.70E-08	8.72E-08	8.70E-08	5.80E-08	2.54E-08	5.37E-07
155	561103	4192592	1.11E-07	1.40E-07	1.10E-07	1.10E-07	1.10E-07	8.14E-08	4.93E-08	7.11E-07	7.95E-08	1.09E-07	8.51E-08	8.53E-08	8.51E-08	5.67E-08	2.48E-08	5.26E-07
156	561112.2	4192595	1.07E-07	1.35E-07	1.06E-07	1.06E-07	1.06E-07	7.84E-08	4.75E-08	6.85E-07	7.66E-08	1.05E-07	8.20E-08	8.22E-08	8.20E-08	5.47E-08	2.39E-08	5.06E-07
157	561121.4	4192597	1.01E-07	1.27E-07	9.99E-08	1.00E-07	9.99E-08	7.41E-08	4.49E-08	6.48E-07	7.24E-08	9.92E-08	7.75E-08	7.77E-08	7.75E-08	5.17E-08	2.26E-08	4.79E-07
158	561130.6	4192600	9.35E-08	1.18E-07	9.22E-08	9.25E-08	9.22E-08	6.84E-08	4.15E-08	5.98E-07	6.68E-08	9.16E-08	7.15E-08	7.17E-08	7.15E-08	4.77E-08	2.09E-08	4.42E-07
159	561054.3	4192589	9.68E-08	1.22E-07	9.56E-08	9.58E-08	9.56E-08	7.09E-08	4.30E-08	6.19E-07	6.93E-08	9.49E-08	7.41E-08	7.43E-08	7.41E-08	4.94E-08	2.16E-08	4.58E-07
160	561063.5	4192592	9.80E-08	1.23E-07	9.68E-08	9.70E-08	9.68E-08	7.18E-08	4.35E-08	6.27E-07	7.01E-08	9.61E-08	7.50E-08	7.52E-08	7.50E-08	5.00E-08	2.19E-08	4.63E-07
161	561072.7	4192594	9.88E-08	1.24E-07	9.75E-08	9.78E-08	9.75E-08	7.23E-08	4.38E-08	6.32E-07	7.07E-08	9.68E-08	7.56E-08	7.58E-08	7.56E-08	5.04E-08	2.21E-08	4.67E-07
162	561081.9	4192597	9.88E-08	1.24E-07	9.75E-08	9.78E-08	9.75E-08	7.23E-08	4.38E-08	6.32E-07	7.07E-08	9.68E-08	7.56E-08	7.58E-08	7.56E-08	5.04E-08	2.21E-08	4.67E-07
163	561091.2	4192599	9.79E-08	1.23E-07	9.66E-08	9.68E-08	9.66E-08	7.16E-08	4.34E-08	6.26E-07	7.00E-08	9.59E-08	7.49E-08	7.51E-08	7.49E-08	4.99E-08	2.19E-08	4.63E-07
164	561100.4	4192602	9.57E-08	1.20E-07	9.45E-08	9.47E-08	9.45E-08	7.01E-08	4.25E-08	6.12E-07	6.84E-08	9.38E-08	7.32E-08	7.34E-08	7.32E-08	4.88E-08	2.14E-08	4.52E-07
165	561109.6	4192604	9.23E-08	1.16E-07	9.11E-08	9.13E-08	9.11E-08	6.76E-08	4.10E-08	5.90E-07	6.60E-08	9.04E-08	7.06E-08	7.08E-08	7.06E-08	4.71E-08	2.06E-08	4.36E-07
166	561118.8	4192607	8.76E-08	1.10E-07	8.64E-08	8.67E-08	8.64E-08	6.41E-08	3.89E-08	5.60E-07	6.26E-08	8.58E-08	6.70E-08	6.72E-08	6.70E-08	4.47E-08	1.96E-08	4.14E-07
167	561128	4192609	8.16E-08	1.03E-07	8.05E-08	8.07E-08	8.05E-08	5.97E-08	3.62E-08	5.22E-07	5.83E-08	7.99E-08	6.24E-08	6.26E-08	6.24E-08	4.16E-08	1.82E-08	3.86E-07
168	561051.7	4192599	8.56E-08	1.08E-07	8.45E-08	8.47E-08	8.45E-08	6.26E-08	3.80E-08	5.47E-07	6.12E-08	8.39E-08	6.55E-08	6.57E-08	6.55E-08	4.37E-08	1.91E-08	4.05E-07
169	561060.9	4192602	8.64E-08	1.09E-07	8.53E-08	8.55E-08	8.53E-08	6.32E-08	3.83E-08	5.53E-07	6.18E-08	8.47E-08	6.61E-08	6.63E-08	6.61E-08	4.41E-08	1.93E-08	4.08E-07
170	561070.1	4192604	8.68E-08	1.09E-07	8.56E-08	8.59E-08	8.56E-08	6.35E-08	3.85E-08	5.55E-07	6.20E-08	8.50E-08	6.64E-08	6.66E-08	6.64E-08	4.43E-08	1.94E-08	4.10E-07
171	561079.3	4192606	8.65E-08	1.09E-07	8.54E-08	8.56E-08	8.54E-08	6.33E-08	3.84E-08	5.53E-07	6.19E-08	8.48E-08	6.62E-08	6.64E-08	6.62E-08	4.41E-08	1.93E-08	4.09E-07
172	561088.5	4192609	8.55E-08	1.07E-07	8.44E-08	8.46E-08	8.44E-08	6.26E-08	3.79E-08	5.47E-07	6.11E-08	8.38E-08	6.54E-08	6.56E-08	6.54E-08	4.36E-08	1.91E-08	4.04E-07
173	561097.8	4192611	8.36E-08	1.05E-07	8.25E-08	8.27E-08	8.25E-08	6.12E-08	3.71E-08	5.35E-07	5.98E-08	8.19E-08	6.40E-08	6.41E-08	6.40E-08	4.26E-08	1.87E-08	3.95E-07
174	561107	4192614	8.07E-08	1.02E-07	7.97E-08	7.99E-08	7.97E-08	5.91E-08	3.58E-08	5.16E-07	5.77E-08	7.91E-08	6.18E-08	6.19E-08	6.18E-08	4.12E-08	1.80E-08	3.82E-07
175	561116.2	4192616	7.69E-08	9.67E-08	7.59E-08	7.61E-08	7.59E-08	5.63E-08	3.41E-08	4.92E-07	5.50E-08	7.53E-08	5.88E-08	5.90E-08	5.88E-08	3.92E-08	1.72E-08	3.63E-07
176	561125.4	4192619	7.22E-08	9.08E-08	7.13E-08	7.15E-08	7.13E-08	5.28E-08	3.20E-08	4.62E-07	5.16E-08	7.08E-08	5.53E-08	5.54E-08	5.53E-08	3.68E-08	1.61E-08	3.41E-07
177	561049.1	4192609	7.63E-08	9.59E-08	7.53E-08	7.55E-08	7.53E-08	5.58E-08	3.38E-08	4.88E-07	5.45E-08	7.47E-08	5.84E-08	5.85E-08	5.84E-08	3.89E-08	1.70E-08	3.60E-07
178	561058.3	4192611	7.69E-08	9.67E-08	7.59E-08	7.61E-08	7.59E-08	5.63E-08	3.41E-08	4.92E-07	5.50E-08	7.53E-08	5.88E-08	5.90E-08	5.88E-08	3.92E-08	1.72E-08	3.63E-07

179	561067.5	4192614	7.70E-08	9.69E-08	7.60E-08	7.62E-08	7.60E-08	5.64E-08	3.42E-08	4.93E-07	5.51E-08	7.55E-08	5.89E-08	5.91E-08	5.89E-08	3.93E-08	1.72E-08	3.64E-07
180	561076.7	4192616	7.66E-08	9.64E-08	7.56E-08	7.58E-08	7.56E-08	5.61E-08	3.40E-08	4.90E-07	5.48E-08	7.51E-08	5.86E-08	5.88E-08	5.86E-08	3.91E-08	1.71E-08	3.62E-07
181	561085.9	4192619	7.56E-08	9.51E-08	7.46E-08	7.48E-08	7.46E-08	5.53E-08	3.36E-08	4.84E-07	5.41E-08	7.41E-08	5.79E-08	5.80E-08	5.79E-08	3.86E-08	1.69E-08	3.57E-07
182	561095.2	4192621	7.39E-08	9.30E-08	7.29E-08	7.32E-08	7.29E-08	5.41E-08	3.28E-08	4.73E-07	5.29E-08	7.24E-08	5.66E-08	5.67E-08	5.66E-08	3.77E-08	1.65E-08	3.49E-07
183	561104.4	4192624	7.15E-08	8.99E-08	7.06E-08	7.07E-08	7.06E-08	5.23E-08	3.17E-08	4.57E-07	5.11E-08	7.00E-08	5.47E-08	5.49E-08	5.47E-08	3.65E-08	1.60E-08	3.38E-07
184	561113.6	4192626	6.84E-08	8.60E-08	6.75E-08	6.77E-08	6.75E-08	5.00E-08	3.03E-08	4.37E-07	4.89E-08	6.70E-08	5.23E-08	5.25E-08	5.23E-08	3.49E-08	1.53E-08	3.23E-07
185	561122.8	4192629	6.46E-08	8.13E-08	6.38E-08	6.40E-08	6.38E-08	4.73E-08	2.87E-08	4.13E-07	4.62E-08	6.33E-08	4.95E-08	4.96E-08	4.95E-08	3.30E-08	1.44E-08	3.06E-07
186	561046.5	4192618	6.84E-08	8.60E-08	6.75E-08	6.77E-08	6.75E-08	5.01E-08	3.04E-08	4.38E-07	4.89E-08	6.70E-08	5.24E-08	5.25E-08	5.24E-08	3.49E-08	1.53E-08	3.23E-07
187	561055.7	4192621	6.89E-08	8.67E-08	6.80E-08	6.82E-08	6.80E-08	5.04E-08	3.06E-08	4.41E-07	4.93E-08	6.75E-08	5.27E-08	5.29E-08	5.27E-08	3.52E-08	1.54E-08	3.26E-07
188	561064.9	4192623	6.90E-08	8.67E-08	6.81E-08	6.83E-08	6.81E-08	5.05E-08	3.06E-08	4.41E-07	4.93E-08	6.76E-08	5.28E-08	5.29E-08	5.28E-08	3.52E-08	1.54E-08	3.26E-07
189	561074.1	4192626	6.85E-08	8.62E-08	6.76E-08	6.78E-08	6.76E-08	5.02E-08	3.04E-08	4.38E-07	4.90E-08	6.71E-08	5.24E-08	5.26E-08	5.24E-08	3.50E-08	1.53E-08	3.24E-07
190	561083.3	4192628	6.76E-08	8.50E-08	6.67E-08	6.69E-08	6.67E-08	4.95E-08	3.00E-08	4.32E-07	4.83E-08	6.62E-08	5.17E-08	5.19E-08	5.17E-08	3.45E-08	1.51E-08	3.19E-07
191	561092.6	4192631	6.61E-08	8.31E-08	6.52E-08	6.54E-08	6.52E-08	4.84E-08	2.93E-08	4.23E-07	4.72E-08	6.47E-08	5.06E-08	5.07E-08	5.06E-08	3.37E-08	1.48E-08	3.12E-07
192	561101.8	4192633	6.40E-08	8.05E-08	6.32E-08	6.33E-08	6.32E-08	4.68E-08	2.84E-08	4.09E-07	4.58E-08	6.27E-08	4.90E-08	4.91E-08	4.90E-08	3.27E-08	1.43E-08	3.02E-07
193	561111	4192636	6.14E-08	7.72E-08	6.06E-08	6.08E-08	6.06E-08	4.49E-08	2.72E-08	3.93E-07	4.39E-08	6.02E-08	4.70E-08	4.71E-08	4.70E-08	3.13E-08	1.37E-08	2.90E-07
194	561120.2	4192638	5.84E-08	7.34E-08	5.76E-08	5.78E-08	5.76E-08	4.27E-08	2.59E-08	3.74E-07	4.18E-08	5.72E-08	4.47E-08	4.48E-08	4.47E-08	2.98E-08	1.30E-08	2.76E-07
195	561043.9	4192628	6.18E-08	7.77E-08	6.10E-08	6.11E-08	6.10E-08	4.52E-08	2.74E-08	3.95E-07	4.42E-08	6.05E-08	4.73E-08	4.74E-08	4.73E-08	3.15E-08	1.38E-08	2.92E-07
196	561053.1	4192630	6.22E-08	7.82E-08	6.14E-08	6.15E-08	6.14E-08	4.55E-08	2.76E-08	3.98E-07	4.45E-08	6.09E-08	4.76E-08	4.77E-08	4.76E-08	3.17E-08	1.39E-08	2.94E-07
197	561062.3	4192633	6.22E-08	7.82E-08	6.14E-08	6.15E-08	6.14E-08	4.55E-08	2.76E-08	3.98E-07	4.45E-08	6.09E-08	4.76E-08	4.77E-08	4.76E-08	3.17E-08	1.39E-08	2.94E-07
198	561071.5	4192635	6.18E-08	7.77E-08	6.10E-08	6.11E-08	6.10E-08	4.52E-08	2.74E-08	3.95E-07	4.42E-08	6.05E-08	4.73E-08	4.74E-08	4.73E-08	3.15E-08	1.38E-08	2.92E-07
199	561080.7	4192638	6.09E-08	7.66E-08	6.01E-08	6.02E-08	6.01E-08	4.46E-08	2.70E-08	3.89E-07	4.35E-08	5.96E-08	4.66E-08	4.67E-08	4.66E-08	3.11E-08	1.36E-08	2.88E-07
200	561090	4192640	5.95E-08	7.49E-08	5.88E-08	5.89E-08	5.88E-08	4.36E-08	2.64E-08	3.81E-07	4.26E-08	5.83E-08	4.56E-08	4.57E-08	4.56E-08	3.04E-08	1.33E-08	2.81E-07
201	561099.2	4192643	5.78E-08	7.27E-08	5.70E-08	5.72E-08	5.70E-08	4.23E-08	2.56E-08	3.70E-07	4.13E-08	5.66E-08	4.42E-08	4.43E-08	4.42E-08	2.95E-08	1.29E-08	2.73E-07
202	561108.4	4192645	5.56E-08	7.00E-08	5.49E-08	5.51E-08	5.49E-08	4.07E-08	2.47E-08	3.56E-07	3.98E-08	5.45E-08	4.26E-08	4.27E-08	4.26E-08	2.84E-08	1.24E-08	2.63E-07
203	561117.6	4192648	5.31E-08	6.68E-08	5.25E-08	5.26E-08	5.25E-08	3.89E-08	2.36E-08	3.40E-07	3.80E-08	5.21E-08	4.07E-08	4.08E-08	4.07E-08	2.71E-08	1.19E-08	2.51E-07
204	561041.3	4192638	5.61E-08	7.05E-08	5.53E-08	5.55E-08	5.53E-08	4.10E-08	2.49E-08	3.59E-07	4.01E-08	5.50E-08	4.29E-08	4.30E-08	4.29E-08	2.86E-08	1.25E-08	2.65E-07
205	561050.5	4192640	5.64E-08	7.10E-08	5.57E-08	5.58E-08	5.57E-08	4.13E-08	2.50E-08	3.61E-07	4.04E-08	5.53E-08	4.32E-08	4.33E-08	4.32E-08	2.88E-08	1.26E-08	2.67E-07
206	561059.7	4192643	5.64E-08	7.09E-08	5.57E-08	5.58E-08	5.57E-08	4.13E-08	2.50E-08	3.61E-07	4.03E-08	5.53E-08	4.32E-08	4.33E-08	4.32E-08	2.88E-08	1.26E-08	2.67E-07
207	561068.9	4192645	5.60E-08	7.04E-08	5.53E-08	5.54E-08	5.53E-08	4.10E-08	2.48E-08	3.58E-07	4.01E-08	5.49E-08	4.29E-08	4.30E-08	4.29E-08	2.86E-08	1.25E-08	2.65E-07
208	561078.1	4192648	5.52E-08	6.94E-08	5.45E-08	5.46E-08	5.45E-08	4.04E-08	2.45E-08	3.53E-07	3.95E-08	5.41E-08	4.23E-08	4.24E-08	4.23E-08	2.82E-08	1.23E-08	2.61E-07
209	561087.3	4192650	5.41E-08	6.80E-08	5.34E-08	5.35E-08	5.34E-08	3.96E-08	2.40E-08	3.46E-07	3.87E-08	5.30E-08	4.14E-08	4.15E-08	4.14E-08	2.76E-08	1.21E-08	2.56E-07
210	561096.6	4192653	5.25E-08	6.61E-08	5.19E-08	5.20E-08	5.19E-08	3.85E-08	2.33E-08	3.36E-07	3.76E-08	5.15E-08	4.02E-08	4.03E-08	4.02E-08	2.68E-08	1.17E-08	2.48E-07
211	561105.8	4192655	5.07E-08	6.38E-08	5.01E-08	5.02E-08	5.01E-08	3.71E-08	2.25E-08	3.25E-07	3.63E-08	4.97E-08	3.88E-08	3.89E-08	3.88E-08	2.59E-08	1.13E-08	2.40E-07
212	561115	4192658	4.87E-08	6.12E-08	4.80E-08	4.82E-08	4.80E-08	3.56E-08	2.16E-08	3.11E-07	3.48E-08	4.77E-08	3.72E-08	3.73E-08	3.72E-08	2.48E-08	1.09E-08	2.30E-07
213	561038.7	4192647	5.12E-08	6.44E-08	5.05E-08	5.06E-08	5.05E-08	3.75E-08	2.27E-08	3.27E-07	3.66E-08	5.01E-08	3.92E-08	3.93E-08	3.92E-08	2.61E-08	1.14E-08	2.42E-07
214	561047.9	4192650	5.15E-08	6.47E-08	5.08E-08	5.09E-08	5.08E-08	3.77E-08	2.28E-08	3.29E-07	3.68E-08	5.04E-08	3.94E-08	3.95E-08	3.94E-08	2.63E-08	1.15E-08	2.43E-07
215	561057.1	4192652	5.14E-08	6.47E-08	5.08E-08	5.09E-08	5.08E-08	3.76E-08	2.28E-08	3.29E-07	3.68E-08	5.04E-08	3.94E-08	3.95E-08	3.94E-08	2.62E-08	1.15E-08	2.43E-07
216	561066.3	4192655	5.11E-08	6.42E-08	5.04E-08	5.05E-08	5.04E-08	3.74E-08	2.27E-08	3.27E-07	3.65E-08	5.00E-08	3.91E-08	3.92E-08	3.91E-08	2.61E-08	1.14E-08	2.41E-07
217	561075.5	4192657	5.04E-08	6.33E-08	4.97E-08	4.98E-08	4.97E-08	3.69E-08	2.23E-08	3.22E-07	3.60E-08	4.94E-08	3.85E-08	3.87E-08	3.85E-08	2.57E-08	1.13E-08	2.38E-07
218	561084.7	4192660	4.94E-08	6.21E-08	4.87E-08	4.88E-08	4.87E-08	3.61E-08	2.19E-08	3.16E-07	3.53E-08	4.84E-08	3.78E-08	3.79E-08	3.78E-08	2.52E-08	1.10E-08	2.33E-07
219	561094	4192662	4.81E-08	6.05E-08	4.74E-08	4.76E-08	4.74E-08	3.52E-08	2.13E-08	3.07E-07	3.44E-08	4.71E-08	3.68E-08	3.69E-08	3.68E-08	2.45E-08	1.07E-08	2.27E-07
220	561103.2	4192665	4.65E-08	5.85E-08	4.59E-08	4.61E-08	4.59E-08	3.41E-08	2.06E-08	2.98E-07	3.33E-08	4.56E-08	3.56E-08	3.57E-08	3.56E-08	2.37E-08	1.04E-08	2.20E-07
221	561112.4	4192667	4.48E-08	5.63E-08	4.42E-08	4.43E-08	4.42E-08	3.28E-08	1.99E-08	2.87E-07	3.20E-08	4.39E-08	3.43E-08	3.44E-08	3.43E-08	2.29E-08	1.00E-08	2.12E-07
222	561036	4192657	4.69E-08	5.90E-08	4.63E-08	4.64E-08	4.63E-08	3.43E-08	2.08E-08	3.00E-07	3.35E-08	4.60E-08	3.59E-08	3.60E-08	3.59E-08	2.39E-08	1.05E-08	2.22E-07
223	561045.3	4192659	4.71E-08	5.93E-08	4.65E-08	4.67E-08	4.65E-08	3.45E-08	2.09E-08	3.02E-07	3.37E-08	4.62E-08	3.61E-08	3.62E-08	3.61E-08	2.41E-08	1.05E-08	2.23E-07
224	561054.5	4192662	4.71E-08	5.92E-08	4.65E-08	4.66E-08	4.65E-08	3.45E-08	2.09E-08	3.01E-07	3.37E-08	4.62E-08	3.60E-08	3.61E-08	3.60E-08	2.40E-08	1.05E-08	2.23E-07
225	561063.7	4192664	4.68E-08	5.88E-08	4.62E-08	4.63E-08	4.62E-08	3.42E-08	2.08E-08	2.99E-07	3.35E-08	4.58E-08	3.58E-08	3.59E-08	3.58E-08	2.39E-08	1.04E-08	2.21E-07
226	561072.9	4192667	4.62E-08	5.81E-08	4.56E-08	4.57E-08	4.56E-08	3.38E-08	2.05E-08	2.95E-07	3.30E-08	4.52E-08	3.53E-08	3.54E-08	3.53E-08	2.36E-08	1.03E-08	2.18E-07
227	561082.1	4192669	4.53E-08	5.70E-08	4.47E-08	4.48E-08	4.47E-08	3.32E-08	2.01E-08	2.90E-07	3.24E-08	4.44E-08	3.47E-08	3.48E-08	3.47E-08	2.31E-08	1.01E-08	2.14E-07
228	561091.4	4192672	4.42E-08	5.56E-08	4.36E-08	4.37E-08	4.36E-08	3.23E-08	1.96E-08	2.83E-07	3.16E-08	4.33E-08	3.38E-08	3.39E-08	3.38E-08	2.26E-08	9.87E-09	2.09E-07
229	561100.6	4192674	4.29E-08	5.39E-08	4.23E-08	4.24E-08	4.23E-08	3.14E-08	1.90E-08	2.74E-07	3.07E-08	4.20E-08	3.28E-08	3.29E-08	3.28E-08	2.19E-08	9.58E-09	2.03E-07
230	561109.8	4192677	4.14E-08	5.21E-08	4.09E-08	4.10E-08	4.09E-08	3.03E-08	1.84E-08	2.65E-07	2.96E-08	4.06E-08	3.17E-08	3.18E-08	3.17E-08	2.11E-08	9.25E-09	1.96E-07
231	561033.4	4192667	4.32E-08	5.43E-08	4.26E-08	4.27E-08	4.26E-08	3.16E-08	1.92E-08	2.76E-07	3.09E-08	4.23E-08	3.30E-08	3.31E-08	3.30E-08	2.20E-08	9.65E-09	2.04E-07
232	561042.7	4192669	4.34E-08	5.45E-08	4.28E-08	4.29E-08	4.28E-08	3.17E-08	1.92E-08	2.77E-07	3.10E-08	4.25E-08	3.32E-08	3.33E-08	3.32E-08	2.21E-08	9.69E-09	2.05E-07
233	561051.9	4192672	4.33E-08	5.45E-08	4.28E-08	4.29E-08	4.28E-08	3.17E-08	1.92E-08	2.77E-07	3.10E-08	4.24E-08	3.32E-08	3.32E-08	3.32E-08	2.21E-08	9.68E-09	2.05E-07
234	561061.1	4192674	4.30E-08	5.41E-08	4.25E-08	4.26E-08	4.25E-08	3.15E-08	1.91E-08	2.75E-07	3.08E-08	4.22E-08	3.29E-08	3.30E-08	3.29E-08	2.20E-08	9.61E-09	2.03E-07
235	561070.3	4192677	4.25E-08	5.35E-08	4.20E-08	4.21E-08	4.20E-08	3.11E-08	1.89E-08	2.72E-07	3.04E-08	4.17E-08	3.25E-08	3.26E-08	3.25E-08	2.17E-08	9.50E-09	2.01E-07
236	561079.5	4192679	4.18E-08	5.25E-08	4.12E-08	4.13E-08	4.12E-08	3.06E-08	1.85E-08	2.67E-07	2.99E-08	4.09E-08	3.20E-08	3.20E-08	3.20E-08	2.13E-08	9.33E-09	1.97E-07
237	561088.7	4192682	4.08E-08	5.13E-08	4.03E-08	4.04E-08	4.03E-08	2.99E-08	1.81E-08	2.61E-07	2.92E-08	4.00E-08	3.12E-08	3.13E-08	3.12E-08	2.08E-08	9.12E-09	1.93E-07
238	561098	4192684	3.97E-08	4.99E-08	3.92E-08	3.93E-08	3.92E-08	2.91E-08	1.76E-08	2.54E-07	2.84E-08	3.89E-08	3.04E-08	3.05E-08	3.04E-08	2.03E-08	8.87E-09	1.88E-07
239	561107.2	4192686	3.84E-08	4.83E-08	3.79E-08	3.80E-08	3.79E-08	2.81E-08	1.71E-08	2.46E-07	2.75E-08	3.77E-08	2.94E-08	2.95E-08	2.94E-08	1.96E-08	8.59E-09	1.82E-07
240	561030.8	4192676	3.99E-08	5.02E-08	3.94E-08	3.95E-08	3.94E-08	2.92E-08	1.77E-08	2.55E-07	2.85E-08	3.91E-08	3.05E-08	3.06E-08	3.05E-08	2.04E-08	8.91E-09	1.89E-07
241	561040.1	4192679	4.01E-08	5.04E-08	3.95E-08	3.96E-08	3.95E-08	2.93E-08	1.78E-08	2.56E-07	2.86E-08	3.92E-08	3.07E-08	3.07E-08	3.07E-08	2.04E-08	8.95E-09	1.89E-07
242	561049.3	4192681	4.00E-08	5.03E-08	3.95E-08	3.96E-08	3.95E-08	2.93E-08	1.77E-08	2.56E-07	2.86E-08	3.92E-08	3.06E-08	3.07E-08	3.06E-08	2.04E-08	8.94E-09	1.89E-07
243	561058.5	4192684	3.97E-08	5.00E-08	3.92E-08	3.93E-08	3.92E-08	2.91E-08	1.76E-08	2.54E-07	2.84E-08	3.89E-08	3.04E-08	3.05E-08	3.04E-08	2.03E-08	8.88E-09	1.88E-07
244	561067.7	4192686	3.93E-08	4.94E-08	3.88E-08	3.89E-08	3.88E-08	2.88E-08	1.74E-08	2.51E-07	2.81E-08	3.85E-08	3.01E-08	3.01E-08	3.01E-08	2.00E-08	8.78E-09	1.86E-07
245	561076.9	4192689	3.86E-08	4.86E-08	3.81E-08	3.82E-08	3.81E-08	2.83E-08	1.71E-08	2.47E-07	2.76E-08	3.79E-08	2.96E-08	2.97E-08	2.96E-08	1.97E-08	8.63E-09	1.83E-07
246	561086.1	4192691	3.78E-08	4.76E-08	3.73E-08	3.74E-08	3.73E-08	2.77E-08	1.68E-08	2.42E-07	2.71E-08	3.71E-08	2.89E-08	2.90E-08	2.89E-08	1.93E-08	8.45E-09	1.79E-07
247	561095.4	4192694	3.69E-08	4.64E-08	3.64E-08	3.65E-08	3.64E-08	2.70E-08	1.64E-08	2.36E-07	2.64E-08	3.61E-08	2.82E-08	2.83E-08	2.82E-08	1.88E-08	8.24E-09	1.74E-07
248	561104.6	4192696	3.58E-08	4.50E-08	3.53E-08	3.54E-08	3.53E-08	2.62E-08	1.59E-08	2.29E-07	2.56E-08	3.51E-08	2.74E-08	2.75E-08	2.74E-08	1.83E-08	8.00E-09	1.69E-07
249	561028.2	4192686	3.70E-08	4.65E-08	3.65E-08	3.66E-08	3.65E-08	2.71E-08	1.64E-08	2.37E-07	2.65E-08	3.63E-08	2.83E-08	2.84E-08	2.83E-08	1.89E-08	8.27E-09	1.75E-07
250	561037.4	4192688	3.71E-08	4.67E-08	3.66E-08	3.67E-08	3.66E-08	2.72E-08	1.65E-08	2.37E-07	2.65E-08	3.64E-08	2.84E-08	2.85E-08	2.84E-08	1.89E-08	8.29E-09	1.75E-07
251	561046.7	4192691	3.71E-08	4.66E-08	3.66E-08	3.67E-08	3.66E-08	2.71E-08	1.64E-08	2.37E-07	2.65E-08	3.63E-08	2.84E-08	2.84E-08	2.84E-08	1.89E-08	8.28E-09	1.75E-07
252	561055.9	4192693	3.68E-08	4.63E-08	3.63E-08	3.64E-08	3.63E-08	2.70E-08	1.63E-08	2.36E-07	2.63E-08	3.61E-08	2.82E-08	2.83E-08	2.82E-08	1.88E-08	8.23E-09	1.74E-07
253	561065.1	4192696	3.64E-08	4.58E-08	3.60E-08	3.61E-08	3.60E-08	2.67E-08	1.62E-08	2.33E-07	2.61E-08	3.57E-08	2.79E-08	2.80E-08	2.79E-08	1.86E-08	8.14E-09	1.72E-07
254	561074.3	4192698	3.59E-08	4.51E-08	3.54E-08	3.55E-08	3.54E-08	2.63E-08	1.59E-08	2.29E-07	2.57E-08	3.52E-08	2.75E-08	2.75E-08	2.75E-08	1.83E-08	8.01E-09	1.70E-07
255	561083.5	4192701	3.52E-08	4.42E-08	3.47E-08	3.48E-08	3.47E-08	2.57E-08	1.56E-08	2.25E-07	2.52E-08	3.45E-08	2.69E-08	2.70E-08	2.69E-08	1.79E-08	7.86E-09	1.66E-07
256	561092.8	4192703	3.44E-08	4.32E-08	3.39E-08	3.40E-08	3.39E-08	2.51E-08	1.52E-08	2.20E-07	2.46E-08	3.37E-08	2.63E-08	2.64E-08	2.63E-08	1.75E-08	7.67E-09	1.62E-07
257	561102	4192706	3.34E-08	4.20E-08	3.30E-08	3.31E-08	3.30E-08	2.45E-08	1.48E-08	2.14E-07	2.39E-08	3.27E-08	2.56E-08	2.56E-08	2.56E-08	1.71E-08	7.47E-09	1.58E-07
258	561034.8	4192698	3.45E-08	4.34E-08	3.41E-08	3.42E-08	3.41E-08	2.53E-08	1.53E-08	2.21E-07	2.47E-08	3.38E-08	2.64E-08	2.65E-08	2.64E-08	1.76E-08	7.71E-09	1.63E-07
259	561044.1	4192701	3.44E-08	4.33E-08	3.40E-08	3.41E-08	3.40E-08	2.52E-08	1.53E-08	2.20E-07	2.46E-08	3.38E-08	2.64E-08	2.64E-08	2.64E-08	1.76E-08	7.70E-09	1.63E-07
260	561053.3	4192703	3.42E-08	4.31E-08	3.38E-08	3.39E-08	3.38E-08	2.51E-08	1.52E-08	2.19E-07	2.45E-08	3.36E-08	2.62E-08	2.63E-08	2.62E-08	1.75E-08	7.65E-09	1.62E-07
261	561062.5	4192706	3.39E-08	4.26E-08	3.34E-08	3.35E-08	3.34E-08	2.48E-08	1.50E-08	2.17E-07	2.42E-08	3.32E-08	2.59E-08	2.60E-08	2.59E-08	1.73E-08	7.57E-09	1.60E-07
262	561071.7	4192708	3.34E-08	4.20E-08	3.30E-08	3.31E-08	3.30E-08	2.45E-08	1.48E-08	2.14E-07	2.39E-08	3.27E-08	2.56E-08	2.56E-08	2.56E-08	1.70E-08	7.46E-09	1.58E-07
263	561080.9	4192710	3.28E-08	4.13E-08	3.24E-08	3.25E-08	3.24E-08	2.40E-08	1.46E-08	2.10E-07	2.35E-08	3.21E-08	2.51E-08	2.52E-08	2.51E-08	1.67E-08	7.33E-09	1.55E-07
264	561090.2	4192713	3.21E-08	4.04E-08	3.17E-08	3.18E-08	3.17E-08	2.35E-08	1.42E-08	2.05E-07	2.29E-08	3.14E-08	2.46E-08	2.46E-08	2.46E-08	1.64E-08	7.17E-09	1.52E-07
265	561099.4	4192715	3.13E-08	3.94E-08	3.09E-08	3.10E-08	3.09E-08	2.29E-08	1.39E-08	2.00E-07	2.24E-08	3.07E-08	2.39E-08	2.40E-08	2.39E-08	1.60E-08	6.99E-09	1.48E-07
266	561032.2	4192708	3.22E-08	4.05E-08	3.18E-08	3.18E-08	3.18E-08	2.36E-08	1.43E-08	2.06E-07	2.30E-08	3.15E-08	2.46E-08	2.47E-08	2.46E-08	1.64E-08	7.19E-09	1.52E-07
267	561041.5	4192710	3.21E-08	4.04E-08	3.17E-08	3.18E-08	3.17E-08	2.35E-08	1.42E-08	2.05E-07	2.30E-08	3.15E-08	2.46E-08	2.46E-08	2.46E-08	1.64E-08	7.17E-09	1.52E-07
268	561050.7	4192713	3.19E-08	4.02E-08	3.15E-08	3.16E-08	3.15E-08	2.34E-08	1.42E-08	2.04E-07	2.28E-08	3.13E-08	2.44E-08	2.45E-08	2.44E-08	1.63E-08	7.13E-09	1.51E-07
269	561059.9	4192715	3.16E-08	3.98E-08	3.12E-08	3.13E-08	3.12E-08	2.31E-08	1.40E-08	2.02E-07	2.26E-08	3.10E-08	2.42E-08	2.43E-08	2.42E-08	1.61E-08	7.06E-09	1.49E-07

270	561069.1	4192718	3.12E-08	3.92E-08	3.08E-08	3.09E-08	3.08E-08	2.28E-08	1.38E-08	2.00E-07	2.23E-08	3.06E-08	2.39E-08	2.39E-08	2.39E-08	1.59E-08	6.97E-09	1.47E-07
271	561078.3	4192720	3.07E-08	3.86E-08	3.03E-08	3.04E-08	3.03E-08	2.25E-08	1.36E-08	1.96E-07	2.19E-08	3.01E-08	2.35E-08	2.35E-08	2.35E-08	1.57E-08	6.85E-09	1.45E-07
272	561087.5	4192723	3.01E-08	3.78E-08	2.97E-08	2.97E-08	2.97E-08	2.20E-08	1.33E-08	1.92E-07	2.15E-08	2.95E-08	2.30E-08	2.31E-08	2.30E-08	1.53E-08	6.71E-09	1.42E-07
273	561096.8	4192725	2.94E-08	3.69E-08	2.90E-08	2.91E-08	2.90E-08	2.15E-08	1.30E-08	1.88E-07	2.10E-08	2.88E-08	2.25E-08	2.25E-08	2.25E-08	1.50E-08	6.56E-09	1.39E-07
274	561029.6	4192717	3.01E-08	3.78E-08	2.97E-08	2.98E-08	2.97E-08	2.20E-08	1.34E-08	1.93E-07	2.15E-08	2.95E-08	2.30E-08	2.31E-08	2.30E-08	1.54E-08	6.72E-09	1.42E-07
275	561038.9	4192720	3.00E-08	3.78E-08	2.96E-08	2.97E-08	2.96E-08	2.20E-08	1.33E-08	1.92E-07	2.15E-08	2.94E-08	2.30E-08	2.30E-08	2.30E-08	1.53E-08	6.71E-09	1.42E-07
276	561048.1	4192722	2.99E-08	3.75E-08	2.95E-08	2.95E-08	2.95E-08	2.19E-08	1.32E-08	1.91E-07	2.14E-08	2.93E-08	2.28E-08	2.29E-08	2.28E-08	1.52E-08	6.67E-09	1.41E-07
277	561057.3	4192725	2.96E-08	3.72E-08	2.92E-08	2.93E-08	2.92E-08	2.17E-08	1.31E-08	1.89E-07	2.12E-08	2.90E-08	2.26E-08	2.27E-08	2.26E-08	1.51E-08	6.61E-09	1.40E-07
278	561066.5	4192727	2.92E-08	3.67E-08	2.88E-08	2.89E-08	2.88E-08	2.14E-08	1.30E-08	1.87E-07	2.09E-08	2.86E-08	2.24E-08	2.24E-08	2.24E-08	1.49E-08	6.53E-09	1.38E-07
279	561075.7	4192730	2.88E-08	3.62E-08	2.84E-08	2.85E-08	2.84E-08	2.10E-08	1.28E-08	1.84E-07	2.06E-08	2.82E-08	2.20E-08	2.21E-08	2.20E-08	1.47E-08	6.42E-09	1.36E-07
280	561084.9	4192732	2.82E-08	3.55E-08	2.79E-08	2.79E-08	2.79E-08	2.07E-08	1.25E-08	1.81E-07	2.02E-08	2.77E-08	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.30E-09	1.33E-07
281	561094.2	4192735	2.76E-08	3.47E-08	2.73E-08	2.73E-08	2.73E-08	2.02E-08	1.23E-08	1.77E-07	1.97E-08	2.71E-08	2.11E-08	2.12E-08	2.11E-08	1.41E-08	6.17E-09	1.31E-07
282	561027	4192727	2.82E-08	3.55E-08	2.78E-08	2.79E-08	2.78E-08	2.07E-08	1.25E-08	1.80E-07	2.02E-08	2.76E-08	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.30E-09	1.33E-07
283	561036.2	4192729	2.81E-08	3.54E-08	2.78E-08	2.79E-08	2.78E-08	2.06E-08	1.25E-08	1.80E-07	2.01E-08	2.76E-08	2.15E-08	2.16E-08	2.15E-08	1.44E-08	6.29E-09	1.33E-07
284	561045.5	4192732	2.80E-08	3.52E-08	2.76E-08	2.77E-08	2.76E-08	2.05E-08	1.24E-08	1.79E-07	2.00E-08	2.74E-08	2.14E-08	2.15E-08	2.14E-08	1.43E-08	6.25E-09	1.32E-07
285	561054.7	4192734	2.77E-08	3.49E-08	2.74E-08	2.75E-08	2.74E-08	2.03E-08	1.23E-08	1.77E-07	1.98E-08	2.72E-08	2.12E-08	2.13E-08	2.12E-08	1.42E-08	6.20E-09	1.31E-07
286	561063.9	4192737	2.74E-08	3.45E-08	2.71E-08	2.71E-08	2.71E-08	2.01E-08	1.22E-08	1.75E-07	1.96E-08	2.69E-08	2.10E-08	2.10E-08	2.10E-08	1.40E-08	6.13E-09	1.30E-07
287	561073.1	4192739	2.70E-08	3.40E-08	2.67E-08	2.67E-08	2.67E-08	1.98E-08	1.20E-08	1.73E-07	1.93E-08	2.65E-08	2.07E-08	2.07E-08	2.07E-08	1.38E-08	6.04E-09	1.28E-07
288	561082.3	4192742	2.65E-08	3.34E-08	2.62E-08	2.63E-08	2.62E-08	1.94E-08	1.18E-08	1.70E-07	1.90E-08	2.60E-08	2.03E-08	2.04E-08	2.03E-08	1.35E-08	5.93E-09	1.25E-07
289	561091.6	4192744	2.60E-08	3.27E-08	2.57E-08	2.57E-08	2.57E-08	1.90E-08	1.15E-08	1.66E-07	1.86E-08	2.55E-08	1.99E-08	2.00E-08	1.99E-08	1.33E-08	5.81E-09	1.23E-07
290	561024.4	4192737	2.65E-08	3.34E-08	2.62E-08	2.62E-08	2.62E-08	1.94E-08	1.18E-08	1.70E-07	1.90E-08	2.60E-08	2.03E-08	2.04E-08	2.03E-08	1.35E-08	5.92E-09	1.25E-07
291	561033.6	4192739	2.65E-08	3.33E-08	2.61E-08	2.62E-08	2.61E-08	1.94E-08	1.17E-08	1.69E-07	1.89E-08	2.59E-08	2.02E-08	2.03E-08	2.02E-08	1.35E-08	5.91E-09	1.25E-07
292	561042.9	4192742	2.63E-08	3.31E-08	2.60E-08	2.60E-08	2.60E-08	1.93E-08	1.17E-08	1.68E-07	1.88E-08	2.58E-08	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.88E-09	1.24E-07
293	561052.1	4192744	2.61E-08	3.28E-08	2.57E-08	2.58E-08	2.57E-08	1.91E-08	1.16E-08	1.67E-07	1.87E-08	2.56E-08	2.00E-08	2.00E-08	2.00E-08	1.33E-08	5.83E-09	1.23E-07
294	561061.3	4192747	2.58E-08	3.24E-08	2.55E-08	2.55E-08	2.55E-08	1.89E-08	1.14E-08	1.65E-07	1.84E-08	2.53E-08	1.97E-08	1.98E-08	1.97E-08	1.32E-08	5.76E-09	1.22E-07
295	561070.5	4192749	2.54E-08	3.20E-08	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	1.63E-07	1.82E-08	2.49E-08	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.68E-09	1.20E-07
296	561079.7	4192752	2.50E-08	3.15E-08	2.47E-08	2.48E-08	2.47E-08	1.83E-08	1.11E-08	1.60E-07	1.79E-08	2.45E-08	1.92E-08	1.92E-08	1.92E-08	1.28E-08	5.59E-09	1.18E-07
297	561089	4192754	2.46E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
298	561021.8	4192746	2.50E-08	3.14E-08	2.47E-08	2.47E-08	2.47E-08	1.83E-08	1.11E-08	1.60E-07	1.79E-08	2.45E-08	1.91E-08	1.92E-08	1.91E-08	1.27E-08	5.58E-09	1.18E-07
299	561031	4192749	2.49E-08	3.13E-08	2.46E-08	2.47E-08	2.46E-08	1.82E-08	1.11E-08	1.59E-07	1.78E-08	2.44E-08	1.91E-08	1.91E-08	1.91E-08	1.27E-08	5.56E-09	1.18E-07
300	561040.3	4192751	2.48E-08	3.12E-08	2.44E-08	2.45E-08	2.44E-08	1.81E-08	1.10E-08	1.58E-07	1.77E-08	2.43E-08	1.90E-08	1.90E-08	1.90E-08	1.26E-08	5.53E-09	1.17E-07
301	561049.5	4192754	2.46E-08	3.09E-08	2.43E-08	2.43E-08	2.43E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
302	561058.7	4192756	2.43E-08	3.06E-08	2.40E-08	2.41E-08	2.40E-08	1.78E-08	1.08E-08	1.56E-07	1.74E-08	2.38E-08	1.86E-08	1.87E-08	1.86E-08	1.24E-08	5.43E-09	1.15E-07
303	561067.9	4192759	2.40E-08	3.02E-08	2.37E-08	2.38E-08	2.37E-08	1.76E-08	1.06E-08	1.54E-07	1.72E-08	2.35E-08	1.84E-08	1.84E-08	1.84E-08	1.22E-08	5.36E-09	1.13E-07
304	561077.1	4192761	2.36E-08	2.97E-08	2.33E-08	2.34E-08	2.33E-08	1.73E-08	1.05E-08	1.51E-07	1.69E-08	2.32E-08	1.81E-08	1.81E-08	1.81E-08	1.21E-08	5.28E-09	1.12E-07
305	561086.3	4192764	2.32E-08	2.92E-08	2.29E-08	2.30E-08	2.29E-08	1.70E-08	1.03E-08	1.49E-07	1.66E-08	2.28E-08	1.78E-08	1.78E-08	1.78E-08	1.19E-08	5.19E-09	1.10E-07
306	561019.2	4192756	2.36E-08	2.97E-08	2.33E-08	2.33E-08	2.33E-08	1.73E-08	1.05E-08	1.51E-07	1.69E-08	2.31E-08	1.80E-08	1.81E-08	1.80E-08	1.20E-08	5.27E-09	1.11E-07
307	561028.4	4192758	2.35E-08	2.96E-08	2.32E-08	2.33E-08	2.32E-08	1.72E-08	1.04E-08	1.50E-07	1.68E-08	2.30E-08	1.80E-08	1.80E-08	1.80E-08	1.20E-08	5.25E-09	1.11E-07
308	561037.6	4192761	2.34E-08	2.94E-08	2.31E-08	2.31E-08	2.31E-08	1.71E-08	1.04E-08	1.50E-07	1.67E-08	2.29E-08	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.22E-09	1.11E-07
309	561046.9	4192763	2.32E-08	2.92E-08	2.29E-08	2.30E-08	2.29E-08	1.70E-08	1.03E-08	1.48E-07	1.66E-08	2.27E-08	1.78E-08	1.78E-08	1.78E-08	1.18E-08	5.18E-09	1.10E-07
310	561056.1	4192766	2.30E-08	2.89E-08	2.27E-08	2.27E-08	2.27E-08	1.68E-08	1.02E-08	1.47E-07	1.64E-08	2.25E-08	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.13E-09	1.09E-07
311	561065.3	4192768	2.27E-08	2.85E-08	2.24E-08	2.25E-08	2.24E-08	1.66E-08	1.01E-08	1.45E-07	1.62E-08	2.22E-08	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.07E-09	1.07E-07
312	561074.5	4192771	2.24E-08	2.81E-08	2.21E-08	2.21E-08	2.21E-08	1.64E-08	9.92E-09	1.43E-07	1.60E-08	2.19E-08	1.71E-08	1.72E-08	1.71E-08	1.14E-08	5.00E-09	1.06E-07
313	561083.7	4192773	2.20E-08	2.77E-08	2.17E-08	2.18E-08	2.17E-08	1.61E-08	9.76E-09	1.41E-07	1.57E-08	2.16E-08	1.68E-08	1.69E-08	1.68E-08	1.12E-08	4.91E-09	1.04E-07
314	561016.6	4192766	2.23E-08	2.81E-08	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.90E-09	1.43E-07	1.60E-08	2.19E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	1.05E-07
315	561025.8	4192768	2.22E-08	2.80E-08	2.19E-08	2.20E-08	2.19E-08	1.63E-08	9.86E-09	1.42E-07	1.59E-08	2.18E-08	1.70E-08	1.71E-08	1.70E-08	1.13E-08	4.97E-09	1.05E-07
316	561035	4192771	2.21E-08	2.78E-08	2.18E-08	2.19E-08	2.18E-08	1.62E-08	9.81E-09	1.41E-07	1.58E-08	2.17E-08	1.69E-08	1.70E-08	1.69E-08	1.13E-08	4.94E-09	1.05E-07
317	561044.3	4192773	2.19E-08	2.76E-08	2.17E-08	2.17E-08	2.17E-08	1.61E-08	9.74E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.90E-09	1.04E-07
318	561053.5	4192776	2.17E-08	2.73E-08	2.15E-08	2.15E-08	2.15E-08	1.59E-08	9.64E-09	1.39E-07	1.55E-08	2.13E-08	1.66E-08	1.67E-08	1.66E-08	1.11E-08	4.86E-09	1.03E-07
319	561062.7	4192778	2.15E-08	2.70E-08	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.53E-09	1.37E-07	1.54E-08	2.11E-08	1.64E-08	1.65E-08	1.64E-08	1.10E-08	4.80E-09	1.02E-07
320	561071.9	4192781	2.12E-08	2.67E-08	2.09E-08	2.10E-08	2.09E-08	1.55E-08	9.40E-09	1.36E-07	1.52E-08	2.08E-08	1.62E-08	1.63E-08	1.62E-08	1.08E-08	4.73E-09	1.00E-07
321	561081.1	4192783	2.09E-08	2.62E-08	2.06E-08	2.07E-08	2.06E-08	1.53E-08	9.26E-09	1.33E-07	1.49E-08	2.04E-08	1.60E-08	1.60E-08	1.60E-08	1.06E-08	4.66E-09	9.86E-08
322	561014	4192775	2.11E-08	2.66E-08	2.09E-08	2.09E-08	2.09E-08	1.55E-08	9.38E-09	1.35E-07	1.51E-08	2.07E-08	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	9.99E-08
323	561023.2	4192778	2.11E-08	2.65E-08	2.08E-08	2.08E-08	2.08E-08	1.54E-08	9.35E-09	1.35E-07	1.51E-08	2.06E-08	1.61E-08	1.62E-08	1.61E-08	1.07E-08	4.71E-09	9.96E-08
324	561032.4	4192780	2.10E-08	2.63E-08	2.07E-08	2.07E-08	2.07E-08	1.53E-08	9.30E-09	1.34E-07	1.50E-08	2.05E-08	1.60E-08	1.61E-08	1.60E-08	1.07E-08	4.68E-09	9.90E-08
325	561041.7	4192783	2.08E-08	2.62E-08	2.05E-08	2.06E-08	2.05E-08	1.52E-08	9.23E-09	1.33E-07	1.49E-08	2.04E-08	1.59E-08	1.60E-08	1.59E-08	1.06E-08	4.65E-09	9.83E-08
326	561050.9	4192785	2.06E-08	2.59E-08	2.03E-08	2.04E-08	2.03E-08	1.51E-08	9.14E-09	1.32E-07	1.47E-08	2.02E-08	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.60E-09	9.74E-08
327	561060.1	4192788	2.04E-08	2.56E-08	2.01E-08	2.02E-08	2.01E-08	1.49E-08	9.04E-09	1.30E-07	1.46E-08	2.00E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.55E-09	9.63E-08
328	561069.3	4192790	2.01E-08	2.53E-08	1.99E-08	1.99E-08	1.99E-08	1.47E-08	8.93E-09	1.29E-07	1.44E-08	1.97E-08	1.54E-08	1.54E-08	1.54E-08	1.03E-08	4.49E-09	9.51E-08
329	561078.5	4192793	1.98E-08	2.49E-08	1.96E-08	1.96E-08	1.96E-08	1.45E-08	8.80E-09	1.27E-07	1.42E-08	1.94E-08	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.43E-09	9.37E-08
330	561011.4	4192785	2.01E-08	2.52E-08	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.90E-09	1.28E-07	1.43E-08	1.97E-08	1.54E-08	1.54E-08	1.54E-08	1.02E-08	4.48E-09	9.48E-08
331	561020.6	4192787	2.00E-08	2.51E-08	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.87E-09	1.28E-07	1.43E-08	1.96E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.47E-09	9.45E-08
332	561029.8	4192790	1.99E-08	2.50E-08	1.96E-08	1.97E-08	1.96E-08	1.46E-08	8.82E-09	1.27E-07	1.42E-08	1.95E-08	1.52E-08	1.53E-08	1.52E-08	1.01E-08	4.44E-09	9.40E-08
333	561039.1	4192792	1.97E-08	2.48E-08	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.76E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	9.33E-08
334	561048.3	4192795	1.96E-08	2.46E-08	1.93E-08	1.94E-08	1.93E-08	1.43E-08	8.68E-09	1.25E-07	1.40E-08	1.92E-08	1.50E-08	1.50E-08	1.50E-08	9.98E-09	4.37E-09	9.25E-08
335	561057.5	4192797	1.94E-08	2.43E-08	1.91E-08	1.92E-08	1.91E-08	1.42E-08	8.59E-09	1.24E-07	1.38E-08	1.90E-08	1.48E-08	1.49E-08	1.48E-08	9.88E-09	4.32E-09	9.15E-08
336	561066.7	4192800	1.91E-08	2.40E-08	1.89E-08	1.89E-08	1.89E-08	1.40E-08	8.48E-09	1.22E-07	1.37E-08	1.87E-08	1.46E-08	1.47E-08	1.46E-08	9.76E-09	4.27E-09	9.04E-08
337	561075.9	4192802	1.89E-08	2.37E-08	1.86E-08	1.87E-08	1.86E-08	1.38E-08	8.37E-09	1.21E-07	1.35E-08	1.85E-08	1.44E-08	1.45E-08	1.44E-08	9.62E-09	4.21E-09	8.92E-08
338	561008.8	4192795	1.91E-08	2.40E-08	1.88E-08	1.89E-08	1.88E-08	1.40E-08	8.46E-09	1.22E-07	1.36E-08	1.87E-08	1.46E-08	1.46E-08	1.46E-08	9.73E-09	4.26E-09	9.02E-08
339	561018	4192797	1.90E-08	2.39E-08	1.88E-08	1.88E-08	1.88E-08	1.39E-08	8.43E-09	1.22E-07	1.36E-08	1.86E-08	1.45E-08	1.46E-08	1.45E-08	9.70E-09	4.25E-09	8.98E-08
340	561027.2	4192800	1.89E-08	2.38E-08	1.87E-08	1.87E-08	1.87E-08	1.38E-08	8.39E-09	1.21E-07	1.35E-08	1.85E-08	1.45E-08	1.45E-08	1.45E-08	9.64E-09	4.22E-09	8.93E-08
341	561036.4	4192802	1.88E-08	2.36E-08	1.85E-08	1.86E-08	1.85E-08	1.37E-08	8.33E-09	1.20E-07	1.34E-08	1.84E-08	1.44E-08	1.44E-08	1.44E-08	9.58E-09	4.19E-09	8.87E-08
342	561045.7	4192805	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.25E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	9.49E-09	4.16E-09	8.79E-08
343	561054.9	4192807	1.84E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.35E-08	8.17E-09	1.18E-07	1.32E-08	1.80E-08	1.41E-08	1.41E-08	1.41E-08	9.40E-09	4.11E-09	8.70E-08
344	561064.1	4192810	1.82E-08	2.29E-08	1.80E-08	1.80E-08	1.80E-08	1.33E-08	8.08E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	9.29E-09	4.07E-09	8.60E-08
345	561073.3	4192812	1.80E-08	2.26E-08	1.77E-08	1.78E-08	1.77E-08	1.32E-08	7.97E-09	1.15E-07	1.29E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	9.17E-09	4.01E-09	8.49E-08
346	561006.2	4192804	1.82E-08	2.28E-08	1.79E-08	1.80E-08	1.79E-08	1.33E-08	8.06E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.39E-08	1.39E-08	9.27E-09	4.06E-09	8.59E-08
347	561015.4	4192807	1.81E-08	2.28E-08	1.79E-08	1.79E-08	1.79E-08	1.32E-08	8.03E-09	1.16E-07	1.29E-08	1.77E-08	1.38E-08	1.39E-08	1.38E-08	9.23E-09	4.04E-09	8.55E-08
348	561024.6	4192809	1.80E-08	2.26E-08	1.78E-08	1.78E-08	1.78E-08	1.32E-08	7.98E-09	1.15E-07	1.29E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	9.18E-09	4.02E-09	8.51E-08
349	561033.8	4192812	1.79E-08	2.25E-08	1.76E-08	1.77E-08	1.76E-08	1.31E-08	7.93E-09	1.14E-07	1.28E-08	1.75E-08	1.37E-08	1.37E-08	1.37E-08	9.12E-09	3.99E-09	8.45E-08
350	561043.1	4192814	1.77E-08	2.23E-08	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.86E-09	1.13E-07	1.27E-08	1.74E-08	1.36E-08	1.36E-08	1.36E-08	9.04E-09	3.96E-09	8.38E-08
351	561052.3	4192817	1.75E-08	2.21E-08	1.73E-08	1.74E-08	1.73E-08	1.28E-08	7.79E-09	1.12E-07	1.25E-08	1.72E-08	1.34E-08	1.35E-08	1.34E-08	8.95E-09	3.92E-09	8.29E-08
352	561061.5	4192819	1.74E-08	2.18E-08	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.70E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.85E-09	3.88E-09	8.20E-08
353	561070.7	4192822	1.71E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.25E-08	7.60E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.75E-09	3.83E-09	8.10E-08
354	561003.6	4192814	1.73E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.69E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.84E-09	3.87E-09	8.19E-08
355	561012.8	4192816	1.73E-08	2.17E-08	1.70E-08	1.71E-08	1.70E-08	1.26E-08	7.65E-09	1.10E-07	1.23E-08	1.69E-08	1.32E-08	1.32E-08	1.32E-08	8.80E-09	3.85E-09	8.15E-08
356	561022	4192819	1.72E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.61E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.76E-09	3.83E-09	8.11E-08
357	561031.2	4192821	1.70E-08	2.14E-08	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.56E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.31E-08	1.30E-08	8.69E-09	3.81E-09	8.05E-08
358	561040.5	4192824	1.69E-08	2.13E-08	1.67E-08	1.67E-08	1.67E-08	1.24E-08	7.50E-09	1.08E-07	1.21E-08	1.66E-08	1.29E-08	1.30E-08	1.29E-08	8.62E-09	3.78E-09	7.99E-08
359	561049.7	4192826	1.67E-08	2.11E-08	1.65E-08	1.66E-08	1.65E-08	1.23E-08	7.43E-09	1.07E-07	1.20E-08	1.64E-08	1.28E-08	1.28E-08	1.28E-08	8.54E-09	3.74E-09	7.91E-08
360	561058.9	4192829	1.66E-08	2.08E-08	1.63E-08	1.64E-08	1.63E-08	1.21E-08	7.35E-09	1.06E-07	1.18E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	8.45E-09	3.70E-09	7.83E-08

361	561068.1	4192831	1.64E-08	2.06E-08	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.26E-09	1.05E-07	1.17E-08	1.60E-08	1.25E-08	1.26E-08	1.25E-08	8.35E-09	3.66E-09	7.74E-08
362	561001	4192824	1.65E-08	2.08E-08	1.63E-08	1.64E-08	1.63E-08	1.21E-08	7.34E-09	1.06E-07	1.18E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	8.44E-09	3.70E-09	7.82E-08
363	561010.2	4192826	1.65E-08	2.07E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.31E-09	1.05E-07	1.18E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.40E-09	3.68E-09	7.79E-08
364	561019.4	4192829	1.64E-08	2.06E-08	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.27E-09	1.05E-07	1.17E-08	1.61E-08	1.25E-08	1.26E-08	1.25E-08	8.36E-09	3.66E-09	7.74E-08
365	561028.6	4192831	1.63E-08	2.05E-08	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.22E-09	1.04E-07	1.16E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	8.30E-09	3.63E-09	7.69E-08
366	561037.9	4192834	1.61E-08	2.03E-08	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.16E-09	1.03E-07	1.15E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	8.24E-09	3.61E-09	7.63E-08
367	561047.1	4192836	1.60E-08	2.01E-08	1.58E-08	1.58E-08	1.58E-08	1.17E-08	7.10E-09	1.02E-07	1.14E-08	1.57E-08	1.22E-08	1.23E-08	1.22E-08	8.16E-09	3.57E-09	7.56E-08
368	561056.3	4192838	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.08E-09	3.54E-09	7.48E-08
369	561065.5	4192841	1.57E-08	1.97E-08	1.54E-08	1.55E-08	1.54E-08	1.15E-08	6.94E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	7.40E-08
370	560998.4	4192833	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	7.47E-08
371	561007.6	4192836	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.99E-09	1.01E-07	1.13E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.03E-09	3.52E-09	7.44E-08
372	561016.8	4192838	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.95E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	7.40E-08
373	561026	4192841	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.90E-09	9.95E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.94E-09	3.48E-09	7.35E-08
374	561035.2	4192843	1.54E-08	1.94E-08	1.52E-08	1.53E-08	1.52E-08	1.13E-08	6.85E-09	9.87E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.87E-09	3.45E-09	7.29E-08
375	561044.5	4192846	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.79E-09	9.78E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.81E-09	3.42E-09	7.23E-08
376	561053.7	4192848	1.51E-08	1.90E-08	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.72E-09	9.69E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.73E-09	3.38E-09	7.16E-08
377	561062.9	4192851	1.50E-08	1.88E-08	1.48E-08	1.48E-08	1.48E-08	1.10E-08	6.65E-09	9.58E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.64E-09	3.35E-09	7.08E-08
378	560995.8	4192843	1.51E-08	1.90E-08	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.72E-09	9.68E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.72E-09	3.38E-09	7.16E-08
379	561005	4192845	1.51E-08	1.90E-08	1.49E-08	1.49E-08	1.49E-08	1.10E-08	6.69E-09	9.64E-08	1.08E-08	1.48E-08	1.15E-08	1.16E-08	1.15E-08	7.69E-09	3.37E-09	7.12E-08
380	561014.2	4192848	1.50E-08	1.89E-08	1.48E-08	1.48E-08	1.48E-08	1.10E-08	6.65E-09	9.59E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.65E-09	3.35E-09	7.09E-08
381	561023.4	4192850	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.61E-09	9.52E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.60E-09	3.33E-09	7.04E-08
382	561032.6	4192853	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.56E-09	9.45E-08	1.06E-08	1.45E-08	1.13E-08	1.13E-08	1.13E-08	7.54E-09	3.30E-09	6.98E-08
383	561041.9	4192855	1.46E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.37E-08	1.05E-08	1.44E-08	1.12E-08	1.12E-08	1.12E-08	7.47E-09	3.27E-09	6.92E-08
384	561051.1	4192858	1.45E-08	1.82E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	9.28E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	6.86E-08
385	561060.3	4192860	1.44E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	9.18E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.33E-09	3.21E-09	6.79E-08
386	560993.2	4192853	1.45E-08	1.82E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	9.28E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	6.86E-08
387	561002.4	4192855	1.44E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.41E-09	9.24E-08	1.03E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.37E-09	3.23E-09	6.83E-08
388	561011.6	4192857	1.44E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	9.19E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.33E-09	3.21E-09	6.79E-08
389	561020.8	4192860	1.43E-08	1.79E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.33E-09	9.13E-08	1.02E-08	1.40E-08	1.09E-08	1.10E-08	1.09E-08	7.28E-09	3.19E-09	6.74E-08
390	561030	4192862	1.42E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.28E-09	9.06E-08	1.01E-08	1.39E-08	1.08E-08	1.09E-08	1.08E-08	7.23E-09	3.16E-09	6.69E-08
391	561039.3	4192865	1.40E-08	1.77E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.23E-09	8.98E-08	1.00E-08	1.38E-08	1.07E-08	1.08E-08	1.07E-08	7.17E-09	3.14E-09	6.64E-08
392	561048.5	4192867	1.39E-08	1.75E-08	1.37E-08	1.38E-08	1.37E-08	1.02E-08	6.17E-09	8.90E-08	9.95E-09	1.36E-08	1.06E-08	1.07E-08	1.06E-08	7.10E-09	3.11E-09	6.58E-08
393	561057.7	4192870	1.38E-08	1.73E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.11E-09	8.81E-08	9.85E-09	1.35E-08	1.05E-08	1.06E-08	1.05E-08	7.03E-09	3.08E-09	6.51E-08
394	561179.1	4192570	6.79E-08	8.53E-08	6.70E-08	6.72E-08	6.70E-08	4.97E-08	3.01E-08	4.34E-07	4.85E-08	6.65E-08	5.19E-08	5.21E-08	5.19E-08	3.46E-08	1.52E-08	3.21E-07
395	561181.2	4192560	7.05E-08	8.86E-08	6.96E-08	6.98E-08	6.96E-08	5.16E-08	3.13E-08	4.51E-07	5.04E-08	6.91E-08	5.39E-08	5.41E-08	5.39E-08	3.60E-08	1.57E-08	3.33E-07
396	561183.4	4192551	7.29E-08	9.17E-08	7.20E-08	7.22E-08	7.20E-08	5.34E-08	3.23E-08	4.66E-07	5.21E-08	7.14E-08	5.58E-08	5.60E-08	5.58E-08	3.72E-08	1.63E-08	3.45E-07
397	561185.5	4192541	7.50E-08	9.43E-08	7.40E-08	7.42E-08	7.40E-08	5.49E-08	3.33E-08	4.80E-07	5.36E-08	7.35E-08	5.74E-08	5.75E-08	5.74E-08	3.83E-08	1.67E-08	3.54E-07
398	561187.6	4192532	7.66E-08	9.64E-08	7.56E-08	7.58E-08	7.56E-08	5.61E-08	3.40E-08	4.90E-07	5.48E-08	7.51E-08	5.87E-08	5.88E-08	5.87E-08	3.91E-08	1.71E-08	3.62E-07
399	561189.7	4192522	7.79E-08	9.80E-08	7.69E-08	7.71E-08	7.69E-08	5.70E-08	3.46E-08	4.98E-07	5.57E-08	7.64E-08	5.96E-08	5.98E-08	5.96E-08	3.98E-08	1.74E-08	3.68E-07
400	561191.9	4192512	7.88E-08	9.90E-08	7.77E-08	7.79E-08	7.77E-08	5.76E-08	3.49E-08	5.04E-07	5.63E-08	7.72E-08	6.03E-08	6.04E-08	6.03E-08	4.02E-08	1.76E-08	3.72E-07
401	561194	4192503	7.92E-08	9.95E-08	7.81E-08	7.83E-08	7.81E-08	5.79E-08	3.51E-08	5.06E-07	5.66E-08	7.76E-08	6.06E-08	6.07E-08	6.06E-08	4.04E-08	1.77E-08	3.74E-07
402	561196.1	4192493	7.94E-08	9.98E-08	7.84E-08	7.86E-08	7.84E-08	5.81E-08	3.52E-08	5.08E-07	5.68E-08	7.78E-08	6.08E-08	6.09E-08	6.08E-08	4.05E-08	1.77E-08	3.75E-07
403	561198.3	4192483	7.93E-08	9.97E-08	7.83E-08	7.85E-08	7.83E-08	5.80E-08	3.52E-08	5.07E-07	5.67E-08	7.77E-08	6.07E-08	6.09E-08	6.07E-08	4.05E-08	1.77E-08	3.75E-07
404	561200.4	4192474	7.87E-08	9.89E-08	7.76E-08	7.78E-08	7.76E-08	5.76E-08	3.49E-08	5.03E-07	5.63E-08	7.71E-08	6.02E-08	6.04E-08	6.02E-08	4.01E-08	1.76E-08	3.72E-07
405	561202.5	4192464	7.77E-08	9.77E-08	7.67E-08	7.69E-08	7.67E-08	5.69E-08	3.45E-08	4.97E-07	5.56E-08	7.61E-08	5.95E-08	5.96E-08	5.95E-08	3.96E-08	1.74E-08	3.67E-07
406	561204.7	4192455	7.67E-08	9.65E-08	7.57E-08	7.59E-08	7.57E-08	5.61E-08	3.40E-08	4.91E-07	5.49E-08	7.52E-08	5.87E-08	5.89E-08	5.87E-08	3.91E-08	1.71E-08	3.63E-07
407	561206.8	4192445	7.62E-08	9.58E-08	7.52E-08	7.54E-08	7.52E-08	5.58E-08	3.38E-08	4.87E-07	5.45E-08	7.47E-08	5.83E-08	5.85E-08	5.83E-08	3.89E-08	1.70E-08	3.60E-07
408	561208.9	4192435	7.56E-08	9.51E-08	7.46E-08	7.48E-08	7.46E-08	5.53E-08	3.35E-08	4.84E-07	5.41E-08	7.41E-08	5.79E-08	5.80E-08	5.79E-08	3.86E-08	1.69E-08	3.57E-07
409	561211.1	4192426	7.50E-08	9.44E-08	7.41E-08	7.43E-08	7.41E-08	5.49E-08	3.33E-08	4.80E-07	5.37E-08	7.35E-08	5.74E-08	5.76E-08	5.74E-08	3.83E-08	1.68E-08	3.55E-07
410	561213.2	4192416	7.44E-08	9.36E-08	7.34E-08	7.36E-08	7.34E-08	5.45E-08	3.30E-08	4.76E-07	5.32E-08	7.29E-08	5.69E-08	5.71E-08	5.69E-08	3.80E-08	1.66E-08	3.52E-07
411	561215.3	4192406	7.37E-08	9.27E-08	7.28E-08	7.30E-08	7.28E-08	5.40E-08	3.27E-08	4.72E-07	5.27E-08	7.22E-08	5.64E-08	5.66E-08	5.64E-08	3.76E-08	1.65E-08	3.48E-07
412	561188.8	4192572	5.78E-08	7.27E-08	5.71E-08	5.72E-08	5.71E-08	4.23E-08	2.57E-08	3.70E-07	4.14E-08	5.67E-08	4.43E-08	4.44E-08	4.43E-08	2.95E-08	1.29E-08	2.73E-07
413	561191	4192563	5.97E-08	7.50E-08	5.89E-08	5.90E-08	5.89E-08	4.37E-08	2.65E-08	3.82E-07	4.27E-08	5.85E-08	4.57E-08	4.58E-08	4.57E-08	3.04E-08	1.33E-08	2.82E-07
414	561193.1	4192553	6.14E-08	7.72E-08	6.06E-08	6.08E-08	6.06E-08	4.50E-08	2.72E-08	3.93E-07	4.39E-08	6.02E-08	4.70E-08	4.71E-08	4.70E-08	3.13E-08	1.37E-08	2.90E-07
415	561195.2	4192543	6.30E-08	7.92E-08	6.22E-08	6.23E-08	6.22E-08	4.61E-08	2.79E-08	4.03E-07	4.50E-08	6.17E-08	4.82E-08	4.83E-08	4.82E-08	3.21E-08	1.41E-08	2.98E-07
416	561197.4	4192534	6.43E-08	8.08E-08	6.34E-08	6.36E-08	6.34E-08	4.70E-08	2.85E-08	4.11E-07	4.60E-08	6.30E-08	4.92E-08	4.93E-08	4.92E-08	3.28E-08	1.44E-08	3.04E-07
417	561199.5	4192524	6.53E-08	8.21E-08	6.44E-08	6.46E-08	6.44E-08	4.78E-08	2.90E-08	4.18E-07	4.67E-08	6.40E-08	5.00E-08	5.01E-08	5.00E-08	3.33E-08	1.46E-08	3.09E-07
418	561201.6	4192514	6.60E-08	8.30E-08	6.52E-08	6.53E-08	6.52E-08	4.83E-08	2.93E-08	4.22E-07	4.72E-08	6.47E-08	5.05E-08	5.07E-08	5.05E-08	3.37E-08	1.48E-08	3.12E-07
419	561203.8	4192505	6.65E-08	8.37E-08	6.57E-08	6.58E-08	6.57E-08	4.87E-08	2.95E-08	4.26E-07	4.76E-08	6.52E-08	5.09E-08	5.11E-08	5.09E-08	3.39E-08	1.49E-08	3.14E-07
420	561205.9	4192495	6.68E-08	8.40E-08	6.59E-08	6.61E-08	6.59E-08	4.89E-08	2.96E-08	4.27E-07	4.78E-08	6.54E-08	5.11E-08	5.12E-08	5.11E-08	3.41E-08	1.49E-08	3.16E-07
421	561208	4192486	6.68E-08	8.40E-08	6.59E-08	6.61E-08	6.59E-08	4.89E-08	2.96E-08	4.27E-07	4.78E-08	6.55E-08	5.11E-08	5.13E-08	5.11E-08	3.41E-08	1.49E-08	3.16E-07
422	561210.2	4192476	6.64E-08	8.35E-08	6.55E-08	6.57E-08	6.55E-08	4.86E-08	2.95E-08	4.25E-07	4.75E-08	6.51E-08	5.08E-08	5.10E-08	5.08E-08	3.39E-08	1.48E-08	3.14E-07
423	561212.3	4192466	6.59E-08	8.28E-08	6.50E-08	6.52E-08	6.50E-08	4.82E-08	2.92E-08	4.21E-07	4.71E-08	6.45E-08	5.04E-08	5.05E-08	5.04E-08	3.36E-08	1.47E-08	3.11E-07
424	561214.4	4192457	6.52E-08	8.20E-08	6.44E-08	6.46E-08	6.44E-08	4.77E-08	2.89E-08	4.17E-07	4.67E-08	6.39E-08	4.99E-08	5.01E-08	4.99E-08	3.33E-08	1.46E-08	3.08E-07
425	561216.6	4192447	6.48E-08	8.15E-08	6.40E-08	6.41E-08	6.40E-08	4.74E-08	2.88E-08	4.15E-07	4.63E-08	6.35E-08	4.96E-08	4.97E-08	4.96E-08	3.31E-08	1.45E-08	3.06E-07
426	561218.7	4192437	6.43E-08	8.09E-08	6.35E-08	6.36E-08	6.35E-08	4.71E-08	2.85E-08	4.11E-07	4.60E-08	6.30E-08	4.92E-08	4.93E-08	4.92E-08	3.28E-08	1.44E-08	3.04E-07
427	561220.8	4192428	6.37E-08	8.01E-08	6.29E-08	6.31E-08	6.29E-08	4.66E-08	2.83E-08	4.08E-07	4.56E-08	6.24E-08	4.88E-08	4.89E-08	4.88E-08	3.25E-08	1.42E-08	3.01E-07
428	561223	4192418	6.30E-08	7.92E-08	6.21E-08	6.23E-08	6.21E-08	4.61E-08	2.79E-08	4.03E-07	4.50E-08	6.17E-08	4.82E-08	4.83E-08	4.82E-08	3.21E-08	1.41E-08	2.98E-07
429	561225.1	4192409	6.21E-08	7.81E-08	6.13E-08	6.15E-08	6.13E-08	4.55E-08	2.76E-08	3.97E-07	4.44E-08	6.09E-08	4.75E-08	4.77E-08	4.75E-08	3.17E-08	1.39E-08	2.94E-07
430	561229.4	4192389	5.99E-08	7.53E-08	5.91E-08	5.93E-08	5.91E-08	4.38E-08	2.66E-08	3.83E-07	4.28E-08	5.87E-08	4.58E-08	4.59E-08	4.58E-08	3.05E-08	1.34E-08	2.83E-07
431	561179.3	4192608	5.11E-08	6.43E-08	5.04E-08	5.06E-08	5.04E-08	3.74E-08	2.27E-08	3.27E-07	3.65E-08	5.01E-08	3.91E-08	3.92E-08	3.91E-08	2.61E-08	1.14E-08	2.42E-07
432	561163.8	4192617	5.57E-08	7.01E-08	5.50E-08	5.51E-08	5.50E-08	4.08E-08	2.47E-08	3.56E-07	3.98E-08	5.46E-08	4.26E-08	4.28E-08	4.26E-08	2.84E-08	1.24E-08	2.63E-07
433	561196.5	4192584	4.87E-08	6.13E-08	4.81E-08	4.82E-08	4.81E-08	3.57E-08	2.16E-08	3.12E-07	3.48E-08	4.77E-08	3.73E-08	3.74E-08	3.73E-08	2.49E-08	1.09E-08	2.30E-07
434	561198.6	4192574	5.01E-08	6.30E-08	4.94E-08	4.96E-08	4.94E-08	3.67E-08	2.22E-08	3.20E-07	3.58E-08	4.91E-08	3.83E-08	3.84E-08	3.83E-08	2.56E-08	1.12E-08	2.37E-07
435	561200.7	4192565	5.14E-08	6.46E-08	5.07E-08	5.09E-08	5.07E-08	3.76E-08	2.28E-08	3.29E-07	3.68E-08	5.04E-08	3.93E-08	3.94E-08	3.93E-08	2.62E-08	1.15E-08	2.43E-07
436	561202.9	4192555	5.27E-08	6.62E-08	5.20E-08	5.21E-08	5.20E-08	3.86E-08	2.34E-08	3.37E-07	3.77E-08	5.16E-08	4.03E-08	4.04E-08	4.03E-08	2.69E-08	1.18E-08	2.49E-07
437	561205	4192545	5.39E-08	6.77E-08	5.32E-08	5.33E-08	5.32E-08	3.94E-08	2.39E-08	3.44E-07	3.85E-08	5.28E-08	4.12E-08	4.13E-08	4.12E-08	2.75E-08	1.20E-08	2.55E-07
438	561207.1	4192536	5.49E-08	6.90E-08	5.41E-08	5.43E-08	5.41E-08	4.02E-08	2.43E-08	3.51E-07	3.92E-08	5.38E-08	4.20E-08	4.21E-08	4.20E-08	2.80E-08	1.23E-08	2.59E-07
439	561209.3	4192526	5.57E-08	7.00E-08	5.50E-08	5.51E-08	5.50E-08	4.08E-08	2.47E-08	3.56E-07	3.98E-08	5.46E-08	4.26E-08	4.27E-08	4.26E-08	2.84E-08	1.24E-08	2.63E-07
440	561211.4	4192517	5.63E-08	7.08E-08	5.56E-08	5.57E-08	5.56E-08	4.12E-08	2.50E-08	3.60E-07	4.03E-08	5.52E-08	4.31E-08	4.32E-08	4.31E-08	2.87E-08	1.26E-08	2.66E-07
441	561213.5	4192507	5.67E-08	7.13E-08	5.60E-08	5.61E-08	5.60E-08	4.15E-08	2.52E-08	3.63E-07	4.06E-08	5.56E-08	4.34E-08	4.35E-08	4.34E-08	2.89E-08	1.27E-08	2.68E-07
442	561215.7	4192497	5.70E-08	7.16E-08	5.62E-08	5.64E-08	5.62E-08	4.17E-08	2.53E-08	3.64E-07	4.07E-08	5.58E-08	4.36E-08	4.37E-08	4.36E-08	2.91E-08	1.27E-08	2.69E-07
443	561217.8	4192488	5.70E-08	7.17E-08	5.63E-08	5.64E-08	5.63E-08	4.17E-08	2.53E-08	3.65E-07	4.08E-08	5.59E-08	4.36E-08	4.37E-08	4.36E-08	2.91E-08	1.27E-08	2.69E-07
444	561219.9	4192478	5.68E-08	7.15E-08	5.61E-08	5.62E-08	5.61E-08	4.16E-08	2.52E-08	3.63E-07	4.06E-08	5.57E-08	4.35E-08	4.36E-08	4.35E-08	2.90E-08	1.27E-08	2.69E-07
445	561222.1	4192469	5.65E-08	7.11E-08	5.58E-08	5.59E-08	5.58E-08	4.14E-08	2.51E-08	3.62E-07	4.04E-08	5.54E-08	4.33E-08	4.34E-08	4.33E-08	2.88E-08	1.26E-08	2.67E-07
446	561224.2	4192459	5.61E-08	7.06E-08	5.54E-08	5.56E-08	5.54E-08	4.11E-08	2.49E-08	3.59E-07	4.02E-08	5.50E-08	4.30E-08	4.31E-08	4.30E-08	2.86E-08	1.25E-08	2.65E-07
447	561226.3	4192449	5.57E-08	7.01E-08	5.50E-08	5.52E-08	5.50E-08	4.08E-08	2.47E-08	3.56E-07	3.99E-08	5.46E-08	4.27E-08	4.28E-08	4.27E-08	2.84E-08	1.25E-08	2.63E-07
448	561228.5	4192440	5.52E-08	6.94E-08	5.45E-08	5.47E-08	5.45E-08	4.04E-08	2.45E-08	3.53E-07	3.95E-08	5.41E-08	4.23E-08	4.24E-08	4.23E-08	2.82E-08	1.23E-08	2.61E-07
449	561230.6	4192430	5.46E-08	6.87E-08	5.39E-08	5.41E-08	5.39E-08	4.00E-08	2.42E-08	3.49E-07	3.91E-08	5.35E-08	4.18E-08	4.19E-08	4.18E-08	2.79E-08	1.22E-08	2.58E-07
450	561232.7	4192420	5.39E-08	6.78E-08	5.32E-08	5.34E-08	5.32E-08	3.95E-08	2.39E-08	3.45E-07	3.86E-08	5.28E-08	4.13E-08	4.14E-08	4.13E-08	2.75E-08	1.20E-08	2.55E-07
451	561234.9	4192411	5.31E-08	6.68E-08	5.24E-08	5.26E-08	5.24E-08	3.89E-08	2.36E-08	3.40E-07	3.80E-08	5.20E-08	4.06E-08	4.08E-08	4.06E-08	2.71E-08	1.19E-08	2.51E-07

452	561239.1	4192392	5.10E-08	6.41E-08	5.03E-08	5.05E-08	5.03E-08	3.73E-08	2.26E-08	3.26E-07	3.65E-08	5.00E-08	3.90E-08	3.91E-08	3.90E-08	2.60E-08	1.14E-08	2.41E-07
453	561184.2	4192617	4.55E-08	5.72E-08	4.49E-08	4.50E-08	4.49E-08	3.33E-08	2.02E-08	2.91E-07	3.25E-08	4.46E-08	3.48E-08	3.49E-08	3.48E-08	2.32E-08	1.02E-08	2.15E-07
454	561169.4	4192626	4.90E-08	6.17E-08	4.84E-08	4.85E-08	4.84E-08	3.59E-08	2.18E-08	3.14E-07	3.51E-08	4.81E-08	3.75E-08	3.76E-08	3.75E-08	2.50E-08	1.10E-08	2.32E-07
455	561160.1	4192627	5.26E-08	6.61E-08	5.19E-08	5.20E-08	5.19E-08	3.85E-08	2.33E-08	3.36E-07	3.76E-08	5.15E-08	4.02E-08	4.03E-08	4.02E-08	2.68E-08	1.17E-08	2.48E-07
456	561206.2	4192586	4.29E-08	5.40E-08	4.24E-08	4.25E-08	4.24E-08	3.14E-08	1.90E-08	2.75E-07	3.07E-08	4.20E-08	3.28E-08	3.29E-08	3.28E-08	2.19E-08	9.59E-09	2.03E-07
457	561208.4	4192576	4.39E-08	5.52E-08	4.33E-08	4.35E-08	4.33E-08	3.21E-08	1.95E-08	2.81E-07	3.14E-08	4.30E-08	3.36E-08	3.37E-08	3.36E-08	2.24E-08	9.81E-09	2.08E-07
458	561210.5	4192567	4.49E-08	5.65E-08	4.43E-08	4.44E-08	4.43E-08	3.29E-08	1.99E-08	2.87E-07	3.21E-08	4.40E-08	3.44E-08	3.44E-08	3.44E-08	2.29E-08	1.00E-08	2.12E-07
459	561212.6	4192557	4.58E-08	5.76E-08	4.52E-08	4.54E-08	4.52E-08	3.35E-08	2.03E-08	2.93E-07	3.28E-08	4.49E-08	3.51E-08	3.52E-08	3.51E-08	2.34E-08	1.02E-08	2.17E-07
460	561214.8	4192548	4.67E-08	5.87E-08	4.61E-08	4.62E-08	4.61E-08	3.42E-08	2.07E-08	2.99E-07	3.34E-08	4.58E-08	3.58E-08	3.59E-08	3.58E-08	2.38E-08	1.04E-08	2.21E-07
461	561216.9	4192538	4.75E-08	5.97E-08	4.69E-08	4.70E-08	4.69E-08	3.48E-08	2.11E-08	3.04E-07	3.40E-08	4.66E-08	3.64E-08	3.65E-08	3.64E-08	2.42E-08	1.06E-08	2.25E-07
462	561219	4192528	4.82E-08	6.06E-08	4.75E-08	4.77E-08	4.75E-08	3.53E-08	2.14E-08	3.08E-07	3.45E-08	4.72E-08	3.69E-08	3.70E-08	3.69E-08	2.46E-08	1.08E-08	2.28E-07
463	561221.2	4192519	4.87E-08	6.12E-08	4.81E-08	4.82E-08	4.81E-08	3.56E-08	2.16E-08	3.11E-07	3.48E-08	4.77E-08	3.73E-08	3.74E-08	3.73E-08	2.48E-08	1.09E-08	2.30E-07
464	561223.3	4192509	4.91E-08	6.17E-08	4.84E-08	4.85E-08	4.84E-08	3.59E-08	2.18E-08	3.14E-07	3.51E-08	4.81E-08	3.75E-08	3.76E-08	3.75E-08	2.50E-08	1.10E-08	2.32E-07
465	561225.4	4192500	4.93E-08	6.19E-08	4.86E-08	4.87E-08	4.86E-08	3.60E-08	2.19E-08	3.15E-07	3.52E-08	4.83E-08	3.77E-08	3.78E-08	3.77E-08	2.51E-08	1.10E-08	2.33E-07
466	561227.6	4192490	4.93E-08	6.20E-08	4.87E-08	4.88E-08	4.87E-08	3.61E-08	2.19E-08	3.15E-07	3.53E-08	4.83E-08	3.77E-08	3.78E-08	3.77E-08	2.52E-08	1.10E-08	2.33E-07
467	561229.7	4192480	4.92E-08	6.19E-08	4.86E-08	4.87E-08	4.86E-08	3.60E-08	2.18E-08	3.15E-07	3.52E-08	4.82E-08	3.77E-08	3.78E-08	3.77E-08	2.51E-08	1.10E-08	2.33E-07
468	561231.8	4192471	4.91E-08	6.17E-08	4.84E-08	4.85E-08	4.84E-08	3.59E-08	2.18E-08	3.14E-07	3.51E-08	4.81E-08	3.75E-08	3.76E-08	3.75E-08	2.50E-08	1.10E-08	2.32E-07
469	561234	4192461	4.88E-08	6.13E-08	4.81E-08	4.83E-08	4.81E-08	3.57E-08	2.16E-08	3.12E-07	3.49E-08	4.78E-08	3.73E-08	3.74E-08	3.73E-08	2.49E-08	1.09E-08	2.30E-07
470	561236.1	4192451	4.84E-08	6.08E-08	4.77E-08	4.79E-08	4.77E-08	3.54E-08	2.15E-08	3.09E-07	3.46E-08	4.74E-08	3.70E-08	3.71E-08	3.70E-08	2.47E-08	1.08E-08	2.29E-07
471	561238.2	4192442	4.79E-08	6.02E-08	4.72E-08	4.74E-08	4.72E-08	3.50E-08	2.12E-08	3.06E-07	3.42E-08	4.69E-08	3.66E-08	3.67E-08	3.66E-08	2.44E-08	1.07E-08	2.26E-07
472	561240.4	4192432	4.73E-08	5.95E-08	4.67E-08	4.68E-08	4.67E-08	3.46E-08	2.10E-08	3.03E-07	3.38E-08	4.64E-08	3.62E-08	3.63E-08	3.62E-08	2.41E-08	1.06E-08	2.24E-07
473	561242.5	4192423	4.67E-08	5.87E-08	4.61E-08	4.62E-08	4.61E-08	3.42E-08	2.07E-08	2.99E-07	3.34E-08	4.57E-08	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	2.21E-07
474	561244.6	4192413	4.60E-08	5.78E-08	4.54E-08	4.55E-08	4.54E-08	3.36E-08	2.04E-08	2.94E-07	3.29E-08	4.50E-08	3.52E-08	3.53E-08	3.52E-08	2.34E-08	1.03E-08	2.17E-07
475	561248.9	4192394	4.41E-08	5.55E-08	4.35E-08	4.37E-08	4.35E-08	3.23E-08	1.96E-08	2.82E-07	3.15E-08	4.32E-08	3.38E-08	3.39E-08	3.38E-08	2.25E-08	9.86E-09	2.09E-07
476	561189.3	4192626	4.09E-08	5.14E-08	4.03E-08	4.04E-08	4.03E-08	2.99E-08	1.81E-08	2.61E-07	2.92E-08	4.00E-08	3.13E-08	3.14E-08	3.13E-08	2.08E-08	9.13E-09	1.93E-07
477	561174.8	4192634	4.37E-08	5.50E-08	4.31E-08	4.33E-08	4.31E-08	3.20E-08	1.94E-08	2.80E-07	3.13E-08	4.28E-08	3.35E-08	3.36E-08	3.35E-08	2.23E-08	9.77E-09	2.07E-07
478	561165.8	4192636	4.66E-08	5.86E-08	4.60E-08	4.61E-08	4.60E-08	3.41E-08	2.07E-08	2.98E-07	3.33E-08	4.57E-08	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	2.20E-07
479	561156.7	4192637	4.93E-08	6.20E-08	4.86E-08	4.88E-08	4.86E-08	3.61E-08	2.19E-08	3.15E-07	3.52E-08	4.83E-08	3.77E-08	3.78E-08	3.77E-08	2.51E-08	1.10E-08	2.33E-07
480	561216	4192588	3.81E-08	4.80E-08	3.76E-08	3.78E-08	3.76E-08	2.79E-08	1.69E-08	2.44E-07	2.73E-08	3.74E-08	2.92E-08	2.93E-08	2.92E-08	1.95E-08	8.52E-09	1.80E-07
481	561218.1	4192579	3.89E-08	4.89E-08	3.84E-08	3.85E-08	3.84E-08	2.85E-08	1.73E-08	2.49E-07	2.78E-08	3.81E-08	2.98E-08	2.99E-08	2.98E-08	1.99E-08	8.69E-09	1.84E-07
482	561220.3	4192569	3.96E-08	4.98E-08	3.91E-08	3.92E-08	3.91E-08	2.90E-08	1.76E-08	2.53E-07	2.83E-08	3.88E-08	3.03E-08	3.04E-08	3.03E-08	2.02E-08	8.85E-09	1.87E-07
483	561222.4	4192559	4.03E-08	5.07E-08	3.98E-08	3.99E-08	3.98E-08	2.95E-08	1.79E-08	2.58E-07	2.88E-08	3.95E-08	3.09E-08	3.09E-08	3.09E-08	2.06E-08	9.01E-09	1.91E-07
484	561224.5	4192550	4.10E-08	5.16E-08	4.05E-08	4.06E-08	4.05E-08	3.00E-08	1.82E-08	2.62E-07	2.93E-08	4.02E-08	3.14E-08	3.15E-08	3.14E-08	2.09E-08	9.16E-09	1.94E-07
485	561226.7	4192540	4.16E-08	5.23E-08	4.11E-08	4.12E-08	4.11E-08	3.05E-08	1.85E-08	2.66E-07	2.98E-08	4.08E-08	3.19E-08	3.19E-08	3.19E-08	2.12E-08	9.30E-09	1.97E-07
486	561228.8	4192531	4.22E-08	5.30E-08	4.16E-08	4.17E-08	4.16E-08	3.09E-08	1.87E-08	2.70E-07	3.01E-08	4.13E-08	3.23E-08	3.24E-08	3.23E-08	2.15E-08	9.42E-09	1.99E-07
487	561230.9	4192521	4.26E-08	5.35E-08	4.20E-08	4.21E-08	4.20E-08	3.12E-08	1.89E-08	2.72E-07	3.04E-08	4.17E-08	3.26E-08	3.27E-08	3.26E-08	2.17E-08	9.51E-09	2.01E-07
488	561233.1	4192511	4.29E-08	5.39E-08	4.23E-08	4.24E-08	4.23E-08	3.14E-08	1.90E-08	2.74E-07	3.07E-08	4.20E-08	3.28E-08	3.29E-08	3.28E-08	2.19E-08	9.58E-09	2.03E-07
489	561235.2	4192502	4.31E-08	5.42E-08	4.25E-08	4.26E-08	4.25E-08	3.15E-08	1.91E-08	2.76E-07	3.08E-08	4.22E-08	3.30E-08	3.31E-08	3.30E-08	2.20E-08	9.62E-09	2.04E-07
490	561237.3	4192492	4.31E-08	5.43E-08	4.26E-08	4.27E-08	4.26E-08	3.16E-08	1.91E-08	2.76E-07	3.09E-08	4.23E-08	3.30E-08	3.31E-08	3.30E-08	2.20E-08	9.64E-09	2.04E-07
491	561239.5	4192482	4.31E-08	5.42E-08	4.25E-08	4.26E-08	4.25E-08	3.15E-08	1.91E-08	2.76E-07	3.08E-08	4.22E-08	3.30E-08	3.31E-08	3.30E-08	2.20E-08	9.63E-09	2.04E-07
492	561241.6	4192473	4.29E-08	5.40E-08	4.24E-08	4.25E-08	4.24E-08	3.14E-08	1.90E-08	2.75E-07	3.07E-08	4.21E-08	3.29E-08	3.29E-08	3.29E-08	2.19E-08	9.59E-09	2.03E-07
493	561243.7	4192463	4.27E-08	5.37E-08	4.21E-08	4.22E-08	4.21E-08	3.12E-08	1.89E-08	2.73E-07	3.05E-08	4.18E-08	3.27E-08	3.27E-08	3.27E-08	2.18E-08	9.53E-09	2.02E-07
494	561245.9	4192454	4.23E-08	5.32E-08	4.18E-08	4.19E-08	4.18E-08	3.10E-08	1.88E-08	2.71E-07	3.03E-08	4.15E-08	3.24E-08	3.25E-08	3.24E-08	2.16E-08	9.45E-09	2.00E-07
495	561248	4192444	4.19E-08	5.27E-08	4.13E-08	4.15E-08	4.13E-08	3.07E-08	1.86E-08	2.68E-07	3.00E-08	4.11E-08	3.21E-08	3.22E-08	3.21E-08	2.14E-08	9.36E-09	1.98E-07
496	561250.1	4192434	4.14E-08	5.21E-08	4.09E-08	4.10E-08	4.09E-08	3.03E-08	1.84E-08	2.65E-07	2.96E-08	4.06E-08	3.17E-08	3.18E-08	3.17E-08	2.11E-08	9.25E-09	1.96E-07
497	561252.3	4192425	4.08E-08	5.14E-08	4.03E-08	4.04E-08	4.03E-08	2.99E-08	1.81E-08	2.61E-07	2.92E-08	4.00E-08	3.12E-08	3.13E-08	3.12E-08	2.08E-08	9.12E-09	1.93E-07
498	561254.4	4192415	4.02E-08	5.05E-08	3.97E-08	3.98E-08	3.97E-08	2.94E-08	1.78E-08	2.57E-07	2.87E-08	3.94E-08	3.08E-08	3.08E-08	3.08E-08	2.05E-08	8.98E-09	1.90E-07
499	561258.6	4192396	3.86E-08	4.85E-08	3.81E-08	3.82E-08	3.81E-08	2.82E-08	1.71E-08	2.47E-07	2.76E-08	3.78E-08	2.95E-08	2.96E-08	2.95E-08	1.97E-08	8.62E-09	1.82E-07
500	561204.8	4192620	3.66E-08	4.60E-08	3.61E-08	3.62E-08	3.61E-08	2.68E-08	1.62E-08	2.34E-07	2.62E-08	3.58E-08	2.80E-08	2.81E-08	2.80E-08	1.87E-08	8.17E-09	1.73E-07
501	561194.3	4192634	3.70E-08	4.65E-08	3.65E-08	3.66E-08	3.65E-08	2.71E-08	1.64E-08	2.37E-07	2.65E-08	3.62E-08	2.83E-08	2.84E-08	2.83E-08	1.89E-08	8.26E-09	1.75E-07
502	561180.2	4192643	3.94E-08	4.95E-08	3.88E-08	3.90E-08	3.88E-08	2.88E-08	1.75E-08	2.52E-07	2.81E-08	3.86E-08	3.01E-08	3.02E-08	3.01E-08	2.01E-08	8.79E-09	1.86E-07
503	561162.4	4192645	4.40E-08	5.54E-08	4.35E-08	4.36E-08	4.35E-08	3.22E-08	1.95E-08	2.82E-07	3.15E-08	4.31E-08	3.37E-08	3.38E-08	3.37E-08	2.25E-08	9.84E-09	2.08E-07
504	561153.5	4192647	4.61E-08	5.80E-08	4.55E-08	4.56E-08	4.55E-08	3.37E-08	2.05E-08	2.95E-07	3.30E-08	4.52E-08	3.53E-08	3.54E-08	3.53E-08	2.35E-08	1.03E-08	2.18E-07
505	561227.9	4192581	3.47E-08	4.37E-08	3.43E-08	3.44E-08	3.43E-08	2.54E-08	1.54E-08	2.22E-07	2.48E-08	3.40E-08	2.66E-08	2.67E-08	2.66E-08	1.77E-08	7.76E-09	1.64E-07
506	561230	4192571	3.53E-08	4.44E-08	3.48E-08	3.49E-08	3.48E-08	2.58E-08	1.57E-08	2.26E-07	2.52E-08	3.46E-08	2.70E-08	2.71E-08	2.70E-08	1.80E-08	7.88E-09	1.67E-07
507	561232.2	4192562	3.58E-08	4.50E-08	3.54E-08	3.54E-08	3.54E-08	2.62E-08	1.59E-08	2.29E-07	2.56E-08	3.51E-08	2.74E-08	2.75E-08	2.74E-08	1.83E-08	8.00E-09	1.69E-07
508	561234.3	4192552	3.63E-08	4.57E-08	3.59E-08	3.60E-08	3.59E-08	2.66E-08	1.61E-08	2.32E-07	2.60E-08	3.56E-08	2.78E-08	2.79E-08	2.78E-08	1.85E-08	8.12E-09	1.72E-07
509	561236.4	4192542	3.68E-08	4.63E-08	3.63E-08	3.64E-08	3.63E-08	2.69E-08	1.63E-08	2.35E-07	2.63E-08	3.61E-08	2.82E-08	2.82E-08	2.82E-08	1.88E-08	8.22E-09	1.74E-07
510	561238.6	4192533	3.72E-08	4.68E-08	3.67E-08	3.68E-08	3.67E-08	2.72E-08	1.65E-08	2.38E-07	2.66E-08	3.65E-08	2.85E-08	2.86E-08	2.85E-08	1.90E-08	8.32E-09	1.76E-07
511	561240.7	4192523	3.76E-08	4.73E-08	3.71E-08	3.72E-08	3.71E-08	2.75E-08	1.67E-08	2.40E-07	2.69E-08	3.68E-08	2.88E-08	2.88E-08	2.88E-08	1.92E-08	8.39E-09	1.78E-07
512	561242.8	4192513	3.78E-08	4.76E-08	3.73E-08	3.74E-08	3.73E-08	2.77E-08	1.68E-08	2.42E-07	2.71E-08	3.71E-08	2.90E-08	2.90E-08	2.90E-08	1.93E-08	8.45E-09	1.79E-07
513	561245	4192504	3.80E-08	4.78E-08	3.75E-08	3.76E-08	3.75E-08	2.78E-08	1.69E-08	2.43E-07	2.72E-08	3.72E-08	2.91E-08	2.92E-08	2.91E-08	1.94E-08	8.49E-09	1.80E-07
514	561247.1	4192494	3.81E-08	4.79E-08	3.76E-08	3.77E-08	3.76E-08	2.79E-08	1.69E-08	2.43E-07	2.72E-08	3.73E-08	2.91E-08	2.92E-08	2.91E-08	1.94E-08	8.50E-09	1.80E-07
515	561249.2	4192485	3.80E-08	4.78E-08	3.75E-08	3.76E-08	3.75E-08	2.78E-08	1.69E-08	2.43E-07	2.72E-08	3.73E-08	2.91E-08	2.92E-08	2.91E-08	1.94E-08	8.49E-09	1.80E-07
516	561251.4	4192475	3.79E-08	4.77E-08	3.74E-08	3.75E-08	3.74E-08	2.77E-08	1.68E-08	2.42E-07	2.71E-08	3.71E-08	2.90E-08	2.91E-08	2.90E-08	1.93E-08	8.46E-09	1.79E-07
517	561253.5	4192465	3.77E-08	4.74E-08	3.72E-08	3.73E-08	3.72E-08	2.76E-08	1.67E-08	2.41E-07	2.69E-08	3.69E-08	2.88E-08	2.89E-08	2.88E-08	1.92E-08	8.42E-09	1.78E-07
518	561255.6	4192456	3.74E-08	4.70E-08	3.69E-08	3.70E-08	3.69E-08	2.74E-08	1.66E-08	2.39E-07	2.67E-08	3.66E-08	2.86E-08	2.87E-08	2.86E-08	1.91E-08	8.35E-09	1.77E-07
519	561257.7	4192446	3.70E-08	4.65E-08	3.65E-08	3.66E-08	3.65E-08	2.71E-08	1.64E-08	2.37E-07	2.65E-08	3.63E-08	2.83E-08	2.84E-08	2.83E-08	1.89E-08	8.27E-09	1.75E-07
520	561259.9	4192437	3.66E-08	4.60E-08	3.61E-08	3.62E-08	3.61E-08	2.68E-08	1.62E-08	2.34E-07	2.61E-08	3.58E-08	2.80E-08	2.81E-08	2.80E-08	1.87E-08	8.17E-09	1.73E-07
521	561262	4192427	3.61E-08	4.54E-08	3.56E-08	3.57E-08	3.56E-08	2.64E-08	1.60E-08	2.31E-07	2.58E-08	3.53E-08	2.76E-08	2.77E-08	2.76E-08	1.84E-08	8.06E-09	1.70E-07
522	561268.4	4192398	3.41E-08	4.29E-08	3.36E-08	3.37E-08	3.36E-08	2.50E-08	1.51E-08	2.18E-07	2.44E-08	3.34E-08	2.61E-08	2.62E-08	2.61E-08	1.74E-08	7.62E-09	1.61E-07
523	561209.8	4192629	3.34E-08	4.20E-08	3.30E-08	3.30E-08	3.30E-08	2.44E-08	1.48E-08	2.14E-07	2.39E-08	3.27E-08	2.56E-08	2.56E-08	2.56E-08	1.70E-08	7.46E-09	1.58E-07
524	561199.4	4192643	3.37E-08	4.24E-08	3.33E-08	3.34E-08	3.33E-08	2.47E-08	1.50E-08	2.16E-07	2.41E-08	3.30E-08	2.58E-08	2.59E-08	2.58E-08	1.72E-08	7.53E-09	1.59E-07
525	561185.5	4192651	3.57E-08	4.49E-08	3.52E-08	3.53E-08	3.52E-08	2.61E-08	1.58E-08	2.28E-07	2.55E-08	3.50E-08	2.73E-08	2.74E-08	2.73E-08	1.82E-08	7.98E-09	1.69E-07
526	561168	4192654	3.97E-08	4.99E-08	3.92E-08	3.93E-08	3.92E-08	2.91E-08	1.76E-08	2.54E-07	2.84E-08	3.89E-08	3.04E-08	3.05E-08	3.04E-08	2.03E-08	8.87E-09	1.88E-07
527	561150.5	4192656	4.31E-08	5.42E-08	4.26E-08	4.27E-08	4.26E-08	3.16E-08	1.91E-08	2.76E-07	3.08E-08	4.23E-08	3.30E-08	3.31E-08	3.30E-08	2.20E-08	9.63E-09	2.04E-07
528	561237.7	4192583	3.12E-08	3.93E-08	3.08E-08	3.09E-08	3.08E-08	2.29E-08	1.39E-08	2.00E-07	2.23E-08	3.06E-08	2.39E-08	2.40E-08	2.39E-08	1.59E-08	6.98E-09	1.48E-07
529	561239.8	4192573	3.17E-08	3.98E-08	3.12E-08	3.13E-08	3.12E-08	2.32E-08	1.40E-08	2.02E-07	2.26E-08	3.10E-08	2.42E-08	2.43E-08	2.42E-08	1.62E-08	7.07E-09	1.50E-07
530	561241.9	4192564	3.20E-08	4.03E-08	3.16E-08	3.17E-08	3.16E-08	2.35E-08	1.42E-08	2.05E-07	2.29E-08	3.14E-08	2.45E-08	2.46E-08	2.45E-08	1.64E-08	7.16E-09	1.51E-07
531	561244.1	4192554	3.24E-08	4.08E-08	3.20E-08	3.21E-08	3.20E-08	2.37E-08	1.44E-08	2.07E-07	2.32E-08	3.18E-08	2.48E-08	2.49E-08	2.48E-08	1.65E-08	7.24E-09	1.53E-07
532	561246.2	4192545	3.28E-08	4.12E-08	3.24E-08	3.25E-08	3.24E-08	2.40E-08	1.46E-08	2.10E-07	2.35E-08	3.21E-08	2.51E-08	2.52E-08	2.51E-08	1.67E-08	7.33E-09	1.55E-07
533	561248.3	4192535	3.31E-08	4.17E-08	3.27E-08	3.28E-08	3.27E-08	2.43E-08	1.47E-08	2.12E-07	2.37E-08	3.25E-08	2.54E-08	2.54E-08	2.54E-08	1.69E-08	7.40E-09	1.57E-07
534	561250.5	4192525	3.34E-08	4.20E-08	3.30E-08	3.31E-08	3.30E-08	2.45E-08	1.48E-08	2.14E-07	2.39E-08	3.27E-08	2.56E-08	2.56E-08	2.56E-08	1.71E-08	7.47E-09	1.58E-07
535	561252.6	4192516	3.36E-08	4.23E-08	3.32E-08	3.33E-08	3.32E-08	2.46E-08	1.49E-08	2.15E-07	2.41E-08	3.30E-08	2.57E-08	2.58E-08	2.57E-08	1.72E-08	7.52E-09	1.59E-07
536	561254.7	4192506	3.38E-08	4.25E-08	3.33E-08	3.34E-08	3.33E-08	2.47E-08	1.50E-08	2.16E-07	2.42E-08	3.31E-08	2.58E-08	2.59E-08	2.58E-08	1.72E-08	7.55E-09	1.60E-07
537	561256.9	4192496	3.38E-08	4.25E-08	3.34E-08	3.35E-08	3.34E-08	2.48E-08	1.50E-08	2.16E-07	2.42E-08	3.32E-08	2.59E-08	2.60E-08	2.59E-08	1.73E-08	7.56E-09	1.60E-07
538	561259	4192487	3.38E-08	4.25E-08	3.34E-08	3.35E-08	3.34E-08	2.47E-08	1.50E-08	2.16E-07	2.42E-08	3.31E-08	2.59E-08	2.59E-08	2.59E-08	1.72E-08	7.55E-09	1.60E-07
539	561261.1	4192477	3.37E-08	4.24E-08	3.33E-08	3.33E-08	3.33E-08	2.47E-08	1.49E-08	2.16E-07	2.41E-08	3.30E-08	2.58E-08	2.59E-08	2.58E-08	1.72E-08	7.53E-09	1.59E-07
540	561263.2	4192468	3.35E-08	4.21E-08	3.31E-08	3.32E-08	3.31E-08	2.45E-08	1.49E-08	2.14E-07	2.40E-08	3.28E-08	2.56E-08	2.57E-08	2.56E-08	1.71E-08	7.49E-09	1.58E-07
541	561265.4	4192458	3.32E-08	4.18E-08	3.28E-08	3.29E-08	3.28E-08	2.43E-08	1.47E-08	2.13E-07	2.38E-08	3.26E-08	2.54E-08	2.55E-08	2.54E-08	1.70E-08	7.43E-09	1.57E-07
542	561267.5	4192448	3.29E-08	4.14E-08	3.25E-08	3.26E-08	3.25E-08	2.41E-08	1.46E-08	2.11E-07	2.35E-08	3.23E-08	2.52E-08	2.53E-08	2.52E-08	1.68E-08	7.35E-09	1.56E-07

543	561269.6	4192439	3.26E-08	4.09E-08	3.21E-08	3.22E-08	3.21E-08	2.38E-08	1.44E-08	2.08E-07	2.33E-08	3.19E-08	2.49E-08	2.50E-08	2.49E-08	1.66E-08	7.27E-09	1.54E-07
544	561271.8	4192429	3.21E-08	4.04E-08	3.17E-08	3.18E-08	3.17E-08	2.35E-08	1.43E-08	2.06E-07	2.30E-08	3.15E-08	2.46E-08	2.47E-08	2.46E-08	1.64E-08	7.18E-09	1.52E-07
545	561278.2	4192400	3.04E-08	3.83E-08	3.00E-08	3.01E-08	3.00E-08	2.23E-08	1.35E-08	1.95E-07	2.18E-08	2.98E-08	2.33E-08	2.33E-08	2.33E-08	1.55E-08	6.80E-09	1.44E-07
546	561222.4	4192627	3.02E-08	3.80E-08	2.98E-08	2.99E-08	2.98E-08	2.21E-08	1.34E-08	1.93E-07	2.16E-08	2.96E-08	2.31E-08	2.32E-08	2.31E-08	1.54E-08	6.75E-09	1.43E-07
547	561216.7	4192635	3.05E-08	3.84E-08	3.01E-08	3.02E-08	3.01E-08	2.23E-08	1.35E-08	1.95E-07	2.18E-08	2.99E-08	2.34E-08	2.34E-08	2.34E-08	1.56E-08	6.82E-09	1.44E-07
548	561210.9	4192643	3.08E-08	3.87E-08	3.04E-08	3.05E-08	3.04E-08	2.25E-08	1.37E-08	1.97E-07	2.20E-08	3.02E-08	2.35E-08	2.36E-08	2.35E-08	1.57E-08	6.87E-09	1.45E-07
549	561205.2	4192651	3.09E-08	3.88E-08	3.05E-08	3.06E-08	3.05E-08	2.26E-08	1.37E-08	1.98E-07	2.21E-08	3.03E-08	2.36E-08	2.37E-08	2.36E-08	1.58E-08	6.90E-09	1.46E-07
550	561189.7	4192660	3.28E-08	4.13E-08	3.24E-08	3.25E-08	3.24E-08	2.40E-08	1.46E-08	2.10E-07	2.35E-08	3.22E-08	2.51E-08	2.52E-08	2.51E-08	1.68E-08	7.34E-09	1.55E-07
551	561180	4192661	3.48E-08	4.38E-08	3.43E-08	3.44E-08	3.43E-08	2.55E-08	1.54E-08	2.23E-07	2.49E-08	3.41E-08	2.66E-08	2.67E-08	2.66E-08	1.78E-08	7.77E-09	1.64E-07
552	561170.3	4192663	3.67E-08	4.61E-08	3.62E-08	3.63E-08	3.62E-08	2.68E-08	1.63E-08	2.35E-07	2.62E-08	3.59E-08	2.81E-08	2.81E-08	2.81E-08	1.87E-08	8.19E-09	1.73E-07
553	561160.5	4192664	3.84E-08	4.83E-08	3.79E-08	3.80E-08	3.79E-08	2.81E-08	1.70E-08	2.46E-07	2.75E-08	3.76E-08	2.94E-08	2.95E-08	2.94E-08	1.96E-08	8.58E-09	1.82E-07
554	561150.8	4192666	3.99E-08	5.02E-08	3.94E-08	3.95E-08	3.94E-08	2.92E-08	1.77E-08	2.55E-07	2.85E-08	3.91E-08	3.06E-08	3.06E-08	3.06E-08	2.04E-08	8.92E-09	1.89E-07
555	561253.8	4192556	2.91E-08	3.66E-08	2.87E-08	2.88E-08	2.87E-08	2.13E-08	1.29E-08	1.86E-07	2.08E-08	2.85E-08	2.23E-08	2.23E-08	2.23E-08	1.49E-08	6.50E-09	1.38E-07
556	561256	4192547	2.94E-08	3.69E-08	2.90E-08	2.91E-08	2.90E-08	2.15E-08	1.30E-08	1.88E-07	2.10E-08	2.88E-08	2.25E-08	2.25E-08	2.25E-08	1.50E-08	6.56E-09	1.39E-07
557	561258.1	4192537	2.97E-08	3.73E-08	2.93E-08	2.94E-08	2.93E-08	2.17E-08	1.32E-08	1.90E-07	2.12E-08	2.91E-08	2.27E-08	2.28E-08	2.27E-08	1.51E-08	6.63E-09	1.40E-07
558	561260.2	4192527	2.99E-08	3.76E-08	2.95E-08	2.96E-08	2.95E-08	2.19E-08	1.33E-08	1.91E-07	2.14E-08	2.93E-08	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.68E-09	1.41E-07
559	561262.4	4192518	3.01E-08	3.79E-08	2.97E-08	2.98E-08	2.97E-08	2.20E-08	1.34E-08	1.93E-07	2.15E-08	2.95E-08	2.30E-08	2.31E-08	2.30E-08	1.54E-08	6.72E-09	1.42E-07
560	561264.5	4192508	3.02E-08	3.80E-08	2.98E-08	2.99E-08	2.98E-08	2.21E-08	1.34E-08	1.93E-07	2.16E-08	2.96E-08	2.31E-08	2.32E-08	2.31E-08	1.54E-08	6.75E-09	1.43E-07
561	561266.6	4192499	3.03E-08	3.81E-08	2.99E-08	2.99E-08	2.99E-08	2.21E-08	1.34E-08	1.94E-07	2.16E-08	2.96E-08	2.32E-08	2.32E-08	2.32E-08	1.54E-08	6.76E-09	1.43E-07
562	561268.7	4192489	3.02E-08	3.80E-08	2.98E-08	2.99E-08	2.98E-08	2.21E-08	1.34E-08	1.93E-07	2.16E-08	2.96E-08	2.31E-08	2.32E-08	2.31E-08	1.54E-08	6.75E-09	1.43E-07
563	561270.9	4192479	3.01E-08	3.79E-08	2.97E-08	2.98E-08	2.97E-08	2.21E-08	1.34E-08	1.93E-07	2.16E-08	2.95E-08	2.31E-08	2.31E-08	2.31E-08	1.54E-08	6.73E-09	1.42E-07
564	561273	4192470	3.00E-08	3.77E-08	2.96E-08	2.97E-08	2.96E-08	2.19E-08	1.33E-08	1.92E-07	2.14E-08	2.94E-08	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.70E-09	1.42E-07
565	561275.1	4192460	2.98E-08	3.74E-08	2.94E-08	2.94E-08	2.94E-08	2.18E-08	1.32E-08	1.90E-07	2.13E-08	2.92E-08	2.28E-08	2.28E-08	2.28E-08	1.52E-08	6.65E-09	1.41E-07
566	561277.3	4192450	2.95E-08	3.71E-08	2.91E-08	2.92E-08	2.91E-08	2.16E-08	1.31E-08	1.89E-07	2.11E-08	2.89E-08	2.26E-08	2.26E-08	2.26E-08	1.50E-08	6.59E-09	1.39E-07
567	561279.4	4192441	2.92E-08	3.67E-08	2.88E-08	2.89E-08	2.88E-08	2.14E-08	1.29E-08	1.87E-07	2.09E-08	2.86E-08	2.23E-08	2.24E-08	2.23E-08	1.49E-08	6.52E-09	1.38E-07
568	561281.5	4192431	2.88E-08	3.63E-08	2.85E-08	2.85E-08	2.85E-08	2.11E-08	1.28E-08	1.84E-07	2.06E-08	2.83E-08	2.21E-08	2.21E-08	2.21E-08	1.47E-08	6.44E-09	1.36E-07
569	561287.9	4192402	2.74E-08	3.44E-08	2.70E-08	2.71E-08	2.70E-08	2.00E-08	1.21E-08	1.75E-07	1.96E-08	2.68E-08	2.09E-08	2.10E-08	2.09E-08	1.40E-08	6.11E-09	1.29E-07
570	561232.7	4192628	2.75E-08	3.46E-08	2.71E-08	2.72E-08	2.71E-08	2.01E-08	1.22E-08	1.76E-07	1.97E-08	2.70E-08	2.10E-08	2.11E-08	2.10E-08	1.40E-08	6.14E-09	1.30E-07
571	561227.1	4192636	2.78E-08	3.50E-08	2.75E-08	2.76E-08	2.75E-08	2.04E-08	1.24E-08	1.78E-07	1.99E-08	2.73E-08	2.13E-08	2.14E-08	2.13E-08	1.42E-08	6.22E-09	1.32E-07
572	561221.5	4192644	2.81E-08	3.54E-08	2.78E-08	2.78E-08	2.78E-08	2.06E-08	1.25E-08	1.80E-07	2.01E-08	2.76E-08	2.15E-08	2.16E-08	2.15E-08	1.44E-08	6.29E-09	1.33E-07
573	561215.9	4192652	2.83E-08	3.56E-08	2.80E-08	2.80E-08	2.80E-08	2.07E-08	1.26E-08	1.81E-07	2.03E-08	2.78E-08	2.17E-08	2.17E-08	2.17E-08	1.45E-08	6.33E-09	1.34E-07
574	561210.3	4192659	2.84E-08	3.58E-08	2.81E-08	2.81E-08	2.81E-08	2.08E-08	1.26E-08	1.82E-07	2.03E-08	2.79E-08	2.18E-08	2.18E-08	2.18E-08	1.45E-08	6.35E-09	1.34E-07
575	561195.1	4192669	3.01E-08	3.79E-08	2.97E-08	2.98E-08	2.97E-08	2.20E-08	1.34E-08	1.93E-07	2.15E-08	2.95E-08	2.31E-08	2.31E-08	2.31E-08	1.54E-08	6.73E-09	1.42E-07
576	561185.6	4192670	3.18E-08	4.00E-08	3.14E-08	3.15E-08	3.14E-08	2.33E-08	1.41E-08	2.03E-07	2.27E-08	3.12E-08	2.43E-08	2.44E-08	2.43E-08	1.62E-08	7.11E-09	1.50E-07
577	561176.1	4192671	3.34E-08	4.21E-08	3.30E-08	3.31E-08	3.30E-08	2.45E-08	1.48E-08	2.14E-07	2.39E-08	3.28E-08	2.56E-08	2.57E-08	2.56E-08	1.71E-08	7.47E-09	1.58E-07
578	561166.6	4192673	3.50E-08	4.40E-08	3.45E-08	3.46E-08	3.45E-08	2.56E-08	1.55E-08	2.24E-07	2.50E-08	3.43E-08	2.68E-08	2.68E-08	2.68E-08	1.78E-08	7.81E-09	1.65E-07
579	561157.1	4192674	3.63E-08	4.57E-08	3.59E-08	3.60E-08	3.59E-08	2.66E-08	1.61E-08	2.32E-07	2.60E-08	3.56E-08	2.78E-08	2.79E-08	2.78E-08	1.85E-08	8.12E-09	1.72E-07
580	561147.6	4192675	3.75E-08	4.72E-08	3.70E-08	3.71E-08	3.70E-08	2.75E-08	1.67E-08	2.40E-07	2.68E-08	3.68E-08	2.87E-08	2.88E-08	2.87E-08	1.92E-08	8.38E-09	1.77E-07
581	561231.8	4192645	2.58E-08	3.24E-08	2.55E-08	2.55E-08	2.55E-08	1.89E-08	1.14E-08	1.65E-07	1.84E-08	2.53E-08	1.97E-08	1.98E-08	1.97E-08	1.32E-08	5.76E-09	1.22E-07
582	561226.3	4192653	2.60E-08	3.27E-08	2.57E-08	2.58E-08	2.57E-08	1.91E-08	1.15E-08	1.67E-07	1.86E-08	2.55E-08	1.99E-08	2.00E-08	1.99E-08	1.33E-08	5.81E-09	1.23E-07
583	561220.8	4192660	2.62E-08	3.30E-08	2.59E-08	2.59E-08	2.59E-08	1.92E-08	1.16E-08	1.68E-07	1.87E-08	2.57E-08	2.01E-08	2.01E-08	2.01E-08	1.34E-08	5.85E-09	1.24E-07
584	561215.3	4192668	2.63E-08	3.31E-08	2.60E-08	2.60E-08	2.60E-08	1.92E-08	1.17E-08	1.68E-07	1.88E-08	2.58E-08	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.88E-09	1.24E-07
585	561200.5	4192677	2.78E-08	3.49E-08	2.74E-08	2.75E-08	2.74E-08	2.03E-08	1.23E-08	1.78E-07	1.99E-08	2.72E-08	2.13E-08	2.13E-08	2.13E-08	1.42E-08	6.20E-09	1.31E-07
586	561191.1	4192678	2.92E-08	3.68E-08	2.89E-08	2.89E-08	2.89E-08	2.14E-08	1.30E-08	1.87E-07	2.09E-08	2.87E-08	2.24E-08	2.24E-08	2.24E-08	1.49E-08	6.53E-09	1.38E-07
587	561181.8	4192680	3.07E-08	3.86E-08	3.03E-08	3.04E-08	3.03E-08	2.24E-08	1.36E-08	1.96E-07	2.19E-08	3.01E-08	2.35E-08	2.35E-08	2.35E-08	1.56E-08	6.85E-09	1.45E-07
588	561172.5	4192681	3.20E-08	4.03E-08	3.16E-08	3.17E-08	3.16E-08	2.34E-08	1.42E-08	2.05E-07	2.29E-08	3.14E-08	2.45E-08	2.46E-08	2.45E-08	1.63E-08	7.16E-09	1.51E-07
589	561163.1	4192682	3.33E-08	4.18E-08	3.28E-08	3.29E-08	3.28E-08	2.44E-08	1.48E-08	2.13E-07	2.38E-08	3.26E-08	2.55E-08	2.55E-08	2.55E-08	1.70E-08	7.43E-09	1.57E-07
590	561153.8	4192684	3.44E-08	4.32E-08	3.39E-08	3.40E-08	3.39E-08	2.52E-08	1.53E-08	2.20E-07	2.46E-08	3.37E-08	2.63E-08	2.64E-08	2.63E-08	1.75E-08	7.68E-09	1.62E-07
591	561144.4	4192685	3.53E-08	4.44E-08	3.49E-08	3.49E-08	3.49E-08	2.58E-08	1.57E-08	2.26E-07	2.53E-08	3.46E-08	2.70E-08	2.71E-08	2.70E-08	1.80E-08	7.89E-09	1.67E-07
592	561264.8	4192599	2.32E-08	2.91E-08	2.29E-08	2.29E-08	2.29E-08	1.70E-08	1.03E-08	1.48E-07	1.66E-08	2.27E-08	1.77E-08	1.78E-08	1.77E-08	1.18E-08	5.18E-09	1.10E-07
593	561267	4192589	2.34E-08	2.94E-08	2.31E-08	2.31E-08	2.31E-08	1.71E-08	1.04E-08	1.50E-07	1.67E-08	2.29E-08	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.22E-09	1.10E-07
594	561269.1	4192580	2.36E-08	2.96E-08	2.32E-08	2.33E-08	2.32E-08	1.72E-08	1.05E-08	1.51E-07	1.68E-08	2.31E-08	1.80E-08	1.81E-08	1.80E-08	1.20E-08	5.26E-09	1.11E-07
595	561271.2	4192570	2.37E-08	2.98E-08	2.34E-08	2.35E-08	2.34E-08	1.74E-08	1.05E-08	1.52E-07	1.70E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.21E-08	5.30E-09	1.12E-07
596	561273.4	4192561	2.39E-08	3.00E-08	2.36E-08	2.36E-08	2.36E-08	1.75E-08	1.06E-08	1.53E-07	1.71E-08	2.34E-08	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.33E-09	1.13E-07
597	561275.5	4192551	2.40E-08	3.02E-08	2.37E-08	2.38E-08	2.37E-08	1.76E-08	1.07E-08	1.54E-07	1.72E-08	2.36E-08	1.84E-08	1.84E-08	1.84E-08	1.23E-08	5.37E-09	1.14E-07
598	561277.6	4192541	2.42E-08	3.04E-08	2.39E-08	2.39E-08	2.39E-08	1.77E-08	1.07E-08	1.55E-07	1.73E-08	2.37E-08	1.85E-08	1.86E-08	1.85E-08	1.23E-08	5.41E-09	1.14E-07
599	561279.7	4192532	2.43E-08	3.06E-08	2.40E-08	2.41E-08	2.40E-08	1.78E-08	1.08E-08	1.56E-07	1.74E-08	2.39E-08	1.86E-08	1.87E-08	1.86E-08	1.24E-08	5.44E-09	1.15E-07
600	561281.9	4192522	2.45E-08	3.08E-08	2.41E-08	2.42E-08	2.41E-08	1.79E-08	1.09E-08	1.56E-07	1.75E-08	2.40E-08	1.87E-08	1.88E-08	1.87E-08	1.25E-08	5.47E-09	1.16E-07
601	561284	4192513	2.45E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.75E-08	2.40E-08	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.48E-09	1.16E-07
602	561286.1	4192503	2.46E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
603	561288.3	4192493	2.45E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.75E-08	2.40E-08	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.48E-09	1.16E-07
604	561290.4	4192484	2.45E-08	3.08E-08	2.42E-08	2.42E-08	2.42E-08	1.79E-08	1.09E-08	1.57E-07	1.75E-08	2.40E-08	1.87E-08	1.88E-08	1.87E-08	1.25E-08	5.47E-09	1.16E-07
605	561292.5	4192474	2.44E-08	3.07E-08	2.41E-08	2.41E-08	2.41E-08	1.78E-08	1.08E-08	1.56E-07	1.74E-08	2.39E-08	1.87E-08	1.87E-08	1.87E-08	1.24E-08	5.45E-09	1.15E-07
606	561252.9	4192631	2.31E-08	2.90E-08	2.28E-08	2.29E-08	2.28E-08	1.69E-08	1.02E-08	1.48E-07	1.65E-08	2.26E-08	1.77E-08	1.77E-08	1.77E-08	1.18E-08	5.16E-09	1.09E-07
607	561225.8	4192669	2.43E-08	3.06E-08	2.40E-08	2.41E-08	2.40E-08	1.78E-08	1.08E-08	1.55E-07	1.74E-08	2.38E-08	1.86E-08	1.87E-08	1.86E-08	1.24E-08	5.43E-09	1.15E-07
608	561220.4	4192677	2.44E-08	3.07E-08	2.41E-08	2.42E-08	2.41E-08	1.79E-08	1.08E-08	1.56E-07	1.75E-08	2.39E-08	1.87E-08	1.87E-08	1.87E-08	1.25E-08	5.45E-09	1.15E-07
609	561205.8	4192686	2.57E-08	3.23E-08	2.54E-08	2.54E-08	2.54E-08	1.88E-08	1.14E-08	1.64E-07	1.84E-08	2.52E-08	1.97E-08	1.97E-08	1.97E-08	1.31E-08	5.74E-09	1.22E-07
610	561196.6	4192687	2.70E-08	3.40E-08	2.67E-08	2.67E-08	2.67E-08	1.98E-08	1.20E-08	1.73E-07	1.93E-08	2.65E-08	2.07E-08	2.07E-08	2.07E-08	1.38E-08	6.03E-09	1.28E-07
611	561187.4	4192688	2.83E-08	3.56E-08	2.79E-08	2.80E-08	2.79E-08	2.07E-08	1.25E-08	1.81E-07	2.02E-08	2.77E-08	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.32E-09	1.34E-07
612	561178.2	4192690	2.95E-08	3.71E-08	2.91E-08	2.92E-08	2.91E-08	2.16E-08	1.31E-08	1.89E-07	2.11E-08	2.89E-08	2.26E-08	2.26E-08	2.26E-08	1.50E-08	6.59E-09	1.39E-07
613	561169	4192691	3.06E-08	3.85E-08	3.02E-08	3.03E-08	3.02E-08	2.24E-08	1.36E-08	1.96E-07	2.19E-08	3.00E-08	2.34E-08	2.35E-08	2.34E-08	1.56E-08	6.84E-09	1.45E-07
614	561159.8	4192692	3.16E-08	3.98E-08	3.12E-08	3.13E-08	3.12E-08	2.31E-08	1.40E-08	2.02E-07	2.26E-08	3.10E-08	2.42E-08	2.43E-08	2.42E-08	1.61E-08	7.07E-09	1.49E-07
615	561150.6	4192693	3.25E-08	4.09E-08	3.21E-08	3.22E-08	3.21E-08	2.38E-08	1.44E-08	2.08E-07	2.33E-08	3.19E-08	2.49E-08	2.49E-08	2.49E-08	1.66E-08	7.26E-09	1.54E-07
616	561141.4	4192695	3.33E-08	4.18E-08	3.28E-08	3.29E-08	3.28E-08	2.43E-08	1.48E-08	2.13E-07	2.38E-08	3.26E-08	2.55E-08	2.55E-08	2.55E-08	1.70E-08	7.43E-09	1.57E-07
617	561274.6	4192601	2.13E-08	2.68E-08	2.10E-08	2.11E-08	2.10E-08	1.56E-08	9.44E-09	1.36E-07	1.52E-08	2.09E-08	1.63E-08	1.63E-08	1.63E-08	1.09E-08	4.75E-09	1.01E-07
618	561276.7	4192592	2.14E-08	2.70E-08	2.12E-08	2.12E-08	2.12E-08	1.57E-08	9.51E-09	1.37E-07	1.53E-08	2.10E-08	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.79E-09	1.01E-07
619	561278.8	4192582	2.16E-08	2.71E-08	2.13E-08	2.13E-08	2.13E-08	1.58E-08	9.57E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.82E-09	1.02E-07
620	561281	4192572	2.17E-08	2.73E-08	2.14E-08	2.15E-08	2.14E-08	1.59E-08	9.62E-09	1.39E-07	1.55E-08	2.13E-08	1.66E-08	1.66E-08	1.66E-08	1.11E-08	4.84E-09	1.03E-07
621	561283.1	4192563	2.18E-08	2.74E-08	2.15E-08	2.16E-08	2.15E-08	1.60E-08	9.67E-09	1.39E-07	1.56E-08	2.14E-08	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.87E-09	1.03E-07
622	561285.2	4192553	2.19E-08	2.76E-08	2.16E-08	2.17E-08	2.16E-08	1.60E-08	9.73E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.90E-09	1.04E-07
623	561287.4	4192544	2.20E-08	2.77E-08	2.17E-08	2.18E-08	2.17E-08	1.61E-08	9.77E-09	1.41E-07	1.58E-08	2.16E-08	1.69E-08	1.69E-08	1.69E-08	1.12E-08	4.92E-09	1.04E-07
624	561289.5	4192534	2.21E-08	2.78E-08	2.18E-08	2.19E-08	2.18E-08	1.62E-08	9.82E-09	1.42E-07	1.58E-08	2.17E-08	1.69E-08	1.70E-08	1.69E-08	1.13E-08	4.94E-09	1.05E-07
625	561291.6	4192524	2.22E-08	2.79E-08	2.19E-08	2.20E-08	2.19E-08	1.63E-08	9.85E-09	1.42E-07	1.59E-08	2.18E-08	1.70E-08	1.70E-08	1.70E-08	1.13E-08	4.96E-09	1.05E-07
626	561293.8	4192515	2.23E-08	2.80E-08	2.20E-08	2.20E-08	2.20E-08	1.63E-08	9.88E-09	1.42E-07	1.59E-08	2.18E-08	1.70E-08	1.71E-08	1.70E-08	1.14E-08	4.97E-09	1.05E-07
627	561295.9	4192505	2.23E-08	2.80E-08	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.89E-09	1.43E-07	1.59E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	1.05E-07
628	561298	4192495	2.23E-08	2.80E-08	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.89E-09	1.43E-07	1.59E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	1.05E-07
629	561300.2	4192486	2.23E-08	2.80E-08	2.20E-08	2.20E-08	2.20E-08	1.63E-08	9.87E-09	1.42E-07	1.59E-08	2.18E-08	1.70E-08	1.71E-08	1.70E-08	1.14E-08	4.97E-09	1.05E-07
630	561302.3	4192476	2.22E-08	2.79E-08	2.19E-08	2.19E-08	2.19E-08	1.62E-08	9.84E-09	1.42E-07	1.59E-08	2.17E-08	1.70E-08	1.70E-08	1.70E-08	1.13E-08	4.95E-09	1.05E-07
631	561304.4	4192467	2.21E-08	2.78E-08	2.18E-08	2.18E-08	2.18E-08	1.62E-08	9.79E-09	1.41E-07	1.58E-08	2.16E-08	1.69E-08	1.69E-08	1.69E-08	1.13E-08	4.93E-09	1.04E-07
632	561306.6	4192457	2.19E-08	2.76E-08	2.16E-08	2.17E-08	2.16E-08	1.61E-08	9.73E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.90E-09	1.04E-07
633	561308.7	4192447	2.18E-08	2.74E-08	2.15E-08	2.15E-08	2.15E-08	1.59E-08	9.66E-09	1.39E-07	1.56E-08	2.13E-08	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.86E-09	1.03E-07

634	561310.8	4192438	2.16E-08	2.71E-08	2.13E-08	2.13E-08	2.13E-08	1.58E-08	9.57E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.82E-09	1.02E-07
635	561317.2	4192409	2.06E-08	2.60E-08	2.04E-08	2.04E-08	2.04E-08	1.51E-08	9.16E-09	1.32E-07	1.48E-08	2.02E-08	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.61E-09	9.76E-08
636	561263	4192633	2.13E-08	2.68E-08	2.10E-08	2.11E-08	2.10E-08	1.56E-08	9.44E-09	1.36E-07	1.52E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.09E-08	4.75E-09	1.01E-07
637	561257.6	4192641	2.16E-08	2.72E-08	2.13E-08	2.14E-08	2.13E-08	1.58E-08	9.59E-09	1.38E-07	1.55E-08	2.12E-08	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.83E-09	1.02E-07
638	561252.3	4192648	2.19E-08	2.75E-08	2.16E-08	2.17E-08	2.16E-08	1.60E-08	9.72E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.89E-09	1.04E-07
639	561211.1	4192694	2.39E-08	3.01E-08	2.36E-08	2.36E-08	2.36E-08	1.75E-08	1.06E-08	1.53E-07	1.71E-08	2.34E-08	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.34E-09	1.13E-07
640	561202	4192695	2.50E-08	3.15E-08	2.47E-08	2.48E-08	2.47E-08	1.83E-08	1.11E-08	1.60E-07	1.79E-08	2.45E-08	1.92E-08	1.92E-08	1.92E-08	1.28E-08	5.59E-09	1.18E-07
641	561192.9	4192697	2.62E-08	3.29E-08	2.58E-08	2.59E-08	2.58E-08	1.92E-08	1.16E-08	1.67E-07	1.87E-08	2.56E-08	2.00E-08	2.01E-08	2.00E-08	1.34E-08	5.85E-09	1.24E-07
642	561183.9	4192698	2.73E-08	3.43E-08	2.69E-08	2.70E-08	2.69E-08	2.00E-08	1.21E-08	1.74E-07	1.95E-08	2.67E-08	2.09E-08	2.09E-08	2.09E-08	1.39E-08	6.09E-09	1.29E-07
643	561174.8	4192699	2.83E-08	3.56E-08	2.79E-08	2.80E-08	2.79E-08	2.07E-08	1.26E-08	1.81E-07	2.02E-08	2.77E-08	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.32E-09	1.34E-07
644	561165.7	4192701	2.92E-08	3.67E-08	2.88E-08	2.89E-08	2.88E-08	2.14E-08	1.30E-08	1.87E-07	2.09E-08	2.86E-08	2.24E-08	2.24E-08	2.24E-08	1.49E-08	6.53E-09	1.38E-07
645	561156.6	4192702	3.01E-08	3.78E-08	2.97E-08	2.97E-08	2.97E-08	2.20E-08	1.33E-08	1.92E-07	2.15E-08	2.94E-08	2.30E-08	2.31E-08	2.30E-08	1.53E-08	6.71E-09	1.42E-07
646	561147.5	4192703	3.08E-08	3.87E-08	3.04E-08	3.04E-08	3.04E-08	2.25E-08	1.37E-08	1.97E-07	2.20E-08	3.01E-08	2.35E-08	2.36E-08	2.35E-08	1.57E-08	6.87E-09	1.45E-07
647	561138.4	4192704	3.14E-08	3.94E-08	3.10E-08	3.10E-08	3.10E-08	2.30E-08	1.39E-08	2.01E-07	2.24E-08	3.07E-08	2.40E-08	2.41E-08	2.40E-08	1.60E-08	7.01E-09	1.48E-07
648	561286.5	4192594	1.97E-08	2.48E-08	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	9.32E-08
649	561288.6	4192584	1.98E-08	2.49E-08	1.96E-08	1.96E-08	1.96E-08	1.45E-08	8.79E-09	1.27E-07	1.42E-08	1.94E-08	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.43E-09	9.37E-08
650	561290.7	4192575	1.99E-08	2.50E-08	1.96E-08	1.97E-08	1.96E-08	1.46E-08	8.83E-09	1.27E-07	1.42E-08	1.95E-08	1.52E-08	1.53E-08	1.52E-08	1.02E-08	4.45E-09	9.41E-08
651	561292.9	4192565	2.00E-08	2.51E-08	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.87E-09	1.28E-07	1.43E-08	1.96E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.47E-09	9.45E-08
652	561295	4192555	2.01E-08	2.52E-08	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.90E-09	1.28E-07	1.44E-08	1.97E-08	1.54E-08	1.54E-08	1.54E-08	1.02E-08	4.48E-09	9.49E-08
653	561297.1	4192546	2.01E-08	2.53E-08	1.99E-08	1.99E-08	1.99E-08	1.47E-08	8.94E-09	1.29E-07	1.44E-08	1.97E-08	1.54E-08	1.55E-08	1.54E-08	1.03E-08	4.50E-09	9.52E-08
654	561299.3	4192536	2.02E-08	2.54E-08	2.00E-08	2.00E-08	2.00E-08	1.48E-08	8.97E-09	1.29E-07	1.45E-08	1.98E-08	1.55E-08	1.55E-08	1.55E-08	1.03E-08	4.52E-09	9.56E-08
655	561301.4	4192526	2.03E-08	2.55E-08	2.00E-08	2.01E-08	2.00E-08	1.48E-08	9.00E-09	1.30E-07	1.45E-08	1.99E-08	1.55E-08	1.56E-08	1.55E-08	1.03E-08	4.53E-09	9.59E-08
656	561303.5	4192517	2.03E-08	2.56E-08	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.02E-09	1.30E-07	1.45E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.54E-09	9.61E-08
657	561305.7	4192507	2.04E-08	2.56E-08	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.03E-09	1.30E-07	1.46E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.55E-09	9.62E-08
658	561307.8	4192498	2.04E-08	2.56E-08	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.03E-09	1.30E-07	1.46E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.55E-09	9.62E-08
659	561309.9	4192488	2.03E-08	2.56E-08	2.01E-08	2.01E-08	2.01E-08	1.49E-08	9.02E-09	1.30E-07	1.45E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.54E-09	9.61E-08
660	561312.1	4192478	2.03E-08	2.55E-08	2.00E-08	2.01E-08	2.00E-08	1.48E-08	9.00E-09	1.30E-07	1.45E-08	1.99E-08	1.55E-08	1.56E-08	1.55E-08	1.03E-08	4.53E-09	9.58E-08
661	561314.2	4192469	2.02E-08	2.54E-08	1.99E-08	2.00E-08	1.99E-08	1.48E-08	8.96E-09	1.29E-07	1.44E-08	1.98E-08	1.55E-08	1.55E-08	1.55E-08	1.03E-08	4.51E-09	9.54E-08
662	561316.3	4192459	2.01E-08	2.53E-08	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.91E-09	1.28E-07	1.44E-08	1.97E-08	1.54E-08	1.54E-08	1.54E-08	1.02E-08	4.49E-09	9.49E-08
663	561318.5	4192450	1.99E-08	2.51E-08	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.85E-09	1.28E-07	1.43E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.45E-09	9.42E-08
664	561320.6	4192440	1.98E-08	2.48E-08	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.77E-09	1.26E-07	1.41E-08	1.94E-08	1.51E-08	1.52E-08	1.51E-08	1.01E-08	4.41E-09	9.34E-08
665	561327	4192411	1.90E-08	2.39E-08	1.87E-08	1.88E-08	1.87E-08	1.39E-08	8.42E-09	1.21E-07	1.36E-08	1.86E-08	1.45E-08	1.46E-08	1.45E-08	9.68E-09	4.24E-09	8.97E-08
666	561271.2	4192638	1.98E-08	2.49E-08	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.77E-09	1.26E-07	1.41E-08	1.94E-08	1.51E-08	1.52E-08	1.51E-08	1.01E-08	4.42E-09	9.35E-08
667	561265.5	4192646	2.01E-08	2.53E-08	1.98E-08	1.99E-08	1.98E-08	1.47E-08	8.92E-09	1.29E-07	1.44E-08	1.97E-08	1.54E-08	1.54E-08	1.54E-08	1.03E-08	4.49E-09	9.50E-08
668	561259.7	4192654	2.04E-08	2.56E-08	2.01E-08	2.02E-08	2.01E-08	1.49E-08	9.05E-09	1.30E-07	1.46E-08	2.00E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.55E-09	9.64E-08
669	561254	4192661	2.06E-08	2.59E-08	2.04E-08	2.04E-08	2.04E-08	1.51E-08	9.16E-09	1.32E-07	1.48E-08	2.02E-08	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.61E-09	9.75E-08
670	561248.3	4192669	2.08E-08	2.62E-08	2.06E-08	2.06E-08	2.06E-08	1.53E-08	9.25E-09	1.33E-07	1.49E-08	2.04E-08	1.59E-08	1.60E-08	1.59E-08	1.06E-08	4.65E-09	9.85E-08
671	561242.6	4192677	2.10E-08	2.64E-08	2.07E-08	2.08E-08	2.07E-08	1.54E-08	9.32E-09	1.34E-07	1.50E-08	2.06E-08	1.61E-08	1.61E-08	1.61E-08	1.07E-08	4.69E-09	9.92E-08
672	561236.8	4192685	2.11E-08	2.66E-08	2.08E-08	2.09E-08	2.08E-08	1.55E-08	9.37E-09	1.35E-07	1.51E-08	2.07E-08	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	9.98E-08
673	561215.6	4192703	2.24E-08	2.81E-08	2.21E-08	2.21E-08	2.21E-08	1.64E-08	9.92E-09	1.43E-07	1.60E-08	2.19E-08	1.71E-08	1.72E-08	1.71E-08	1.14E-08	5.00E-09	1.06E-07
674	561205.9	4192704	2.35E-08	2.95E-08	2.32E-08	2.32E-08	2.32E-08	1.72E-08	1.04E-08	1.50E-07	1.68E-08	2.30E-08	1.80E-08	1.80E-08	1.80E-08	1.20E-08	5.24E-09	1.11E-07
675	561196.2	4192706	2.46E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
676	561186.4	4192707	2.56E-08	3.22E-08	2.53E-08	2.54E-08	2.53E-08	1.88E-08	1.14E-08	1.64E-07	1.83E-08	2.51E-08	1.96E-08	1.97E-08	1.96E-08	1.31E-08	5.72E-09	1.21E-07
677	561176.7	4192708	2.66E-08	3.35E-08	2.63E-08	2.63E-08	2.63E-08	1.95E-08	1.18E-08	1.70E-07	1.90E-08	2.61E-08	2.04E-08	2.04E-08	2.04E-08	1.36E-08	5.94E-09	1.26E-07
678	561167	4192710	2.75E-08	3.46E-08	2.71E-08	2.72E-08	2.71E-08	2.01E-08	1.22E-08	1.76E-07	1.97E-08	2.69E-08	2.10E-08	2.11E-08	2.10E-08	1.40E-08	6.14E-09	1.30E-07
679	561157.2	4192711	2.83E-08	3.56E-08	2.79E-08	2.80E-08	2.79E-08	2.07E-08	1.25E-08	1.81E-07	2.02E-08	2.77E-08	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.32E-09	1.34E-07
680	561147.5	4192712	2.90E-08	3.64E-08	2.86E-08	2.87E-08	2.86E-08	2.12E-08	1.28E-08	1.85E-07	2.07E-08	2.84E-08	2.22E-08	2.22E-08	2.22E-08	1.48E-08	6.47E-09	1.37E-07
681	561137.8	4192714	2.95E-08	3.71E-08	2.91E-08	2.92E-08	2.91E-08	2.16E-08	1.31E-08	1.89E-07	2.11E-08	2.89E-08	2.26E-08	2.26E-08	2.26E-08	1.51E-08	6.59E-09	1.39E-07
682	561294.1	4192606	1.81E-08	2.28E-08	1.79E-08	1.79E-08	1.79E-08	1.33E-08	8.04E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.39E-08	1.39E-08	9.25E-09	4.05E-09	8.57E-08
683	561296.2	4192596	1.82E-08	2.29E-08	1.80E-08	1.80E-08	1.80E-08	1.33E-08	8.07E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	9.29E-09	4.07E-09	8.60E-08
684	561298.4	4192586	1.83E-08	2.30E-08	1.80E-08	1.81E-08	1.80E-08	1.34E-08	8.10E-09	1.17E-07	1.31E-08	1.79E-08	1.40E-08	1.40E-08	1.40E-08	9.32E-09	4.08E-09	8.63E-08
685	561300.5	4192577	1.83E-08	2.30E-08	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.13E-09	1.17E-07	1.31E-08	1.79E-08	1.40E-08	1.41E-08	1.40E-08	9.35E-09	4.09E-09	8.66E-08
686	561302.6	4192567	1.84E-08	2.31E-08	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.15E-09	1.18E-07	1.31E-08	1.80E-08	1.41E-08	1.41E-08	1.41E-08	9.38E-09	4.11E-09	8.69E-08
687	561304.8	4192557	1.84E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.35E-08	8.18E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.41E-08	1.41E-08	9.41E-09	4.12E-09	8.71E-08
688	561306.9	4192548	1.85E-08	2.33E-08	1.83E-08	1.83E-08	1.83E-08	1.35E-08	8.21E-09	1.18E-07	1.32E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	9.44E-09	4.13E-09	8.75E-08
689	561309	4192538	1.86E-08	2.33E-08	1.83E-08	1.84E-08	1.83E-08	1.36E-08	8.23E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.42E-08	1.42E-08	9.47E-09	4.15E-09	8.77E-08
690	561311.2	4192529	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.25E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	9.49E-09	4.16E-09	8.79E-08
691	561313.3	4192519	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.27E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.51E-09	4.16E-09	8.81E-08
692	561315.4	4192509	1.87E-08	2.35E-08	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.52E-09	4.17E-09	8.82E-08
693	561317.6	4192500	1.87E-08	2.35E-08	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.52E-09	4.17E-09	8.82E-08
694	561319.7	4192490	1.86E-08	2.35E-08	1.84E-08	1.85E-08	1.84E-08	1.36E-08	8.27E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.51E-09	4.17E-09	8.81E-08
695	561321.8	4192481	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.26E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	9.50E-09	4.16E-09	8.80E-08
696	561324	4192471	1.85E-08	2.33E-08	1.83E-08	1.84E-08	1.83E-08	1.36E-08	8.23E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.42E-08	1.42E-08	9.46E-09	4.14E-09	8.77E-08
697	561326.1	4192461	1.85E-08	2.32E-08	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.19E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.42E-08	1.41E-08	9.42E-09	4.12E-09	8.72E-08
698	561328.2	4192452	1.83E-08	2.31E-08	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.14E-09	1.17E-07	1.31E-08	1.80E-08	1.40E-08	1.41E-08	1.40E-08	9.36E-09	4.10E-09	8.67E-08
699	561330.4	4192442	1.82E-08	2.29E-08	1.80E-08	1.80E-08	1.80E-08	1.33E-08	8.07E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	9.28E-09	4.06E-09	8.60E-08
700	561336.8	4192413	1.75E-08	2.20E-08	1.73E-08	1.73E-08	1.73E-08	1.28E-08	7.78E-09	1.12E-07	1.25E-08	1.72E-08	1.34E-08	1.34E-08	1.34E-08	8.94E-09	3.91E-09	8.28E-08
701	561281.3	4192639	1.83E-08	2.30E-08	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.13E-09	1.17E-07	1.31E-08	1.79E-08	1.40E-08	1.41E-08	1.40E-08	9.35E-09	4.09E-09	8.66E-08
702	561275.7	4192647	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.27E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.51E-09	4.16E-09	8.81E-08
703	561270	4192655	1.89E-08	2.38E-08	1.87E-08	1.87E-08	1.87E-08	1.38E-08	8.39E-09	1.21E-07	1.35E-08	1.85E-08	1.45E-08	1.45E-08	1.45E-08	9.65E-09	4.22E-09	8.94E-08
704	561264.4	4192663	1.92E-08	2.41E-08	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.50E-09	1.23E-07	1.37E-08	1.88E-08	1.47E-08	1.47E-08	1.47E-08	9.77E-09	4.28E-09	9.05E-08
705	561258.8	4192671	1.94E-08	2.44E-08	1.91E-08	1.92E-08	1.91E-08	1.42E-08	8.59E-09	1.24E-07	1.38E-08	1.90E-08	1.48E-08	1.49E-08	1.48E-08	9.88E-09	4.33E-09	9.15E-08
706	561253.1	4192679	1.95E-08	2.46E-08	1.93E-08	1.93E-08	1.93E-08	1.43E-08	8.67E-09	1.25E-07	1.40E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	9.97E-09	4.36E-09	9.23E-08
707	561247.5	4192686	1.97E-08	2.47E-08	1.94E-08	1.95E-08	1.94E-08	1.44E-08	8.73E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.00E-08	4.40E-09	9.30E-08
708	561241.8	4192694	1.98E-08	2.49E-08	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.78E-09	1.27E-07	1.41E-08	1.94E-08	1.51E-08	1.52E-08	1.51E-08	1.01E-08	4.42E-09	9.35E-08
709	561236.2	4192702	1.99E-08	2.50E-08	1.96E-08	1.96E-08	1.96E-08	1.45E-08	8.81E-09	1.27E-07	1.42E-08	1.95E-08	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.43E-09	9.38E-08
710	561211.4	4192713	2.19E-08	2.75E-08	2.16E-08	2.17E-08	2.16E-08	1.60E-08	9.72E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.89E-09	1.04E-07
711	561201.8	4192714	2.29E-08	2.88E-08	2.26E-08	2.26E-08	2.26E-08	1.67E-08	1.02E-08	1.46E-07	1.64E-08	2.24E-08	1.75E-08	1.76E-08	1.75E-08	1.17E-08	5.11E-09	1.08E-07
712	561192.2	4192715	2.38E-08	3.00E-08	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	1.52E-07	1.70E-08	2.34E-08	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.32E-09	1.13E-07
713	561182.6	4192717	2.47E-08	3.11E-08	2.44E-08	2.45E-08	2.44E-08	1.81E-08	1.10E-08	1.58E-07	1.77E-08	2.42E-08	1.89E-08	1.90E-08	1.89E-08	1.26E-08	5.53E-09	1.17E-07
714	561173.1	4192718	2.56E-08	3.21E-08	2.52E-08	2.53E-08	2.52E-08	1.87E-08	1.13E-08	1.64E-07	1.83E-08	2.50E-08	1.96E-08	1.96E-08	1.96E-08	1.30E-08	5.71E-09	1.21E-07
715	561163.5	4192719	2.63E-08	3.31E-08	2.60E-08	2.60E-08	2.60E-08	1.92E-08	1.17E-08	1.68E-07	1.88E-08	2.58E-08	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.88E-09	1.24E-07
716	561153.9	4192721	2.69E-08	3.39E-08	2.66E-08	2.67E-08	2.66E-08	1.97E-08	1.20E-08	1.72E-07	1.93E-08	2.64E-08	2.06E-08	2.07E-08	2.06E-08	1.37E-08	6.02E-09	1.27E-07
717	561144.3	4192722	2.75E-08	3.46E-08	2.71E-08	2.72E-08	2.71E-08	2.01E-08	1.22E-08	1.76E-07	1.97E-08	2.69E-08	2.10E-08	2.11E-08	2.10E-08	1.40E-08	6.14E-09	1.30E-07
718	561134.7	4192724	2.79E-08	3.51E-08	2.76E-08	2.76E-08	2.76E-08	2.04E-08	1.24E-08	1.79E-07	2.00E-08	2.74E-08	2.14E-08	2.14E-08	2.14E-08	1.42E-08	6.24E-09	1.32E-07
719	561303.9	4192608	1.68E-08	2.11E-08	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.44E-09	1.07E-07	1.20E-08	1.64E-08	1.28E-08	1.29E-08	1.28E-08	8.56E-09	3.75E-09	7.93E-08
720	561306	4192598	1.68E-08	2.12E-08	1.66E-08	1.67E-08	1.66E-08	1.23E-08	7.47E-09	1.08E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.59E-09	3.76E-09	7.95E-08
721	561308.1	4192589	1.69E-08	2.12E-08	1.67E-08	1.67E-08	1.67E-08	1.23E-08	7.49E-09	1.08E-07	1.21E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.61E-09	3.77E-09	7.97E-08
722	561310.3	4192579	1.69E-08	2.13E-08	1.67E-08	1.67E-08	1.67E-08	1.24E-08	7.50E-09	1.08E-07	1.21E-08	1.66E-08	1.29E-08	1.30E-08	1.29E-08	8.63E-09	3.78E-09	7.99E-08
723	561312.4	4192569	1.69E-08	2.13E-08	1.67E-08	1.68E-08	1.67E-08	1.24E-08	7.52E-09	1.08E-07	1.21E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	8.65E-09	3.79E-09	8.01E-08
724	561314.5	4192560	1.70E-08	2.14E-08	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.80E-09	8.03E-08

725	561316.7	4192550	1.71E-08	2.14E-08	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.57E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.31E-08	1.30E-08	8.70E-09	3.81E-09	8.06E-08
726	561318.8	4192540	1.71E-08	2.15E-08	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.58E-09	1.09E-07	1.22E-08	1.68E-08	1.31E-08	1.31E-08	1.31E-08	8.72E-09	3.82E-09	8.08E-08
727	561320.9	4192531	1.71E-08	2.15E-08	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.60E-09	1.10E-07	1.22E-08	1.68E-08	1.31E-08	1.31E-08	1.31E-08	8.74E-09	3.83E-09	8.10E-08
728	561323.1	4192521	1.72E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.61E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.75E-09	3.83E-09	8.11E-08
729	561325.2	4192512	1.72E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.62E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.76E-09	3.84E-09	8.12E-08
730	561327.3	4192502	1.72E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.62E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.76E-09	3.84E-09	8.12E-08
731	561329.5	4192492	1.72E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.26E-08	7.61E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.75E-09	3.83E-09	8.11E-08
732	561331.6	4192483	1.71E-08	2.15E-08	1.69E-08	1.70E-08	1.69E-08	1.25E-08	7.60E-09	1.10E-07	1.22E-08	1.68E-08	1.31E-08	1.31E-08	1.31E-08	8.74E-09	3.83E-09	8.10E-08
733	561333.7	4192473	1.71E-08	2.15E-08	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.58E-09	1.09E-07	1.22E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	8.72E-09	3.82E-09	8.08E-08
734	561335.9	4192463	1.70E-08	2.14E-08	1.68E-08	1.68E-08	1.68E-08	1.25E-08	7.55E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.31E-08	1.30E-08	8.69E-09	3.80E-09	8.05E-08
735	561338	4192454	1.69E-08	2.13E-08	1.67E-08	1.68E-08	1.67E-08	1.24E-08	7.51E-09	1.08E-07	1.21E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	8.64E-09	3.78E-09	8.00E-08
736	561340.1	4192444	1.68E-08	2.11E-08	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.46E-09	1.08E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.58E-09	3.76E-09	7.95E-08
737	561346.5	4192415	1.62E-08	2.04E-08	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.21E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.25E-08	1.24E-08	8.29E-09	3.63E-09	7.68E-08
738	561291.4	4192641	1.70E-08	2.14E-08	1.68E-08	1.68E-08	1.68E-08	1.25E-08	7.55E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.31E-08	1.30E-08	8.68E-09	3.80E-09	8.04E-08
739	561285.8	4192649	1.73E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.68E-09	1.11E-07	1.24E-08	1.70E-08	1.32E-08	1.33E-08	1.32E-08	8.83E-09	3.87E-09	8.18E-08
740	561280.3	4192656	1.76E-08	2.21E-08	1.73E-08	1.74E-08	1.73E-08	1.29E-08	7.80E-09	1.12E-07	1.26E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	8.97E-09	3.93E-09	8.31E-08
741	561274.7	4192664	1.78E-08	2.24E-08	1.76E-08	1.76E-08	1.76E-08	1.30E-08	7.91E-09	1.14E-07	1.27E-08	1.75E-08	1.36E-08	1.37E-08	1.36E-08	9.09E-09	3.98E-09	8.42E-08
742	561269.1	4192672	1.80E-08	2.27E-08	1.78E-08	1.78E-08	1.78E-08	1.32E-08	8.00E-09	1.15E-07	1.29E-08	1.77E-08	1.38E-08	1.38E-08	1.38E-08	9.20E-09	4.03E-09	8.52E-08
743	561263.6	4192680	1.82E-08	2.29E-08	1.80E-08	1.80E-08	1.80E-08	1.33E-08	8.08E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	9.29E-09	4.07E-09	8.61E-08
744	561258	4192687	1.84E-08	2.31E-08	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.14E-09	1.17E-07	1.31E-08	1.80E-08	1.40E-08	1.41E-08	1.40E-08	9.37E-09	4.10E-09	8.68E-08
745	561252.4	4192695	1.85E-08	2.32E-08	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.20E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.42E-08	1.41E-08	9.43E-09	4.13E-09	8.74E-08
746	561246.9	4192703	1.86E-08	2.34E-08	1.83E-08	1.84E-08	1.83E-08	1.36E-08	8.24E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	9.48E-09	4.15E-09	8.78E-08
747	561241.3	4192711	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.27E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.51E-09	4.16E-09	8.81E-08
748	561207.4	4192723	2.14E-08	2.69E-08	2.11E-08	2.12E-08	2.11E-08	1.56E-08	9.49E-09	1.37E-07	1.53E-08	2.10E-08	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.78E-09	1.01E-07
749	561197.9	4192724	2.22E-08	2.80E-08	2.20E-08	2.20E-08	2.20E-08	1.63E-08	9.87E-09	1.42E-07	1.59E-08	2.18E-08	1.70E-08	1.71E-08	1.70E-08	1.14E-08	4.97E-09	1.05E-07
750	561188.5	4192725	2.31E-08	2.90E-08	2.28E-08	2.28E-08	2.28E-08	1.69E-08	1.02E-08	1.48E-07	1.65E-08	2.26E-08	1.77E-08	1.77E-08	1.77E-08	1.18E-08	5.15E-09	1.09E-07
751	561179	4192727	2.38E-08	3.00E-08	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	1.52E-07	1.70E-08	2.34E-08	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.32E-09	1.13E-07
752	561169.6	4192728	2.45E-08	3.08E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.75E-08	2.40E-08	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.48E-09	1.16E-07
753	561160.1	4192729	2.51E-08	3.16E-08	2.48E-08	2.49E-08	2.48E-08	1.84E-08	1.12E-08	1.61E-07	1.80E-08	2.46E-08	1.92E-08	1.93E-08	1.92E-08	1.28E-08	5.62E-09	1.19E-07
754	561150.6	4192731	2.57E-08	3.23E-08	2.53E-08	2.54E-08	2.53E-08	1.88E-08	1.14E-08	1.64E-07	1.84E-08	2.51E-08	1.96E-08	1.97E-08	1.96E-08	1.31E-08	5.73E-09	1.21E-07
755	561141.2	4192732	2.61E-08	3.28E-08	2.58E-08	2.58E-08	2.58E-08	1.91E-08	1.16E-08	1.67E-07	1.87E-08	2.56E-08	2.00E-08	2.00E-08	2.00E-08	1.33E-08	5.83E-09	1.23E-07
756	561131.7	4192733	2.64E-08	3.33E-08	2.61E-08	2.62E-08	2.61E-08	1.94E-08	1.17E-08	1.69E-07	1.89E-08	2.59E-08	2.02E-08	2.03E-08	2.02E-08	1.35E-08	5.91E-09	1.25E-07
757	561313.6	4192610	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	9.96E-08	1.11E-08	1.53E-08	1.19E-08	1.19E-08	1.19E-08	7.95E-09	3.48E-09	7.36E-08
758	561315.8	4192600	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.92E-09	9.98E-08	1.12E-08	1.53E-08	1.19E-08	1.20E-08	1.19E-08	7.96E-09	3.49E-09	7.38E-08
759	561317.9	4192591	1.56E-08	1.97E-08	1.54E-08	1.55E-08	1.54E-08	1.14E-08	6.94E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.98E-09	3.49E-09	7.39E-08
760	561320	4192581	1.57E-08	1.97E-08	1.54E-08	1.55E-08	1.54E-08	1.15E-08	6.94E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	7.40E-08
761	561322.2	4192571	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	1.00E-07	1.12E-08	1.54E-08	1.20E-08	1.20E-08	1.20E-08	8.00E-09	3.50E-09	7.41E-08
762	561324.3	4192562	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.97E-09	1.01E-07	1.12E-08	1.54E-08	1.20E-08	1.21E-08	1.20E-08	8.02E-09	3.51E-09	7.43E-08
763	561326.4	4192552	1.58E-08	1.98E-08	1.56E-08	1.56E-08	1.56E-08	1.15E-08	6.99E-09	1.01E-07	1.13E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.04E-09	3.52E-09	7.45E-08
764	561328.6	4192543	1.58E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.06E-09	3.53E-09	7.46E-08
765	561330.7	4192533	1.58E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	7.47E-08
766	561332.8	4192523	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.08E-09	3.54E-09	7.48E-08
767	561335	4192514	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.03E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	7.49E-08
768	561337.1	4192504	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.03E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	7.49E-08
769	561339.2	4192494	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	7.48E-08
770	561341.4	4192485	1.58E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.07E-09	3.53E-09	7.47E-08
771	561343.5	4192475	1.58E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.06E-09	3.53E-09	7.46E-08
772	561345.6	4192466	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.99E-09	1.01E-07	1.13E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.04E-09	3.52E-09	7.44E-08
773	561347.7	4192456	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	1.00E-07	1.12E-08	1.54E-08	1.20E-08	1.20E-08	1.20E-08	8.00E-09	3.50E-09	7.41E-08
774	561349.9	4192446	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	9.97E-08	1.11E-08	1.53E-08	1.19E-08	1.20E-08	1.19E-08	7.95E-09	3.48E-09	7.36E-08
775	561301.4	4192643	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.02E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.08E-09	3.54E-09	7.48E-08
776	561295.9	4192650	1.61E-08	2.03E-08	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.15E-09	1.03E-07	1.15E-08	1.58E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	7.62E-08
777	561290.4	4192658	1.64E-08	2.06E-08	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.27E-09	1.05E-07	1.17E-08	1.60E-08	1.25E-08	1.26E-08	1.25E-08	8.36E-09	3.66E-09	7.74E-08
778	561284.9	4192666	1.66E-08	2.09E-08	1.64E-08	1.64E-08	1.64E-08	1.22E-08	7.37E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.27E-08	1.27E-08	8.48E-09	3.71E-09	7.85E-08
779	561279.4	4192673	1.68E-08	2.11E-08	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.46E-09	1.08E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.58E-09	3.75E-09	7.94E-08
780	561273.9	4192681	1.70E-08	2.14E-08	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	1.09E-07	1.21E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.79E-09	8.03E-08
781	561268.4	4192689	1.71E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.25E-08	7.61E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.75E-09	3.83E-09	8.10E-08
782	561262.9	4192696	1.73E-08	2.17E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.67E-09	1.11E-07	1.24E-08	1.69E-08	1.32E-08	1.33E-08	1.32E-08	8.82E-09	3.86E-09	8.17E-08
783	561257.4	4192704	1.74E-08	2.19E-08	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.72E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.34E-08	1.33E-08	8.88E-09	3.89E-09	8.22E-08
784	561251.9	4192712	1.75E-08	2.20E-08	1.73E-08	1.73E-08	1.73E-08	1.28E-08	7.76E-09	1.12E-07	1.25E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	8.92E-09	3.91E-09	8.26E-08
785	561246.4	4192719	1.75E-08	2.21E-08	1.73E-08	1.74E-08	1.73E-08	1.28E-08	7.78E-09	1.12E-07	1.25E-08	1.72E-08	1.34E-08	1.35E-08	1.34E-08	8.95E-09	3.92E-09	8.29E-08
786	561231.6	4192728	1.84E-08	2.31E-08	1.81E-08	1.82E-08	1.81E-08	1.35E-08	8.16E-09	1.18E-07	1.31E-08	1.80E-08	1.41E-08	1.41E-08	1.41E-08	9.38E-09	4.11E-09	8.69E-08
787	561203.5	4192732	2.08E-08	2.62E-08	2.05E-08	2.06E-08	2.05E-08	1.52E-08	9.24E-09	1.33E-07	1.49E-08	2.04E-08	1.59E-08	1.60E-08	1.59E-08	1.06E-08	4.65E-09	9.84E-08
788	561194.2	4192734	2.16E-08	2.71E-08	2.13E-08	2.14E-08	2.13E-08	1.58E-08	9.57E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.82E-09	1.02E-07
789	561184.9	4192735	2.23E-08	2.80E-08	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.89E-09	1.43E-07	1.59E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	1.05E-07
790	561175.5	4192736	2.29E-08	2.88E-08	2.26E-08	2.27E-08	2.26E-08	1.68E-08	1.02E-08	1.47E-07	1.64E-08	2.25E-08	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.12E-09	1.08E-07
791	561166.2	4192738	2.35E-08	2.96E-08	2.32E-08	2.33E-08	2.32E-08	1.72E-08	1.04E-08	1.50E-07	1.68E-08	2.30E-08	1.80E-08	1.80E-08	1.80E-08	1.20E-08	5.25E-09	1.11E-07
792	561156.8	4192739	2.40E-08	3.02E-08	2.37E-08	2.38E-08	2.37E-08	1.76E-08	1.07E-08	1.54E-07	1.72E-08	2.35E-08	1.84E-08	1.84E-08	1.84E-08	1.23E-08	5.37E-09	1.14E-07
793	561147.5	4192740	2.45E-08	3.07E-08	2.41E-08	2.42E-08	2.41E-08	1.79E-08	1.08E-08	1.56E-07	1.75E-08	2.40E-08	1.87E-08	1.88E-08	1.87E-08	1.25E-08	5.46E-09	1.16E-07
794	561138.1	4192742	2.48E-08	3.12E-08	2.45E-08	2.45E-08	2.45E-08	1.82E-08	1.10E-08	1.59E-07	1.77E-08	2.43E-08	1.90E-08	1.90E-08	1.90E-08	1.27E-08	5.54E-09	1.17E-07
795	561128.8	4192743	2.51E-08	3.15E-08	2.47E-08	2.48E-08	2.47E-08	1.84E-08	1.11E-08	1.60E-07	1.79E-08	2.46E-08	1.92E-08	1.92E-08	1.92E-08	1.28E-08	5.60E-09	1.19E-07
796	561323.4	4192612	1.45E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.43E-09	9.27E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	6.85E-08
797	561325.5	4192602	1.45E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	9.29E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.41E-09	3.24E-09	6.86E-08
798	561327.7	4192593	1.45E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.45E-09	9.30E-08	1.04E-08	1.42E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	6.87E-08
799	561329.8	4192583	1.45E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.06E-08	6.45E-09	9.31E-08	1.04E-08	1.43E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	6.88E-08
800	561331.9	4192574	1.46E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.46E-09	9.32E-08	1.04E-08	1.43E-08	1.11E-08	1.12E-08	1.11E-08	7.43E-09	3.25E-09	6.88E-08
801	561334.1	4192564	1.46E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	9.33E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.44E-09	3.26E-09	6.89E-08
802	561336.2	4192554	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.48E-09	9.35E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.45E-09	3.26E-09	6.91E-08
803	561338.3	4192545	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.49E-09	9.36E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.46E-09	3.27E-09	6.91E-08
804	561340.5	4192535	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.50E-09	9.37E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.47E-09	3.27E-09	6.92E-08
805	561342.6	4192525	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.37E-08	1.05E-08	1.44E-08	1.12E-08	1.12E-08	1.12E-08	7.48E-09	3.27E-09	6.93E-08
806	561344.7	4192516	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.38E-08	1.05E-08	1.44E-08	1.12E-08	1.12E-08	1.12E-08	7.48E-09	3.27E-09	6.93E-08
807	561346.9	4192506	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.51E-09	9.38E-08	1.05E-08	1.44E-08	1.12E-08	1.13E-08	1.12E-08	7.48E-09	3.28E-09	6.93E-08
808	561349	4192497	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.38E-08	1.05E-08	1.44E-08	1.12E-08	1.12E-08	1.12E-08	7.48E-09	3.27E-09	6.93E-08
809	561351.1	4192487	1.46E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.37E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.47E-09	3.27E-09	6.92E-08
810	561353.2	4192477	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.49E-09	9.36E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.47E-09	3.27E-09	6.92E-08
811	561355.4	4192468	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.48E-09	9.34E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.45E-09	3.26E-09	6.90E-08
812	561357.5	4192458	1.46E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.46E-09	9.31E-08	1.04E-08	1.43E-08	1.11E-08	1.12E-08	1.11E-08	7.43E-09	3.25E-09	6.88E-08
813	561359.6	4192449	1.45E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.42E-09	9.26E-08	1.03E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.38E-09	3.23E-09	6.84E-08
814	561311.4	4192645	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.55E-09	9.44E-08	1.06E-08	1.45E-08	1.13E-08	1.13E-08	1.13E-08	7.53E-09	3.30E-09	6.97E-08
815	561306	4192652	1.50E-08	1.89E-08	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	9.61E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	7.10E-08

816	561300.5	4192660	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.78E-09	9.77E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.80E-09	3.41E-09	7.22E-08
817	561295.1	4192667	1.55E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.14E-08	6.88E-09	9.92E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.91E-09	3.46E-09	7.33E-08
818	561289.6	4192675	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.97E-09	1.00E-07	1.12E-08	1.54E-08	1.20E-08	1.20E-08	1.20E-08	8.01E-09	3.51E-09	7.42E-08
819	561284.2	4192683	1.59E-08	2.00E-08	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.04E-09	1.02E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.10E-09	3.55E-09	7.50E-08
820	561278.7	4192690	1.60E-08	2.02E-08	1.58E-08	1.59E-08	1.58E-08	1.17E-08	7.11E-09	1.03E-07	1.15E-08	1.57E-08	1.23E-08	1.23E-08	1.23E-08	8.18E-09	3.58E-09	7.57E-08
821	561273.3	4192698	1.62E-08	2.03E-08	1.60E-08	1.60E-08	1.60E-08	1.18E-08	7.17E-09	1.03E-07	1.16E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	8.25E-09	3.61E-09	7.64E-08
822	561267.9	4192705	1.63E-08	2.05E-08	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.23E-09	1.04E-07	1.17E-08	1.60E-08	1.25E-08	1.25E-08	1.25E-08	8.32E-09	3.64E-09	7.71E-08
823	561262.4	4192713	1.64E-08	2.06E-08	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.28E-09	1.05E-07	1.17E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.37E-09	3.67E-09	7.76E-08
824	561257	4192720	1.65E-08	2.07E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.32E-09	1.05E-07	1.18E-08	1.62E-08	1.26E-08	1.27E-08	1.26E-08	8.41E-09	3.68E-09	7.79E-08
825	561251.5	4192728	1.65E-08	2.08E-08	1.63E-08	1.64E-08	1.63E-08	1.21E-08	7.34E-09	1.06E-07	1.18E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	8.44E-09	3.70E-09	7.82E-08
826	561236.8	4192737	1.73E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.68E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.83E-09	3.87E-09	8.18E-08
827	561227.6	4192738	1.81E-08	2.27E-08	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.01E-09	1.16E-07	1.29E-08	1.77E-08	1.38E-08	1.39E-08	1.38E-08	9.21E-09	4.03E-09	8.54E-08
828	561199.9	4192742	2.02E-08	2.54E-08	2.00E-08	2.00E-08	2.00E-08	1.48E-08	8.98E-09	1.29E-07	1.45E-08	1.98E-08	1.55E-08	1.55E-08	1.55E-08	1.03E-08	4.52E-09	9.56E-08
829	561190.6	4192743	2.09E-08	2.63E-08	2.06E-08	2.07E-08	2.06E-08	1.53E-08	9.27E-09	1.34E-07	1.49E-08	2.05E-08	1.60E-08	1.60E-08	1.60E-08	1.07E-08	4.67E-09	9.87E-08
830	561181.4	4192745	2.15E-08	2.70E-08	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.54E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.80E-09	1.02E-07
831	561172.1	4192746	2.21E-08	2.77E-08	2.18E-08	2.18E-08	2.18E-08	1.61E-08	9.78E-09	1.41E-07	1.58E-08	2.16E-08	1.69E-08	1.69E-08	1.69E-08	1.13E-08	4.93E-09	1.04E-07
832	561162.9	4192747	2.25E-08	2.83E-08	2.22E-08	2.23E-08	2.22E-08	1.65E-08	1.00E-08	1.44E-07	1.61E-08	2.21E-08	1.72E-08	1.73E-08	1.72E-08	1.15E-08	5.03E-09	1.07E-07
833	561153.6	4192749	2.30E-08	2.89E-08	2.27E-08	2.27E-08	2.27E-08	1.68E-08	1.02E-08	1.47E-07	1.64E-08	2.25E-08	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.13E-09	1.09E-07
834	561144.4	4192750	2.33E-08	2.93E-08	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.03E-08	1.49E-07	1.67E-08	2.28E-08	1.78E-08	1.79E-08	1.78E-08	1.19E-08	5.21E-09	1.10E-07
835	561135.2	4192751	2.36E-08	2.97E-08	2.33E-08	2.33E-08	2.33E-08	1.73E-08	1.05E-08	1.51E-07	1.69E-08	2.31E-08	1.81E-08	1.81E-08	1.81E-08	1.20E-08	5.27E-09	1.11E-07
836	561125.9	4192753	2.38E-08	2.99E-08	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	1.52E-07	1.70E-08	2.33E-08	1.82E-08	1.83E-08	1.82E-08	1.21E-08	5.32E-09	1.12E-07
837	561333.2	4192614	1.35E-08	1.70E-08	1.34E-08	1.34E-08	1.34E-08	9.91E-09	6.01E-09	8.66E-08	9.69E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.91E-09	3.03E-09	6.40E-08
838	561335.3	4192605	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.92E-09	6.02E-09	8.67E-08	9.70E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	6.41E-08
839	561337.4	4192595	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.93E-09	6.02E-09	8.68E-08	9.70E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	6.41E-08
840	561339.6	4192585	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.93E-09	6.02E-09	8.68E-08	9.71E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	6.41E-08
841	561341.7	4192576	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.93E-09	6.02E-09	8.68E-08	9.71E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.92E-09	3.03E-09	6.41E-08
842	561343.8	4192566	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.94E-09	6.02E-09	8.69E-08	9.71E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.93E-09	3.03E-09	6.42E-08
843	561346	4192557	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.94E-09	6.03E-09	8.69E-08	9.72E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.93E-09	3.04E-09	6.42E-08
844	561348.1	4192547	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.95E-09	6.03E-09	8.70E-08	9.72E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
845	561350.2	4192537	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.95E-09	6.03E-09	8.70E-08	9.73E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
846	561352.4	4192528	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.96E-09	6.04E-09	8.70E-08	9.73E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
847	561354.5	4192518	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.96E-09	6.04E-09	8.71E-08	9.74E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.95E-09	3.04E-09	6.43E-08
848	561356.6	4192508	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.97E-09	6.04E-09	8.71E-08	9.74E-09	1.33E-08	1.04E-08	1.05E-08	1.04E-08	6.95E-09	3.04E-09	6.44E-08
849	561358.7	4192499	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.97E-09	6.04E-09	8.71E-08	9.74E-09	1.33E-08	1.04E-08	1.05E-08	1.04E-08	6.95E-09	3.04E-09	6.44E-08
850	561360.9	4192489	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.97E-09	6.04E-09	8.71E-08	9.74E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.95E-09	3.04E-09	6.44E-08
851	561363	4192480	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.96E-09	6.04E-09	8.70E-08	9.73E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
852	561365.1	4192470	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.94E-09	6.03E-09	8.69E-08	9.71E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.93E-09	3.03E-09	6.42E-08
853	561367.3	4192460	1.35E-08	1.70E-08	1.34E-08	1.34E-08	1.34E-08	9.91E-09	6.01E-09	8.66E-08	9.68E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.91E-09	3.02E-09	6.40E-08
854	561369.4	4192451	1.35E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.86E-09	5.97E-09	8.61E-08	9.63E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.87E-09	3.01E-09	6.36E-08
855	561320	4192648	1.38E-08	1.74E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.14E-09	8.86E-08	9.90E-09	1.36E-08	1.06E-08	1.06E-08	1.06E-08	7.07E-09	3.09E-09	6.55E-08
856	561314.3	4192656	1.41E-08	1.77E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.26E-09	9.03E-08	1.01E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	7.20E-09	3.15E-09	6.67E-08
857	561308.6	4192664	1.44E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	9.19E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.33E-09	3.21E-09	6.79E-08
858	561302.8	4192672	1.46E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	9.33E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.44E-09	3.26E-09	6.89E-08
859	561297.1	4192680	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.55E-09	9.45E-08	1.06E-08	1.45E-08	1.13E-08	1.13E-08	1.13E-08	7.54E-09	3.30E-09	6.98E-08
860	561291.4	4192688	1.49E-08	1.88E-08	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.63E-09	9.55E-08	1.07E-08	1.46E-08	1.14E-08	1.15E-08	1.14E-08	7.62E-09	3.34E-09	7.06E-08
861	561285.6	4192696	1.51E-08	1.90E-08	1.49E-08	1.49E-08	1.49E-08	1.10E-08	6.70E-09	9.65E-08	1.08E-08	1.48E-08	1.15E-08	1.16E-08	1.15E-08	7.70E-09	3.37E-09	7.13E-08
862	561279.9	4192704	1.52E-08	1.92E-08	1.50E-08	1.51E-08	1.50E-08	1.12E-08	6.76E-09	9.75E-08	1.09E-08	1.49E-08	1.17E-08	1.17E-08	1.17E-08	7.78E-09	3.41E-09	7.21E-08
863	561274.2	4192712	1.54E-08	1.93E-08	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.82E-09	9.84E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.85E-09	3.44E-09	7.27E-08
864	561268.5	4192720	1.55E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.87E-09	9.91E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.90E-09	3.46E-09	7.32E-08
865	561262.7	4192728	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	9.96E-08	1.11E-08	1.53E-08	1.19E-08	1.20E-08	1.19E-08	7.95E-09	3.48E-09	7.36E-08
866	561257	4192736	1.56E-08	1.97E-08	1.54E-08	1.55E-08	1.54E-08	1.14E-08	6.94E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.98E-09	3.49E-09	7.39E-08
867	561241.5	4192746	1.64E-08	2.06E-08	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.27E-09	1.05E-07	1.17E-08	1.61E-08	1.25E-08	1.26E-08	1.25E-08	8.36E-09	3.66E-09	7.74E-08
868	561231.8	4192747	1.71E-08	2.15E-08	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.59E-09	1.09E-07	1.22E-08	1.68E-08	1.31E-08	1.31E-08	1.31E-08	8.73E-09	3.82E-09	8.08E-08
869	561222.1	4192748	1.78E-08	2.24E-08	1.76E-08	1.76E-08	1.76E-08	1.30E-08	7.91E-09	1.14E-07	1.27E-08	1.75E-08	1.36E-08	1.37E-08	1.36E-08	9.09E-09	3.98E-09	8.42E-08
870	561202.6	4192751	1.92E-08	2.41E-08	1.89E-08	1.90E-08	1.89E-08	1.41E-08	8.52E-09	1.23E-07	1.37E-08	1.88E-08	1.47E-08	1.47E-08	1.47E-08	9.80E-09	4.29E-09	9.07E-08
871	561192.9	4192752	1.98E-08	2.50E-08	1.96E-08	1.96E-08	1.96E-08	1.45E-08	8.80E-09	1.27E-07	1.42E-08	1.94E-08	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.43E-09	9.38E-08
872	561183.2	4192754	2.04E-08	2.57E-08	2.02E-08	2.02E-08	2.02E-08	1.50E-08	9.07E-09	1.31E-07	1.46E-08	2.00E-08	1.56E-08	1.57E-08	1.56E-08	1.04E-08	4.57E-09	9.66E-08
873	561173.4	4192755	2.10E-08	2.64E-08	2.07E-08	2.07E-08	2.07E-08	1.53E-08	9.30E-09	1.34E-07	1.50E-08	2.05E-08	1.60E-08	1.61E-08	1.60E-08	1.07E-08	4.68E-09	9.91E-08
874	561163.7	4192757	2.14E-08	2.69E-08	2.11E-08	2.12E-08	2.11E-08	1.57E-08	9.51E-09	1.37E-07	1.53E-08	2.10E-08	1.64E-08	1.64E-08	1.64E-08	1.09E-08	4.79E-09	1.01E-07
875	561154	4192758	2.18E-08	2.74E-08	2.15E-08	2.16E-08	2.15E-08	1.60E-08	9.68E-09	1.40E-07	1.56E-08	2.14E-08	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.87E-09	1.03E-07
876	561144.2	4192759	2.21E-08	2.79E-08	2.19E-08	2.19E-08	2.19E-08	1.62E-08	9.83E-09	1.42E-07	1.58E-08	2.17E-08	1.69E-08	1.70E-08	1.69E-08	1.13E-08	4.95E-09	1.05E-07
877	561134.5	4192761	2.24E-08	2.82E-08	2.21E-08	2.22E-08	2.21E-08	1.64E-08	9.94E-09	1.43E-07	1.60E-08	2.20E-08	1.71E-08	1.72E-08	1.71E-08	1.14E-08	5.00E-09	1.06E-07
878	561124.8	4192762	2.26E-08	2.84E-08	2.23E-08	2.24E-08	2.23E-08	1.65E-08	1.00E-08	1.45E-07	1.62E-08	2.21E-08	1.73E-08	1.73E-08	1.73E-08	1.15E-08	5.05E-09	1.07E-07
879	561324.4	4192658	1.32E-08	1.66E-08	1.30E-08	1.31E-08	1.30E-08	9.67E-09	5.86E-09	8.45E-08	9.45E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.74E-09	2.95E-09	6.24E-08
880	561318.7	4192666	1.34E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.84E-09	5.96E-09	8.60E-08	9.61E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.86E-09	3.00E-09	6.35E-08
881	561313.1	4192674	1.37E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	9.99E-09	6.06E-09	8.73E-08	9.76E-09	1.34E-08	1.04E-08	1.05E-08	1.04E-08	6.97E-09	3.05E-09	6.45E-08
882	561307.4	4192682	1.38E-08	1.74E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.14E-09	8.85E-08	9.90E-09	1.36E-08	1.06E-08	1.06E-08	1.06E-08	7.06E-09	3.09E-09	6.54E-08
883	561301.7	4192690	1.40E-08	1.76E-08	1.38E-08	1.39E-08	1.38E-08	1.03E-08	6.21E-09	8.96E-08	1.00E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.15E-09	3.13E-09	6.62E-08
884	561296.1	4192697	1.42E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.28E-09	9.05E-08	1.01E-08	1.39E-08	1.08E-08	1.09E-08	1.08E-08	7.22E-09	3.16E-09	6.69E-08
885	561290.4	4192705	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.35E-09	9.15E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.30E-09	3.20E-09	6.76E-08
886	561284.8	4192713	1.44E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.41E-09	9.24E-08	1.03E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.37E-09	3.23E-09	6.83E-08
887	561279.1	4192721	1.46E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.46E-09	9.32E-08	1.04E-08	1.43E-08	1.11E-08	1.12E-08	1.11E-08	7.43E-09	3.25E-09	6.89E-08
888	561273.4	4192729	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.51E-09	9.38E-08	1.05E-08	1.44E-08	1.12E-08	1.13E-08	1.12E-08	7.48E-09	3.28E-09	6.93E-08
889	561267.8	4192737	1.47E-08	1.85E-08	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.54E-09	9.43E-08	1.05E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	7.52E-09	3.29E-09	6.97E-08
890	561262.1	4192745	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.57E-09	9.47E-08	1.06E-08	1.45E-08	1.13E-08	1.14E-08	1.13E-08	7.55E-09	3.31E-09	7.00E-08
891	561246.8	4192754	1.55E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.87E-09	9.91E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.90E-09	3.46E-09	7.32E-08
892	561237.2	4192755	1.61E-08	2.03E-08	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.16E-09	1.03E-07	1.15E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	8.24E-09	3.61E-09	7.63E-08
893	561227.6	4192757	1.68E-08	2.11E-08	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.45E-09	1.07E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.57E-09	3.75E-09	7.94E-08
894	561218	4192758	1.74E-08	2.19E-08	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.74E-09	1.12E-07	1.25E-08	1.71E-08	1.33E-08	1.34E-08	1.33E-08	8.90E-09	3.90E-09	8.25E-08
895	561198.8	4192761	1.87E-08	2.35E-08	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	1.19E-07	1.33E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.52E-09	4.17E-09	8.82E-08
896	561189.1	4192762	1.92E-08	2.42E-08	1.90E-08	1.90E-08	1.90E-08	1.41E-08	8.53E-09	1.23E-07	1.38E-08	1.88E-08	1.47E-08	1.48E-08	1.47E-08	9.81E-09	4.30E-09	9.09E-08
897	561179.5	4192764	1.97E-08	2.48E-08	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.76E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	9.33E-08
898	561169.9	4192765	2.02E-08	2.54E-08	1.99E-08	2.00E-08	1.99E-08	1.48E-08	8.95E-09	1.29E-07	1.44E-08	1.98E-08	1.54E-08	1.55E-08	1.54E-08	1.03E-08	4.51E-09	9.54E-08
899	561160.3	4192766	2.06E-08	2.59E-08	2.03E-08	2.04E-08	2.03E-08	1.51E-08	9.12E-09	1.32E-07	1.47E-08	2.02E-08	1.57E-08	1.58E-08	1.57E-08	1.05E-08	4.59E-09	9.72E-08
900	561150.7	4192768	2.09E-08	2.63E-08	2.06E-08	2.07E-08	2.06E-08	1.53E-08	9.27E-09	1.34E-07	1.49E-08	2.05E-08	1.60E-08	1.60E-08	1.60E-08	1.07E-08	4.67E-09	9.87E-08
901	561141	4192769	2.12E-08	2.66E-08	2.09E-08	2.09E-08	2.09E-08	1.55E-08	9.38E-09	1.35E-07	1.51E-08	2.07E-08	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	1.00E-07
902	561131.4	4192770	2.14E-08	2.69E-08	2.11E-08	2.11E-08	2.11E-08	1.56E-08	9.47E-09	1.37E-07	1.53E-08	2.09E-08	1.63E-08	1.64E-08	1.63E-08	1.09E-08	4.77E-09	1.01E-07
903	561121.8	4192772	2.15E-08	2.70E-08	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.54E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.80E-09	1.02E-07
904	561356.9	4192629	1.15E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.08E-09	7.33E-08	8.20E-09	1.12E-08	8.77E-09	8.79E-09	8.77E-09	5.85E-09	2.56E-09	5.42E-08
905	561317.6	4192683	1.30E-08	1.63E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.77E-09	8.31E-08	9.29E-09	1.27E-08	9.95E-09	9.97E-09	9.95E-09	6.63E-09	2.90E-09	6.14E-08
906	561312	4192691	1.32E-08	1.65E-08	1.30E-08	1.30E-08	1.30E-08	9.63E-09	5.84E-09	8.42E-08	9.41E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.71E-09	2.94E-09	6.22E-08

907	561306.4	4192699	1.33E-08	1.67E-08	1.31E-08	1.32E-08	1.31E-08	9.74E-09	5.90E-09	8.51E-08	9.52E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.79E-09	2.97E-09	6.29E-08
908	561300.8	4192707	1.35E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.85E-09	5.97E-09	8.61E-08	9.62E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.87E-09	3.01E-09	6.36E-08
909	561295.2	4192714	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.95E-09	6.03E-09	8.69E-08	9.72E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.42E-08
910	561289.6	4192722	1.37E-08	1.73E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.09E-09	8.77E-08	9.81E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.00E-09	3.06E-09	6.48E-08
911	561284	4192730	1.38E-08	1.74E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.13E-09	8.84E-08	9.88E-09	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.05E-09	3.09E-09	6.53E-08
912	561278.4	4192738	1.39E-08	1.75E-08	1.37E-08	1.38E-08	1.37E-08	1.02E-08	6.17E-09	8.90E-08	9.95E-09	1.36E-08	1.06E-08	1.07E-08	1.06E-08	7.10E-09	3.11E-09	6.57E-08
913	561272.8	4192746	1.40E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.20E-09	8.94E-08	1.00E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.13E-09	3.12E-09	6.61E-08
914	561267.2	4192753	1.40E-08	1.77E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.23E-09	8.98E-08	1.00E-08	1.38E-08	1.07E-08	1.08E-08	1.07E-08	7.16E-09	3.14E-09	6.63E-08
915	561252.1	4192763	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.51E-09	9.38E-08	1.05E-08	1.44E-08	1.12E-08	1.13E-08	1.12E-08	7.49E-09	3.28E-09	6.93E-08
916	561242.6	4192764	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.78E-09	9.77E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	7.22E-08
917	561233.1	4192765	1.59E-08	2.00E-08	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.04E-09	1.02E-07	1.14E-08	1.56E-08	1.21E-08	1.22E-08	1.21E-08	8.10E-09	3.55E-09	7.50E-08
918	561223.6	4192767	1.65E-08	2.07E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.31E-09	1.05E-07	1.18E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.40E-09	3.68E-09	7.78E-08
919	561195	4192771	1.81E-08	2.28E-08	1.79E-08	1.79E-08	1.79E-08	1.33E-08	8.04E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.39E-08	1.39E-08	9.25E-09	4.05E-09	8.57E-08
920	561185.5	4192772	1.86E-08	2.34E-08	1.84E-08	1.84E-08	1.84E-08	1.36E-08	8.26E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	9.50E-09	4.16E-09	8.80E-08
921	561176	4192773	1.90E-08	2.39E-08	1.88E-08	1.88E-08	1.88E-08	1.39E-08	8.45E-09	1.22E-07	1.36E-08	1.87E-08	1.46E-08	1.46E-08	1.46E-08	9.72E-09	4.25E-09	9.00E-08
922	561166.5	4192775	1.94E-08	2.44E-08	1.92E-08	1.92E-08	1.92E-08	1.42E-08	8.61E-09	1.24E-07	1.39E-08	1.90E-08	1.49E-08	1.49E-08	1.49E-08	9.91E-09	4.34E-09	9.18E-08
923	561157	4192776	1.97E-08	2.48E-08	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.76E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	9.33E-08
924	561147.4	4192777	2.00E-08	2.51E-08	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.87E-09	1.28E-07	1.43E-08	1.96E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.47E-09	9.45E-08
925	561137.9	4192779	2.02E-08	2.54E-08	1.99E-08	2.00E-08	1.99E-08	1.48E-08	8.97E-09	1.29E-07	1.45E-08	1.98E-08	1.55E-08	1.55E-08	1.55E-08	1.03E-08	4.51E-09	9.55E-08
926	561128.4	4192780	2.04E-08	2.56E-08	2.01E-08	2.02E-08	2.01E-08	1.49E-08	9.04E-09	1.30E-07	1.46E-08	2.00E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.55E-09	9.63E-08
927	561362.5	4192621	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.20E-09	4.97E-09	7.17E-08	8.02E-09	1.10E-08	8.58E-09	8.60E-09	8.58E-09	5.72E-09	2.50E-09	5.30E-08
928	561364.6	4192611	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.20E-09	4.97E-09	7.17E-08	8.01E-09	1.10E-08	8.57E-09	8.60E-09	8.57E-09	5.72E-09	2.50E-09	5.30E-08
929	561366.7	4192601	1.12E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	8.19E-09	4.97E-09	7.16E-08	8.01E-09	1.10E-08	8.57E-09	8.59E-09	8.57E-09	5.71E-09	2.50E-09	5.29E-08
930	561368.8	4192592	1.12E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	8.18E-09	4.96E-09	7.15E-08	8.00E-09	1.10E-08	8.56E-09	8.58E-09	8.56E-09	5.71E-09	2.50E-09	5.28E-08
931	561371	4192582	1.12E-08	1.40E-08	1.10E-08	1.11E-08	1.10E-08	8.17E-09	4.95E-09	7.14E-08	7.99E-09	1.09E-08	8.55E-09	8.57E-09	8.55E-09	5.70E-09	2.49E-09	5.28E-08
932	561373.1	4192573	1.12E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.16E-09	4.95E-09	7.13E-08	7.98E-09	1.09E-08	8.53E-09	8.56E-09	8.53E-09	5.69E-09	2.49E-09	5.27E-08
933	561375.2	4192563	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	7.13E-08	7.97E-09	1.09E-08	8.53E-09	8.55E-09	8.53E-09	5.68E-09	2.49E-09	5.27E-08
934	561377.4	4192553	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	5.26E-08
935	561379.5	4192544	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	5.26E-08
936	561381.6	4192534	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	5.26E-08
937	561383.8	4192525	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	5.26E-08
938	561385.9	4192515	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	5.26E-08
939	561388	4192505	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.51E-09	8.54E-09	8.51E-09	5.68E-09	2.49E-09	5.26E-08
940	561390.2	4192496	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.93E-09	7.11E-08	7.95E-09	1.09E-08	8.51E-09	8.54E-09	8.51E-09	5.68E-09	2.48E-09	5.26E-08
941	561392.3	4192486	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.13E-09	4.93E-09	7.11E-08	7.95E-09	1.09E-08	8.51E-09	8.53E-09	8.51E-09	5.67E-09	2.48E-09	5.25E-08
942	561394.4	4192476	1.11E-08	1.40E-08	1.09E-08	1.10E-08	1.09E-08	8.12E-09	4.92E-09	7.10E-08	7.93E-09	1.09E-08	8.49E-09	8.51E-09	8.49E-09	5.66E-09	2.48E-09	5.24E-08
943	561396.6	4192467	1.11E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.10E-09	4.91E-09	7.08E-08	7.91E-09	1.08E-08	8.47E-09	8.49E-09	8.47E-09	5.65E-09	2.47E-09	5.23E-08
944	561398.7	4192457	1.10E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.07E-09	4.89E-09	7.05E-08	7.88E-09	1.08E-08	8.43E-09	8.46E-09	8.43E-09	5.62E-09	2.46E-09	5.21E-08
945	561366.7	4192631	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.90E-09	4.79E-09	6.91E-08	7.72E-09	1.06E-08	8.26E-09	8.29E-09	8.26E-09	5.51E-09	2.41E-09	5.10E-08
946	561350	4192654	1.15E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.09E-09	7.34E-08	8.20E-09	1.12E-08	8.78E-09	8.80E-09	8.78E-09	5.85E-09	2.56E-09	5.42E-08
947	561344.5	4192662	1.17E-08	1.47E-08	1.15E-08	1.16E-08	1.15E-08	8.55E-09	5.18E-09	7.47E-08	8.35E-09	1.14E-08	8.94E-09	8.96E-09	8.94E-09	5.96E-09	2.61E-09	5.52E-08
948	561338.9	4192669	1.19E-08	1.49E-08	1.17E-08	1.17E-08	1.17E-08	8.69E-09	5.27E-09	7.59E-08	8.49E-09	1.16E-08	9.09E-09	9.11E-09	9.09E-09	6.06E-09	2.65E-09	5.61E-08
949	561311.2	4192708	1.27E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.27E-09	5.62E-09	8.10E-08	9.06E-09	1.24E-08	9.70E-09	9.72E-09	9.70E-09	6.46E-09	2.83E-09	5.99E-08
950	561305.6	4192716	1.28E-08	1.61E-08	1.26E-08	1.27E-08	1.26E-08	9.37E-09	5.68E-09	8.19E-08	9.16E-09	1.25E-08	9.80E-09	9.82E-09	9.80E-09	6.53E-09	2.86E-09	6.05E-08
951	561300.1	4192723	1.29E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	9.46E-09	5.74E-09	8.27E-08	9.24E-09	1.27E-08	9.89E-09	9.92E-09	9.89E-09	6.60E-09	2.89E-09	6.11E-08
952	561294.6	4192731	1.30E-08	1.64E-08	1.29E-08	1.29E-08	1.29E-08	9.54E-09	5.78E-09	8.34E-08	9.32E-09	1.28E-08	9.98E-09	1.00E-08	9.98E-09	6.65E-09	2.91E-09	6.16E-08
953	561289	4192739	1.31E-08	1.65E-08	1.30E-08	1.30E-08	1.30E-08	9.61E-09	5.82E-09	8.40E-08	9.39E-09	1.29E-08	1.00E-08	1.01E-08	1.00E-08	6.70E-09	2.93E-09	6.21E-08
954	561283.5	4192747	1.32E-08	1.66E-08	1.30E-08	1.31E-08	1.30E-08	9.67E-09	5.86E-09	8.45E-08	9.45E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.74E-09	2.95E-09	6.24E-08
955	561277.9	4192754	1.33E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	9.72E-09	5.89E-09	8.49E-08	9.49E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.77E-09	2.97E-09	6.27E-08
956	561272.4	4192762	1.33E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.76E-09	5.91E-09	8.53E-08	9.53E-09	1.31E-08	1.02E-08	1.02E-08	1.02E-08	6.80E-09	2.98E-09	6.30E-08
957	561257.4	4192771	1.39E-08	1.75E-08	1.37E-08	1.38E-08	1.37E-08	1.02E-08	6.18E-09	8.90E-08	9.95E-09	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.10E-09	3.11E-09	6.58E-08
958	561248	4192773	1.45E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.42E-09	9.26E-08	1.03E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.38E-09	3.23E-09	6.84E-08
959	561238.5	4192774	1.50E-08	1.89E-08	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	9.61E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	7.10E-08
960	561229.1	4192775	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	9.96E-08	1.11E-08	1.53E-08	1.19E-08	1.20E-08	1.19E-08	7.95E-09	3.48E-09	7.36E-08
961	561219.7	4192777	1.61E-08	2.03E-08	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.15E-09	1.03E-07	1.15E-08	1.58E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	7.62E-08
962	561191.4	4192781	1.76E-08	2.21E-08	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.80E-09	1.12E-07	1.26E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	8.97E-09	3.93E-09	8.31E-08
963	561182	4192782	1.80E-08	2.26E-08	1.78E-08	1.78E-08	1.78E-08	1.32E-08	7.98E-09	1.15E-07	1.29E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	9.18E-09	4.02E-09	8.51E-08
964	561172.6	4192783	1.84E-08	2.31E-08	1.81E-08	1.82E-08	1.81E-08	1.34E-08	8.14E-09	1.17E-07	1.31E-08	1.80E-08	1.40E-08	1.41E-08	1.40E-08	9.37E-09	4.10E-09	8.68E-08
965	561163.1	4192785	1.87E-08	2.35E-08	1.84E-08	1.85E-08	1.84E-08	1.37E-08	8.28E-09	1.19E-07	1.34E-08	1.83E-08	1.43E-08	1.43E-08	1.43E-08	9.53E-09	4.17E-09	8.83E-08
966	561153.7	4192786	1.89E-08	2.38E-08	1.87E-08	1.87E-08	1.87E-08	1.39E-08	8.40E-09	1.21E-07	1.35E-08	1.86E-08	1.45E-08	1.45E-08	1.45E-08	9.66E-09	4.23E-09	8.95E-08
967	561372.2	4192623	1.06E-08	1.33E-08	1.04E-08	1.05E-08	1.04E-08	7.73E-09	4.69E-09	6.76E-08	7.56E-09	1.04E-08	8.09E-09	8.11E-09	8.09E-09	5.39E-09	2.36E-09	4.99E-08
968	561374.3	4192613	1.06E-08	1.33E-08	1.04E-08	1.05E-08	1.04E-08	7.73E-09	4.69E-09	6.75E-08	7.55E-09	1.03E-08	8.08E-09	8.10E-09	8.08E-09	5.39E-09	2.36E-09	4.99E-08
969	561376.5	4192604	1.05E-08	1.33E-08	1.04E-08	1.04E-08	1.04E-08	7.72E-09	4.68E-09	6.75E-08	7.54E-09	1.03E-08	8.07E-09	8.09E-09	8.07E-09	5.38E-09	2.36E-09	4.98E-08
970	561378.6	4192594	1.05E-08	1.32E-08	1.04E-08	1.04E-08	1.04E-08	7.71E-09	4.67E-09	6.74E-08	7.53E-09	1.03E-08	8.06E-09	8.08E-09	8.06E-09	5.37E-09	2.35E-09	4.98E-08
971	561380.7	4192584	1.05E-08	1.32E-08	1.04E-08	1.04E-08	1.04E-08	7.69E-09	4.66E-09	6.72E-08	7.52E-09	1.03E-08	8.04E-09	8.07E-09	8.04E-09	5.36E-09	2.35E-09	4.97E-08
972	561382.9	4192575	1.05E-08	1.32E-08	1.04E-08	1.04E-08	1.04E-08	7.68E-09	4.66E-09	6.71E-08	7.51E-09	1.03E-08	8.03E-09	8.05E-09	8.03E-09	5.36E-09	2.34E-09	4.96E-08
973	561385	4192565	1.05E-08	1.32E-08	1.03E-08	1.04E-08	1.03E-08	7.67E-09	4.65E-09	6.70E-08	7.50E-09	1.03E-08	8.02E-09	8.04E-09	8.02E-09	5.35E-09	2.34E-09	4.95E-08
974	561387.1	4192556	1.05E-08	1.32E-08	1.03E-08	1.04E-08	1.03E-08	7.66E-09	4.64E-09	6.69E-08	7.48E-09	1.03E-08	8.01E-09	8.03E-09	8.01E-09	5.34E-09	2.34E-09	4.95E-08
975	561389.3	4192546	1.05E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.65E-09	4.64E-09	6.69E-08	7.48E-09	1.02E-08	8.00E-09	8.02E-09	8.00E-09	5.33E-09	2.34E-09	4.94E-08
976	561391.4	4192536	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.65E-09	4.63E-09	6.68E-08	7.47E-09	1.02E-08	7.99E-09	8.02E-09	7.99E-09	5.33E-09	2.33E-09	4.94E-08
977	561393.5	4192527	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.47E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.94E-08
978	561395.7	4192517	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.46E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.93E-08
979	561397.8	4192507	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.46E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.93E-08
980	561399.9	4192498	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.46E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.93E-08
981	561402.1	4192488	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.67E-08	7.46E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.32E-09	2.33E-09	4.93E-08
982	561404.2	4192479	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.63E-09	4.62E-09	6.66E-08	7.45E-09	1.02E-08	7.97E-09	8.00E-09	7.97E-09	5.32E-09	2.33E-09	4.92E-08
983	561406.3	4192469	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.61E-09	4.61E-09	6.65E-08	7.43E-09	1.02E-08	7.95E-09	7.98E-09	7.95E-09	5.30E-09	2.32E-09	4.91E-08
984	561408.5	4192459	1.04E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.58E-09	4.59E-09	6.62E-08	7.40E-09	1.01E-08	7.92E-09	7.95E-09	7.92E-09	5.28E-09	2.31E-09	4.89E-08
985	561376.5	4192633	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.46E-09	4.52E-09	6.52E-08	7.29E-09	9.99E-09	7.80E-09	7.82E-09	7.80E-09	5.20E-09	2.28E-09	4.82E-08
986	561360	4192656	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.92E-09	4.80E-09	6.92E-08	7.73E-09	1.06E-08	8.28E-09	8.30E-09	8.28E-09	5.52E-09	2.42E-09	5.11E-08
987	561354.5	4192663	1.10E-08	1.38E-08	1.09E-08	1.09E-08	1.09E-08	8.06E-09	4.88E-09	7.04E-08	7.87E-09	1.08E-08	8.42E-09	8.45E-09	8.42E-09	5.62E-09	2.46E-09	5.20E-08
988	561349	4192671	1.12E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	8.19E-09	4.97E-09	7.16E-08	8.00E-09	1.10E-08	8.57E-09	8.59E-09	8.57E-09	5.71E-09	2.50E-09	5.29E-08
989	561343.5	4192679	1.14E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	8.32E-09	5.04E-09	7.27E-08	8.13E-09	1.11E-08	8.70E-09	8.72E-09	8.70E-09	5.80E-09	2.54E-09	5.37E-08
990	561338	4192686	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.11E-09	7.37E-08	8.24E-09	1.13E-08	8.82E-09	8.85E-09	8.82E-09	5.88E-09	2.58E-09	5.45E-08
991	561332.5	4192694	1.17E-08	1.47E-08	1.15E-08	1.16E-08	1.15E-08	8.55E-09	5.18E-09	7.47E-08	8.35E-09	1.14E-08	8.94E-09	8.96E-09	8.94E-09	5.96E-09	2.61E-09	5.52E-08
992	561305	4192732	1.23E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	9.00E-09	5.46E-09	7.87E-08	8.80E-09	1.21E-08	9.41E-09	9.44E-09	9.41E-09	6.28E-09	2.75E-09	5.81E-08
993	561299.5	4192740	1.24E-08	1.56E-08	1.22E-08	1.23E-08	1.22E-08	9.08E-09	5.50E-09	7.93E-08	8.87E-09	1.22E-08	9.49E-09	9.52E-09	9.49E-09	6.33E-09	2.77E-09	5.86E-08
994	561294	4192748	1.25E-08	1.57E-08	1.23E-08	1.24E-08	1.23E-08	9.14E-09	5.54E-09	7.99E-08	8.93E-09	1.22E-08	9.56E-09	9.58E-09	9.56E-09	6.37E-09	2.79E-09	5.90E-08
995	561288.5	4192755	1.26E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	9.19E-09	5.57E-09	8.03E-08	8.98E-09	1.23E-08	9.61E-09	9.64E-09	9.61E-09	6.41E-09	2.81E-09	5.94E-08
996	561283	4192763	1.26E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.24E-09	5.60E-09	8.08E-08	9.03E-09	1.24E-08	9.66E-09	9.69E-09	9.66E-09	6.44E-09	2.82E-09	5.97E-08
997	561277.5	4192771	1.27E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.28E-09	5.63E-09	8.11E-08	9.07E-09	1.24E-08	9.70E-09	9.73E-09	9.70E-09	6.47E-09	2.83E-09	5.99E-08

998	561262.7	4192780	1.32E-08	1.66E-08	1.31E-08	1.31E-08	1.31E-08	9.68E-09	5.87E-09	8.46E-08	9.46E-09	1.30E-08	1.01E-08	1.01E-08	1.01E-08	6.75E-09	2.95E-09	6.25E-08
999	561253.3	4192781	1.37E-08	1.73E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.09E-09	8.79E-08	9.82E-09	1.35E-08	1.05E-08	1.05E-08	1.05E-08	7.01E-09	3.07E-09	6.49E-08
1000	561244	4192782	1.43E-08	1.79E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.32E-09	9.12E-08	1.02E-08	1.40E-08	1.09E-08	1.09E-08	1.09E-08	7.27E-09	3.18E-09	6.74E-08
1001	561234.6	4192784	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.55E-09	9.44E-08	1.06E-08	1.45E-08	1.13E-08	1.13E-08	1.13E-08	7.53E-09	3.30E-09	6.98E-08
1002	561225.3	4192785	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.77E-09	9.76E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	7.21E-08
1003	561215.9	4192786	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.99E-09	1.01E-07	1.13E-08	1.54E-08	1.20E-08	1.21E-08	1.20E-08	8.03E-09	3.52E-09	7.44E-08
1004	561187.9	4192790	1.70E-08	2.14E-08	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.56E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.31E-08	1.30E-08	8.69E-09	3.81E-09	8.05E-08
1005	561178.6	4192792	1.74E-08	2.19E-08	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.71E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.87E-09	3.88E-09	8.22E-08
1006	561382	4192625	9.98E-09	1.26E-08	9.85E-09	9.88E-09	9.85E-09	7.31E-09	4.43E-09	6.39E-08	7.14E-09	9.78E-09	7.64E-09	7.66E-09	7.64E-09	5.09E-09	2.23E-09	4.72E-08
1007	561384.1	4192615	9.97E-09	1.25E-08	9.84E-09	9.87E-09	9.84E-09	7.30E-09	4.42E-09	6.38E-08	7.13E-09	9.77E-09	7.63E-09	7.65E-09	7.63E-09	5.09E-09	2.23E-09	4.71E-08
1008	561386.2	4192606	9.96E-09	1.25E-08	9.83E-09	9.85E-09	9.83E-09	7.29E-09	4.42E-09	6.37E-08	7.12E-09	9.76E-09	7.62E-09	7.64E-09	7.62E-09	5.08E-09	2.22E-09	4.71E-08
1009	561388.4	4192596	9.94E-09	1.25E-08	9.81E-09	9.83E-09	9.81E-09	7.27E-09	4.41E-09	6.36E-08	7.11E-09	9.74E-09	7.60E-09	7.63E-09	7.60E-09	5.07E-09	2.22E-09	4.70E-08
1010	561390.5	4192587	9.92E-09	1.25E-08	9.79E-09	9.81E-09	9.79E-09	7.26E-09	4.40E-09	6.34E-08	7.09E-09	9.72E-09	7.59E-09	7.61E-09	7.59E-09	5.06E-09	2.22E-09	4.69E-08
1011	561392.6	4192577	9.90E-09	1.24E-08	9.77E-09	9.80E-09	9.77E-09	7.24E-09	4.39E-09	6.33E-08	7.08E-09	9.70E-09	7.58E-09	7.60E-09	7.58E-09	5.05E-09	2.21E-09	4.68E-08
1012	561394.8	4192567	9.88E-09	1.24E-08	9.75E-09	9.77E-09	9.75E-09	7.23E-09	4.38E-09	6.32E-08	7.06E-09	9.68E-09	7.56E-09	7.58E-09	7.56E-09	5.04E-09	2.21E-09	4.67E-08
1013	561396.9	4192558	9.86E-09	1.24E-08	9.73E-09	9.75E-09	9.73E-09	7.21E-09	4.37E-09	6.30E-08	7.05E-09	9.66E-09	7.54E-09	7.56E-09	7.54E-09	5.03E-09	2.20E-09	4.66E-08
1014	561399	4192548	9.84E-09	1.24E-08	9.71E-09	9.73E-09	9.71E-09	7.20E-09	4.36E-09	6.29E-08	7.03E-09	9.64E-09	7.53E-09	7.55E-09	7.53E-09	5.02E-09	2.20E-09	4.65E-08
1015	561401.2	4192538	9.82E-09	1.24E-08	9.70E-09	9.72E-09	9.70E-09	7.19E-09	4.36E-09	6.28E-08	7.03E-09	9.63E-09	7.52E-09	7.54E-09	7.52E-09	5.01E-09	2.19E-09	4.64E-08
1016	561403.3	4192529	9.82E-09	1.23E-08	9.69E-09	9.71E-09	9.69E-09	7.18E-09	4.36E-09	6.28E-08	7.02E-09	9.62E-09	7.51E-09	7.53E-09	7.51E-09	5.01E-09	2.19E-09	4.64E-08
1017	561405.4	4192519	9.81E-09	1.23E-08	9.68E-09	9.71E-09	9.68E-09	7.18E-09	4.35E-09	6.27E-08	7.01E-09	9.61E-09	7.51E-09	7.53E-09	7.51E-09	5.00E-09	2.19E-09	4.64E-08
1018	561407.6	4192510	9.81E-09	1.23E-08	9.68E-09	9.71E-09	9.68E-09	7.18E-09	4.35E-09	6.27E-08	7.02E-09	9.61E-09	7.51E-09	7.53E-09	7.51E-09	5.01E-09	2.19E-09	4.64E-08
1019	561409.7	4192500	9.81E-09	1.23E-08	9.68E-09	9.71E-09	9.68E-09	7.18E-09	4.35E-09	6.28E-08	7.02E-09	9.62E-09	7.51E-09	7.53E-09	7.51E-09	5.01E-09	2.19E-09	4.64E-08
1020	561411.8	4192490	9.81E-09	1.23E-08	9.69E-09	9.71E-09	9.69E-09	7.18E-09	4.35E-09	6.28E-08	7.02E-09	9.62E-09	7.51E-09	7.53E-09	7.51E-09	5.01E-09	2.19E-09	4.64E-08
1021	561414	4192481	9.80E-09	1.23E-08	9.67E-09	9.70E-09	9.67E-09	7.17E-09	4.35E-09	6.27E-08	7.01E-09	9.60E-09	7.50E-09	7.52E-09	7.50E-09	5.00E-09	2.19E-09	4.63E-08
1022	561416.1	4192471	9.78E-09	1.23E-08	9.65E-09	9.67E-09	9.65E-09	7.15E-09	4.34E-09	6.25E-08	6.99E-09	9.58E-09	7.48E-09	7.50E-09	7.48E-09	4.99E-09	2.18E-09	4.62E-08
1023	561418.2	4192462	9.74E-09	1.22E-08	9.61E-09	9.64E-09	9.61E-09	7.13E-09	4.32E-09	6.23E-08	6.97E-09	9.54E-09	7.45E-09	7.47E-09	7.45E-09	4.97E-09	2.18E-09	4.60E-08
1024	561386	4192635	9.65E-09	1.21E-08	9.52E-09	9.55E-09	9.52E-09	7.06E-09	4.28E-09	6.17E-08	6.90E-09	9.46E-09	7.39E-09	7.41E-09	7.39E-09	4.92E-09	2.16E-09	4.56E-08
1025	561368.8	4192659	1.03E-08	1.29E-08	1.01E-08	1.01E-08	1.01E-08	7.51E-09	4.55E-09	6.56E-08	7.33E-09	1.00E-08	7.85E-09	7.87E-09	7.85E-09	5.23E-09	2.29E-09	4.85E-08
1026	561363.1	4192667	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.47E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.94E-08
1027	561357.4	4192675	1.06E-08	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.77E-09	4.71E-09	6.79E-08	7.59E-09	1.04E-08	8.13E-09	8.15E-09	8.13E-09	5.42E-09	2.37E-09	5.02E-08
1028	561351.6	4192683	1.08E-08	1.36E-08	1.06E-08	1.07E-08	1.06E-08	7.90E-09	4.79E-09	6.90E-08	7.71E-09	1.06E-08	8.26E-09	8.28E-09	8.26E-09	5.50E-09	2.41E-09	5.10E-08
1029	561345.9	4192691	1.09E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.86E-09	7.00E-08	7.83E-09	1.07E-08	8.38E-09	8.40E-09	8.38E-09	5.58E-09	2.45E-09	5.17E-08
1030	561340.2	4192699	1.11E-08	1.39E-08	1.09E-08	1.10E-08	1.09E-08	8.12E-09	4.92E-09	7.09E-08	7.93E-09	1.09E-08	8.49E-09	8.51E-09	8.49E-09	5.66E-09	2.48E-09	5.24E-08
1031	561334.5	4192707	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.22E-09	4.98E-09	7.18E-08	8.03E-09	1.10E-08	8.59E-09	8.61E-09	8.59E-09	5.73E-09	2.51E-09	5.31E-08
1032	561328.7	4192715	1.14E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	8.31E-09	5.04E-09	7.26E-08	8.12E-09	1.11E-08	8.69E-09	8.71E-09	8.69E-09	5.79E-09	2.54E-09	5.36E-08
1033	561300.1	4192755	1.19E-08	1.49E-08	1.17E-08	1.18E-08	1.17E-08	8.69E-09	5.27E-09	7.60E-08	8.50E-09	1.16E-08	9.09E-09	9.12E-09	9.09E-09	6.06E-09	2.65E-09	5.61E-08
1034	561294.4	4192763	1.20E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.75E-09	5.30E-09	7.65E-08	8.55E-09	1.17E-08	9.15E-09	9.17E-09	9.15E-09	6.10E-09	2.67E-09	5.65E-08
1035	561288.6	4192771	1.20E-08	1.51E-08	1.19E-08	1.19E-08	1.19E-08	8.80E-09	5.33E-09	7.69E-08	8.59E-09	1.18E-08	9.20E-09	9.22E-09	9.20E-09	6.13E-09	2.68E-09	5.68E-08
1036	561282.9	4192779	1.21E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	8.84E-09	5.36E-09	7.72E-08	8.63E-09	1.18E-08	9.24E-09	9.26E-09	9.24E-09	6.16E-09	2.70E-09	5.71E-08
1037	561267.4	4192788	1.26E-08	1.59E-08	1.24E-08	1.25E-08	1.24E-08	9.23E-09	5.59E-09	8.06E-08	9.02E-09	1.24E-08	9.65E-09	9.68E-09	9.65E-09	6.43E-09	2.82E-09	5.96E-08
1038	561257.7	4192790	1.31E-08	1.65E-08	1.29E-08	1.30E-08	1.29E-08	9.59E-09	5.81E-09	8.38E-08	9.37E-09	1.28E-08	1.00E-08	1.01E-08	1.00E-08	6.69E-09	2.93E-09	6.19E-08
1039	561248	4192791	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.96E-09	6.04E-09	8.70E-08	9.73E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
1040	561238.2	4192792	1.41E-08	1.77E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.26E-09	9.02E-08	1.01E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	7.20E-09	3.15E-09	6.67E-08
1041	561228.5	4192794	1.46E-08	1.84E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.47E-09	9.33E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.45E-09	3.26E-09	6.90E-08
1042	561218.8	4192795	1.51E-08	1.89E-08	1.49E-08	1.49E-08	1.49E-08	1.10E-08	6.68E-09	9.63E-08	1.08E-08	1.48E-08	1.15E-08	1.16E-08	1.15E-08	7.69E-09	3.36E-09	7.12E-08
1043	561209.1	4192797	1.55E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.88E-09	9.92E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.91E-09	3.46E-09	7.33E-08
1044	561391.7	4192627	9.44E-09	1.19E-08	9.32E-09	9.34E-09	9.32E-09	6.91E-09	4.19E-09	6.04E-08	6.75E-09	9.25E-09	7.22E-09	7.24E-09	7.22E-09	4.82E-09	2.11E-09	4.46E-08
1045	561393.9	4192618	9.43E-09	1.19E-08	9.31E-09	9.33E-09	9.31E-09	6.90E-09	4.18E-09	6.03E-08	6.74E-09	9.24E-09	7.22E-09	7.24E-09	7.22E-09	4.81E-09	2.11E-09	4.46E-08
1046	561396	4192608	9.42E-09	1.18E-08	9.29E-09	9.32E-09	9.29E-09	6.89E-09	4.18E-09	6.02E-08	6.73E-09	9.23E-09	7.21E-09	7.23E-09	7.21E-09	4.80E-09	2.10E-09	4.45E-08
1047	561398.1	4192598	9.40E-09	1.18E-08	9.27E-09	9.30E-09	9.27E-09	6.88E-09	4.17E-09	6.01E-08	6.72E-09	9.21E-09	7.19E-09	7.21E-09	7.19E-09	4.79E-09	2.10E-09	4.44E-08
1048	561400.3	4192589	9.37E-09	1.18E-08	9.25E-09	9.28E-09	9.25E-09	6.86E-09	4.16E-09	6.00E-08	6.70E-09	9.18E-09	7.17E-09	7.19E-09	7.17E-09	4.78E-09	2.09E-09	4.43E-08
1049	561402.4	4192579	9.35E-09	1.18E-08	9.23E-09	9.26E-09	9.23E-09	6.85E-09	4.15E-09	5.98E-08	6.69E-09	9.16E-09	7.16E-09	7.18E-09	7.16E-09	4.77E-09	2.09E-09	4.42E-08
1050	561404.5	4192570	9.33E-09	1.17E-08	9.21E-09	9.23E-09	9.21E-09	6.83E-09	4.14E-09	5.97E-08	6.67E-09	9.14E-09	7.14E-09	7.16E-09	7.14E-09	4.76E-09	2.08E-09	4.41E-08
1051	561406.7	4192560	9.30E-09	1.17E-08	9.18E-09	9.20E-09	9.18E-09	6.81E-09	4.13E-09	5.95E-08	6.65E-09	9.11E-09	7.12E-09	7.14E-09	7.12E-09	4.75E-09	2.08E-09	4.40E-08
1052	561408.8	4192550	9.28E-09	1.17E-08	9.15E-09	9.18E-09	9.15E-09	6.79E-09	4.12E-09	5.93E-08	6.63E-09	9.09E-09	7.10E-09	7.12E-09	7.10E-09	4.73E-09	2.07E-09	4.38E-08
1053	561410.9	4192541	9.26E-09	1.16E-08	9.14E-09	9.16E-09	9.14E-09	6.78E-09	4.11E-09	5.92E-08	6.62E-09	9.07E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.38E-08
1054	561413.1	4192531	9.25E-09	1.16E-08	9.13E-09	9.15E-09	9.13E-09	6.77E-09	4.10E-09	5.91E-08	6.61E-09	9.06E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.37E-08
1055	561415.2	4192521	9.24E-09	1.16E-08	9.12E-09	9.14E-09	9.12E-09	6.76E-09	4.10E-09	5.91E-08	6.61E-09	9.05E-09	7.07E-09	7.09E-09	7.07E-09	4.71E-09	2.06E-09	4.37E-08
1056	561417.3	4192512	9.24E-09	1.16E-08	9.12E-09	9.14E-09	9.12E-09	6.76E-09	4.10E-09	5.91E-08	6.61E-09	9.05E-09	7.07E-09	7.09E-09	7.07E-09	4.71E-09	2.06E-09	4.37E-08
1057	561419.5	4192502	9.24E-09	1.16E-08	9.12E-09	9.15E-09	9.12E-09	6.76E-09	4.10E-09	5.91E-08	6.61E-09	9.06E-09	7.07E-09	7.09E-09	7.07E-09	4.72E-09	2.06E-09	4.37E-08
1058	561421.6	4192493	9.24E-09	1.16E-08	9.12E-09	9.14E-09	9.12E-09	6.76E-09	4.10E-09	5.91E-08	6.61E-09	9.05E-09	7.07E-09	7.09E-09	7.07E-09	4.71E-09	2.06E-09	4.37E-08
1059	561423.7	4192483	9.23E-09	1.16E-08	9.11E-09	9.13E-09	9.11E-09	6.75E-09	4.09E-09	5.90E-08	6.60E-09	9.04E-09	7.06E-09	7.08E-09	7.06E-09	4.71E-09	2.06E-09	4.36E-08
1060	561425.9	4192473	9.20E-09	1.16E-08	9.08E-09	9.11E-09	9.08E-09	6.74E-09	4.08E-09	5.89E-08	6.58E-09	9.02E-09	7.04E-09	7.06E-09	7.04E-09	4.70E-09	2.06E-09	4.35E-08
1061	561428	4192464	9.17E-09	1.15E-08	9.05E-09	9.08E-09	9.05E-09	6.71E-09	4.07E-09	5.87E-08	6.56E-09	8.99E-09	7.02E-09	7.04E-09	7.02E-09	4.68E-09	2.05E-09	4.34E-08
1062	561395.8	4192637	9.13E-09	1.15E-08	9.01E-09	9.04E-09	9.01E-09	6.68E-09	4.05E-09	5.84E-08	6.53E-09	8.95E-09	6.99E-09	7.01E-09	6.99E-09	4.66E-09	2.04E-09	4.32E-08
1063	561378.8	4192661	9.70E-09	1.22E-08	9.58E-09	9.60E-09	9.58E-09	7.10E-09	4.30E-09	6.21E-08	6.94E-09	9.51E-09	7.43E-09	7.45E-09	7.43E-09	4.95E-09	2.17E-09	4.59E-08
1064	561373.1	4192669	9.88E-09	1.24E-08	9.75E-09	9.78E-09	9.75E-09	7.23E-09	4.38E-09	6.32E-08	7.06E-09	9.68E-09	7.56E-09	7.58E-09	7.56E-09	5.04E-09	2.21E-09	4.67E-08
1065	561367.5	4192677	1.00E-08	1.26E-08	9.91E-09	9.94E-09	9.91E-09	7.35E-09	4.46E-09	6.42E-08	7.18E-09	9.84E-09	7.69E-09	7.71E-09	7.69E-09	5.13E-09	2.24E-09	4.75E-08
1066	561361.8	4192685	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.47E-09	4.53E-09	6.53E-08	7.30E-09	1.00E-08	7.81E-09	7.83E-09	7.81E-09	5.21E-09	2.28E-09	4.82E-08
1067	561356.1	4192693	1.04E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.58E-09	4.59E-09	6.62E-08	7.40E-09	1.01E-08	7.92E-09	7.94E-09	7.92E-09	5.28E-09	2.31E-09	4.89E-08
1068	561350.4	4192701	1.05E-08	1.32E-08	1.04E-08	1.04E-08	1.04E-08	7.68E-09	4.65E-09	6.71E-08	7.50E-09	1.03E-08	8.03E-09	8.05E-09	8.03E-09	5.35E-09	2.34E-09	4.96E-08
1069	561344.8	4192708	1.06E-08	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.77E-09	4.71E-09	6.79E-08	7.59E-09	1.04E-08	8.13E-09	8.15E-09	8.13E-09	5.42E-09	2.37E-09	5.02E-08
1070	561339.1	4192716	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.86E-09	4.76E-09	6.87E-08	7.68E-09	1.05E-08	8.22E-09	8.24E-09	8.22E-09	5.48E-09	2.40E-09	5.08E-08
1071	561333.4	4192724	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.94E-09	4.81E-09	6.94E-08	7.76E-09	1.06E-08	8.30E-09	8.33E-09	8.30E-09	5.54E-09	2.42E-09	5.13E-08
1072	561327.7	4192732	1.10E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.02E-09	4.86E-09	7.01E-08	7.84E-09	1.07E-08	8.39E-09	8.41E-09	8.39E-09	5.59E-09	2.45E-09	5.18E-08
1073	561322.1	4192740	1.11E-08	1.39E-08	1.09E-08	1.10E-08	1.09E-08	8.10E-09	4.91E-09	7.08E-08	7.91E-09	1.08E-08	8.47E-09	8.49E-09	8.47E-09	5.65E-09	2.47E-09	5.23E-08
1074	561293.7	4192780	1.15E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.08E-09	7.33E-08	8.20E-09	1.12E-08	8.77E-09	8.79E-09	8.77E-09	5.85E-09	2.56E-09	5.42E-08
1075	561288	4192788	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.43E-09	5.11E-09	7.36E-08	8.23E-09	1.13E-08	8.81E-09	8.84E-09	8.81E-09	5.87E-09	2.57E-09	5.44E-08
1076	561272.7	4192797	1.20E-08	1.51E-08	1.19E-08	1.19E-08	1.19E-08	8.79E-09	5.33E-09	7.68E-08	8.59E-09	1.18E-08	9.19E-09	9.22E-09	9.19E-09	6.13E-09	2.68E-09	5.68E-08
1077	561263.1	4192798	1.25E-08	1.57E-08	1.23E-08	1.23E-08	1.23E-08	9.13E-09	5.53E-09	7.98E-08	8.92E-09	1.22E-08	9.55E-09	9.57E-09	9.55E-09	6.36E-09	2.79E-09	5.90E-08
1078	561253.4	4192800	1.29E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	9.47E-09	5.74E-09	8.28E-08	9.25E-09	1.27E-08	9.90E-09	9.93E-09	9.90E-09	6.60E-09	2.89E-09	6.12E-08
1079	561243.8	4192801	1.34E-08	1.69E-08	1.32E-08	1.33E-08	1.32E-08	9.81E-09	5.95E-09	8.57E-08	9.59E-09	1.31E-08	1.03E-08	1.03E-08	1.03E-08	6.84E-09	2.99E-09	6.33E-08
1080	561234.2	4192802	1.39E-08	1.74E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.15E-09	8.86E-08	9.91E-09	1.36E-08	1.06E-08	1.06E-08	1.06E-08	7.07E-09	3.10E-09	6.55E-08
1081	561224.5	4192804	1.43E-08	1.80E-08	1.41E-08	1.41E-08	1.41E-08	1.05E-08	6.34E-09	9.15E-08	1.02E-08	1.40E-08	1.09E-08	1.10E-08	1.09E-08	7.30E-09	3.19E-09	6.76E-08
1082	561401.5	4192629	8.94E-09	1.12E-08	8.82E-09	8.85E-09	8.82E-09	6.54E-09	3.97E-09	5.72E-08	6.39E-09	8.76E-09	6.84E-09	6.86E-09	6.84E-09	4.56E-09	2.00E-09	4.23E-08
1083	561403.6	4192620	8.93E-09	1.12E-08	8.81E-09	8.84E-09	8.81E-09	6.54E-09	3.96E-09	5.71E-08	6.39E-09	8.75E-09	6.83E-09	6.85E-09	6.83E-09	4.56E-09	2.00E-09	4.22E-08
1084	561405.8	4192610	8.92E-09	1.12E-08	8.80E-09	8.83E-09	8.80E-09	6.53E-09	3.96E-09	5.70E-08	6.38E-09	8.74E-09	6.83E-09	6.84E-09	6.83E-09	4.55E-09	1.99E-09	4.22E-08
1085	561407.9	4192601	8.90E-09	1.12E-08	8.78E-09	8.81E-09	8.78E-09	6.51E-09	3.95E-09	5.69E-08	6.36E-09	8.72E-09	6.81E-09	6.83E-09	6.81E-09	4.54E-09	1.99E-09	4.21E-08
1086	561410	4192591	8.88E-09	1.12E-08	8.76E-09	8.78E-09	8.76E-09	6.50E-09	3.94E-09	5.68E-08	6.35E-09	8.70E-09	6.79E-09	6.81E-09	6.79E-09	4.53E-09	1.98E-09	4.20E-08
1087	561412.2	4192581	8.85E-09	1.11E-08	8.74E-09	8.76E-09	8.74E-09	6.48E-09	3.93E-09	5.66E-08	6.33E-09	8.68E-09	6.78E-09	6.79E-09	6.78E-09	4.52E-09	1.98E-09	4.18E-08
1088	561414.3	4192572	8.83E-09	1.11E-08	8.71E-09	8.73E-09	8.71E-09	6.46E-09	3.92E-09	5.65E-08	6.31E-09	8.65E-09	6.75E-09	6.77E-09	6.75E-09	4.50E-09	1.97E-09	4.17E-08

1089	561416.4	4192562	8.80E-09	1.11E-08	8.68E-09	8.70E-09	8.68E-09	6.44E-09	3.90E-09	5.63E-08	6.29E-09	8.62E-09	6.73E-09	6.75E-09	6.73E-09	4.49E-09	1.96E-09	4.16E-08
1090	561418.6	4192552	8.77E-09	1.10E-08	8.65E-09	8.68E-09	8.65E-09	6.42E-09	3.89E-09	5.61E-08	6.27E-09	8.59E-09	6.71E-09	6.73E-09	6.71E-09	4.47E-09	1.96E-09	4.14E-08
1091	561420.7	4192543	8.75E-09	1.10E-08	8.63E-09	8.66E-09	8.63E-09	6.40E-09	3.88E-09	5.60E-08	6.26E-09	8.57E-09	6.69E-09	6.71E-09	6.69E-09	4.46E-09	1.95E-09	4.13E-08
1092	561422.8	4192533	8.74E-09	1.10E-08	8.62E-09	8.65E-09	8.62E-09	6.39E-09	3.88E-09	5.59E-08	6.25E-09	8.56E-09	6.69E-09	6.71E-09	6.69E-09	4.46E-09	1.95E-09	4.13E-08
1093	561425	4192524	8.73E-09	1.10E-08	8.61E-09	8.64E-09	8.61E-09	6.39E-09	3.87E-09	5.58E-08	6.24E-09	8.55E-09	6.68E-09	6.70E-09	6.68E-09	4.45E-09	1.95E-09	4.13E-08
1094	561427.1	4192514	8.72E-09	1.10E-08	8.61E-09	8.63E-09	8.61E-09	6.38E-09	3.87E-09	5.58E-08	6.24E-09	8.55E-09	6.67E-09	6.69E-09	6.67E-09	4.45E-09	1.95E-09	4.12E-08
1095	561429.2	4192504	8.72E-09	1.10E-08	8.60E-09	8.63E-09	8.60E-09	6.38E-09	3.87E-09	5.58E-08	6.23E-09	8.54E-09	6.67E-09	6.69E-09	6.67E-09	4.45E-09	1.95E-09	4.12E-08
1096	561431.4	4192495	8.71E-09	1.10E-08	8.60E-09	8.62E-09	8.60E-09	6.38E-09	3.87E-09	5.57E-08	6.23E-09	8.54E-09	6.67E-09	6.69E-09	6.67E-09	4.45E-09	1.95E-09	4.12E-08
1097	561433.5	4192485	8.70E-09	1.09E-08	8.59E-09	8.61E-09	8.59E-09	6.37E-09	3.86E-09	5.56E-08	6.22E-09	8.52E-09	6.66E-09	6.68E-09	6.66E-09	4.44E-09	1.94E-09	4.11E-08
1098	561435.6	4192475	8.68E-09	1.09E-08	8.56E-09	8.59E-09	8.56E-09	6.35E-09	3.85E-09	5.55E-08	6.21E-09	8.50E-09	6.64E-09	6.66E-09	6.64E-09	4.43E-09	1.94E-09	4.10E-08
1099	561437.7	4192466	8.65E-09	1.09E-08	8.54E-09	8.56E-09	8.54E-09	6.33E-09	3.84E-09	5.53E-08	6.19E-09	8.48E-09	6.62E-09	6.64E-09	6.62E-09	4.41E-09	1.93E-09	4.09E-08
1100	561405.6	4192639	8.66E-09	1.09E-08	8.54E-09	8.57E-09	8.54E-09	6.34E-09	3.84E-09	5.54E-08	6.19E-09	8.48E-09	6.63E-09	6.64E-09	6.63E-09	4.42E-09	1.93E-09	4.09E-08
1101	561388.8	4192663	9.19E-09	1.16E-08	9.07E-09	9.10E-09	9.07E-09	6.73E-09	4.08E-09	5.88E-08	6.57E-09	9.01E-09	7.03E-09	7.05E-09	7.03E-09	4.69E-09	2.05E-09	4.34E-08
1102	561383.1	4192671	9.36E-09	1.18E-08	9.24E-09	9.26E-09	9.24E-09	6.85E-09	4.15E-09	5.99E-08	6.69E-09	9.17E-09	7.16E-09	7.18E-09	7.16E-09	4.78E-09	2.09E-09	4.42E-08
1103	561377.5	4192679	9.52E-09	1.20E-08	9.39E-09	9.42E-09	9.39E-09	6.96E-09	4.22E-09	6.09E-08	6.81E-09	9.32E-09	7.28E-09	7.30E-09	7.28E-09	4.86E-09	2.13E-09	4.50E-08
1104	561371.9	4192686	9.66E-09	1.22E-08	9.54E-09	9.56E-09	9.54E-09	7.07E-09	4.29E-09	6.18E-08	6.91E-09	9.47E-09	7.40E-09	7.42E-09	7.40E-09	4.93E-09	2.16E-09	4.57E-08
1105	561366.3	4192694	9.80E-09	1.23E-08	9.68E-09	9.70E-09	9.68E-09	7.18E-09	4.35E-09	6.27E-08	7.01E-09	9.61E-09	7.50E-09	7.52E-09	7.50E-09	5.00E-09	2.19E-09	4.63E-08
1106	561360.7	4192702	9.94E-09	1.25E-08	9.81E-09	9.83E-09	9.81E-09	7.27E-09	4.41E-09	6.36E-08	7.11E-09	9.74E-09	7.60E-09	7.62E-09	7.60E-09	5.07E-09	2.22E-09	4.70E-08
1107	561355	4192710	1.01E-08	1.26E-08	9.93E-09	9.95E-09	9.93E-09	7.36E-09	4.46E-09	6.43E-08	7.19E-09	9.86E-09	7.70E-09	7.72E-09	7.70E-09	5.13E-09	2.25E-09	4.75E-08
1108	561349.4	4192718	1.02E-08	1.28E-08	1.00E-08	1.01E-08	1.00E-08	7.45E-09	4.51E-09	6.51E-08	7.28E-09	9.97E-09	7.79E-09	7.81E-09	7.79E-09	5.19E-09	2.27E-09	4.81E-08
1109	561343.8	4192726	1.03E-08	1.29E-08	1.01E-08	1.02E-08	1.01E-08	7.52E-09	4.56E-09	6.58E-08	7.35E-09	1.01E-08	7.87E-09	7.89E-09	7.87E-09	5.25E-09	2.30E-09	4.86E-08
1110	561338.2	4192733	1.04E-08	1.31E-08	1.02E-08	1.03E-08	1.02E-08	7.60E-09	4.61E-09	6.64E-08	7.43E-09	1.02E-08	7.95E-09	7.97E-09	7.95E-09	5.30E-09	2.32E-09	4.91E-08
1111	561332.5	4192741	1.05E-08	1.32E-08	1.03E-08	1.04E-08	1.03E-08	7.67E-09	4.65E-09	6.71E-08	7.50E-09	1.03E-08	8.02E-09	8.04E-09	8.02E-09	5.35E-09	2.34E-09	4.95E-08
1112	561326.9	4192749	1.06E-08	1.33E-08	1.04E-08	1.05E-08	1.04E-08	7.74E-09	4.69E-09	6.77E-08	7.57E-09	1.04E-08	8.10E-09	8.12E-09	8.10E-09	5.40E-09	2.36E-09	5.00E-08
1113	561321.3	4192757	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.81E-09	4.74E-09	6.83E-08	7.63E-09	1.05E-08	8.17E-09	8.19E-09	8.17E-09	5.45E-09	2.38E-09	5.04E-08
1114	561315.7	4192765	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.86E-09	4.77E-09	6.87E-08	7.68E-09	1.05E-08	8.22E-09	8.24E-09	8.22E-09	5.48E-09	2.40E-09	5.08E-08
1115	561278	4192805	1.15E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.08E-09	7.33E-08	8.19E-09	1.12E-08	8.77E-09	8.79E-09	8.77E-09	5.85E-09	2.56E-09	5.42E-08
1116	561268.4	4192807	1.19E-08	1.50E-08	1.17E-08	1.18E-08	1.17E-08	8.70E-09	5.27E-09	7.60E-08	8.50E-09	1.16E-08	9.10E-09	9.12E-09	9.10E-09	6.07E-09	2.66E-09	5.62E-08
1117	561258.9	4192808	1.23E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.02E-09	5.47E-09	7.88E-08	8.81E-09	1.21E-08	9.43E-09	9.46E-09	9.43E-09	6.29E-09	2.75E-09	5.82E-08
1118	561249.3	4192809	1.28E-08	1.60E-08	1.26E-08	1.26E-08	1.26E-08	9.33E-09	5.66E-09	8.16E-08	9.12E-09	1.25E-08	9.76E-09	9.79E-09	9.76E-09	6.51E-09	2.85E-09	6.03E-08
1119	561239.8	4192811	1.32E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	9.65E-09	5.85E-09	8.43E-08	9.42E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.72E-09	2.94E-09	6.23E-08
1120	561411.3	4192632	8.48E-09	1.07E-08	8.37E-09	8.39E-09	8.37E-09	6.21E-09	3.76E-09	5.42E-08	6.06E-09	8.31E-09	6.49E-09	6.51E-09	6.49E-09	4.33E-09	1.89E-09	4.01E-08
1121	561413.4	4192622	8.47E-09	1.07E-08	8.36E-09	8.38E-09	8.36E-09	6.20E-09	3.76E-09	5.42E-08	6.06E-09	8.30E-09	6.48E-09	6.50E-09	6.48E-09	4.32E-09	1.89E-09	4.00E-08
1122	561415.5	4192612	8.46E-09	1.06E-08	8.35E-09	8.37E-09	8.35E-09	6.19E-09	3.75E-09	5.41E-08	6.05E-09	8.29E-09	6.47E-09	6.49E-09	6.47E-09	4.32E-09	1.89E-09	4.00E-08
1123	561417.7	4192603	8.44E-09	1.06E-08	8.33E-09	8.35E-09	8.33E-09	6.18E-09	3.74E-09	5.40E-08	6.04E-09	8.27E-09	6.46E-09	6.48E-09	6.46E-09	4.31E-09	1.89E-09	3.99E-08
1124	561419.8	4192593	8.41E-09	1.06E-08	8.30E-09	8.33E-09	8.30E-09	6.16E-09	3.73E-09	5.38E-08	6.02E-09	8.24E-09	6.44E-09	6.46E-09	6.44E-09	4.29E-09	1.88E-09	3.98E-08
1125	561421.9	4192583	8.39E-09	1.05E-08	8.28E-09	8.30E-09	8.28E-09	6.14E-09	3.72E-09	5.36E-08	6.00E-09	8.22E-09	6.42E-09	6.44E-09	6.42E-09	4.28E-09	1.87E-09	3.96E-08
1126	561424.1	4192574	8.36E-09	1.05E-08	8.25E-09	8.27E-09	8.25E-09	6.12E-09	3.71E-09	5.35E-08	5.98E-09	8.19E-09	6.40E-09	6.41E-09	6.40E-09	4.27E-09	1.87E-09	3.95E-08
1127	561426.2	4192564	8.33E-09	1.05E-08	8.22E-09	8.24E-09	8.22E-09	6.10E-09	3.70E-09	5.33E-08	5.96E-09	8.16E-09	6.37E-09	6.39E-09	6.37E-09	4.25E-09	1.86E-09	3.94E-08
1128	561428.3	4192555	8.30E-09	1.04E-08	8.20E-09	8.22E-09	8.20E-09	6.08E-09	3.68E-09	5.31E-08	5.94E-09	8.14E-09	6.36E-09	6.37E-09	6.36E-09	4.24E-09	1.86E-09	3.93E-08
1129	561430.5	4192545	8.28E-09	1.04E-08	8.18E-09	8.20E-09	8.18E-09	6.06E-09	3.68E-09	5.30E-08	5.92E-09	8.12E-09	6.34E-09	6.36E-09	6.34E-09	4.23E-09	1.85E-09	3.92E-08
1130	561432.6	4192535	8.27E-09	1.04E-08	8.16E-09	8.19E-09	8.16E-09	6.05E-09	3.67E-09	5.29E-08	5.91E-09	8.10E-09	6.33E-09	6.35E-09	6.33E-09	4.22E-09	1.85E-09	3.91E-08
1131	561434.7	4192526	8.26E-09	1.04E-08	8.15E-09	8.17E-09	8.15E-09	6.04E-09	3.66E-09	5.28E-08	5.91E-09	8.09E-09	6.32E-09	6.34E-09	6.32E-09	4.21E-09	1.85E-09	3.90E-08
1132	561436.9	4192516	8.25E-09	1.04E-08	8.14E-09	8.16E-09	8.14E-09	6.04E-09	3.66E-09	5.28E-08	5.90E-09	8.08E-09	6.31E-09	6.33E-09	6.31E-09	4.21E-09	1.84E-09	3.90E-08
1133	561439	4192506	8.24E-09	1.04E-08	8.13E-09	8.16E-09	8.13E-09	6.03E-09	3.66E-09	5.27E-08	5.89E-09	8.07E-09	6.31E-09	6.32E-09	6.31E-09	4.20E-09	1.84E-09	3.90E-08
1134	561441.1	4192497	8.23E-09	1.03E-08	8.12E-09	8.14E-09	8.12E-09	6.02E-09	3.65E-09	5.26E-08	5.89E-09	8.06E-09	6.30E-09	6.32E-09	6.30E-09	4.20E-09	1.84E-09	3.89E-08
1135	561443.2	4192487	8.21E-09	1.03E-08	8.11E-09	8.13E-09	8.11E-09	6.01E-09	3.64E-09	5.25E-08	5.87E-09	8.05E-09	6.29E-09	6.30E-09	6.29E-09	4.19E-09	1.84E-09	3.88E-08
1136	561445.4	4192478	8.20E-09	1.03E-08	8.09E-09	8.11E-09	8.09E-09	6.00E-09	3.64E-09	5.24E-08	5.86E-09	8.03E-09	6.27E-09	6.29E-09	6.27E-09	4.18E-09	1.83E-09	3.87E-08
1137	561447.5	4192468	8.17E-09	1.03E-08	8.07E-09	8.09E-09	8.07E-09	5.98E-09	3.63E-09	5.23E-08	5.85E-09	8.01E-09	6.26E-09	6.27E-09	6.26E-09	4.17E-09	1.83E-09	3.86E-08
1138	561415.5	4192641	8.22E-09	1.03E-08	8.11E-09	8.14E-09	8.11E-09	6.02E-09	3.65E-09	5.26E-08	5.88E-09	8.06E-09	6.29E-09	6.31E-09	6.29E-09	4.20E-09	1.84E-09	3.89E-08
1139	561398.7	4192665	8.72E-09	1.10E-08	8.60E-09	8.63E-09	8.60E-09	6.38E-09	3.87E-09	5.58E-08	6.23E-09	8.54E-09	6.67E-09	6.69E-09	6.67E-09	4.45E-09	1.95E-09	4.12E-08
1140	561393.1	4192673	8.87E-09	1.12E-08	8.76E-09	8.78E-09	8.76E-09	6.49E-09	3.94E-09	5.68E-08	6.35E-09	8.70E-09	6.79E-09	6.81E-09	6.79E-09	4.53E-09	1.98E-09	4.19E-08
1141	561387.6	4192680	9.03E-09	1.14E-08	8.91E-09	8.93E-09	8.91E-09	6.61E-09	4.00E-09	5.77E-08	6.45E-09	8.84E-09	6.91E-09	6.93E-09	6.91E-09	4.61E-09	2.02E-09	4.27E-08
1142	561382	4192688	9.17E-09	1.15E-08	9.05E-09	9.07E-09	9.05E-09	6.71E-09	4.07E-09	5.87E-08	6.56E-09	8.98E-09	7.02E-09	7.04E-09	7.02E-09	4.68E-09	2.05E-09	4.33E-08
1143	561376.4	4192696	9.30E-09	1.17E-08	9.18E-09	9.20E-09	9.18E-09	6.81E-09	4.13E-09	5.95E-08	6.65E-09	9.11E-09	7.12E-09	7.14E-09	7.12E-09	4.75E-09	2.08E-09	4.40E-08
1144	561370.8	4192704	9.43E-09	1.19E-08	9.30E-09	9.33E-09	9.30E-09	6.90E-09	4.18E-09	6.03E-08	6.74E-09	9.24E-09	7.21E-09	7.23E-09	7.21E-09	4.81E-09	2.11E-09	4.45E-08
1145	561365.2	4192711	9.54E-09	1.20E-08	9.42E-09	9.44E-09	9.42E-09	6.98E-09	4.23E-09	6.10E-08	6.82E-09	9.35E-09	7.30E-09	7.32E-09	7.30E-09	4.87E-09	2.13E-09	4.51E-08
1146	561359.7	4192719	9.65E-09	1.21E-08	9.53E-09	9.55E-09	9.53E-09	7.06E-09	4.28E-09	6.17E-08	6.90E-09	9.46E-09	7.39E-09	7.41E-09	7.39E-09	4.92E-09	2.16E-09	4.56E-08
1147	561354.1	4192727	9.75E-09	1.23E-08	9.63E-09	9.65E-09	9.63E-09	7.14E-09	4.33E-09	6.24E-08	6.97E-09	9.56E-09	7.46E-09	7.48E-09	7.46E-09	4.98E-09	2.18E-09	4.61E-08
1148	561348.5	4192735	9.85E-09	1.24E-08	9.72E-09	9.75E-09	9.72E-09	7.21E-09	4.37E-09	6.30E-08	7.04E-09	9.65E-09	7.54E-09	7.56E-09	7.54E-09	5.03E-09	2.20E-09	4.66E-08
1149	561342.9	4192743	9.94E-09	1.25E-08	9.81E-09	9.84E-09	9.81E-09	7.28E-09	4.41E-09	6.36E-08	7.11E-09	9.74E-09	7.61E-09	7.63E-09	7.61E-09	5.07E-09	2.22E-09	4.70E-08
1150	561337.3	4192750	1.00E-08	1.26E-08	9.90E-09	9.93E-09	9.90E-09	7.34E-09	4.45E-09	6.42E-08	7.18E-09	9.83E-09	7.68E-09	7.70E-09	7.68E-09	5.12E-09	2.24E-09	4.74E-08
1151	561331.8	4192758	1.01E-08	1.27E-08	9.99E-09	1.00E-08	9.99E-09	7.41E-09	4.49E-09	6.47E-08	7.24E-09	9.92E-09	7.75E-09	7.77E-09	7.75E-09	5.16E-09	2.26E-09	4.78E-08
1152	561326.2	4192766	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.46E-09	4.52E-09	6.52E-08	7.29E-09	9.99E-09	7.80E-09	7.82E-09	7.80E-09	5.20E-09	2.28E-09	4.82E-08
1153	561320.6	4192774	1.03E-08	1.29E-08	1.01E-08	1.02E-08	1.01E-08	7.51E-09	4.55E-09	6.56E-08	7.34E-09	1.01E-08	7.85E-09	7.87E-09	7.85E-09	5.24E-09	2.29E-09	4.85E-08
1154	561315	4192782	1.03E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.56E-09	4.58E-09	6.60E-08	7.38E-09	1.01E-08	7.90E-09	7.92E-09	7.90E-09	5.27E-09	2.31E-09	4.88E-08
1155	561309.5	4192789	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.60E-09	4.61E-09	6.64E-08	7.43E-09	1.02E-08	7.95E-09	7.97E-09	7.95E-09	5.30E-09	2.32E-09	4.91E-08
1156	561283.2	4192814	1.09E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.86E-09	7.00E-08	7.83E-09	1.07E-08	8.37E-09	8.40E-09	8.37E-09	5.58E-09	2.44E-09	5.17E-08
1157	561273.8	4192815	1.13E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	8.30E-09	5.03E-09	7.26E-08	8.11E-09	1.11E-08	8.68E-09	8.71E-09	8.68E-09	5.79E-09	2.53E-09	5.36E-08
1158	561264.3	4192817	1.17E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	8.60E-09	5.21E-09	7.52E-08	8.40E-09	1.15E-08	8.99E-09	9.02E-09	8.99E-09	5.99E-09	2.62E-09	5.55E-08
1159	561421	4192634	8.06E-09	1.01E-08	7.95E-09	7.98E-09	7.95E-09	5.90E-09	3.58E-09	5.16E-08	5.76E-09	7.90E-09	6.17E-09	6.19E-09	6.17E-09	4.11E-09	1.80E-09	3.81E-08
1160	561423.2	4192624	8.05E-09	1.01E-08	7.94E-09	7.96E-09	7.94E-09	5.89E-09	3.57E-09	5.15E-08	5.76E-09	7.89E-09	6.16E-09	6.18E-09	6.16E-09	4.11E-09	1.80E-09	3.80E-08
1161	561425.3	4192614	8.03E-09	1.01E-08	7.93E-09	7.95E-09	7.93E-09	5.88E-09	3.56E-09	5.14E-08	5.74E-09	7.87E-09	6.15E-09	6.16E-09	6.15E-09	4.10E-09	1.79E-09	3.80E-08
1162	561427.4	4192605	8.01E-09	1.01E-08	7.91E-09	7.93E-09	7.91E-09	5.86E-09	3.55E-09	5.12E-08	5.73E-09	7.85E-09	6.13E-09	6.15E-09	6.13E-09	4.09E-09	1.79E-09	3.79E-08
1163	561429.6	4192595	7.98E-09	1.00E-08	7.88E-09	7.90E-09	7.88E-09	5.84E-09	3.54E-09	5.11E-08	5.71E-09	7.82E-09	6.11E-09	6.13E-09	6.11E-09	4.07E-09	1.78E-09	3.77E-08
1164	561431.7	4192586	7.95E-09	1.00E-08	7.85E-09	7.87E-09	7.85E-09	5.82E-09	3.53E-09	5.09E-08	5.69E-09	7.79E-09	6.09E-09	6.10E-09	6.09E-09	4.06E-09	1.78E-09	3.76E-08
1165	561433.8	4192576	7.93E-09	9.97E-09	7.82E-09	7.85E-09	7.82E-09	5.80E-09	3.52E-09	5.07E-08	5.67E-09	7.77E-09	6.07E-09	6.08E-09	6.07E-09	4.05E-09	1.77E-09	3.75E-08
1166	561436	4192566	7.90E-09	9.94E-09	7.80E-09	7.82E-09	7.80E-09	5.78E-09	3.51E-09	5.05E-08	5.65E-09	7.74E-09	6.05E-09	6.06E-09	6.05E-09	4.03E-09	1.76E-09	3.73E-08
1167	561438.1	4192557	7.88E-09	9.91E-09	7.77E-09	7.80E-09	7.77E-09	5.76E-09	3.49E-09	5.04E-08	5.63E-09	7.72E-09	6.03E-09	6.04E-09	6.03E-09	4.02E-09	1.76E-09	3.72E-08
1168	561440.2	4192547	7.86E-09	9.88E-09	7.75E-09	7.78E-09	7.75E-09	5.75E-09	3.49E-09	5.03E-08	5.62E-09	7.70E-09	6.01E-09	6.03E-09	6.01E-09	4.01E-09	1.76E-09	3.71E-08
1169	561442.4	4192538	7.84E-09	9.86E-09	7.74E-09	7.76E-09	7.74E-09	5.74E-09	3.48E-09	5.02E-08	5.61E-09	7.68E-09	6.00E-09	6.02E-09	6.00E-09	4.00E-09	1.75E-09	3.71E-08
1170	561444.5	4192528	7.83E-09	9.84E-09	7.73E-09	7.75E-09	7.73E-09	5.73E-09	3.47E-09	5.01E-08	5.60E-09	7.67E-09	5.99E-09	6.01E-09	5.99E-09	3.99E-09	1.75E-09	3.70E-08
1171	561446.6	4192518	7.82E-09	9.83E-09	7.71E-09	7.73E-09	7.71E-09	5.72E-09	3.47E-09	5.00E-08	5.59E-09	7.66E-09	5.98E-09	6.00E-09	5.98E-09	3.99E-09	1.75E-09	3.69E-08
1172	561448.7	4192509	7.80E-09	9.81E-09	7.70E-09	7.72E-09	7.70E-09	5.71E-09	3.46E-09	4.99E-08	5.58E-09	7.65E-09	5.97E-09	5.99E-09	5.97E-09	3.98E-09	1.74E-09	3.69E-08
1173	561450.9	4192499	7.79E-09	9.80E-09	7.69E-09	7.71E-09	7.69E-09	5.70E-09	3.46E-09	4.98E-08	5.57E-09	7.64E-09	5.96E-09	5.98E-09	5.96E-09	3.98E-09	1.74E-09	3.68E-08
1174	561453	4192489	7.78E-09	9.78E-09	7.68E-09	7.70E-09	7.68E-09	5.69E-09	3.45E-09	4.98E-08	5.56E-09	7.62E-09	5.95E-09	5.97E-09	5.95E-09	3.97E-09	1.74E-09	3.68E-08
1175	561455.1	4192480	7.76E-09	9.76E-09	7.66E-09	7.68E-09	7.66E-09	5.68E-09	3.44E-09	4.96E-08	5.55E-09	7.61E-09	5.94E-09	5.96E-09	5.94E-09	3.96E-09	1.73E-09	3.67E-08
1176	561457.3	4192470	7.74E-09	9.74E-09	7.64E-09	7.66E-09	7.64E-09	5.67E-09	3.44E-09	4.95E-08	5.54E-09	7.59E-09	5.93E-09	5.94E-09	5.93E-09	3.95E-09	1.73E-09	3.66E-08
1177	561425.3	4192644	7.83E-09	9.84E-09	7.73E-09	7.75E-09	7.73E-09	5.73E-09	3.47E-09	5.01E-08	5.60E-09	7.67E-09	5.99E-09	6.01E-09	5.99E-09	3.99E-09	1.75E-09	3.70E-08
1178	561408.6	4192667	8.28E-09	1.04E-08	8.17E-09	8.19E-09	8.17E-09	6.06E-09	3.67E-09	5.30E-08	5.92E-09	8.11E-09	6.34E-09	6.35E-09	6.34E-09	4.22E-09	1.85E-09	3.91E-08
1179	561403.1	4192674	8.43E-09	1.06E-08	8.32E-09	8.34E-09	8.32E-09	6.17E-09	3.74E-09	5.39E-08	6.03E-09	8.26E-09	6.45E-09	6.47E-09	6.45E-09	4.30E-09	1.88E-09	3.98E-08

1180	561397.6	4192682	8.57E-09	1.08E-08	8.46E-09	8.48E-09	8.46E-09	6.27E-09	3.80E-09	5.48E-08	6.13E-09	8.40E-09	6.56E-09	6.58E-09	6.56E-09	4.37E-09	1.91E-09	4.05E-08
1181	561392	4192690	8.70E-09	1.09E-08	8.59E-09	8.61E-09	8.59E-09	6.37E-09	3.86E-09	5.57E-08	6.22E-09	8.53E-09	6.66E-09	6.68E-09	6.66E-09	4.44E-09	1.94E-09	4.11E-08
1182	561386.5	4192698	8.83E-09	1.11E-08	8.72E-09	8.74E-09	8.72E-09	6.47E-09	3.92E-09	5.65E-08	6.32E-09	8.66E-09	6.76E-09	6.78E-09	6.76E-09	4.51E-09	1.97E-09	4.18E-08
1183	561381	4192705	8.95E-09	1.13E-08	8.84E-09	8.86E-09	8.84E-09	6.55E-09	3.97E-09	5.73E-08	6.40E-09	8.77E-09	6.85E-09	6.87E-09	6.85E-09	4.57E-09	2.00E-09	4.23E-08
1184	561375.4	4192713	9.07E-09	1.14E-08	8.95E-09	8.97E-09	8.95E-09	6.63E-09	4.02E-09	5.80E-08	6.48E-09	8.88E-09	6.94E-09	6.96E-09	6.94E-09	4.63E-09	2.03E-09	4.28E-08
1185	561369.9	4192721	9.17E-09	1.15E-08	9.05E-09	9.07E-09	9.05E-09	6.71E-09	4.07E-09	5.87E-08	6.56E-09	8.98E-09	7.02E-09	7.04E-09	7.02E-09	4.68E-09	2.05E-09	4.33E-08
1186	561364.3	4192729	9.27E-09	1.17E-08	9.15E-09	9.17E-09	9.15E-09	6.78E-09	4.11E-09	5.93E-08	6.63E-09	9.08E-09	7.09E-09	7.11E-09	7.09E-09	4.73E-09	2.07E-09	4.38E-08
1187	561358.8	4192736	9.36E-09	1.18E-08	9.24E-09	9.26E-09	9.24E-09	6.85E-09	4.15E-09	5.99E-08	6.69E-09	9.17E-09	7.16E-09	7.18E-09	7.16E-09	4.77E-09	2.09E-09	4.42E-08
1188	561353.3	4192744	9.44E-09	1.19E-08	9.32E-09	9.35E-09	9.32E-09	6.91E-09	4.19E-09	6.04E-08	6.75E-09	9.25E-09	7.23E-09	7.25E-09	7.23E-09	4.82E-09	2.11E-09	4.46E-08
1189	561347.7	4192752	9.53E-09	1.20E-08	9.40E-09	9.43E-09	9.40E-09	6.97E-09	4.23E-09	6.09E-08	6.81E-09	9.34E-09	7.29E-09	7.31E-09	7.29E-09	4.86E-09	2.13E-09	4.50E-08
1190	561342.2	4192759	9.61E-09	1.21E-08	9.48E-09	9.51E-09	9.48E-09	7.03E-09	4.26E-09	6.15E-08	6.87E-09	9.42E-09	7.35E-09	7.38E-09	7.35E-09	4.90E-09	2.15E-09	4.54E-08
1191	561336.7	4192767	9.68E-09	1.22E-08	9.56E-09	9.58E-09	9.56E-09	7.09E-09	4.30E-09	6.19E-08	6.92E-09	9.49E-09	7.41E-09	7.43E-09	7.41E-09	4.94E-09	2.16E-09	4.58E-08
1192	561331.1	4192775	9.75E-09	1.23E-08	9.62E-09	9.65E-09	9.62E-09	7.14E-09	4.33E-09	6.24E-08	6.97E-09	9.55E-09	7.46E-09	7.48E-09	7.46E-09	4.97E-09	2.18E-09	4.61E-08
1193	561325.6	4192783	9.81E-09	1.23E-08	9.68E-09	9.71E-09	9.68E-09	7.18E-09	4.35E-09	6.27E-08	7.01E-09	9.61E-09	7.51E-09	7.53E-09	7.51E-09	5.01E-09	2.19E-09	4.64E-08
1194	561320	4192790	9.87E-09	1.24E-08	9.74E-09	9.77E-09	9.74E-09	7.22E-09	4.38E-09	6.31E-08	7.06E-09	9.67E-09	7.55E-09	7.57E-09	7.55E-09	5.04E-09	2.21E-09	4.67E-08
1195	561314.5	4192798	9.93E-09	1.25E-08	9.80E-09	9.83E-09	9.80E-09	7.27E-09	4.41E-09	6.35E-08	7.10E-09	9.73E-09	7.60E-09	7.62E-09	7.60E-09	5.07E-09	2.22E-09	4.70E-08
1196	561309	4192806	9.99E-09	1.26E-08	9.86E-09	9.89E-09	9.86E-09	7.31E-09	4.43E-09	6.39E-08	7.15E-09	9.79E-09	7.65E-09	7.67E-09	7.65E-09	5.10E-09	2.23E-09	4.72E-08
1197	561303.4	4192813	1.00E-08	1.26E-08	9.91E-09	9.94E-09	9.91E-09	7.35E-09	4.46E-09	6.43E-08	7.18E-09	9.84E-09	7.69E-09	7.71E-09	7.69E-09	5.13E-09	2.24E-09	4.75E-08
1198	561430.8	4192636	7.68E-09	9.65E-09	7.57E-09	7.60E-09	7.57E-09	5.62E-09	3.41E-09	4.91E-08	5.49E-09	7.52E-09	5.87E-09	5.89E-09	5.87E-09	3.92E-09	1.71E-09	3.63E-08
1199	561432.9	4192626	7.66E-09	9.63E-09	7.56E-09	7.58E-09	7.56E-09	5.61E-09	3.40E-09	4.90E-08	5.48E-09	7.50E-09	5.86E-09	5.88E-09	5.86E-09	3.91E-09	1.71E-09	3.62E-08
1200	561435.1	4192617	7.64E-09	9.61E-09	7.54E-09	7.56E-09	7.54E-09	5.59E-09	3.39E-09	4.89E-08	5.46E-09	7.48E-09	5.85E-09	5.86E-09	5.85E-09	3.90E-09	1.71E-09	3.61E-08
1201	561437.2	4192607	7.61E-09	9.57E-09	7.51E-09	7.53E-09	7.51E-09	5.57E-09	3.38E-09	4.87E-08	5.44E-09	7.46E-09	5.83E-09	5.84E-09	5.83E-09	3.88E-09	1.70E-09	3.60E-08
1202	561439.3	4192597	7.58E-09	9.54E-09	7.49E-09	7.51E-09	7.49E-09	5.55E-09	3.37E-09	4.85E-08	5.42E-09	7.43E-09	5.80E-09	5.82E-09	5.80E-09	3.87E-09	1.69E-09	3.58E-08
1203	561441.5	4192588	7.56E-09	9.50E-09	7.46E-09	7.48E-09	7.46E-09	5.53E-09	3.35E-09	4.83E-08	5.40E-09	7.40E-09	5.78E-09	5.80E-09	5.78E-09	3.86E-09	1.69E-09	3.57E-08
1204	561443.6	4192578	7.53E-09	9.47E-09	7.43E-09	7.45E-09	7.43E-09	5.51E-09	3.34E-09	4.82E-08	5.38E-09	7.38E-09	5.76E-09	5.78E-09	5.76E-09	3.84E-09	1.68E-09	3.56E-08
1205	561445.7	4192569	7.50E-09	9.44E-09	7.41E-09	7.43E-09	7.41E-09	5.49E-09	3.33E-09	4.80E-08	5.37E-09	7.35E-09	5.74E-09	5.76E-09	5.74E-09	3.83E-09	1.68E-09	3.55E-08
1206	561447.9	4192559	7.48E-09	9.41E-09	7.38E-09	7.40E-09	7.38E-09	5.48E-09	3.32E-09	4.79E-08	5.35E-09	7.33E-09	5.73E-09	5.74E-09	5.73E-09	3.82E-09	1.67E-09	3.54E-08
1207	561450	4192549	7.46E-09	9.38E-09	7.36E-09	7.38E-09	7.36E-09	5.46E-09	3.31E-09	4.77E-08	5.34E-09	7.31E-09	5.71E-09	5.73E-09	5.71E-09	3.81E-09	1.67E-09	3.53E-08
1208	561452.1	4192540	7.44E-09	9.36E-09	7.35E-09	7.37E-09	7.35E-09	5.45E-09	3.30E-09	4.76E-08	5.32E-09	7.29E-09	5.70E-09	5.71E-09	5.70E-09	3.80E-09	1.66E-09	3.52E-08
1209	561454.2	4192530	7.43E-09	9.34E-09	7.33E-09	7.35E-09	7.33E-09	5.44E-09	3.30E-09	4.75E-08	5.31E-09	7.28E-09	5.69E-09	5.70E-09	5.69E-09	3.79E-09	1.66E-09	3.51E-08
1210	561456.4	4192520	7.42E-09	9.33E-09	7.32E-09	7.34E-09	7.32E-09	5.43E-09	3.29E-09	4.74E-08	5.30E-09	7.27E-09	5.67E-09	5.69E-09	5.67E-09	3.78E-09	1.66E-09	3.50E-08
1211	561458.5	4192511	7.40E-09	9.31E-09	7.31E-09	7.33E-09	7.31E-09	5.42E-09	3.28E-09	4.73E-08	5.29E-09	7.25E-09	5.66E-09	5.68E-09	5.66E-09	3.78E-09	1.65E-09	3.50E-08
1212	561460.6	4192501	7.39E-09	9.29E-09	7.29E-09	7.31E-09	7.29E-09	5.41E-09	3.28E-09	4.73E-08	5.28E-09	7.24E-09	5.65E-09	5.67E-09	5.65E-09	3.77E-09	1.65E-09	3.49E-08
1213	561462.8	4192492	7.38E-09	9.28E-09	7.28E-09	7.30E-09	7.28E-09	5.40E-09	3.27E-09	4.72E-08	5.27E-09	7.23E-09	5.64E-09	5.66E-09	5.64E-09	3.76E-09	1.65E-09	3.49E-08
1214	561464.9	4192482	7.36E-09	9.26E-09	7.26E-09	7.28E-09	7.26E-09	5.39E-09	3.27E-09	4.71E-08	5.26E-09	7.21E-09	5.63E-09	5.65E-09	5.63E-09	3.76E-09	1.64E-09	3.48E-08
1215	561467	4192472	7.34E-09	9.23E-09	7.25E-09	7.27E-09	7.25E-09	5.37E-09	3.26E-09	4.70E-08	5.25E-09	7.19E-09	5.62E-09	5.63E-09	5.62E-09	3.75E-09	1.64E-09	3.47E-08
1216	561417.6	4192670	7.90E-09	9.94E-09	7.80E-09	7.82E-09	7.80E-09	5.78E-09	3.51E-09	5.05E-08	5.65E-09	7.74E-09	6.05E-09	6.06E-09	6.05E-09	4.03E-09	1.77E-09	3.74E-08
1217	561411.9	4192678	8.04E-09	1.01E-08	7.94E-09	7.96E-09	7.94E-09	5.89E-09	3.57E-09	5.14E-08	5.75E-09	7.88E-09	6.15E-09	6.17E-09	6.15E-09	4.10E-09	1.80E-09	3.80E-08
1218	561406.2	4192686	8.18E-09	1.03E-08	8.07E-09	8.09E-09	8.07E-09	5.99E-09	3.63E-09	5.23E-08	5.85E-09	8.01E-09	6.26E-09	6.28E-09	6.26E-09	4.17E-09	1.83E-09	3.87E-08
1219	561400.5	4192694	8.31E-09	1.05E-08	8.20E-09	8.22E-09	8.20E-09	6.08E-09	3.69E-09	5.32E-08	5.94E-09	8.14E-09	6.36E-09	6.38E-09	6.36E-09	4.24E-09	1.86E-09	3.93E-08
1220	561394.7	4192702	8.44E-09	1.06E-08	8.33E-09	8.35E-09	8.33E-09	6.17E-09	3.74E-09	5.40E-08	6.03E-09	8.27E-09	6.46E-09	6.47E-09	6.46E-09	4.30E-09	1.88E-09	3.99E-08
1221	561389	4192710	8.55E-09	1.08E-08	8.44E-09	8.47E-09	8.44E-09	6.26E-09	3.80E-09	5.47E-08	6.12E-09	8.38E-09	6.55E-09	6.56E-09	6.55E-09	4.36E-09	1.91E-09	4.04E-08
1222	561383.3	4192718	8.67E-09	1.09E-08	8.55E-09	8.58E-09	8.55E-09	6.34E-09	3.84E-09	5.54E-08	6.20E-09	8.49E-09	6.63E-09	6.65E-09	6.63E-09	4.42E-09	1.94E-09	4.10E-08
1223	561377.5	4192726	8.77E-09	1.10E-08	8.65E-09	8.68E-09	8.65E-09	6.42E-09	3.89E-09	5.61E-08	6.27E-09	8.59E-09	6.71E-09	6.73E-09	6.71E-09	4.47E-09	1.96E-09	4.14E-08
1224	561371.8	4192734	8.86E-09	1.11E-08	8.74E-09	8.77E-09	8.74E-09	6.48E-09	3.93E-09	5.67E-08	6.34E-09	8.68E-09	6.78E-09	6.80E-09	6.78E-09	4.52E-09	1.98E-09	4.19E-08
1225	561366.1	4192742	8.95E-09	1.13E-08	8.83E-09	8.85E-09	8.83E-09	6.55E-09	3.97E-09	5.72E-08	6.40E-09	8.77E-09	6.85E-09	6.87E-09	6.85E-09	4.57E-09	2.00E-09	4.23E-08
1226	561360.4	4192750	9.03E-09	1.14E-08	8.91E-09	8.94E-09	8.91E-09	6.61E-09	4.01E-09	5.78E-08	6.46E-09	8.85E-09	6.91E-09	6.93E-09	6.91E-09	4.61E-09	2.02E-09	4.27E-08
1227	561354.6	4192758	9.11E-09	1.15E-08	8.99E-09	9.01E-09	8.99E-09	6.67E-09	4.04E-09	5.83E-08	6.51E-09	8.92E-09	6.97E-09	6.99E-09	6.97E-09	4.65E-09	2.03E-09	4.30E-08
1228	561348.9	4192766	9.18E-09	1.16E-08	9.06E-09	9.09E-09	9.06E-09	6.72E-09	4.08E-09	5.88E-08	6.57E-09	9.00E-09	7.03E-09	7.05E-09	7.03E-09	4.69E-09	2.05E-09	4.34E-08
1229	561343.2	4192774	9.26E-09	1.16E-08	9.13E-09	9.16E-09	9.13E-09	6.77E-09	4.11E-09	5.92E-08	6.62E-09	9.07E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.37E-08
1230	561337.4	4192782	9.32E-09	1.17E-08	9.20E-09	9.22E-09	9.20E-09	6.82E-09	4.14E-09	5.96E-08	6.67E-09	9.13E-09	7.13E-09	7.15E-09	7.13E-09	4.76E-09	2.08E-09	4.41E-08
1231	561331.7	4192790	9.38E-09	1.18E-08	9.26E-09	9.29E-09	9.26E-09	6.87E-09	4.16E-09	6.00E-08	6.71E-09	9.19E-09	7.18E-09	7.20E-09	7.18E-09	4.79E-09	2.10E-09	4.43E-08
1232	561326	4192798	9.44E-09	1.19E-08	9.32E-09	9.35E-09	9.32E-09	6.91E-09	4.19E-09	6.04E-08	6.75E-09	9.25E-09	7.23E-09	7.25E-09	7.23E-09	4.82E-09	2.11E-09	4.46E-08
1233	561320.3	4192806	9.50E-09	1.20E-08	9.38E-09	9.41E-09	9.38E-09	6.96E-09	4.22E-09	6.08E-08	6.80E-09	9.31E-09	7.27E-09	7.29E-09	7.27E-09	4.85E-09	2.12E-09	4.49E-08
1234	561314.5	4192814	9.56E-09	1.20E-08	9.44E-09	9.46E-09	9.44E-09	7.00E-09	4.24E-09	6.12E-08	6.84E-09	9.37E-09	7.32E-09	7.34E-09	7.32E-09	4.88E-09	2.14E-09	4.52E-08
1235	561308.8	4192822	9.62E-09	1.21E-08	9.49E-09	9.52E-09	9.49E-09	7.04E-09	4.27E-09	6.15E-08	6.88E-09	9.42E-09	7.36E-09	7.38E-09	7.36E-09	4.91E-09	2.15E-09	4.55E-08
1236	561459.7	4192551	7.10E-09	8.93E-09	7.00E-09	7.02E-09	7.00E-09	5.19E-09	3.15E-09	4.54E-08	5.08E-09	6.95E-09	5.43E-09	5.45E-09	5.43E-09	3.62E-09	1.59E-09	3.35E-08
1237	561461.9	4192542	7.08E-09	8.90E-09	6.99E-09	7.00E-09	6.99E-09	5.18E-09	3.14E-09	4.53E-08	5.06E-09	6.94E-09	5.42E-09	5.43E-09	5.42E-09	3.61E-09	1.58E-09	3.35E-08
1238	561464	4192532	7.06E-09	8.88E-09	6.97E-09	6.99E-09	6.97E-09	5.17E-09	3.13E-09	4.52E-08	5.05E-09	6.92E-09	5.40E-09	5.42E-09	5.40E-09	3.60E-09	1.58E-09	3.34E-08
1239	561466.1	4192523	7.05E-09	8.86E-09	6.95E-09	6.97E-09	6.95E-09	5.16E-09	3.13E-09	4.51E-08	5.04E-09	6.90E-09	5.39E-09	5.41E-09	5.39E-09	3.59E-09	1.57E-09	3.33E-08
1240	561468.3	4192513	7.03E-09	8.84E-09	6.94E-09	6.96E-09	6.94E-09	5.15E-09	3.12E-09	4.50E-08	5.03E-09	6.89E-09	5.38E-09	5.40E-09	5.38E-09	3.59E-09	1.57E-09	3.32E-08
1241	561470.4	4192503	7.02E-09	8.82E-09	6.93E-09	6.94E-09	6.93E-09	5.14E-09	3.11E-09	4.49E-08	5.02E-09	6.88E-09	5.37E-09	5.39E-09	5.37E-09	3.58E-09	1.57E-09	3.32E-08
1242	561472.5	4192494	7.00E-09	8.81E-09	6.91E-09	6.93E-09	6.91E-09	5.13E-09	3.11E-09	4.48E-08	5.01E-09	6.86E-09	5.36E-09	5.37E-09	5.36E-09	3.57E-09	1.56E-09	3.31E-08
1243	561474.7	4192484	6.99E-09	8.79E-09	6.90E-09	6.92E-09	6.90E-09	5.11E-09	3.10E-09	4.47E-08	5.00E-09	6.85E-09	5.35E-09	5.36E-09	5.35E-09	3.57E-09	1.56E-09	3.30E-08
1244	561476.8	4192475	6.97E-09	8.77E-09	6.88E-09	6.90E-09	6.88E-09	5.10E-09	3.09E-09	4.46E-08	4.99E-09	6.83E-09	5.33E-09	5.35E-09	5.33E-09	3.56E-09	1.56E-09	3.29E-08
1245	561421.9	4192680	7.66E-09	9.64E-09	7.56E-09	7.58E-09	7.56E-09	5.61E-09	3.40E-09	4.90E-08	5.48E-09	7.51E-09	5.87E-09	5.88E-09	5.87E-09	3.91E-09	1.71E-09	3.62E-08
1246	561416.2	4192688	7.79E-09	9.79E-09	7.69E-09	7.71E-09	7.69E-09	5.70E-09	3.46E-09	4.98E-08	5.57E-09	7.63E-09	5.96E-09	5.98E-09	5.96E-09	3.97E-09	1.74E-09	3.68E-08
1247	561410.5	4192696	7.91E-09	9.95E-09	7.81E-09	7.83E-09	7.81E-09	5.79E-09	3.51E-09	5.06E-08	5.66E-09	7.75E-09	6.05E-09	6.07E-09	6.05E-09	4.04E-09	1.77E-09	3.74E-08
1248	561404.9	4192704	8.03E-09	1.01E-08	7.92E-09	7.94E-09	7.92E-09	5.88E-09	3.56E-09	5.13E-08	5.74E-09	7.87E-09	6.14E-09	6.16E-09	6.14E-09	4.10E-09	1.79E-09	3.79E-08
1249	561399.2	4192712	8.14E-09	1.02E-08	8.03E-09	8.06E-09	8.03E-09	5.96E-09	3.61E-09	5.21E-08	5.82E-09	7.98E-09	6.23E-09	6.25E-09	6.23E-09	4.15E-09	1.82E-09	3.85E-08
1250	561393.5	4192719	8.25E-09	1.04E-08	8.14E-09	8.16E-09	8.14E-09	6.03E-09	3.66E-09	5.27E-08	5.90E-09	8.08E-09	6.31E-09	6.33E-09	6.31E-09	4.21E-09	1.84E-09	3.90E-08
1251	561387.8	4192727	8.35E-09	1.05E-08	8.24E-09	8.26E-09	8.24E-09	6.11E-09	3.70E-09	5.34E-08	5.97E-09	8.18E-09	6.39E-09	6.40E-09	6.39E-09	4.26E-09	1.86E-09	3.94E-08
1252	561382.1	4192735	8.44E-09	1.06E-08	8.33E-09	8.35E-09	8.33E-09	6.18E-09	3.74E-09	5.40E-08	6.03E-09	8.27E-09	6.46E-09	6.48E-09	6.46E-09	4.31E-09	1.88E-09	3.99E-08
1253	561376.4	4192743	8.52E-09	1.07E-08	8.41E-09	8.43E-09	8.41E-09	6.24E-09	3.78E-09	5.45E-08	6.09E-09	8.35E-09	6.52E-09	6.54E-09	6.52E-09	4.35E-09	1.90E-09	4.03E-08
1254	561370.8	4192751	8.60E-09	1.08E-08	8.49E-09	8.51E-09	8.49E-09	6.29E-09	3.82E-09	5.50E-08	6.15E-09	8.43E-09	6.58E-09	6.60E-09	6.58E-09	4.39E-09	1.92E-09	4.07E-08
1255	561365.1	4192759	8.67E-09	1.09E-08	8.56E-09	8.58E-09	8.56E-09	6.35E-09	3.85E-09	5.55E-08	6.20E-09	8.50E-09	6.64E-09	6.66E-09	6.64E-09	4.43E-09	1.94E-09	4.10E-08
1256	561359.4	4192767	8.75E-09	1.10E-08	8.63E-09	8.65E-09	8.63E-09	6.40E-09	3.88E-09	5.59E-08	6.25E-09	8.57E-09	6.69E-09	6.71E-09	6.69E-09	4.46E-09	1.95E-09	4.13E-08
1257	561353.7	4192775	8.81E-09	1.11E-08	8.70E-09	8.72E-09	8.70E-09	6.45E-09	3.91E-09	5.64E-08	6.30E-09	8.64E-09	6.74E-09	6.76E-09	6.74E-09	4.50E-09	1.97E-09	4.17E-08
1258	561348	4192783	8.88E-09	1.12E-08	8.76E-09	8.79E-09	8.76E-09	6.50E-09	3.94E-09	5.68E-08	6.35E-09	8.70E-09	6.79E-09	6.81E-09	6.79E-09	4.53E-09	1.98E-09	4.20E-08
1259	561342.4	4192791	8.94E-09	1.12E-08	8.82E-09	8.85E-09	8.82E-09	6.54E-09	3.97E-09	5.72E-08	6.39E-09	8.76E-09	6.84E-09	6.86E-09	6.84E-09	4.56E-09	2.00E-09	4.23E-08
1260	561336.7	4192799	9.00E-09	1.13E-08	8.88E-09	8.91E-09	8.88E-09	6.59E-09	3.99E-09	5.76E-08	6.44E-09	8.82E-09	6.89E-09	6.91E-09	6.89E-09	4.59E-09	2.01E-09	4.25E-08
1261	561331	4192807	9.06E-09	1.14E-08	8.94E-09	8.96E-09	8.94E-09	6.63E-09	4.02E-09	5.79E-08	6.48E-09	8.87E-09	6.93E-09	6.95E-09	6.93E-09	4.62E-09	2.02E-09	4.28E-08
1262	561325.3	4192815	9.11E-09	1.15E-08	8.99E-09	9.02E-09	8.99E-09	6.67E-09	4.04E-09	5.83E-08	6.52E-09	8.93E-09	6.97E-09	6.99E-09	6.97E-09	4.65E-09	2.04E-09	4.31E-08
1263	561319.6	4192822	9.17E-09	1.15E-08	9.05E-09	9.07E-09	9.05E-09	6.71E-09	4.07E-09	5.86E-08	6.55E-09	8.98E-09	7.01E-09	7.03E-09	7.01E-09	4.68E-09	2.05E-09	4.33E-08
1264	561313.9	4192830	9.22E-09	1.16E-08	9.10E-09	9.12E-09	9.10E-09	6.75E-09	4.09E-09	5.90E-08	6.59E-09	9.03E-09	7.05E-09	7.07E-09	7.05E-09	4.70E-09	2.06E-09	4.36E-08
1265	561233.8	4192334	5.93E-08	7.45E-08	5.85E-08	5.87E-08	5.85E-08	4.34E-08	2.63E-08	3.79E-07	4.24E-08	5.81E-08	4.54E-08	4.55E-08	4.54E-08	3.02E-08	1.32E-08	2.80E-07
1266	561236.2	4192325	5.64E-08	7.09E-08	5.57E-08	5.58E-08	5.57E-08	4.13E-08	2.50E-08	3.61E-07	4.03E-08	5.53E-08	4.32E-08	4.33E-08	4.32E-08	2.88E-08	1.26E-08	2.67E-07
1267	561238.7	4192316	5.33E-08	6.70E-08	5.26E-08	5.27E-08	5.26E-08	3.90E-08	2.36E-08	3.41E-07	3.81E-08	5.22E-08	4.08E-08	4.09E-08	4.08E-08	2.72E-08	1.19E-08	2.52E-07
1268	561241.1	4192307	5.00E-08	6.28E-08	4.93E-08	4.95E-08	4.93E-08	3.66E-08	2.22E-08	3.20E-07	3.57E-08	4.90E-08	3.82E-08	3.83E-08	3.82E-08	2.55E-08	1.12E-08	2.36E-07
1269	561243.5	4192297	4.66E-08	5.87E-08	4.60E-08	4.62E-08	4.60E-08	3.41E-08	2.07E-08	2.98E-07	3.34E-08	4.57E-08	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	2.20E-07
1270	561245.9	4192288	4.34E-08	5.46E-08	4.29E-08	4.30E-08	4.29E-08	3.18E-08	1.93E-08	2.78E-07	3.11E-08	4.25E-08	3.32E-08	3.33E-08	3.32E-08	2.22E-08	9.70E-09	2.05E-07

1271	561248.3	4192279	4.04E-08	5.08E-08	3.98E-08	4.00E-08	3.98E-08	2.96E-08	1.79E-08	2.58E-07	2.89E-08	3.96E-08	3.09E-08	3.10E-08	3.09E-08	2.06E-08	9.02E-09	1.91E-07
1272	561233.8	4192373	5.67E-08	7.13E-08	5.60E-08	5.61E-08	5.60E-08	4.15E-08	2.52E-08	3.63E-07	4.05E-08	5.56E-08	4.34E-08	4.35E-08	4.34E-08	2.89E-08	1.27E-08	2.68E-07
1273	561236.2	4192364	5.50E-08	6.91E-08	5.42E-08	5.44E-08	5.42E-08	4.02E-08	2.44E-08	3.52E-07	3.93E-08	5.39E-08	4.21E-08	4.22E-08	4.21E-08	2.80E-08	1.23E-08	2.60E-07
1274	561238.6	4192355	5.32E-08	6.68E-08	5.25E-08	5.26E-08	5.25E-08	3.89E-08	2.36E-08	3.40E-07	3.80E-08	5.21E-08	4.07E-08	4.08E-08	4.07E-08	2.71E-08	1.19E-08	2.51E-07
1275	561241.1	4192346	5.12E-08	6.44E-08	5.05E-08	5.07E-08	5.05E-08	3.75E-08	2.27E-08	3.28E-07	3.66E-08	5.02E-08	3.92E-08	3.93E-08	3.92E-08	2.61E-08	1.14E-08	2.42E-07
1276	561243.5	4192336	4.91E-08	6.17E-08	4.84E-08	4.86E-08	4.84E-08	3.59E-08	2.18E-08	3.14E-07	3.51E-08	4.81E-08	3.76E-08	3.77E-08	3.76E-08	2.50E-08	1.10E-08	2.32E-07
1277	561245.9	4192327	4.68E-08	5.89E-08	4.62E-08	4.63E-08	4.62E-08	3.43E-08	2.08E-08	2.99E-07	3.35E-08	4.59E-08	3.58E-08	3.59E-08	3.58E-08	2.39E-08	1.05E-08	2.21E-07
1278	561248.3	4192318	4.44E-08	5.59E-08	4.39E-08	4.40E-08	4.39E-08	3.25E-08	1.97E-08	2.84E-07	3.18E-08	4.35E-08	3.40E-08	3.41E-08	3.40E-08	2.27E-08	9.93E-09	2.10E-07
1279	561250.7	4192309	4.20E-08	5.28E-08	4.14E-08	4.15E-08	4.14E-08	3.07E-08	1.86E-08	2.69E-07	3.00E-08	4.11E-08	3.21E-08	3.22E-08	3.21E-08	2.14E-08	9.38E-09	1.98E-07
1280	561253.2	4192300	3.95E-08	4.97E-08	3.90E-08	3.91E-08	3.90E-08	2.89E-08	1.75E-08	2.53E-07	2.83E-08	3.87E-08	3.03E-08	3.03E-08	3.03E-08	2.02E-08	8.83E-09	1.87E-07
1281	561255.6	4192291	3.71E-08	4.67E-08	3.67E-08	3.68E-08	3.67E-08	2.72E-08	1.65E-08	2.38E-07	2.66E-08	3.64E-08	2.84E-08	2.85E-08	2.84E-08	1.90E-08	8.30E-09	1.76E-07
1282	561258	4192282	3.49E-08	4.38E-08	3.44E-08	3.45E-08	3.44E-08	2.55E-08	1.55E-08	2.23E-07	2.49E-08	3.42E-08	2.67E-08	2.68E-08	2.67E-08	1.78E-08	7.79E-09	1.65E-07
1283	561243.5	4192375	4.83E-08	6.07E-08	4.76E-08	4.78E-08	4.76E-08	3.53E-08	2.14E-08	3.09E-07	3.45E-08	4.73E-08	3.69E-08	3.70E-08	3.69E-08	2.46E-08	1.08E-08	2.28E-07
1284	561245.9	4192366	4.67E-08	5.87E-08	4.61E-08	4.62E-08	4.61E-08	3.42E-08	2.07E-08	2.99E-07	3.34E-08	4.57E-08	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	2.21E-07
1285	561248.3	4192357	4.51E-08	5.67E-08	4.45E-08	4.46E-08	4.45E-08	3.30E-08	2.00E-08	2.88E-07	3.22E-08	4.42E-08	3.45E-08	3.46E-08	3.45E-08	2.30E-08	1.01E-08	2.13E-07
1286	561250.7	4192348	4.34E-08	5.46E-08	4.28E-08	4.29E-08	4.28E-08	3.18E-08	1.92E-08	2.78E-07	3.10E-08	4.25E-08	3.32E-08	3.33E-08	3.32E-08	2.21E-08	9.69E-09	2.05E-07
1287	561253.1	4192339	4.16E-08	5.24E-08	4.11E-08	4.12E-08	4.11E-08	3.05E-08	1.85E-08	2.66E-07	2.98E-08	4.08E-08	3.19E-08	3.20E-08	3.19E-08	2.12E-08	9.30E-09	1.97E-07
1288	561255.6	4192330	3.98E-08	5.01E-08	3.93E-08	3.94E-08	3.93E-08	2.92E-08	1.77E-08	2.55E-07	2.85E-08	3.90E-08	3.05E-08	3.06E-08	3.05E-08	2.03E-08	8.90E-09	1.88E-07
1289	561258	4192321	3.80E-08	4.77E-08	3.75E-08	3.76E-08	3.75E-08	2.78E-08	1.68E-08	2.43E-07	2.71E-08	3.72E-08	2.91E-08	2.91E-08	2.91E-08	1.94E-08	8.48E-09	1.79E-07
1290	561260.4	4192312	3.61E-08	4.54E-08	3.56E-08	3.57E-08	3.56E-08	2.64E-08	1.60E-08	2.31E-07	2.58E-08	3.54E-08	2.76E-08	2.77E-08	2.76E-08	1.84E-08	8.06E-09	1.71E-07
1291	561262.8	4192303	3.42E-08	4.30E-08	3.38E-08	3.38E-08	3.38E-08	2.50E-08	1.52E-08	2.19E-07	2.45E-08	3.35E-08	2.62E-08	2.62E-08	2.62E-08	1.75E-08	7.64E-09	1.62E-07
1292	561265.3	4192294	3.24E-08	4.07E-08	3.19E-08	3.20E-08	3.19E-08	2.37E-08	1.44E-08	2.07E-07	2.32E-08	3.17E-08	2.48E-08	2.48E-08	2.48E-08	1.65E-08	7.23E-09	1.53E-07
1293	561267.7	4192284	3.06E-08	3.85E-08	3.02E-08	3.03E-08	3.02E-08	2.24E-08	1.36E-08	1.96E-07	2.19E-08	3.00E-08	2.34E-08	2.35E-08	2.34E-08	1.56E-08	6.84E-09	1.45E-07
1294	561253.1	4192378	4.18E-08	5.25E-08	4.12E-08	4.13E-08	4.12E-08	3.06E-08	1.85E-08	2.67E-07	2.99E-08	4.09E-08	3.20E-08	3.20E-08	3.20E-08	2.13E-08	9.33E-09	1.97E-07
1295	561255.6	4192369	4.03E-08	5.07E-08	3.98E-08	3.99E-08	3.98E-08	2.95E-08	1.79E-08	2.58E-07	2.88E-08	3.95E-08	3.09E-08	3.09E-08	3.09E-08	2.06E-08	9.01E-09	1.91E-07
1296	561258	4192360	3.89E-08	4.89E-08	3.84E-08	3.85E-08	3.84E-08	2.85E-08	1.73E-08	2.49E-07	2.78E-08	3.81E-08	2.98E-08	2.99E-08	2.98E-08	1.98E-08	8.69E-09	1.84E-07
1297	561260.4	4192351	3.75E-08	4.71E-08	3.70E-08	3.71E-08	3.70E-08	2.74E-08	1.66E-08	2.40E-07	2.68E-08	3.67E-08	2.87E-08	2.88E-08	2.87E-08	1.91E-08	8.37E-09	1.77E-07
1298	561262.8	4192342	3.60E-08	4.53E-08	3.55E-08	3.56E-08	3.55E-08	2.64E-08	1.60E-08	2.30E-07	2.58E-08	3.53E-08	2.76E-08	2.76E-08	2.76E-08	1.84E-08	8.05E-09	1.70E-07
1299	561265.2	4192332	3.46E-08	4.35E-08	3.41E-08	3.42E-08	3.41E-08	2.53E-08	1.53E-08	2.21E-07	2.47E-08	3.39E-08	2.64E-08	2.65E-08	2.64E-08	1.76E-08	7.72E-09	1.63E-07
1300	561267.7	4192323	3.31E-08	4.16E-08	3.26E-08	3.27E-08	3.26E-08	2.42E-08	1.47E-08	2.12E-07	2.37E-08	3.24E-08	2.53E-08	2.54E-08	2.53E-08	1.69E-08	7.39E-09	1.56E-07
1301	561270.1	4192314	3.16E-08	3.97E-08	3.12E-08	3.13E-08	3.12E-08	2.31E-08	1.40E-08	2.02E-07	2.26E-08	3.10E-08	2.42E-08	2.42E-08	2.42E-08	1.61E-08	7.06E-09	1.49E-07
1302	561272.5	4192305	3.01E-08	3.79E-08	2.97E-08	2.98E-08	2.97E-08	2.20E-08	1.34E-08	1.93E-07	2.15E-08	2.95E-08	2.30E-08	2.31E-08	2.30E-08	1.54E-08	6.73E-09	1.42E-07
1303	561274.9	4192296	2.87E-08	3.61E-08	2.83E-08	2.84E-08	2.83E-08	2.10E-08	1.27E-08	1.83E-07	2.05E-08	2.81E-08	2.19E-08	2.20E-08	2.19E-08	1.46E-08	6.41E-09	1.36E-07
1304	561277.3	4192287	2.73E-08	3.43E-08	2.69E-08	2.70E-08	2.69E-08	2.00E-08	1.21E-08	1.75E-07	1.95E-08	2.67E-08	2.09E-08	2.09E-08	2.09E-08	1.39E-08	6.10E-09	1.29E-07
1305	561262.8	4192381	3.66E-08	4.60E-08	3.61E-08	3.62E-08	3.61E-08	2.68E-08	1.62E-08	2.34E-07	2.62E-08	3.58E-08	2.80E-08	2.81E-08	2.80E-08	1.87E-08	8.17E-09	1.73E-07
1306	561265.2	4192371	3.54E-08	4.45E-08	3.49E-08	3.50E-08	3.49E-08	2.59E-08	1.57E-08	2.26E-07	2.53E-08	3.46E-08	2.71E-08	2.71E-08	2.71E-08	1.80E-08	7.90E-09	1.67E-07
1307	561267.6	4192362	3.41E-08	4.29E-08	3.37E-08	3.38E-08	3.37E-08	2.50E-08	1.51E-08	2.18E-07	2.44E-08	3.34E-08	2.61E-08	2.62E-08	2.61E-08	1.74E-08	7.62E-09	1.61E-07
1308	561270.1	4192353	3.29E-08	4.14E-08	3.25E-08	3.26E-08	3.25E-08	2.41E-08	1.46E-08	2.11E-07	2.35E-08	3.22E-08	2.52E-08	2.53E-08	2.52E-08	1.68E-08	7.35E-09	1.56E-07
1309	561272.5	4192344	3.17E-08	3.99E-08	3.13E-08	3.14E-08	3.13E-08	2.32E-08	1.41E-08	2.03E-07	2.27E-08	3.11E-08	2.43E-08	2.43E-08	2.43E-08	1.62E-08	7.08E-09	1.50E-07
1310	561274.9	4192335	3.05E-08	3.83E-08	3.01E-08	3.02E-08	3.01E-08	2.23E-08	1.35E-08	1.95E-07	2.18E-08	2.99E-08	2.33E-08	2.34E-08	2.33E-08	1.56E-08	6.81E-09	1.44E-07
1311	561277.3	4192326	2.93E-08	3.68E-08	2.89E-08	2.90E-08	2.89E-08	2.14E-08	1.30E-08	1.87E-07	2.09E-08	2.87E-08	2.24E-08	2.25E-08	2.24E-08	1.49E-08	6.54E-09	1.38E-07
1312	561279.7	4192317	2.81E-08	3.53E-08	2.77E-08	2.78E-08	2.77E-08	2.05E-08	1.24E-08	1.79E-07	2.01E-08	2.75E-08	2.15E-08	2.15E-08	2.15E-08	1.43E-08	6.27E-09	1.33E-07
1313	561282.2	4192308	2.69E-08	3.38E-08	2.65E-08	2.66E-08	2.65E-08	1.97E-08	1.19E-08	1.72E-07	1.92E-08	2.63E-08	2.06E-08	2.06E-08	2.06E-08	1.37E-08	6.00E-09	1.27E-07
1314	561284.6	4192299	2.57E-08	3.23E-08	2.54E-08	2.54E-08	2.54E-08	1.88E-08	1.14E-08	1.64E-07	1.84E-08	2.52E-08	1.97E-08	1.97E-08	1.97E-08	1.31E-08	5.74E-09	1.21E-07
1315	561287	4192290	2.46E-08	3.09E-08	2.43E-08	2.43E-08	2.43E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
1316	561272.5	4192383	3.24E-08	4.08E-08	3.20E-08	3.21E-08	3.20E-08	2.37E-08	1.44E-08	2.07E-07	2.32E-08	3.18E-08	2.48E-08	2.49E-08	2.48E-08	1.66E-08	7.25E-09	1.53E-07
1317	561274.9	4192374	3.14E-08	3.95E-08	3.10E-08	3.11E-08	3.10E-08	2.30E-08	1.39E-08	2.01E-07	2.25E-08	3.08E-08	2.40E-08	2.41E-08	2.40E-08	1.60E-08	7.01E-09	1.48E-07
1318	561277.3	4192365	3.03E-08	3.82E-08	2.99E-08	3.00E-08	2.99E-08	2.22E-08	1.35E-08	1.94E-07	2.17E-08	2.97E-08	2.32E-08	2.33E-08	2.32E-08	1.55E-08	6.78E-09	1.43E-07
1319	561279.7	4192356	2.93E-08	3.68E-08	2.89E-08	2.90E-08	2.89E-08	2.14E-08	1.30E-08	1.87E-07	2.10E-08	2.87E-08	2.24E-08	2.25E-08	2.24E-08	1.49E-08	6.54E-09	1.38E-07
1320	561282.1	4192347	2.83E-08	3.55E-08	2.79E-08	2.80E-08	2.79E-08	2.07E-08	1.25E-08	1.81E-07	2.02E-08	2.77E-08	2.16E-08	2.17E-08	2.16E-08	1.44E-08	6.31E-09	1.34E-07
1321	561284.6	4192338	2.72E-08	3.42E-08	2.69E-08	2.69E-08	2.69E-08	1.99E-08	1.21E-08	1.74E-07	1.95E-08	2.67E-08	2.08E-08	2.09E-08	2.08E-08	1.39E-08	6.08E-09	1.29E-07
1322	561287	4192329	2.62E-08	3.30E-08	2.59E-08	2.59E-08	2.59E-08	1.92E-08	1.16E-08	1.68E-07	1.87E-08	2.57E-08	2.01E-08	2.01E-08	2.01E-08	1.34E-08	5.85E-09	1.24E-07
1323	561289.4	4192319	2.52E-08	3.17E-08	2.49E-08	2.49E-08	2.49E-08	1.84E-08	1.12E-08	1.61E-07	1.80E-08	2.47E-08	1.93E-08	1.93E-08	1.93E-08	1.29E-08	5.63E-09	1.19E-07
1324	561291.8	4192310	2.42E-08	3.04E-08	2.39E-08	2.40E-08	2.39E-08	1.77E-08	1.07E-08	1.55E-07	1.73E-08	2.37E-08	1.85E-08	1.86E-08	1.85E-08	1.24E-08	5.41E-09	1.14E-07
1325	561294.2	4192301	2.33E-08	2.92E-08	2.29E-08	2.30E-08	2.29E-08	1.70E-08	1.03E-08	1.49E-07	1.66E-08	2.28E-08	1.78E-08	1.78E-08	1.78E-08	1.19E-08	5.19E-09	1.10E-07
1326	561296.7	4192292	2.23E-08	2.81E-08	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.91E-09	1.43E-07	1.60E-08	2.19E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.99E-09	1.06E-07
1327	561282.1	4192386	2.90E-08	3.65E-08	2.87E-08	2.87E-08	2.87E-08	2.13E-08	1.29E-08	1.86E-07	2.08E-08	2.85E-08	2.22E-08	2.23E-08	2.22E-08	1.48E-08	6.49E-09	1.37E-07
1328	561284.5	4192377	2.82E-08	3.54E-08	2.78E-08	2.79E-08	2.78E-08	2.06E-08	1.25E-08	1.80E-07	2.01E-08	2.76E-08	2.15E-08	2.16E-08	2.15E-08	1.44E-08	6.29E-09	1.33E-07
1329	561287	4192367	2.73E-08	3.43E-08	2.69E-08	2.70E-08	2.69E-08	1.99E-08	1.21E-08	1.74E-07	1.95E-08	2.67E-08	2.09E-08	2.09E-08	2.09E-08	1.39E-08	6.09E-09	1.29E-07
1330	561289.4	4192358	2.64E-08	3.31E-08	2.60E-08	2.61E-08	2.60E-08	1.93E-08	1.17E-08	1.69E-07	1.88E-08	2.58E-08	2.02E-08	2.02E-08	2.02E-08	1.34E-08	5.89E-09	1.25E-07
1331	561291.8	4192349	2.55E-08	3.20E-08	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	1.63E-07	1.82E-08	2.49E-08	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.69E-09	1.20E-07
1332	561294.2	4192340	2.46E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
1333	561296.6	4192331	2.37E-08	2.98E-08	2.34E-08	2.34E-08	2.34E-08	1.73E-08	1.05E-08	1.52E-07	1.69E-08	2.32E-08	1.81E-08	1.82E-08	1.81E-08	1.21E-08	5.29E-09	1.12E-07
1334	561299.1	4192322	2.28E-08	2.87E-08	2.25E-08	2.26E-08	2.25E-08	1.67E-08	1.01E-08	1.46E-07	1.63E-08	2.24E-08	1.75E-08	1.75E-08	1.75E-08	1.17E-08	5.10E-09	1.08E-07
1335	561301.5	4192313	2.20E-08	2.77E-08	2.17E-08	2.18E-08	2.17E-08	1.61E-08	9.76E-09	1.41E-07	1.57E-08	2.16E-08	1.68E-08	1.69E-08	1.68E-08	1.12E-08	4.92E-09	1.04E-07
1336	561303.9	4192304	2.12E-08	2.67E-08	2.09E-08	2.10E-08	2.09E-08	1.55E-08	9.41E-09	1.36E-07	1.52E-08	2.08E-08	1.62E-08	1.63E-08	1.62E-08	1.08E-08	4.74E-09	1.00E-07
1337	561306.3	4192295	2.04E-08	2.57E-08	2.02E-08	2.02E-08	2.02E-08	1.50E-08	9.06E-09	1.31E-07	1.46E-08	2.00E-08	1.56E-08	1.57E-08	1.56E-08	1.04E-08	4.56E-09	9.66E-08
1338	561291.8	4192388	2.62E-08	3.30E-08	2.59E-08	2.60E-08	2.59E-08	1.92E-08	1.16E-08	1.68E-07	1.88E-08	2.57E-08	2.01E-08	2.01E-08	2.01E-08	1.34E-08	5.86E-09	1.24E-07
1339	561294.2	4192379	2.55E-08	3.20E-08	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	1.63E-07	1.82E-08	2.50E-08	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.69E-09	1.20E-07
1340	561296.6	4192370	2.47E-08	3.10E-08	2.44E-08	2.44E-08	2.44E-08	1.81E-08	1.09E-08	1.58E-07	1.76E-08	2.42E-08	1.89E-08	1.89E-08	1.89E-08	1.26E-08	5.51E-09	1.17E-07
1341	561299	4192361	2.39E-08	3.00E-08	2.36E-08	2.36E-08	2.36E-08	1.75E-08	1.06E-08	1.53E-07	1.71E-08	2.34E-08	1.83E-08	1.83E-08	1.83E-08	1.22E-08	5.34E-09	1.13E-07
1342	561301.5	4192352	2.31E-08	2.91E-08	2.28E-08	2.29E-08	2.28E-08	1.69E-08	1.03E-08	1.48E-07	1.65E-08	2.26E-08	1.77E-08	1.77E-08	1.77E-08	1.18E-08	5.16E-09	1.09E-07
1343	561303.9	4192343	2.23E-08	2.81E-08	2.21E-08	2.21E-08	2.21E-08	1.64E-08	9.92E-09	1.43E-07	1.60E-08	2.19E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.99E-09	1.06E-07
1344	561306.3	4192334	2.16E-08	2.72E-08	2.13E-08	2.14E-08	2.13E-08	1.58E-08	9.58E-09	1.38E-07	1.54E-08	2.12E-08	1.65E-08	1.66E-08	1.65E-08	1.10E-08	4.82E-09	1.02E-07
1345	561308.7	4192325	2.09E-08	2.62E-08	2.06E-08	2.06E-08	2.06E-08	1.53E-08	9.26E-09	1.33E-07	1.49E-08	2.04E-08	1.60E-08	1.60E-08	1.60E-08	1.06E-08	4.66E-09	9.86E-08
1346	561311.2	4192315	2.01E-08	2.53E-08	1.99E-08	1.99E-08	1.99E-08	1.47E-08	8.94E-09	1.29E-07	1.44E-08	1.97E-08	1.54E-08	1.55E-08	1.54E-08	1.03E-08	4.50E-09	9.52E-08
1347	561313.6	4192306	1.95E-08	2.45E-08	1.92E-08	1.93E-08	1.92E-08	1.42E-08	8.64E-09	1.25E-07	1.39E-08	1.91E-08	1.49E-08	1.49E-08	1.49E-08	9.93E-09	4.35E-09	9.20E-08
1348	561316	4192297	1.88E-08	2.37E-08	1.86E-08	1.86E-08	1.86E-08	1.38E-08	8.34E-09	1.20E-07	1.34E-08	1.84E-08	1.44E-08	1.44E-08	1.44E-08	9.60E-09	4.20E-09	8.89E-08
1349	561320.8	4192396	2.00E-08	2.51E-08	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.86E-09	1.28E-07	1.43E-08	1.96E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	9.44E-08
1350	561323.2	4192387	1.95E-08	2.45E-08	1.92E-08	1.93E-08	1.92E-08	1.43E-08	8.64E-09	1.25E-07	1.39E-08	1.91E-08	1.49E-08	1.49E-08	1.49E-08	9.94E-09	4.35E-09	9.20E-08
1351	561332.9	4192350	1.74E-08	2.19E-08	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.73E-09	1.12E-07	1.25E-08	1.71E-08	1.33E-08	1.34E-08	1.33E-08	8.89E-09	3.89E-09	8.24E-08
1352	561335.3	4192341	1.69E-08	2.13E-08	1.67E-08	1.68E-08	1.67E-08	1.24E-08	7.51E-09	1.08E-07	1.21E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	8.64E-09	3.78E-09	8.00E-08
1353	561337.7	4192332	1.65E-08	2.07E-08	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.30E-09	1.05E-07	1.18E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.39E-09	3.67E-09	7.78E-08
1354	561340.1	4192323	1.60E-08	2.01E-08	1.58E-08	1.58E-08	1.58E-08	1.17E-08	7.09E-09	1.02E-07	1.14E-08	1.57E-08	1.22E-08	1.23E-08	1.22E-08	8.16E-09	3.57E-09	7.56E-08
1355	561342.6	4192314	1.55E-08	1.95E-08	1.53E-08	1.54E-08	1.53E-08	1.14E-08	6.90E-09	9.94E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.93E-09	3.47E-09	7.35E-08
1356	561345	4192305	1.51E-08	1.90E-08	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.71E-09	9.67E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.71E-09	3.38E-09	7.15E-08
1357	561330.4	4192399	1.84E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.35E-08	8.17E-09	1.18E-07	1.32E-08	1.80E-08	1.41E-08	1.41E-08	1.41E-08	9.40E-09	4.11E-09	8.71E-08
1358	561332.9	4192389	1.80E-08	2.26E-08	1.78E-08	1.78E-08	1.78E-08	1.32E-08	7.98E-09	1.15E-07	1.29E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	9.18E-09	4.02E-09	8.50E-08
1359	561342.5	4192353	1.62E-08	2.04E-08	1.60E-08	1.60E-08	1.60E-08	1.19E-08	7.18E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.24E-08	1.24E-08	8.26E-09	3.62E-09	7.65E-08
1360	561345	4192344	1.58E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.99E-09	1.01E-07	1.13E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.04E-09	3.52E-09	7.45E-08
1361	561347.4	4192335	1.53E-08	1.93E-08	1.51E-08	1.52E-08	1.51E-08	1.12E-08	6.80E-09	9.80E-08	1.10E-08	1.50E-08	1.17E-08	1.18E-08	1.17E-08	7.82E-09	3.42E-09	7.24E-08

1362	561349.8	4192326	1.49E-08	1.88E-08	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.62E-09	9.55E-08	1.07E-08	1.46E-08	1.14E-08	1.15E-08	1.14E-08	7.61E-09	3.33E-09	7.05E-08
1363	561352.2	4192317	1.45E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.45E-09	9.30E-08	1.04E-08	1.42E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	6.87E-08
1364	561354.6	4192308	1.42E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.29E-09	9.06E-08	1.01E-08	1.39E-08	1.08E-08	1.09E-08	1.08E-08	7.23E-09	3.16E-09	6.70E-08
1365	561340.1	4192401	1.71E-08	2.14E-08	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.57E-09	1.09E-07	1.22E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	8.70E-09	3.81E-09	8.06E-08
1366	561342.5	4192392	1.67E-08	2.10E-08	1.65E-08	1.65E-08	1.65E-08	1.22E-08	7.40E-09	1.07E-07	1.19E-08	1.64E-08	1.28E-08	1.28E-08	1.28E-08	8.52E-09	3.73E-09	7.89E-08
1367	561352.2	4192356	1.51E-08	1.90E-08	1.49E-08	1.49E-08	1.49E-08	1.11E-08	6.70E-09	9.66E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.71E-09	3.37E-09	7.14E-08
1368	561354.6	4192347	1.47E-08	1.85E-08	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.53E-09	9.41E-08	1.05E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	7.50E-09	3.29E-09	6.95E-08
1369	561357	4192337	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.36E-09	9.17E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.31E-09	3.20E-09	6.77E-08
1370	561359.5	4192328	1.40E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.20E-09	8.94E-08	1.00E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.13E-09	3.12E-09	6.61E-08
1371	561361.9	4192319	1.36E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	9.98E-09	6.05E-09	8.72E-08	9.75E-09	1.34E-08	1.04E-08	1.05E-08	1.04E-08	6.96E-09	3.05E-09	6.45E-08
1372	561364.3	4192310	1.33E-08	1.67E-08	1.31E-08	1.32E-08	1.31E-08	9.74E-09	5.90E-09	8.51E-08	9.52E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.79E-09	2.97E-09	6.29E-08
1373	561349.8	4192404	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.03E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	7.49E-08
1374	561352.2	4192395	1.55E-08	1.95E-08	1.53E-08	1.54E-08	1.53E-08	1.14E-08	6.89E-09	9.93E-08	1.11E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	7.92E-09	3.47E-09	7.34E-08
1375	561364.3	4192349	1.38E-08	1.73E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.12E-09	8.82E-08	9.86E-09	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.03E-09	3.08E-09	6.52E-08
1376	561366.7	4192340	1.35E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.85E-09	5.97E-09	8.60E-08	9.62E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.86E-09	3.01E-09	6.36E-08
1377	561369.1	4192331	1.31E-08	1.65E-08	1.30E-08	1.30E-08	1.30E-08	9.61E-09	5.83E-09	8.40E-08	9.39E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.70E-09	2.93E-09	6.21E-08
1378	561371.6	4192322	1.28E-08	1.61E-08	1.27E-08	1.27E-08	1.27E-08	9.39E-09	5.69E-09	8.21E-08	9.18E-09	1.26E-08	9.82E-09	9.85E-09	9.82E-09	6.55E-09	2.87E-09	6.06E-08
1379	561374	4192313	1.25E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	9.17E-09	5.56E-09	8.02E-08	8.96E-09	1.23E-08	9.59E-09	9.62E-09	9.59E-09	6.40E-09	2.80E-09	5.92E-08
1380	561217	4192241	5.50E-08	6.91E-08	5.43E-08	5.44E-08	5.43E-08	4.02E-08	2.44E-08	3.52E-07	3.93E-08	5.39E-08	4.21E-08	4.22E-08	4.21E-08	2.81E-08	1.23E-08	2.60E-07
1381	561207.5	4192238	6.28E-08	7.89E-08	6.19E-08	6.21E-08	6.19E-08	4.59E-08	2.78E-08	4.01E-07	4.49E-08	6.15E-08	4.80E-08	4.82E-08	4.80E-08	3.20E-08	1.40E-08	2.97E-07
1382	561197.9	4192236	6.98E-08	8.78E-08	6.89E-08	6.91E-08	6.89E-08	5.11E-08	3.10E-08	4.47E-07	4.99E-08	6.84E-08	5.34E-08	5.36E-08	5.34E-08	3.56E-08	1.56E-08	3.30E-07
1383	561188.4	4192234	7.57E-08	9.52E-08	7.47E-08	7.50E-08	7.47E-08	5.54E-08	3.36E-08	4.84E-07	5.42E-08	7.42E-08	5.80E-08	5.81E-08	5.80E-08	3.86E-08	1.69E-08	3.58E-07
1384	561178.9	4192231	8.05E-08	1.01E-07	7.94E-08	7.97E-08	7.94E-08	5.89E-08	3.57E-08	5.15E-07	5.76E-08	7.89E-08	6.16E-08	6.18E-08	6.16E-08	4.11E-08	1.80E-08	3.80E-07
1385	561169.4	4192229	8.41E-08	1.06E-07	8.30E-08	8.32E-08	8.30E-08	6.15E-08	3.73E-08	5.38E-07	6.01E-08	8.24E-08	6.43E-08	6.45E-08	6.43E-08	4.29E-08	1.88E-08	3.97E-07
1386	561159.8	4192227	8.63E-08	1.09E-07	8.52E-08	8.54E-08	8.52E-08	6.32E-08	3.83E-08	5.52E-07	6.17E-08	8.46E-08	6.61E-08	6.63E-08	6.61E-08	4.41E-08	1.93E-08	4.08E-07
1387	561150.3	4192224	8.72E-08	1.10E-07	8.61E-08	8.63E-08	8.61E-08	6.38E-08	3.87E-08	5.58E-07	6.24E-08	8.55E-08	6.67E-08	6.69E-08	6.67E-08	4.45E-08	1.95E-08	4.12E-07
1388	561121.7	4192217	9.01E-08	1.13E-07	8.89E-08	8.92E-08	8.89E-08	6.59E-08	4.00E-08	5.76E-07	6.44E-08	8.83E-08	6.90E-08	6.91E-08	6.90E-08	4.60E-08	2.01E-08	4.26E-07
1389	561112.2	4192215	9.26E-08	1.16E-07	9.14E-08	9.17E-08	9.14E-08	6.78E-08	4.11E-08	5.93E-07	6.62E-08	9.08E-08	7.09E-08	7.11E-08	7.09E-08	4.73E-08	2.07E-08	4.38E-07
1390	561102.6	4192213	9.47E-08	1.19E-07	9.35E-08	9.37E-08	9.35E-08	6.93E-08	4.20E-08	6.06E-07	6.77E-08	9.28E-08	7.25E-08	7.27E-08	7.25E-08	4.83E-08	2.12E-08	4.48E-07
1391	561093.1	4192210	9.59E-08	1.21E-07	9.46E-08	9.49E-08	9.46E-08	7.02E-08	4.25E-08	6.13E-07	6.86E-08	9.39E-08	7.34E-08	7.36E-08	7.34E-08	4.89E-08	2.14E-08	4.53E-07
1392	561083.6	4192208	9.58E-08	1.21E-07	9.46E-08	9.48E-08	9.46E-08	7.01E-08	4.25E-08	6.13E-07	6.85E-08	9.39E-08	7.33E-08	7.35E-08	7.33E-08	4.89E-08	2.14E-08	4.53E-07
1393	561074	4192206	9.44E-08	1.19E-07	9.32E-08	9.34E-08	9.32E-08	6.91E-08	4.19E-08	6.04E-07	6.75E-08	9.25E-08	7.23E-08	7.25E-08	7.23E-08	4.82E-08	2.11E-08	4.46E-07
1394	561064.5	4192203	9.13E-08	1.15E-07	9.01E-08	9.04E-08	9.01E-08	6.68E-08	4.05E-08	5.84E-07	6.53E-08	8.95E-08	6.99E-08	7.01E-08	6.99E-08	4.66E-08	2.04E-08	4.32E-07
1395	561055	4192201	8.61E-08	1.08E-07	8.50E-08	8.52E-08	8.50E-08	6.30E-08	3.82E-08	5.51E-07	6.16E-08	8.44E-08	6.59E-08	6.61E-08	6.59E-08	4.39E-08	1.92E-08	4.07E-07
1396	561219.4	4192231	4.66E-08	5.86E-08	4.60E-08	4.61E-08	4.60E-08	3.41E-08	2.07E-08	2.98E-07	3.33E-08	4.57E-08	3.57E-08	3.58E-08	3.57E-08	2.38E-08	1.04E-08	2.20E-07
1397	561209.9	4192229	5.23E-08	6.58E-08	5.16E-08	5.18E-08	5.16E-08	3.83E-08	2.32E-08	3.35E-07	3.74E-08	5.12E-08	4.00E-08	4.01E-08	4.00E-08	2.67E-08	1.17E-08	2.47E-07
1398	561200.3	4192226	5.77E-08	7.25E-08	5.69E-08	5.71E-08	5.69E-08	4.22E-08	2.56E-08	3.69E-07	4.13E-08	5.65E-08	4.41E-08	4.43E-08	4.41E-08	2.94E-08	1.29E-08	2.73E-07
1399	561190.8	4192224	6.25E-08	7.86E-08	6.17E-08	6.18E-08	6.17E-08	4.57E-08	2.77E-08	4.00E-07	4.47E-08	6.12E-08	4.78E-08	4.79E-08	4.78E-08	3.19E-08	1.40E-08	2.95E-07
1400	561181.3	4192222	6.65E-08	8.36E-08	6.56E-08	6.58E-08	6.56E-08	4.87E-08	2.95E-08	4.25E-07	4.76E-08	6.52E-08	5.09E-08	5.10E-08	5.09E-08	3.39E-08	1.49E-08	3.14E-07
1401	561171.7	4192219	6.97E-08	8.76E-08	6.88E-08	6.89E-08	6.88E-08	5.10E-08	3.09E-08	4.46E-07	4.98E-08	6.83E-08	5.33E-08	5.35E-08	5.33E-08	3.55E-08	1.56E-08	3.29E-07
1402	561162.2	4192217	7.19E-08	9.04E-08	7.09E-08	7.11E-08	7.09E-08	5.26E-08	3.19E-08	4.60E-07	5.14E-08	7.04E-08	5.50E-08	5.52E-08	5.50E-08	3.67E-08	1.61E-08	3.40E-07
1403	561152.7	4192215	7.32E-08	9.20E-08	7.22E-08	7.24E-08	7.22E-08	5.36E-08	3.25E-08	4.68E-07	5.23E-08	7.17E-08	5.60E-08	5.62E-08	5.60E-08	3.73E-08	1.64E-08	3.46E-07
1404	561124.1	4192208	7.66E-08	9.63E-08	7.56E-08	7.58E-08	7.56E-08	5.60E-08	3.40E-08	4.90E-07	5.48E-08	7.50E-08	5.86E-08	5.88E-08	5.86E-08	3.91E-08	1.71E-08	3.62E-07
1405	561114.5	4192205	7.82E-08	9.83E-08	7.72E-08	7.74E-08	7.72E-08	5.72E-08	3.47E-08	5.00E-07	5.59E-08	7.66E-08	5.98E-08	6.00E-08	5.98E-08	3.99E-08	1.75E-08	3.70E-07
1406	561105	4192203	7.96E-08	1.00E-07	7.85E-08	7.88E-08	7.85E-08	5.82E-08	3.53E-08	5.09E-07	5.69E-08	7.80E-08	6.09E-08	6.11E-08	6.09E-08	4.06E-08	1.78E-08	3.76E-07
1407	561095.5	4192201	8.04E-08	1.01E-07	7.94E-08	7.96E-08	7.94E-08	5.88E-08	3.57E-08	5.14E-07	5.75E-08	7.88E-08	6.15E-08	6.17E-08	6.15E-08	4.10E-08	1.80E-08	3.80E-07
1408	561086	4192198	8.04E-08	1.01E-07	7.94E-08	7.96E-08	7.94E-08	5.89E-08	3.57E-08	5.14E-07	5.75E-08	7.88E-08	6.15E-08	6.17E-08	6.15E-08	4.10E-08	1.80E-08	3.80E-07
1409	561076.4	4192196	7.94E-08	9.99E-08	7.84E-08	7.86E-08	7.84E-08	5.81E-08	3.52E-08	5.08E-07	5.68E-08	7.78E-08	6.08E-08	6.10E-08	6.08E-08	4.05E-08	1.77E-08	3.75E-07
1410	561066.9	4192194	7.72E-08	9.71E-08	7.62E-08	7.64E-08	7.62E-08	5.65E-08	3.43E-08	4.94E-07	5.52E-08	7.57E-08	5.91E-08	5.93E-08	5.91E-08	3.94E-08	1.73E-08	3.65E-07
1411	561057.4	4192191	7.37E-08	9.27E-08	7.28E-08	7.30E-08	7.28E-08	5.40E-08	3.27E-08	4.72E-07	5.27E-08	7.22E-08	5.64E-08	5.66E-08	5.64E-08	3.76E-08	1.65E-08	3.48E-07
1412	561257.2	4192250	3.07E-08	3.86E-08	3.03E-08	3.03E-08	3.03E-08	2.24E-08	1.36E-08	1.96E-07	2.19E-08	3.00E-08	2.35E-08	2.35E-08	2.35E-08	1.56E-08	6.85E-09	1.45E-07
1413	561221.8	4192221	4.03E-08	5.07E-08	3.98E-08	3.99E-08	3.98E-08	2.95E-08	1.79E-08	2.58E-07	2.88E-08	3.95E-08	3.09E-08	3.10E-08	3.09E-08	2.06E-08	9.01E-09	1.91E-07
1414	561212.3	4192219	4.47E-08	5.62E-08	4.41E-08	4.42E-08	4.41E-08	3.27E-08	1.98E-08	2.86E-07	3.20E-08	4.38E-08	3.42E-08	3.43E-08	3.42E-08	2.28E-08	9.99E-09	2.11E-07
1415	561202.7	4192217	4.89E-08	6.16E-08	4.83E-08	4.84E-08	4.83E-08	3.58E-08	2.17E-08	3.13E-07	3.50E-08	4.80E-08	3.75E-08	3.76E-08	3.75E-08	2.50E-08	1.09E-08	2.31E-07
1416	561193.2	4192214	5.29E-08	6.65E-08	5.22E-08	5.23E-08	5.22E-08	3.87E-08	2.34E-08	3.38E-07	3.78E-08	5.18E-08	4.04E-08	4.06E-08	4.04E-08	2.70E-08	1.18E-08	2.50E-07
1417	561183.7	4192212	5.62E-08	7.07E-08	5.55E-08	5.57E-08	5.55E-08	4.12E-08	2.50E-08	3.60E-07	4.02E-08	5.51E-08	4.30E-08	4.32E-08	4.30E-08	2.87E-08	1.26E-08	2.66E-07
1418	561174.1	4192210	5.90E-08	7.42E-08	5.82E-08	5.84E-08	5.82E-08	4.32E-08	2.62E-08	3.78E-07	4.22E-08	5.78E-08	4.52E-08	4.53E-08	4.52E-08	3.01E-08	1.32E-08	2.79E-07
1419	561164.6	4192207	6.11E-08	7.69E-08	6.03E-08	6.05E-08	6.03E-08	4.47E-08	2.71E-08	3.91E-07	4.37E-08	5.99E-08	4.68E-08	4.69E-08	4.68E-08	3.12E-08	1.37E-08	2.89E-07
1420	561155.1	4192205	6.26E-08	7.88E-08	6.18E-08	6.20E-08	6.18E-08	4.58E-08	2.78E-08	4.01E-07	4.48E-08	6.14E-08	4.79E-08	4.81E-08	4.79E-08	3.20E-08	1.40E-08	2.96E-07
1421	561126.5	4192198	6.62E-08	8.32E-08	6.53E-08	6.55E-08	6.53E-08	4.84E-08	2.94E-08	4.23E-07	4.73E-08	6.49E-08	5.06E-08	5.08E-08	5.06E-08	3.38E-08	1.48E-08	3.13E-07
1422	561116.9	4192196	6.74E-08	8.47E-08	6.65E-08	6.67E-08	6.65E-08	4.93E-08	2.99E-08	4.31E-07	4.82E-08	6.60E-08	5.16E-08	5.17E-08	5.16E-08	3.44E-08	1.51E-08	3.19E-07
1423	561107.4	4192193	6.84E-08	8.60E-08	6.75E-08	6.77E-08	6.75E-08	5.01E-08	3.04E-08	4.38E-07	4.89E-08	6.70E-08	5.24E-08	5.25E-08	5.24E-08	3.49E-08	1.53E-08	3.23E-07
1424	561097.9	4192191	6.90E-08	8.68E-08	6.81E-08	6.83E-08	6.81E-08	5.05E-08	3.06E-08	4.42E-07	4.94E-08	6.77E-08	5.28E-08	5.30E-08	5.28E-08	3.52E-08	1.54E-08	3.26E-07
1425	561088.3	4192189	6.91E-08	8.69E-08	6.82E-08	6.84E-08	6.82E-08	5.06E-08	3.07E-08	4.42E-07	4.94E-08	6.77E-08	5.29E-08	5.30E-08	5.29E-08	3.53E-08	1.54E-08	3.27E-07
1426	561078.8	4192186	6.84E-08	8.60E-08	6.75E-08	6.77E-08	6.75E-08	5.01E-08	3.03E-08	4.38E-07	4.89E-08	6.70E-08	5.23E-08	5.25E-08	5.23E-08	3.49E-08	1.53E-08	3.23E-07
1427	561069.3	4192184	6.68E-08	8.40E-08	6.59E-08	6.61E-08	6.59E-08	4.89E-08	2.96E-08	4.27E-07	4.78E-08	6.55E-08	5.11E-08	5.13E-08	5.11E-08	3.41E-08	1.49E-08	3.16E-07
1428	561059.7	4192181	6.43E-08	8.09E-08	6.35E-08	6.37E-08	6.35E-08	4.71E-08	2.85E-08	4.11E-07	4.60E-08	6.30E-08	4.92E-08	4.94E-08	4.92E-08	3.28E-08	1.44E-08	3.04E-07
1429	561266.1	4192247	2.70E-08	3.39E-08	2.66E-08	2.67E-08	2.66E-08	1.97E-08	1.20E-08	1.72E-07	1.93E-08	2.64E-08	2.06E-08	2.07E-08	2.06E-08	1.38E-08	6.02E-09	1.27E-07
1430	561267.4	4192256	2.79E-08	3.51E-08	2.75E-08	2.76E-08	2.75E-08	2.04E-08	1.24E-08	1.78E-07	1.99E-08	2.73E-08	2.13E-08	2.14E-08	2.13E-08	1.42E-08	6.23E-09	1.32E-07
1431	561224.2	4192212	3.55E-08	4.47E-08	3.50E-08	3.51E-08	3.50E-08	2.60E-08	1.58E-08	2.27E-07	2.54E-08	3.48E-08	2.72E-08	2.73E-08	2.72E-08	1.81E-08	7.93E-09	1.68E-07
1432	561214.6	4192209	3.90E-08	4.90E-08	3.85E-08	3.86E-08	3.85E-08	2.85E-08	1.73E-08	2.49E-07	2.79E-08	3.82E-08	2.98E-08	2.99E-08	2.98E-08	1.99E-08	8.71E-09	1.84E-07
1433	561205.1	4192207	4.24E-08	5.34E-08	4.19E-08	4.20E-08	4.19E-08	3.11E-08	1.88E-08	2.71E-07	3.03E-08	4.16E-08	3.25E-08	3.26E-08	3.25E-08	2.16E-08	9.48E-09	2.01E-07
1434	561195.6	4192205	4.56E-08	5.74E-08	4.50E-08	4.52E-08	4.50E-08	3.34E-08	2.02E-08	2.92E-07	3.26E-08	4.47E-08	3.49E-08	3.50E-08	3.49E-08	2.33E-08	1.02E-08	2.16E-07
1435	561186	4192202	4.85E-08	6.10E-08	4.79E-08	4.80E-08	4.79E-08	3.55E-08	2.15E-08	3.10E-07	3.47E-08	4.75E-08	3.71E-08	3.72E-08	3.71E-08	2.47E-08	1.08E-08	2.29E-07
1436	561176.5	4192200	5.09E-08	6.40E-08	5.03E-08	5.04E-08	5.03E-08	3.73E-08	2.26E-08	3.26E-07	3.64E-08	4.99E-08	3.90E-08	3.91E-08	3.90E-08	2.60E-08	1.14E-08	2.41E-07
1437	561167	4192198	5.29E-08	6.65E-08	5.22E-08	5.23E-08	5.22E-08	3.87E-08	2.35E-08	3.38E-07	3.78E-08	5.18E-08	4.05E-08	4.06E-08	4.05E-08	2.70E-08	1.18E-08	2.50E-07
1438	561157.4	4192195	5.44E-08	6.84E-08	5.37E-08	5.39E-08	5.37E-08	3.98E-08	2.41E-08	3.48E-07	3.89E-08	5.33E-08	4.16E-08	4.18E-08	4.16E-08	2.78E-08	1.22E-08	2.57E-07
1439	561128.9	4192188	5.80E-08	7.30E-08	5.73E-08	5.74E-08	5.73E-08	4.25E-08	2.57E-08	3.71E-07	4.15E-08	5.68E-08	4.44E-08	4.45E-08	4.44E-08	2.96E-08	1.30E-08	2.74E-07
1440	561119.3	4192186	5.90E-08	7.42E-08	5.83E-08	5.84E-08	5.83E-08	4.32E-08	2.62E-08	3.78E-07	4.22E-08	5.78E-08	4.52E-08	4.53E-08	4.52E-08	3.01E-08	1.32E-08	2.79E-07
1441	561109.8	4192183	5.99E-08	7.53E-08	5.91E-08	5.92E-08	5.91E-08	4.38E-08	2.66E-08	3.83E-07	4.28E-08	5.87E-08	4.58E-08	4.59E-08	4.58E-08	3.05E-08	1.34E-08	2.83E-07
1442	561100.3	4192181	6.04E-08	7.59E-08	5.96E-08	5.97E-08	5.96E-08	4.42E-08	2.68E-08	3.86E-07	4.32E-08	5.92E-08	4.62E-08	4.63E-08	4.62E-08	3.08E-08	1.35E-08	2.85E-07
1443	561090.7	4192179	6.04E-08	7.60E-08	5.96E-08	5.98E-08	5.96E-08	4.42E-08	2.68E-08	3.87E-07	4.32E-08	5.92E-08	4.62E-08	4.64E-08	4.62E-08	3.08E-08	1.35E-08	2.86E-07
1444	561081.2	4192176	5.99E-08	7.54E-08	5.91E-08	5.93E-08	5.91E-08	4.39E-08	2.66E-08	3.83E-07	4.29E-08	5.87E-08	4.59E-08	4.60E-08	4.59E-08	3.06E-08	1.34E-08	2.83E-07
1445	561071.7	4192174	5.88E-08	7.39E-08	5.80E-08	5.82E-08	5.80E-08	4.30E-08	2.61E-08	3.76E-07	4.20E-08	5.76E-08	4.50E-08	4.51E-08	4.50E-08	3.00E-08	1.31E-08	2.78E-07
1446	561062.1	4192172	5.70E-08	7.16E-08	5.62E-08	5.64E-08	5.62E-08	4.17E-08	2.53E-08	3.64E-07	4.07E-08	5.58E-08	4.36E-08	4.37E-08	4.36E-08	2.91E-08	1.27E-08	2.69E-07
1447	561265.9	4192226	2.40E-08	3.01E-08	2.37E-08	2.37E-08	2.37E-08	1.75E-08	1.06E-08	1.53E-07	1.71E-08	2.35E-08	1.83E-08	1.84E-08	1.83E-08	1.22E-08	5.35E-09	1.13E-07
1448	561274.7	4192241	2.38E-08	3.00E-08	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	1.52E-07	1.70E-08	2.33E-08	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.32E-09	1.13E-07
1449	561275.9	4192250	2.46E-08	3.10E-08	2.43E-08	2.44E-08	2.43E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.26E-08	5.50E-09	1.16E-07
1450	561277.2	4192259	2.52E-08	3.17E-08	2.49E-08	2.50E-08	2.49E-08	1.85E-08	1.12E-08	1.61E-07	1.80E-08	2.47E-08	1.93E-08	1.94E-08	1.93E-08	1.29E-08	5.64E-09	1.19E-07
1451	561236.1	4192204	2.89E-08	3.64E-08	2.86E-08	2.86E-08	2.86E-08	2.12E-08	1.28E-08	1.85E-07	2.07E-08	2.84E-08	2.21E-08	2.22E-08	2.21E-08	1.48E-08	6.46E-09	1.37E-07
1452	561226.6	4192202	3.17E-08	3.98E-08	3.13E-08	3.14E-08	3.13E-08	2.32E-08	1.41E-08	2.03E-07	2.27E-08	3.10E-08	2.42E-08	2.43E-08	2.42E-08	1.62E-08	7.08E-09	1.50E-07

1453	561217	4192200	3.45E-08	4.34E-08	3.41E-08	3.42E-08	3.41E-08	2.53E-08	1.53E-08	2.21E-07	2.47E-08	3.38E-08	2.64E-08	2.65E-08	2.64E-08	1.76E-08	7.71E-09	1.63E-07
1454	561207.5	4192197	3.74E-08	4.70E-08	3.69E-08	3.70E-08	3.69E-08	2.73E-08	1.66E-08	2.39E-07	2.67E-08	3.66E-08	2.86E-08	2.87E-08	2.86E-08	1.91E-08	8.34E-09	1.77E-07
1455	561198	4192195	4.00E-08	5.03E-08	3.95E-08	3.96E-08	3.95E-08	2.93E-08	1.78E-08	2.56E-07	2.86E-08	3.92E-08	3.06E-08	3.07E-08	3.06E-08	2.04E-08	8.94E-09	1.89E-07
1456	561188.4	4192192	4.25E-08	5.34E-08	4.19E-08	4.20E-08	4.19E-08	3.11E-08	1.88E-08	2.72E-07	3.04E-08	4.16E-08	3.25E-08	3.26E-08	3.25E-08	2.17E-08	9.48E-09	2.01E-07
1457	561178.9	4192190	4.46E-08	5.61E-08	4.40E-08	4.41E-08	4.40E-08	3.26E-08	1.98E-08	2.85E-07	3.19E-08	4.37E-08	3.41E-08	3.42E-08	3.41E-08	2.27E-08	9.96E-09	2.11E-07
1458	561169.4	4192188	4.64E-08	5.83E-08	4.58E-08	4.59E-08	4.58E-08	3.39E-08	2.06E-08	2.97E-07	3.32E-08	4.54E-08	3.55E-08	3.56E-08	3.55E-08	2.37E-08	1.04E-08	2.19E-07
1459	561159.8	4192185	4.79E-08	6.02E-08	4.73E-08	4.74E-08	4.73E-08	3.51E-08	2.13E-08	3.06E-07	3.43E-08	4.69E-08	3.67E-08	3.68E-08	3.67E-08	2.44E-08	1.07E-08	2.26E-07
1460	561131.2	4192178	5.14E-08	6.47E-08	5.08E-08	5.09E-08	5.08E-08	3.76E-08	2.28E-08	3.29E-07	3.68E-08	5.04E-08	3.94E-08	3.95E-08	3.94E-08	2.62E-08	1.15E-08	2.43E-07
1461	561121.7	4192176	5.23E-08	6.58E-08	5.17E-08	5.18E-08	5.17E-08	3.83E-08	2.32E-08	3.35E-07	3.74E-08	5.13E-08	4.01E-08	4.02E-08	4.01E-08	2.67E-08	1.17E-08	2.47E-07
1462	561112.2	4192174	5.31E-08	6.67E-08	5.24E-08	5.25E-08	5.24E-08	3.88E-08	2.35E-08	3.39E-07	3.80E-08	5.20E-08	4.06E-08	4.07E-08	4.06E-08	2.71E-08	1.19E-08	2.51E-07
1463	561102.6	4192171	5.35E-08	6.73E-08	5.28E-08	5.30E-08	5.28E-08	3.92E-08	2.37E-08	3.42E-07	3.83E-08	5.24E-08	4.10E-08	4.11E-08	4.10E-08	2.73E-08	1.20E-08	2.53E-07
1464	561093.1	4192169	5.36E-08	6.74E-08	5.29E-08	5.30E-08	5.29E-08	3.92E-08	2.38E-08	3.43E-07	3.83E-08	5.25E-08	4.10E-08	4.11E-08	4.10E-08	2.73E-08	1.20E-08	2.53E-07
1465	561083.6	4192167	5.32E-08	6.69E-08	5.25E-08	5.27E-08	5.25E-08	3.90E-08	2.36E-08	3.40E-07	3.81E-08	5.22E-08	4.07E-08	4.08E-08	4.07E-08	2.72E-08	1.19E-08	2.52E-07
1466	561074	4192164	5.24E-08	6.58E-08	5.17E-08	5.18E-08	5.17E-08	3.83E-08	2.32E-08	3.35E-07	3.74E-08	5.13E-08	4.01E-08	4.02E-08	4.01E-08	2.67E-08	1.17E-08	2.47E-07
1467	561064.5	4192162	5.10E-08	6.42E-08	5.04E-08	5.05E-08	5.04E-08	3.73E-08	2.26E-08	3.26E-07	3.65E-08	5.00E-08	3.90E-08	3.92E-08	3.90E-08	2.60E-08	1.14E-08	2.41E-07
1468	561267.5	4192216	2.22E-08	2.79E-08	2.19E-08	2.19E-08	2.19E-08	1.62E-08	9.83E-09	1.42E-07	1.58E-08	2.17E-08	1.70E-08	1.70E-08	1.70E-08	1.13E-08	4.95E-09	1.05E-07
1469	561274.7	4192221	2.13E-08	2.68E-08	2.10E-08	2.11E-08	2.10E-08	1.56E-08	9.45E-09	1.36E-07	1.52E-08	2.09E-08	1.63E-08	1.64E-08	1.63E-08	1.09E-08	4.76E-09	1.01E-07
1470	561283.2	4192236	2.13E-08	2.67E-08	2.10E-08	2.10E-08	2.10E-08	1.56E-08	9.44E-09	1.36E-07	1.52E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.09E-08	4.75E-09	1.01E-07
1471	561284.5	4192245	2.20E-08	2.76E-08	2.17E-08	2.17E-08	2.17E-08	1.61E-08	9.74E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.69E-08	1.68E-08	1.12E-08	4.91E-09	1.04E-07
1472	561286.9	4192263	2.30E-08	2.89E-08	2.27E-08	2.27E-08	2.27E-08	1.68E-08	1.02E-08	1.47E-07	1.64E-08	2.25E-08	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.13E-09	1.09E-07
1473	561228.9	4192192	2.86E-08	3.59E-08	2.82E-08	2.83E-08	2.82E-08	2.09E-08	1.27E-08	1.83E-07	2.04E-08	2.80E-08	2.19E-08	2.19E-08	2.19E-08	1.46E-08	6.38E-09	1.35E-07
1474	561219.4	4192190	3.09E-08	3.89E-08	3.05E-08	3.06E-08	3.05E-08	2.26E-08	1.37E-08	1.98E-07	2.21E-08	3.03E-08	2.37E-08	2.37E-08	2.37E-08	1.58E-08	6.91E-09	1.46E-07
1475	561209.9	4192187	3.33E-08	4.18E-08	3.28E-08	3.29E-08	3.28E-08	2.44E-08	1.48E-08	2.13E-07	2.38E-08	3.26E-08	2.55E-08	2.55E-08	2.55E-08	1.70E-08	7.43E-09	1.57E-07
1476	561200.3	4192185	3.55E-08	4.47E-08	3.51E-08	3.52E-08	3.51E-08	2.60E-08	1.58E-08	2.27E-07	2.54E-08	3.48E-08	2.72E-08	2.73E-08	2.72E-08	1.81E-08	7.94E-09	1.68E-07
1477	561190.8	4192183	3.76E-08	4.73E-08	3.71E-08	3.72E-08	3.71E-08	2.75E-08	1.67E-08	2.41E-07	2.69E-08	3.69E-08	2.88E-08	2.89E-08	2.88E-08	1.92E-08	8.41E-09	1.78E-07
1478	561181.3	4192180	3.95E-08	4.97E-08	3.90E-08	3.91E-08	3.90E-08	2.89E-08	1.75E-08	2.53E-07	2.83E-08	3.87E-08	3.02E-08	3.03E-08	3.02E-08	2.02E-08	8.83E-09	1.87E-07
1479	561171.7	4192178	4.12E-08	5.18E-08	4.06E-08	4.07E-08	4.06E-08	3.01E-08	1.83E-08	2.63E-07	2.94E-08	4.03E-08	3.15E-08	3.16E-08	3.15E-08	2.10E-08	9.20E-09	1.95E-07
1480	561162.2	4192176	4.26E-08	5.36E-08	4.21E-08	4.22E-08	4.21E-08	3.12E-08	1.89E-08	2.73E-07	3.05E-08	4.18E-08	3.26E-08	3.27E-08	3.26E-08	2.17E-08	9.52E-09	2.01E-07
1481	561133.6	4192169	4.60E-08	5.79E-08	4.54E-08	4.56E-08	4.54E-08	3.37E-08	2.04E-08	2.94E-07	3.29E-08	4.51E-08	3.52E-08	3.53E-08	3.52E-08	2.35E-08	1.03E-08	2.18E-07
1482	561124.1	4192166	4.69E-08	5.90E-08	4.63E-08	4.64E-08	4.63E-08	3.43E-08	2.08E-08	3.00E-07	3.35E-08	4.59E-08	3.59E-08	3.60E-08	3.59E-08	2.39E-08	1.05E-08	2.22E-07
1483	561114.6	4192164	4.75E-08	5.98E-08	4.69E-08	4.70E-08	4.69E-08	3.48E-08	2.11E-08	3.04E-07	3.40E-08	4.66E-08	3.64E-08	3.65E-08	3.64E-08	2.43E-08	1.06E-08	2.25E-07
1484	561105	4192162	4.79E-08	6.03E-08	4.73E-08	4.74E-08	4.73E-08	3.51E-08	2.13E-08	3.07E-07	3.43E-08	4.70E-08	3.67E-08	3.68E-08	3.67E-08	2.45E-08	1.07E-08	2.27E-07
1485	561095.5	4192159	4.80E-08	6.04E-08	4.74E-08	4.75E-08	4.74E-08	3.52E-08	2.13E-08	3.07E-07	3.44E-08	4.71E-08	3.68E-08	3.69E-08	3.68E-08	2.45E-08	1.07E-08	2.27E-07
1486	561086	4192157	4.78E-08	6.01E-08	4.72E-08	4.73E-08	4.72E-08	3.50E-08	2.12E-08	3.06E-07	3.42E-08	4.68E-08	3.66E-08	3.67E-08	3.66E-08	2.44E-08	1.07E-08	2.26E-07
1487	561076.4	4192155	4.71E-08	5.93E-08	4.65E-08	4.66E-08	4.65E-08	3.45E-08	2.09E-08	3.02E-07	3.37E-08	4.62E-08	3.61E-08	3.62E-08	3.61E-08	2.41E-08	1.05E-08	2.23E-07
1488	561066.9	4192152	4.61E-08	5.80E-08	4.55E-08	4.56E-08	4.55E-08	3.38E-08	2.05E-08	2.95E-07	3.30E-08	4.52E-08	3.53E-08	3.54E-08	3.53E-08	2.35E-08	1.03E-08	2.18E-07
1489	561276.4	4192211	1.98E-08	2.49E-08	1.95E-08	1.96E-08	1.95E-08	1.45E-08	8.79E-09	1.27E-07	1.42E-08	1.94E-08	1.52E-08	1.52E-08	1.52E-08	1.01E-08	4.42E-09	9.36E-08
1490	561283.5	4192216	1.91E-08	2.41E-08	1.89E-08	1.89E-08	1.89E-08	1.40E-08	8.49E-09	1.22E-07	1.37E-08	1.87E-08	1.46E-08	1.47E-08	1.46E-08	9.76E-09	4.27E-09	9.04E-08
1491	561291.8	4192230	1.92E-08	2.41E-08	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.50E-09	1.23E-07	1.37E-08	1.88E-08	1.47E-08	1.47E-08	1.47E-08	9.78E-09	4.28E-09	9.06E-08
1492	561294.2	4192248	2.03E-08	2.55E-08	2.00E-08	2.01E-08	2.00E-08	1.49E-08	9.01E-09	1.30E-07	1.45E-08	1.99E-08	1.55E-08	1.56E-08	1.55E-08	1.04E-08	4.53E-09	9.59E-08
1493	561296.7	4192265	2.11E-08	2.65E-08	2.08E-08	2.08E-08	2.08E-08	1.54E-08	9.34E-09	1.35E-07	1.51E-08	2.06E-08	1.61E-08	1.62E-08	1.61E-08	1.07E-08	4.70E-09	9.95E-08
1494	561231.3	4192182	2.59E-08	3.26E-08	2.56E-08	2.57E-08	2.56E-08	1.90E-08	1.15E-08	1.66E-07	1.86E-08	2.54E-08	1.99E-08	1.99E-08	1.99E-08	1.32E-08	5.79E-09	1.23E-07
1495	561221.8	4192180	2.79E-08	3.51E-08	2.76E-08	2.77E-08	2.76E-08	2.05E-08	1.24E-08	1.79E-07	2.00E-08	2.74E-08	2.14E-08	2.14E-08	2.14E-08	1.43E-08	6.24E-09	1.32E-07
1496	561212.3	4192178	2.99E-08	3.77E-08	2.96E-08	2.96E-08	2.96E-08	2.19E-08	1.33E-08	1.92E-07	2.14E-08	2.93E-08	2.29E-08	2.30E-08	2.29E-08	1.53E-08	6.69E-09	1.42E-07
1497	561202.7	4192175	3.19E-08	4.01E-08	3.15E-08	3.16E-08	3.15E-08	2.33E-08	1.41E-08	2.04E-07	2.28E-08	3.12E-08	2.44E-08	2.45E-08	2.44E-08	1.63E-08	7.12E-09	1.51E-07
1498	561193.2	4192173	3.37E-08	4.24E-08	3.33E-08	3.34E-08	3.33E-08	2.47E-08	1.50E-08	2.16E-07	2.41E-08	3.30E-08	2.58E-08	2.59E-08	2.58E-08	1.72E-08	7.53E-09	1.59E-07
1499	561183.7	4192171	3.54E-08	4.45E-08	3.49E-08	3.50E-08	3.49E-08	2.59E-08	1.57E-08	2.26E-07	2.53E-08	3.47E-08	2.71E-08	2.71E-08	2.71E-08	1.80E-08	7.90E-09	1.67E-07
1500	561174.1	4192168	3.69E-08	4.64E-08	3.64E-08	3.65E-08	3.64E-08	2.70E-08	1.64E-08	2.36E-07	2.64E-08	3.61E-08	2.82E-08	2.83E-08	2.82E-08	1.88E-08	8.24E-09	1.74E-07
1501	561164.6	4192166	3.83E-08	4.81E-08	3.78E-08	3.79E-08	3.78E-08	2.80E-08	1.70E-08	2.45E-07	2.74E-08	3.75E-08	2.93E-08	2.94E-08	2.93E-08	1.95E-08	8.55E-09	1.81E-07
1502	561136	4192159	4.15E-08	5.22E-08	4.10E-08	4.11E-08	4.10E-08	3.04E-08	1.84E-08	2.66E-07	2.97E-08	4.07E-08	3.18E-08	3.19E-08	3.18E-08	2.12E-08	9.28E-09	1.96E-07
1503	561126.5	4192157	4.23E-08	5.32E-08	4.18E-08	4.19E-08	4.18E-08	3.10E-08	1.88E-08	2.71E-07	3.03E-08	4.15E-08	3.24E-08	3.25E-08	3.24E-08	2.16E-08	9.45E-09	2.00E-07
1504	561116.9	4192154	4.29E-08	5.40E-08	4.24E-08	4.25E-08	4.24E-08	3.14E-08	1.90E-08	2.75E-07	3.07E-08	4.21E-08	3.29E-08	3.29E-08	3.29E-08	2.19E-08	9.59E-09	2.03E-07
1505	561107.4	4192152	4.33E-08	5.45E-08	4.27E-08	4.29E-08	4.27E-08	3.17E-08	1.92E-08	2.77E-07	3.10E-08	4.24E-08	3.31E-08	3.32E-08	3.31E-08	2.21E-08	9.68E-09	2.05E-07
1506	561097.9	4192150	4.34E-08	5.46E-08	4.29E-08	4.30E-08	4.29E-08	3.18E-08	1.93E-08	2.78E-07	3.11E-08	4.26E-08	3.32E-08	3.33E-08	3.32E-08	2.22E-08	9.70E-09	2.05E-07
1507	561088.3	4192147	4.33E-08	5.44E-08	4.27E-08	4.28E-08	4.27E-08	3.17E-08	1.92E-08	2.77E-07	3.09E-08	4.24E-08	3.31E-08	3.32E-08	3.31E-08	2.21E-08	9.66E-09	2.04E-07
1508	561078.8	4192145	4.28E-08	5.38E-08	4.22E-08	4.23E-08	4.22E-08	3.13E-08	1.90E-08	2.74E-07	3.06E-08	4.19E-08	3.27E-08	3.28E-08	3.27E-08	2.18E-08	9.56E-09	2.02E-07
1509	561069.3	4192143	4.20E-08	5.28E-08	4.15E-08	4.16E-08	4.15E-08	3.07E-08	1.86E-08	2.69E-07	3.00E-08	4.12E-08	3.21E-08	3.22E-08	3.21E-08	2.14E-08	9.38E-09	1.99E-07
1510	561278.2	4192201	1.84E-08	2.32E-08	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.18E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.42E-08	1.41E-08	9.41E-09	4.12E-09	8.72E-08
1511	561292.2	4192211	1.73E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.69E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.84E-09	3.87E-09	8.19E-08
1512	561300.4	4192225	1.74E-08	2.19E-08	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.72E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.87E-09	3.89E-09	8.22E-08
1513	561302.8	4192242	1.84E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.35E-08	8.17E-09	1.18E-07	1.32E-08	1.80E-08	1.41E-08	1.41E-08	1.41E-08	9.40E-09	4.11E-09	8.71E-08
1514	561305.2	4192260	1.92E-08	2.41E-08	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.50E-09	1.23E-07	1.37E-08	1.88E-08	1.47E-08	1.47E-08	1.47E-08	9.78E-09	4.28E-09	9.06E-08
1515	561233.7	4192173	2.37E-08	2.98E-08	2.34E-08	2.35E-08	2.34E-08	1.74E-08	1.05E-08	1.52E-07	1.70E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.21E-08	5.30E-09	1.12E-07
1516	561224.2	4192170	2.54E-08	3.20E-08	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	1.63E-07	1.82E-08	2.49E-08	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.68E-09	1.20E-07
1517	561214.6	4192168	2.72E-08	3.42E-08	2.68E-08	2.69E-08	2.68E-08	1.99E-08	1.21E-08	1.74E-07	1.94E-08	2.66E-08	2.08E-08	2.08E-08	2.08E-08	1.39E-08	6.07E-09	1.28E-07
1518	561205.1	4192166	2.88E-08	3.63E-08	2.85E-08	2.85E-08	2.85E-08	2.11E-08	1.28E-08	1.85E-07	2.06E-08	2.83E-08	2.21E-08	2.21E-08	2.21E-08	1.47E-08	6.44E-09	1.36E-07
1519	561195.6	4192163	3.05E-08	3.83E-08	3.01E-08	3.01E-08	3.01E-08	2.23E-08	1.35E-08	1.95E-07	2.18E-08	2.98E-08	2.33E-08	2.34E-08	2.33E-08	1.55E-08	6.80E-09	1.44E-07
1520	561186	4192161	3.20E-08	4.02E-08	3.15E-08	3.16E-08	3.15E-08	2.34E-08	1.42E-08	2.04E-07	2.29E-08	3.13E-08	2.45E-08	2.45E-08	2.45E-08	1.63E-08	7.14E-09	1.51E-07
1521	561176.5	4192159	3.33E-08	4.19E-08	3.29E-08	3.30E-08	3.29E-08	2.44E-08	1.48E-08	2.13E-07	2.38E-08	3.27E-08	2.55E-08	2.56E-08	2.55E-08	1.70E-08	7.45E-09	1.58E-07
1522	561167	4192156	3.46E-08	4.35E-08	3.42E-08	3.43E-08	3.42E-08	2.53E-08	1.54E-08	2.21E-07	2.48E-08	3.39E-08	2.65E-08	2.66E-08	2.65E-08	1.77E-08	7.73E-09	1.64E-07
1523	561138.4	4192149	3.77E-08	4.74E-08	3.72E-08	3.73E-08	3.72E-08	2.76E-08	1.67E-08	2.41E-07	2.70E-08	3.69E-08	2.89E-08	2.89E-08	2.89E-08	1.92E-08	8.42E-09	1.78E-07
1524	561128.9	4192147	3.85E-08	4.84E-08	3.80E-08	3.81E-08	3.80E-08	2.81E-08	1.71E-08	2.46E-07	2.75E-08	3.77E-08	2.94E-08	2.95E-08	2.94E-08	1.96E-08	8.59E-09	1.82E-07
1525	561119.3	4192145	3.90E-08	4.91E-08	3.85E-08	3.86E-08	3.85E-08	2.86E-08	1.73E-08	2.50E-07	2.79E-08	3.82E-08	2.99E-08	3.00E-08	2.99E-08	1.99E-08	8.72E-09	1.84E-07
1526	561109.8	4192142	3.94E-08	4.95E-08	3.89E-08	3.90E-08	3.89E-08	2.88E-08	1.75E-08	2.52E-07	2.82E-08	3.86E-08	3.02E-08	3.02E-08	3.02E-08	2.01E-08	8.80E-09	1.86E-07
1527	561100.3	4192140	3.95E-08	4.97E-08	3.90E-08	3.91E-08	3.90E-08	2.89E-08	1.75E-08	2.53E-07	2.83E-08	3.87E-08	3.03E-08	3.03E-08	3.03E-08	2.02E-08	8.83E-09	1.87E-07
1528	561090.7	4192138	3.94E-08	4.96E-08	3.89E-08	3.90E-08	3.89E-08	2.89E-08	1.75E-08	2.52E-07	2.82E-08	3.86E-08	3.02E-08	3.03E-08	3.02E-08	2.01E-08	8.81E-09	1.86E-07
1529	561081.2	4192135	3.91E-08	4.91E-08	3.86E-08	3.87E-08	3.86E-08	2.86E-08	1.73E-08	2.50E-07	2.79E-08	3.83E-08	2.99E-08	3.00E-08	2.99E-08	1.99E-08	8.73E-09	1.85E-07
1530	561071.7	4192133	3.85E-08	4.84E-08	3.80E-08	3.81E-08	3.80E-08	2.82E-08	1.71E-08	2.46E-07	2.75E-08	3.77E-08	2.95E-08	2.95E-08	2.95E-08	1.96E-08	8.60E-09	1.82E-07
1531	561276.7	4192188	1.75E-08	2.20E-08	1.73E-08	1.73E-08	1.73E-08	1.28E-08	7.76E-09	1.12E-07	1.25E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	8.93E-09	3.91E-09	8.27E-08
1532	561284.5	4192194	1.69E-08	2.12E-08	1.67E-08	1.67E-08	1.67E-08	1.24E-08	7.49E-09	1.08E-07	1.21E-08	1.65E-08	1.29E-08	1.30E-08	1.29E-08	8.61E-09	3.77E-09	7.98E-08
1533	561292.3	4192200	1.63E-08	2.05E-08	1.61E-08	1.62E-08	1.61E-08	1.20E-08	7.25E-09	1.04E-07	1.17E-08	1.60E-08	1.25E-08	1.25E-08	1.25E-08	8.33E-09	3.65E-09	7.72E-08
1534	561300	4192206	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.03E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	7.49E-08
1535	561309.1	4192221	1.60E-08	2.01E-08	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.08E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.14E-09	3.56E-09	7.54E-08
1536	561310.5	4192231	1.65E-08	2.07E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.32E-09	1.05E-07	1.18E-08	1.62E-08	1.26E-08	1.27E-08	1.26E-08	8.41E-09	3.68E-09	7.79E-08
1537	561311.8	4192240	1.70E-08	2.13E-08	1.67E-08	1.68E-08	1.67E-08	1.24E-08	7.53E-09	1.09E-07	1.21E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	8.66E-09	3.79E-09	8.02E-08
1538	561313.1	4192250	1.74E-08	2.19E-08	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.71E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.87E-09	3.88E-09	8.21E-08
1539	561314.4	4192259	1.77E-08	2.23E-08	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.85E-09	1.13E-07	1.27E-08	1.73E-08	1.35E-08	1.36E-08	1.35E-08	9.03E-09	3.95E-09	8.36E-08
1540	561315.8	4192269	1.79E-08	2.25E-08	1.77E-08	1.77E-08	1.77E-08	1.31E-08	7.95E-09	1.15E-07	1.28E-08	1.76E-08	1.37E-08	1.38E-08	1.37E-08	9.14E-09	4.00E-09	8.47E-08
1541	561245.6	4192165	2.04E-08	2.56E-08	2.01E-08	2.02E-08	2.01E-08	1.49E-08	9.03E-09	1.30E-07	1.46E-08	2.00E-08	1.56E-08	1.56E-08	1.56E-08	1.04E-08	4.55E-09	9.62E-08
1542	561236.1	4192163	2.18E-08	2.74E-08	2.15E-08	2.16E-08	2.15E-08	1.60E-08	9.68E-09	1.40E-07	1.56E-08	2.14E-08	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.88E-09	1.03E-07
1543	561226.6	4192161	2.33E-08	2.93E-08	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.03E-08	1.49E-07	1.67E-08	2.29E-08	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.21E-09	1.10E-07

1544	561217	4192158	2.48E-08	3.12E-08	2.45E-08	2.46E-08	2.45E-08	1.82E-08	1.10E-08	1.59E-07	1.78E-08	2.43E-08	1.90E-08	1.91E-08	1.90E-08	1.27E-08	5.55E-09	1.17E-07
1545	561207.5	4192156	2.63E-08	3.31E-08	2.60E-08	2.60E-08	2.60E-08	1.93E-08	1.17E-08	1.68E-07	1.88E-08	2.58E-08	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.88E-09	1.24E-07
1546	561198	4192154	2.77E-08	3.49E-08	2.74E-08	2.74E-08	2.74E-08	2.03E-08	1.23E-08	1.77E-07	1.98E-08	2.72E-08	2.12E-08	2.13E-08	2.12E-08	1.42E-08	6.20E-09	1.31E-07
1547	561188.4	4192151	2.91E-08	3.66E-08	2.87E-08	2.88E-08	2.87E-08	2.13E-08	1.29E-08	1.86E-07	2.08E-08	2.85E-08	2.23E-08	2.23E-08	2.23E-08	1.48E-08	6.50E-09	1.37E-07
1548	561178.9	4192149	3.04E-08	3.82E-08	3.00E-08	3.00E-08	3.00E-08	2.22E-08	1.35E-08	1.94E-07	2.17E-08	2.97E-08	2.32E-08	2.33E-08	2.32E-08	1.55E-08	6.78E-09	1.43E-07
1549	561169.4	4192147	3.15E-08	3.97E-08	3.11E-08	3.12E-08	3.11E-08	2.31E-08	1.40E-08	2.02E-07	2.26E-08	3.09E-08	2.41E-08	2.42E-08	2.41E-08	1.61E-08	7.04E-09	1.49E-07
1550	561150.3	4192142	3.36E-08	4.22E-08	3.31E-08	3.32E-08	3.31E-08	2.46E-08	1.49E-08	2.15E-07	2.40E-08	3.29E-08	2.57E-08	2.58E-08	2.57E-08	1.71E-08	7.50E-09	1.59E-07
1551	561140.8	4192140	3.44E-08	4.33E-08	3.40E-08	3.41E-08	3.40E-08	2.52E-08	1.53E-08	2.20E-07	2.46E-08	3.37E-08	2.64E-08	2.64E-08	2.64E-08	1.76E-08	7.69E-09	1.63E-07
1552	561131.2	4192137	3.51E-08	4.42E-08	3.47E-08	3.48E-08	3.47E-08	2.57E-08	1.56E-08	2.25E-07	2.51E-08	3.44E-08	2.69E-08	2.70E-08	2.69E-08	1.79E-08	7.85E-09	1.66E-07
1553	561121.7	4192135	3.57E-08	4.49E-08	3.52E-08	3.53E-08	3.52E-08	2.61E-08	1.58E-08	2.28E-07	2.55E-08	3.50E-08	2.73E-08	2.74E-08	2.73E-08	1.82E-08	7.97E-09	1.69E-07
1554	561112.2	4192133	3.60E-08	4.53E-08	3.56E-08	3.57E-08	3.56E-08	2.64E-08	1.60E-08	2.31E-07	2.58E-08	3.53E-08	2.76E-08	2.77E-08	2.76E-08	1.84E-08	8.05E-09	1.70E-07
1555	561102.6	4192130	3.62E-08	4.55E-08	3.57E-08	3.58E-08	3.57E-08	2.65E-08	1.61E-08	2.32E-07	2.59E-08	3.55E-08	2.77E-08	2.78E-08	2.77E-08	1.85E-08	8.09E-09	1.71E-07
1556	561093.1	4192128	3.62E-08	4.55E-08	3.57E-08	3.58E-08	3.57E-08	2.65E-08	1.60E-08	2.31E-07	2.59E-08	3.54E-08	2.77E-08	2.77E-08	2.77E-08	1.84E-08	8.08E-09	1.71E-07
1557	561083.6	4192126	3.59E-08	4.51E-08	3.54E-08	3.55E-08	3.54E-08	2.63E-08	1.59E-08	2.30E-07	2.57E-08	3.52E-08	2.75E-08	2.75E-08	2.75E-08	1.83E-08	8.02E-09	1.70E-07
1558	561074.1	4192123	3.54E-08	4.46E-08	3.50E-08	3.51E-08	3.50E-08	2.59E-08	1.57E-08	2.27E-07	2.53E-08	3.47E-08	2.71E-08	2.72E-08	2.71E-08	1.81E-08	7.92E-09	1.68E-07
1559	561278.4	4192178	1.64E-08	2.06E-08	1.62E-08	1.62E-08	1.62E-08	1.20E-08	7.27E-09	1.05E-07	1.17E-08	1.61E-08	1.25E-08	1.26E-08	1.25E-08	8.36E-09	3.66E-09	7.75E-08
1560	561286	4192184	1.58E-08	1.99E-08	1.56E-08	1.57E-08	1.56E-08	1.16E-08	7.03E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.22E-08	1.21E-08	8.08E-09	3.54E-09	7.49E-08
1561	561293.6	4192189	1.53E-08	1.93E-08	1.51E-08	1.52E-08	1.51E-08	1.12E-08	6.81E-09	9.82E-08	1.10E-08	1.50E-08	1.17E-08	1.18E-08	1.17E-08	7.83E-09	3.43E-09	7.25E-08
1562	561301.2	4192195	1.49E-08	1.87E-08	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.61E-09	9.54E-08	1.07E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.61E-09	3.33E-09	7.05E-08
1563	561308.8	4192201	1.45E-08	1.82E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	9.28E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	6.86E-08
1564	561317.7	4192216	1.46E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.37E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.47E-09	3.27E-09	6.92E-08
1565	561319	4192225	1.51E-08	1.90E-08	1.49E-08	1.50E-08	1.49E-08	1.11E-08	6.71E-09	9.67E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.72E-09	3.38E-09	7.15E-08
1566	561320.3	4192234	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.91E-09	9.96E-08	1.11E-08	1.53E-08	1.19E-08	1.19E-08	1.19E-08	7.94E-09	3.48E-09	7.36E-08
1567	561321.6	4192244	1.60E-08	2.01E-08	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.08E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.14E-09	3.56E-09	7.54E-08
1568	561322.9	4192253	1.63E-08	2.05E-08	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.22E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.25E-08	1.24E-08	8.30E-09	3.63E-09	7.69E-08
1569	561324.2	4192263	1.65E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.32E-09	1.06E-07	1.18E-08	1.62E-08	1.26E-08	1.27E-08	1.26E-08	8.42E-09	3.69E-09	7.80E-08
1570	561325.5	4192272	1.67E-08	2.10E-08	1.65E-08	1.65E-08	1.65E-08	1.22E-08	7.40E-09	1.07E-07	1.19E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	8.51E-09	3.72E-09	7.88E-08
1571	561248	4192156	1.89E-08	2.38E-08	1.86E-08	1.87E-08	1.86E-08	1.38E-08	8.38E-09	1.21E-07	1.35E-08	1.85E-08	1.45E-08	1.45E-08	1.45E-08	9.64E-09	4.22E-09	8.93E-08
1572	561238.5	4192153	2.02E-08	2.54E-08	1.99E-08	2.00E-08	1.99E-08	1.48E-08	8.95E-09	1.29E-07	1.44E-08	1.98E-08	1.54E-08	1.55E-08	1.54E-08	1.03E-08	4.51E-09	9.54E-08
1573	561228.9	4192151	2.15E-08	2.70E-08	2.12E-08	2.13E-08	2.12E-08	1.57E-08	9.54E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.80E-09	1.02E-07
1574	561219.4	4192149	2.28E-08	2.87E-08	2.25E-08	2.26E-08	2.25E-08	1.67E-08	1.01E-08	1.46E-07	1.63E-08	2.24E-08	1.75E-08	1.75E-08	1.75E-08	1.16E-08	5.10E-09	1.08E-07
1575	561209.9	4192146	2.41E-08	3.04E-08	2.38E-08	2.39E-08	2.38E-08	1.77E-08	1.07E-08	1.54E-07	1.73E-08	2.37E-08	1.85E-08	1.85E-08	1.85E-08	1.23E-08	5.39E-09	1.14E-07
1576	561200.3	4192144	2.54E-08	3.20E-08	2.51E-08	2.52E-08	2.51E-08	1.86E-08	1.13E-08	1.63E-07	1.82E-08	2.49E-08	1.95E-08	1.95E-08	1.95E-08	1.30E-08	5.68E-09	1.20E-07
1577	561190.8	4192142	2.66E-08	3.35E-08	2.63E-08	2.64E-08	2.63E-08	1.95E-08	1.18E-08	1.70E-07	1.91E-08	2.61E-08	2.04E-08	2.04E-08	2.04E-08	1.36E-08	5.95E-09	1.26E-07
1578	561181.3	4192139	2.78E-08	3.50E-08	2.74E-08	2.75E-08	2.74E-08	2.04E-08	1.23E-08	1.78E-07	1.99E-08	2.72E-08	2.13E-08	2.13E-08	2.13E-08	1.42E-08	6.21E-09	1.31E-07
1579	561171.8	4192137	2.89E-08	3.63E-08	2.85E-08	2.86E-08	2.85E-08	2.11E-08	1.28E-08	1.85E-07	2.07E-08	2.83E-08	2.21E-08	2.22E-08	2.21E-08	1.47E-08	6.46E-09	1.37E-07
1580	561152.7	4192132	3.08E-08	3.87E-08	3.04E-08	3.05E-08	3.04E-08	2.25E-08	1.37E-08	1.97E-07	2.20E-08	3.02E-08	2.36E-08	2.36E-08	2.36E-08	1.57E-08	6.88E-09	1.46E-07
1581	561143.2	4192130	3.16E-08	3.97E-08	3.12E-08	3.13E-08	3.12E-08	2.31E-08	1.40E-08	2.02E-07	2.26E-08	3.10E-08	2.42E-08	2.43E-08	2.42E-08	1.61E-08	7.06E-09	1.49E-07
1582	561133.6	4192128	3.23E-08	4.06E-08	3.18E-08	3.19E-08	3.18E-08	2.36E-08	1.43E-08	2.06E-07	2.31E-08	3.16E-08	2.47E-08	2.48E-08	2.47E-08	1.65E-08	7.21E-09	1.53E-07
1583	561124.1	4192125	3.28E-08	4.12E-08	3.24E-08	3.24E-08	3.24E-08	2.40E-08	1.45E-08	2.10E-07	2.34E-08	3.21E-08	2.51E-08	2.52E-08	2.51E-08	1.67E-08	7.32E-09	1.55E-07
1584	561114.6	4192123	3.31E-08	4.17E-08	3.27E-08	3.28E-08	3.27E-08	2.43E-08	1.47E-08	2.12E-07	2.37E-08	3.25E-08	2.54E-08	2.54E-08	2.54E-08	1.69E-08	7.40E-09	1.57E-07
1585	561105	4192121	3.33E-08	4.19E-08	3.29E-08	3.30E-08	3.29E-08	2.44E-08	1.48E-08	2.13E-07	2.38E-08	3.26E-08	2.55E-08	2.56E-08	2.55E-08	1.70E-08	7.44E-09	1.57E-07
1586	561095.5	4192118	3.33E-08	4.19E-08	3.29E-08	3.30E-08	3.29E-08	2.44E-08	1.48E-08	2.13E-07	2.38E-08	3.26E-08	2.55E-08	2.56E-08	2.55E-08	1.70E-08	7.44E-09	1.57E-07
1587	561086	4192116	3.31E-08	4.17E-08	3.27E-08	3.28E-08	3.27E-08	2.42E-08	1.47E-08	2.12E-07	2.37E-08	3.25E-08	2.54E-08	2.54E-08	2.54E-08	1.69E-08	7.40E-09	1.57E-07
1588	561076.4	4192113	3.28E-08	4.12E-08	3.24E-08	3.24E-08	3.24E-08	2.40E-08	1.45E-08	2.10E-07	2.34E-08	3.21E-08	2.51E-08	2.52E-08	2.51E-08	1.67E-08	7.32E-09	1.55E-07
1589	561280.2	4192168	1.54E-08	1.94E-08	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.83E-09	9.84E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.85E-09	3.44E-09	7.27E-08
1590	561287.7	4192174	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.61E-09	9.52E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.60E-09	3.33E-09	7.04E-08
1591	561295.2	4192179	1.44E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.41E-09	9.24E-08	1.03E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	7.37E-09	3.23E-09	6.83E-08
1592	561302.6	4192185	1.40E-08	1.77E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.23E-09	8.98E-08	1.00E-08	1.38E-08	1.07E-08	1.08E-08	1.07E-08	7.16E-09	3.14E-09	6.64E-08
1593	561310.1	4192190	1.37E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.07E-09	8.75E-08	9.78E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	6.98E-09	3.06E-09	6.47E-08
1594	561317.5	4192196	1.34E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.78E-09	5.93E-09	8.55E-08	9.56E-09	1.31E-08	1.02E-08	1.03E-08	1.02E-08	6.82E-09	2.98E-09	6.32E-08
1595	561326.3	4192210	1.35E-08	1.70E-08	1.33E-08	1.34E-08	1.33E-08	9.88E-09	5.99E-09	8.64E-08	9.66E-09	1.32E-08	1.03E-08	1.04E-08	1.03E-08	6.89E-09	3.02E-09	6.38E-08
1596	561327.6	4192220	1.39E-08	1.75E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.18E-09	8.92E-08	9.97E-09	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.11E-09	3.11E-09	6.59E-08
1597	561328.8	4192229	1.43E-08	1.80E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.36E-09	9.18E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.20E-09	6.78E-08
1598	561330.1	4192238	1.47E-08	1.85E-08	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.53E-09	9.41E-08	1.05E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	7.50E-09	3.29E-09	6.95E-08
1599	561331.4	4192247	1.50E-08	1.89E-08	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.66E-09	9.60E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.66E-09	3.35E-09	7.10E-08
1600	561332.6	4192256	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.77E-09	9.76E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	7.21E-08
1601	561250.4	4192146	1.76E-08	2.21E-08	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.81E-09	1.13E-07	1.26E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	8.98E-09	3.93E-09	8.32E-08
1602	561240.9	4192144	1.87E-08	2.36E-08	1.85E-08	1.86E-08	1.85E-08	1.37E-08	8.32E-09	1.20E-07	1.34E-08	1.84E-08	1.43E-08	1.44E-08	1.43E-08	9.57E-09	4.19E-09	8.86E-08
1603	561231.3	4192141	1.99E-08	2.51E-08	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.84E-09	1.27E-07	1.42E-08	1.95E-08	1.52E-08	1.53E-08	1.52E-08	1.02E-08	4.45E-09	9.42E-08
1604	561221.8	4192139	2.11E-08	2.65E-08	2.08E-08	2.09E-08	2.08E-08	1.55E-08	9.37E-09	1.35E-07	1.51E-08	2.07E-08	1.62E-08	1.62E-08	1.62E-08	1.08E-08	4.72E-09	9.98E-08
1605	561212.3	4192137	2.23E-08	2.80E-08	2.20E-08	2.21E-08	2.20E-08	1.63E-08	9.89E-09	1.43E-07	1.59E-08	2.18E-08	1.71E-08	1.71E-08	1.71E-08	1.14E-08	4.98E-09	1.05E-07
1606	561202.7	4192134	2.34E-08	2.95E-08	2.31E-08	2.32E-08	2.31E-08	1.72E-08	1.04E-08	1.50E-07	1.68E-08	2.30E-08	1.79E-08	1.80E-08	1.79E-08	1.20E-08	5.24E-09	1.11E-07
1607	561193.2	4192132	2.46E-08	3.09E-08	2.42E-08	2.43E-08	2.42E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.88E-08	1.88E-08	1.25E-08	5.48E-09	1.16E-07
1608	561183.7	4192130	2.56E-08	3.22E-08	2.53E-08	2.54E-08	2.53E-08	1.87E-08	1.14E-08	1.64E-07	1.83E-08	2.51E-08	1.96E-08	1.97E-08	1.96E-08	1.31E-08	5.72E-09	1.21E-07
1609	561174.1	4192127	2.66E-08	3.35E-08	2.63E-08	2.63E-08	2.63E-08	1.95E-08	1.18E-08	1.70E-07	1.90E-08	2.61E-08	2.04E-08	2.04E-08	2.04E-08	1.36E-08	5.95E-09	1.26E-07
1610	561155.1	4192123	2.84E-08	3.57E-08	2.80E-08	2.81E-08	2.80E-08	2.08E-08	1.26E-08	1.82E-07	2.03E-08	2.78E-08	2.17E-08	2.18E-08	2.17E-08	1.45E-08	6.34E-09	1.34E-07
1611	561145.5	4192120	2.91E-08	3.66E-08	2.87E-08	2.88E-08	2.87E-08	2.13E-08	1.29E-08	1.86E-07	2.08E-08	2.85E-08	2.23E-08	2.24E-08	2.23E-08	1.49E-08	6.51E-09	1.38E-07
1612	561136	4192118	2.98E-08	3.74E-08	2.94E-08	2.94E-08	2.94E-08	2.18E-08	1.32E-08	1.90E-07	2.13E-08	2.92E-08	2.28E-08	2.28E-08	2.28E-08	1.52E-08	6.65E-09	1.41E-07
1613	561126.5	4192115	3.02E-08	3.80E-08	2.98E-08	2.99E-08	2.98E-08	2.21E-08	1.34E-08	1.93E-07	2.16E-08	2.96E-08	2.31E-08	2.32E-08	2.31E-08	1.54E-08	6.76E-09	1.43E-07
1614	561116.9	4192113	3.06E-08	3.85E-08	3.02E-08	3.03E-08	3.02E-08	2.24E-08	1.36E-08	1.96E-07	2.19E-08	3.00E-08	2.34E-08	2.35E-08	2.34E-08	1.56E-08	6.83E-09	1.45E-07
1615	561107.4	4192111	3.08E-08	3.87E-08	3.04E-08	3.05E-08	3.04E-08	2.25E-08	1.37E-08	1.97E-07	2.20E-08	3.02E-08	2.36E-08	2.36E-08	2.36E-08	1.57E-08	6.88E-09	1.45E-07
1616	561097.9	4192108	3.08E-08	3.88E-08	3.04E-08	3.05E-08	3.04E-08	2.26E-08	1.37E-08	1.97E-07	2.20E-08	3.02E-08	2.36E-08	2.36E-08	2.36E-08	1.57E-08	6.88E-09	1.46E-07
1617	561088.4	4192106	3.07E-08	3.86E-08	3.03E-08	3.04E-08	3.03E-08	2.25E-08	1.36E-08	1.96E-07	2.20E-08	3.01E-08	2.35E-08	2.36E-08	2.35E-08	1.57E-08	6.86E-09	1.45E-07
1618	561078.8	4192104	3.04E-08	3.83E-08	3.00E-08	3.01E-08	3.00E-08	2.23E-08	1.35E-08	1.95E-07	2.18E-08	2.98E-08	2.33E-08	2.34E-08	2.33E-08	1.55E-08	6.80E-09	1.44E-07
1619	561282.2	4192158	1.45E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.42E-09	9.26E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.39E-09	3.23E-09	6.84E-08
1620	561289.5	4192163	1.40E-08	1.76E-08	1.38E-08	1.39E-08	1.38E-08	1.03E-08	6.22E-09	8.97E-08	1.00E-08	1.37E-08	1.07E-08	1.08E-08	1.07E-08	7.16E-09	3.13E-09	6.63E-08
1621	561296.9	4192169	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.96E-09	6.04E-09	8.71E-08	9.73E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.95E-09	3.04E-09	6.43E-08
1622	561304.2	4192174	1.32E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	9.69E-09	5.87E-09	8.47E-08	9.47E-09	1.30E-08	1.01E-08	1.02E-08	1.01E-08	6.76E-09	2.96E-09	6.26E-08
1623	561311.6	4192180	1.29E-08	1.62E-08	1.27E-08	1.28E-08	1.27E-08	9.45E-09	5.73E-09	8.26E-08	9.23E-09	1.27E-08	9.88E-09	9.91E-09	9.88E-09	6.59E-09	2.88E-09	6.10E-08
1624	561318.9	4192185	1.26E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.24E-09	5.60E-09	8.07E-08	9.02E-09	1.24E-08	9.66E-09	9.68E-09	9.66E-09	6.44E-09	2.82E-09	5.96E-08
1625	561326.3	4192191	1.24E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.04E-09	5.48E-09	7.90E-08	8.84E-09	1.21E-08	9.46E-09	9.48E-09	9.46E-09	6.30E-09	2.76E-09	5.84E-08
1626	561334.9	4192205	1.25E-08	1.57E-08	1.23E-08	1.24E-08	1.23E-08	9.16E-09	5.55E-09	8.00E-08	8.95E-09	1.23E-08	9.57E-09	9.60E-09	9.57E-09	6.38E-09	2.79E-09	5.91E-08
1627	561336.1	4192214	1.29E-08	1.62E-08	1.27E-08	1.28E-08	1.27E-08	9.44E-09	5.72E-09	8.25E-08	9.23E-09	1.26E-08	9.87E-09	9.90E-09	9.87E-09	6.58E-09	2.88E-09	6.10E-08
1628	561337.4	4192223	1.33E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	9.72E-09	5.89E-09	8.49E-08	9.49E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.77E-09	2.97E-09	6.27E-08
1629	561338.6	4192232	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.97E-09	6.04E-09	8.71E-08	9.74E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.95E-09	3.04E-09	6.44E-08
1630	561344.9	4192278	1.46E-08	1.84E-08	1.44E-08	1.44E-08	1.44E-08	1.07E-08	6.48E-09	9.34E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.45E-09	3.26E-09	6.90E-08
1631	561233.7	4192132	1.85E-08	2.33E-08	1.83E-08	1.84E-08	1.83E-08	1.36E-08	8.23E-09	1.19E-07	1.33E-08	1.82E-08	1.42E-08	1.42E-08	1.42E-08	9.46E-09	4.14E-09	8.77E-08
1632	561224.2	4192129	1.96E-08	2.47E-08	1.94E-08	1.94E-08	1.94E-08	1.44E-08	8.70E-09	1.25E-07	1.40E-08	1.92E-08	1.50E-08	1.51E-08	1.50E-08	1.00E-08	4.38E-09	9.27E-08
1633	561214.6	4192127	2.07E-08	2.60E-08	2.04E-08	2.05E-08	2.04E-08	1.51E-08	9.17E-09	1.32E-07	1.48E-08	2.03E-08	1.58E-08	1.59E-08	1.58E-08	1.05E-08	4.62E-09	9.77E-08
1634	561205.1	4192125	2.17E-08	2.73E-08	2.14E-08	2.15E-08	2.14E-08	1.59E-08	9.64E-09	1.39E-07	1.55E-08	2.13E-08	1.66E-08	1.67E-08	1.66E-08	1.11E-08	4.85E-09	1.03E-07

1635	561195.6	4192122	2.27E-08	2.86E-08	2.24E-08	2.25E-08	2.24E-08	1.66E-08	1.01E-08	1.45E-07	1.63E-08	2.23E-08	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.08E-09	1.07E-07
1636	561186.1	4192120	2.37E-08	2.98E-08	2.34E-08	2.35E-08	2.34E-08	1.74E-08	1.05E-08	1.52E-07	1.70E-08	2.32E-08	1.81E-08	1.82E-08	1.81E-08	1.21E-08	5.30E-09	1.12E-07
1637	561176.5	4192117	2.46E-08	3.10E-08	2.43E-08	2.44E-08	2.43E-08	1.80E-08	1.09E-08	1.58E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.26E-08	5.50E-09	1.16E-07
1638	561157.5	4192113	2.63E-08	3.30E-08	2.59E-08	2.60E-08	2.59E-08	1.92E-08	1.17E-08	1.68E-07	1.88E-08	2.57E-08	2.01E-08	2.02E-08	2.01E-08	1.34E-08	5.87E-09	1.24E-07
1639	561147.9	4192110	2.70E-08	3.39E-08	2.66E-08	2.67E-08	2.66E-08	1.97E-08	1.20E-08	1.72E-07	1.93E-08	2.64E-08	2.06E-08	2.07E-08	2.06E-08	1.38E-08	6.02E-09	1.27E-07
1640	561138.4	4192108	2.75E-08	3.46E-08	2.72E-08	2.73E-08	2.72E-08	2.02E-08	1.22E-08	1.76E-07	1.97E-08	2.70E-08	2.11E-08	2.11E-08	2.11E-08	1.41E-08	6.15E-09	1.30E-07
1641	561128.9	4192106	2.80E-08	3.52E-08	2.76E-08	2.77E-08	2.76E-08	2.05E-08	1.24E-08	1.79E-07	2.00E-08	2.74E-08	2.14E-08	2.15E-08	2.14E-08	1.43E-08	6.26E-09	1.32E-07
1642	561119.3	4192103	2.83E-08	3.56E-08	2.80E-08	2.81E-08	2.80E-08	2.07E-08	1.26E-08	1.81E-07	2.03E-08	2.78E-08	2.17E-08	2.18E-08	2.17E-08	1.45E-08	6.33E-09	1.34E-07
1643	561109.8	4192101	2.85E-08	3.59E-08	2.82E-08	2.83E-08	2.82E-08	2.09E-08	1.27E-08	1.83E-07	2.04E-08	2.80E-08	2.18E-08	2.19E-08	2.18E-08	1.46E-08	6.38E-09	1.35E-07
1644	561100.3	4192099	2.86E-08	3.60E-08	2.82E-08	2.83E-08	2.82E-08	2.09E-08	1.27E-08	1.83E-07	2.05E-08	2.80E-08	2.19E-08	2.20E-08	2.19E-08	1.46E-08	6.39E-09	1.35E-07
1645	561090.7	4192096	2.85E-08	3.59E-08	2.82E-08	2.83E-08	2.82E-08	2.09E-08	1.27E-08	1.83E-07	2.04E-08	2.80E-08	2.18E-08	2.19E-08	2.18E-08	1.46E-08	6.38E-09	1.35E-07
1646	561081.2	4192094	2.84E-08	3.57E-08	2.80E-08	2.81E-08	2.80E-08	2.08E-08	1.26E-08	1.81E-07	2.03E-08	2.78E-08	2.17E-08	2.18E-08	2.17E-08	1.45E-08	6.33E-09	1.34E-07
1647	561291.4	4192153	1.32E-08	1.66E-08	1.31E-08	1.31E-08	1.31E-08	9.69E-09	5.87E-09	8.47E-08	9.47E-09	1.30E-08	1.01E-08	1.02E-08	1.01E-08	6.75E-09	2.96E-09	6.26E-08
1648	561305.9	4192164	1.25E-08	1.57E-08	1.23E-08	1.24E-08	1.23E-08	9.16E-09	5.55E-09	8.00E-08	8.95E-09	1.23E-08	9.57E-09	9.60E-09	9.57E-09	6.38E-09	2.79E-09	5.91E-08
1649	561320.5	4192175	1.19E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.73E-09	5.29E-09	7.63E-08	8.53E-09	1.17E-08	9.13E-09	9.16E-09	9.13E-09	6.09E-09	2.67E-09	5.64E-08
1650	561335	4192186	1.15E-08	1.44E-08	1.13E-08	1.14E-08	1.13E-08	8.40E-09	5.09E-09	7.34E-08	8.20E-09	1.12E-08	8.78E-09	8.80E-09	8.78E-09	5.85E-09	2.56E-09	5.42E-08
1651	561343.5	4192200	1.16E-08	1.46E-08	1.15E-08	1.15E-08	1.15E-08	8.51E-09	5.16E-09	7.44E-08	8.32E-09	1.14E-08	8.90E-09	8.92E-09	8.90E-09	5.93E-09	2.60E-09	5.50E-08
1652	561344.7	4192209	1.20E-08	1.51E-08	1.18E-08	1.19E-08	1.18E-08	8.77E-09	5.32E-09	7.67E-08	8.57E-09	1.17E-08	9.17E-09	9.20E-09	9.17E-09	6.12E-09	2.68E-09	5.67E-08
1653	561350.9	4192254	1.34E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.79E-09	5.94E-09	8.56E-08	9.57E-09	1.31E-08	1.02E-08	1.03E-08	1.02E-08	6.83E-09	2.99E-09	6.32E-08
1654	561352.1	4192263	1.35E-08	1.70E-08	1.34E-08	1.34E-08	1.34E-08	9.90E-09	6.00E-09	8.65E-08	9.68E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.90E-09	3.02E-09	6.40E-08
1655	561354.6	4192281	1.37E-08	1.73E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.09E-09	8.77E-08	9.81E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.00E-09	3.06E-09	6.48E-08
1656	561296.4	4192146	1.24E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	9.05E-09	5.49E-09	7.91E-08	8.85E-09	1.21E-08	9.47E-09	9.49E-09	9.47E-09	6.31E-09	2.76E-09	5.85E-08
1657	561304.2	4192151	1.20E-08	1.51E-08	1.18E-08	1.19E-08	1.18E-08	8.78E-09	5.32E-09	7.68E-08	8.58E-09	1.18E-08	9.18E-09	9.21E-09	9.18E-09	6.12E-09	2.68E-09	5.67E-08
1658	561312	4192157	1.17E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	8.54E-09	5.18E-09	7.46E-08	8.34E-09	1.14E-08	8.93E-09	8.95E-09	8.93E-09	5.95E-09	2.61E-09	5.52E-08
1659	561319.7	4192163	1.14E-08	1.43E-08	1.12E-08	1.13E-08	1.12E-08	8.33E-09	5.05E-09	7.28E-08	8.14E-09	1.11E-08	8.71E-09	8.73E-09	8.71E-09	5.81E-09	2.54E-09	5.38E-08
1660	561327.5	4192169	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.51E-09	8.54E-09	8.51E-09	5.68E-09	2.48E-09	5.26E-08
1661	561335.3	4192174	1.09E-08	1.37E-08	1.08E-08	1.08E-08	1.08E-08	7.98E-09	4.84E-09	6.97E-08	7.80E-09	1.07E-08	8.34E-09	8.36E-09	8.34E-09	5.56E-09	2.43E-09	5.15E-08
1662	561343	4192180	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.83E-09	4.75E-09	6.84E-08	7.65E-09	1.05E-08	8.19E-09	8.21E-09	8.19E-09	5.46E-09	2.39E-09	5.06E-08
1663	561357.4	4192234	1.22E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	8.91E-09	5.40E-09	7.78E-08	8.70E-09	1.19E-08	9.31E-09	9.34E-09	9.31E-09	6.21E-09	2.72E-09	5.75E-08
1664	561358.8	4192244	1.24E-08	1.56E-08	1.22E-08	1.23E-08	1.22E-08	9.08E-09	5.51E-09	7.94E-08	8.87E-09	1.22E-08	9.50E-09	9.52E-09	9.50E-09	6.33E-09	2.77E-09	5.87E-08
1665	561360.1	4192253	1.26E-08	1.58E-08	1.24E-08	1.25E-08	1.24E-08	9.22E-09	5.59E-09	8.06E-08	9.01E-09	1.23E-08	9.64E-09	9.67E-09	9.64E-09	6.43E-09	2.81E-09	5.96E-08
1666	561361.4	4192263	1.27E-08	1.60E-08	1.26E-08	1.26E-08	1.26E-08	9.33E-09	5.66E-09	8.15E-08	9.12E-09	1.25E-08	9.76E-09	9.78E-09	9.76E-09	6.50E-09	2.85E-09	6.03E-08
1667	561362.8	4192272	1.29E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	9.41E-09	5.70E-09	8.22E-08	9.19E-09	1.26E-08	9.84E-09	9.86E-09	9.84E-09	6.56E-09	2.87E-09	6.08E-08
1668	561364.1	4192282	1.29E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	9.46E-09	5.73E-09	8.27E-08	9.24E-09	1.27E-08	9.89E-09	9.92E-09	9.89E-09	6.59E-09	2.89E-09	6.11E-08
1669	561257.5	4192117	1.45E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.45E-09	9.30E-08	1.04E-08	1.42E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	6.87E-08
1670	561248	4192114	1.54E-08	1.94E-08	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.83E-09	9.84E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.85E-09	3.44E-09	7.27E-08
1671	561238.5	4192112	1.63E-08	2.04E-08	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.21E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.25E-08	1.24E-08	8.30E-09	3.63E-09	7.69E-08
1672	561229	4192110	1.71E-08	2.16E-08	1.69E-08	1.70E-08	1.69E-08	1.25E-08	7.60E-09	1.10E-07	1.23E-08	1.68E-08	1.31E-08	1.32E-08	1.31E-08	8.74E-09	3.83E-09	8.10E-08
1673	561219.4	4192107	1.80E-08	2.27E-08	1.78E-08	1.78E-08	1.78E-08	1.32E-08	7.99E-09	1.15E-07	1.29E-08	1.77E-08	1.38E-08	1.38E-08	1.38E-08	9.19E-09	4.02E-09	8.52E-08
1674	561209.9	4192105	1.89E-08	2.37E-08	1.86E-08	1.87E-08	1.86E-08	1.38E-08	8.38E-09	1.21E-07	1.35E-08	1.85E-08	1.45E-08	1.45E-08	1.45E-08	9.64E-09	4.22E-09	8.93E-08
1675	561200.4	4192103	1.97E-08	2.48E-08	1.95E-08	1.95E-08	1.95E-08	1.44E-08	8.75E-09	1.26E-07	1.41E-08	1.93E-08	1.51E-08	1.51E-08	1.51E-08	1.01E-08	4.41E-09	9.33E-08
1676	561190.8	4192100	2.06E-08	2.58E-08	2.03E-08	2.03E-08	2.03E-08	1.50E-08	9.12E-09	1.31E-07	1.47E-08	2.01E-08	1.57E-08	1.58E-08	1.57E-08	1.05E-08	4.59E-09	9.71E-08
1677	561181.3	4192098	2.13E-08	2.68E-08	2.11E-08	2.11E-08	2.11E-08	1.56E-08	9.46E-09	1.36E-07	1.53E-08	2.09E-08	1.63E-08	1.64E-08	1.63E-08	1.09E-08	4.76E-09	1.01E-07
1678	561162.2	4192093	2.27E-08	2.86E-08	2.24E-08	2.25E-08	2.24E-08	1.66E-08	1.01E-08	1.45E-07	1.63E-08	2.23E-08	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.08E-09	1.07E-07
1679	561152.7	4192091	2.33E-08	2.93E-08	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.03E-08	1.49E-07	1.67E-08	2.29E-08	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.21E-09	1.10E-07
1680	561143.2	4192089	2.38E-08	3.00E-08	2.35E-08	2.36E-08	2.35E-08	1.74E-08	1.06E-08	1.52E-07	1.70E-08	2.34E-08	1.82E-08	1.83E-08	1.82E-08	1.22E-08	5.33E-09	1.13E-07
1681	561133.6	4192086	2.43E-08	3.05E-08	2.39E-08	2.40E-08	2.39E-08	1.78E-08	1.08E-08	1.55E-07	1.73E-08	2.38E-08	1.86E-08	1.86E-08	1.86E-08	1.24E-08	5.42E-09	1.15E-07
1682	561124.1	4192084	2.46E-08	3.09E-08	2.43E-08	2.43E-08	2.43E-08	1.80E-08	1.09E-08	1.57E-07	1.76E-08	2.41E-08	1.88E-08	1.89E-08	1.88E-08	1.25E-08	5.49E-09	1.16E-07
1683	561114.6	4192082	2.48E-08	3.12E-08	2.45E-08	2.45E-08	2.45E-08	1.81E-08	1.10E-08	1.59E-07	1.77E-08	2.43E-08	1.90E-08	1.90E-08	1.90E-08	1.27E-08	5.54E-09	1.17E-07
1684	561105	4192079	2.49E-08	3.13E-08	2.46E-08	2.46E-08	2.46E-08	1.82E-08	1.10E-08	1.59E-07	1.78E-08	2.44E-08	1.91E-08	1.91E-08	1.91E-08	1.27E-08	5.56E-09	1.18E-07
1685	561095.5	4192077	2.49E-08	3.13E-08	2.46E-08	2.46E-08	2.46E-08	1.82E-08	1.11E-08	1.59E-07	1.78E-08	2.44E-08	1.91E-08	1.91E-08	1.91E-08	1.27E-08	5.56E-09	1.18E-07
1686	561086	4192075	2.48E-08	3.12E-08	2.45E-08	2.46E-08	2.45E-08	1.82E-08	1.10E-08	1.59E-07	1.77E-08	2.43E-08	1.90E-08	1.90E-08	1.90E-08	1.27E-08	5.54E-09	1.17E-07
1687	561321.2	4192152	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.91E-09	4.79E-09	6.91E-08	7.73E-09	1.06E-08	8.27E-09	8.29E-09	8.27E-09	5.51E-09	2.41E-09	5.11E-08
1688	561328.8	4192158	1.06E-08	1.33E-08	1.04E-08	1.05E-08	1.04E-08	7.73E-09	4.69E-09	6.76E-08	7.55E-09	1.03E-08	8.08E-09	8.10E-09	8.08E-09	5.39E-09	2.36E-09	4.99E-08
1689	561336.5	4192164	1.03E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.57E-09	4.59E-09	6.62E-08	7.40E-09	1.01E-08	7.92E-09	7.94E-09	7.92E-09	5.28E-09	2.31E-09	4.89E-08
1690	561344.1	4192170	1.02E-08	1.28E-08	1.00E-08	1.01E-08	1.00E-08	7.44E-09	4.51E-09	6.50E-08	7.27E-09	9.96E-09	7.78E-09	7.80E-09	7.78E-09	5.19E-09	2.27E-09	4.80E-08
1691	561351.8	4192175	1.00E-08	1.26E-08	9.87E-09	9.89E-09	9.87E-09	7.32E-09	4.44E-09	6.40E-08	7.15E-09	9.80E-09	7.65E-09	7.67E-09	7.65E-09	5.10E-09	2.23E-09	4.73E-08
1692	561363.3	4192209	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.91E-09	4.80E-09	6.92E-08	7.73E-09	1.06E-08	8.27E-09	8.30E-09	8.27E-09	5.52E-09	2.42E-09	5.11E-08
1693	561364.6	4192219	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.13E-09	4.93E-09	7.11E-08	7.94E-09	1.09E-08	8.50E-09	8.52E-09	8.50E-09	5.67E-09	2.48E-09	5.25E-08
1694	561365.9	4192228	1.14E-08	1.43E-08	1.12E-08	1.13E-08	1.12E-08	8.33E-09	5.05E-09	7.28E-08	8.14E-09	1.11E-08	8.71E-09	8.73E-09	8.71E-09	5.81E-09	2.54E-09	5.38E-08
1695	561367.3	4192238	1.16E-08	1.46E-08	1.15E-08	1.15E-08	1.15E-08	8.50E-09	5.15E-09	7.43E-08	8.30E-09	1.14E-08	8.89E-09	8.91E-09	8.89E-09	5.93E-09	2.59E-09	5.49E-08
1696	561368.6	4192247	1.18E-08	1.48E-08	1.17E-08	1.17E-08	1.17E-08	8.64E-09	5.24E-09	7.55E-08	8.44E-09	1.16E-08	9.04E-09	9.06E-09	9.04E-09	6.02E-09	2.64E-09	5.58E-08
1697	561369.9	4192256	1.20E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.76E-09	5.31E-09	7.65E-08	8.56E-09	1.17E-08	9.16E-09	9.18E-09	9.16E-09	6.10E-09	2.67E-09	5.65E-08
1698	561371.2	4192266	1.21E-08	1.52E-08	1.19E-08	1.20E-08	1.19E-08	8.84E-09	5.36E-09	7.73E-08	8.64E-09	1.18E-08	9.24E-09	9.27E-09	9.24E-09	6.16E-09	2.70E-09	5.71E-08
1699	561372.5	4192275	1.22E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	8.90E-09	5.40E-09	7.78E-08	8.70E-09	1.19E-08	9.31E-09	9.33E-09	9.31E-09	6.21E-09	2.72E-09	5.75E-08
1700	561373.8	4192285	1.22E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.94E-09	5.42E-09	7.81E-08	8.73E-09	1.20E-08	9.35E-09	9.37E-09	9.35E-09	6.23E-09	2.73E-09	5.77E-08
1701	561259.9	4192107	1.37E-08	1.73E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.09E-09	8.78E-08	9.82E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.00E-09	3.07E-09	6.49E-08
1702	561250.4	4192105	1.45E-08	1.82E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	9.28E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	6.86E-08
1703	561240.9	4192102	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.79E-09	9.79E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.81E-09	3.42E-09	7.23E-08
1704	561231.3	4192100	1.61E-08	2.03E-08	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.14E-09	1.03E-07	1.15E-08	1.58E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	7.61E-08
1705	561221.8	4192098	1.69E-08	2.13E-08	1.67E-08	1.67E-08	1.67E-08	1.24E-08	7.50E-09	1.08E-07	1.21E-08	1.66E-08	1.29E-08	1.30E-08	1.29E-08	8.63E-09	3.78E-09	7.99E-08
1706	561212.3	4192095	1.77E-08	2.23E-08	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.85E-09	1.13E-07	1.27E-08	1.73E-08	1.35E-08	1.36E-08	1.35E-08	9.03E-09	3.95E-09	8.37E-08
1707	561202.7	4192093	1.85E-08	2.32E-08	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.20E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.42E-08	1.41E-08	9.43E-09	4.13E-09	8.73E-08
1708	561193.2	4192091	1.92E-08	2.42E-08	1.90E-08	1.90E-08	1.90E-08	1.41E-08	8.53E-09	1.23E-07	1.38E-08	1.88E-08	1.47E-08	1.48E-08	1.47E-08	9.81E-09	4.30E-09	9.09E-08
1709	561183.7	4192088	2.00E-08	2.51E-08	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.85E-09	1.28E-07	1.43E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	9.43E-08
1710	561164.6	4192084	2.12E-08	2.67E-08	2.10E-08	2.10E-08	2.10E-08	1.55E-08	9.43E-09	1.36E-07	1.52E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.08E-08	4.75E-09	1.00E-07
1711	561155.1	4192081	2.18E-08	2.74E-08	2.15E-08	2.16E-08	2.15E-08	1.60E-08	9.67E-09	1.39E-07	1.56E-08	2.14E-08	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.87E-09	1.03E-07
1712	561145.6	4192079	2.23E-08	2.80E-08	2.20E-08	2.20E-08	2.20E-08	1.63E-08	9.88E-09	1.43E-07	1.59E-08	2.18E-08	1.70E-08	1.71E-08	1.70E-08	1.14E-08	4.98E-09	1.05E-07
1713	561136	4192077	2.27E-08	2.85E-08	2.24E-08	2.24E-08	2.24E-08	1.66E-08	1.01E-08	1.45E-07	1.62E-08	2.22E-08	1.74E-08	1.74E-08	1.74E-08	1.16E-08	5.07E-09	1.07E-07
1714	561126.5	4192074	2.30E-08	2.89E-08	2.27E-08	2.27E-08	2.27E-08	1.68E-08	1.02E-08	1.47E-07	1.64E-08	2.25E-08	1.76E-08	1.76E-08	1.76E-08	1.17E-08	5.13E-09	1.09E-07
1715	561117	4192072	2.32E-08	2.92E-08	2.29E-08	2.30E-08	2.29E-08	1.70E-08	1.03E-08	1.48E-07	1.66E-08	2.27E-08	1.78E-08	1.78E-08	1.78E-08	1.18E-08	5.18E-09	1.10E-07
1716	561107.4	4192070	2.33E-08	2.93E-08	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.03E-08	1.49E-07	1.67E-08	2.29E-08	1.78E-08	1.79E-08	1.78E-08	1.19E-08	5.21E-09	1.10E-07
1717	561097.9	4192067	2.34E-08	2.94E-08	2.31E-08	2.31E-08	2.31E-08	1.71E-08	1.04E-08	1.49E-07	1.67E-08	2.29E-08	1.79E-08	1.79E-08	1.79E-08	1.19E-08	5.22E-09	1.10E-07
1718	561088.4	4192065	2.33E-08	2.93E-08	2.30E-08	2.31E-08	2.30E-08	1.71E-08	1.03E-08	1.49E-07	1.67E-08	2.28E-08	1.78E-08	1.79E-08	1.78E-08	1.19E-08	5.21E-09	1.10E-07
1719	561292.5	4192120	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.42E-09	5.10E-09	7.36E-08	8.23E-09	1.13E-08	8.80E-09	8.83E-09	8.80E-09	5.87E-09	2.57E-09	5.44E-08
1720	561300.1	4192125	1.12E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.17E-09	4.95E-09	7.14E-08	7.98E-09	1.09E-08	8.54E-09	8.56E-09	8.54E-09	5.69E-09	2.49E-09	5.27E-08
1721	561307.6	4192131	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.93E-09	4.81E-09	6.93E-08	7.75E-09	1.06E-08	8.29E-09	8.31E-09	8.29E-09	5.53E-09	2.42E-09	5.12E-08
1722	561345.4	4192159	9.66E-09	1.21E-08	9.53E-09	9.56E-09	9.53E-09	7.07E-09	4.29E-09	6.18E-08	6.91E-09	9.47E-09	7.39E-09	7.41E-09	7.39E-09	4.93E-09	2.16E-09	4.57E-08
1723	561352.9	4192165	9.51E-09	1.20E-08	9.38E-09	9.41E-09	9.38E-09	6.96E-09	4.22E-09	6.08E-08	6.80E-09	9.31E-09	7.27E-09	7.30E-09	7.27E-09	4.85E-09	2.12E-09	4.49E-08
1724	561369.3	4192185	9.54E-09	1.20E-08	9.41E-09	9.44E-09	9.41E-09	6.98E-09	4.23E-09	6.10E-08	6.82E-09	9.35E-09	7.30E-09	7.32E-09	7.30E-09	4.87E-09	2.13E-09	4.51E-08
1725	561370.6	4192194	9.84E-09	1.24E-08	9.71E-09	9.74E-09	9.71E-09	7.20E-09	4.37E-09	6.29E-08	7.04E-09	9.64E-09	7.53E-09	7.55E-09	7.53E-09	5.02E-09	2.20E-09	4.65E-08

1726	561371.9	4192204	1.01E-08	1.27E-08	1.00E-08	1.00E-08	1.00E-08	7.41E-09	4.49E-09	6.48E-08	7.25E-09	9.93E-09	7.75E-09	7.77E-09	7.75E-09	5.17E-09	2.26E-09	4.79E-08
1727	561373.2	4192213	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.62E-09	4.62E-09	6.66E-08	7.44E-09	1.02E-08	7.97E-09	7.99E-09	7.97E-09	5.31E-09	2.33E-09	4.92E-08
1728	561374.5	4192222	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.81E-09	4.73E-09	6.82E-08	7.63E-09	1.05E-08	8.16E-09	8.19E-09	8.16E-09	5.44E-09	2.38E-09	5.04E-08
1729	561375.8	4192232	1.09E-08	1.37E-08	1.08E-08	1.08E-08	1.08E-08	7.97E-09	4.83E-09	6.97E-08	7.79E-09	1.07E-08	8.34E-09	8.36E-09	8.34E-09	5.56E-09	2.43E-09	5.15E-08
1730	561377	4192241	1.11E-08	1.39E-08	1.09E-08	1.10E-08	1.09E-08	8.12E-09	4.92E-09	7.09E-08	7.93E-09	1.09E-08	8.49E-09	8.51E-09	8.49E-09	5.66E-09	2.48E-09	5.24E-08
1731	561378.3	4192250	1.13E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.23E-09	4.99E-09	7.20E-08	8.05E-09	1.10E-08	8.61E-09	8.63E-09	8.61E-09	5.74E-09	2.51E-09	5.32E-08
1732	561379.6	4192260	1.14E-08	1.43E-08	1.12E-08	1.13E-08	1.12E-08	8.33E-09	5.05E-09	7.28E-08	8.13E-09	1.11E-08	8.70E-09	8.73E-09	8.70E-09	5.80E-09	2.54E-09	5.38E-08
1733	561380.9	4192269	1.15E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.39E-09	5.09E-09	7.33E-08	8.20E-09	1.12E-08	8.78E-09	8.80E-09	8.78E-09	5.85E-09	2.56E-09	5.42E-08
1734	561382.2	4192278	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.12E-09	7.38E-08	8.25E-09	1.13E-08	8.82E-09	8.85E-09	8.82E-09	5.88E-09	2.58E-09	5.45E-08
1735	561383.5	4192288	1.16E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.47E-09	5.13E-09	7.40E-08	8.27E-09	1.13E-08	8.85E-09	8.88E-09	8.85E-09	5.90E-09	2.58E-09	5.47E-08
1736	561262.3	4192097	1.30E-08	1.63E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.76E-09	8.31E-08	9.29E-09	1.27E-08	9.94E-09	9.97E-09	9.94E-09	6.63E-09	2.90E-09	6.14E-08
1737	561252.8	4192095	1.37E-08	1.72E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.08E-09	8.77E-08	9.80E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	6.99E-09	3.06E-09	6.48E-08
1738	561243.3	4192093	1.44E-08	1.82E-08	1.42E-08	1.43E-08	1.42E-08	1.06E-08	6.41E-09	9.24E-08	1.03E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	7.37E-09	3.23E-09	6.82E-08
1739	561233.7	4192090	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	9.71E-08	1.09E-08	1.49E-08	1.16E-08	1.16E-08	1.16E-08	7.74E-09	3.39E-09	7.17E-08
1740	561224.2	4192088	1.59E-08	2.00E-08	1.57E-08	1.58E-08	1.57E-08	1.16E-08	7.06E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.12E-09	3.56E-09	7.52E-08
1741	561214.7	4192086	1.66E-08	2.09E-08	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.39E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.28E-08	1.27E-08	8.49E-09	3.72E-09	7.87E-08
1742	561205.1	4192083	1.74E-08	2.18E-08	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.70E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.86E-09	3.88E-09	8.21E-08
1743	561195.6	4192081	1.81E-08	2.27E-08	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.01E-09	1.15E-07	1.29E-08	1.77E-08	1.38E-08	1.39E-08	1.38E-08	9.21E-09	4.03E-09	8.53E-08
1744	561186.1	4192079	1.87E-08	2.35E-08	1.85E-08	1.85E-08	1.85E-08	1.37E-08	8.30E-09	1.20E-07	1.34E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	9.55E-09	4.18E-09	8.85E-08
1745	561167	4192074	1.99E-08	2.50E-08	1.97E-08	1.97E-08	1.97E-08	1.46E-08	8.83E-09	1.27E-07	1.42E-08	1.95E-08	1.52E-08	1.53E-08	1.52E-08	1.02E-08	4.45E-09	9.41E-08
1746	561157.5	4192072	2.04E-08	2.57E-08	2.02E-08	2.02E-08	2.02E-08	1.50E-08	9.06E-09	1.31E-07	1.46E-08	2.00E-08	1.56E-08	1.57E-08	1.56E-08	1.04E-08	4.56E-09	9.66E-08
1747	561147.9	4192069	2.09E-08	2.63E-08	2.06E-08	2.07E-08	2.06E-08	1.53E-08	9.26E-09	1.34E-07	1.49E-08	2.05E-08	1.60E-08	1.60E-08	1.60E-08	1.07E-08	4.66E-09	9.87E-08
1748	561138.4	4192067	2.13E-08	2.67E-08	2.10E-08	2.10E-08	2.10E-08	1.56E-08	9.43E-09	1.36E-07	1.52E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.08E-08	4.75E-09	1.00E-07
1749	561128.9	4192065	2.16E-08	2.71E-08	2.13E-08	2.13E-08	2.13E-08	1.58E-08	9.56E-09	1.38E-07	1.54E-08	2.11E-08	1.65E-08	1.65E-08	1.65E-08	1.10E-08	4.81E-09	1.02E-07
1750	561119.3	4192062	2.18E-08	2.74E-08	2.15E-08	2.15E-08	2.15E-08	1.59E-08	9.66E-09	1.39E-07	1.56E-08	2.13E-08	1.67E-08	1.67E-08	1.67E-08	1.11E-08	4.86E-09	1.03E-07
1751	561109.8	4192060	2.19E-08	2.75E-08	2.16E-08	2.17E-08	2.16E-08	1.60E-08	9.72E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.89E-09	1.03E-07
1752	561100.3	4192058	2.20E-08	2.76E-08	2.17E-08	2.17E-08	2.17E-08	1.61E-08	9.74E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.90E-09	1.04E-07
1753	561090.7	4192055	2.19E-08	2.76E-08	2.16E-08	2.17E-08	2.16E-08	1.60E-08	9.73E-09	1.40E-07	1.57E-08	2.15E-08	1.68E-08	1.68E-08	1.68E-08	1.12E-08	4.90E-09	1.04E-07
1754	561294.5	4192110	1.10E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.86E-09	7.00E-08	7.83E-09	1.07E-08	8.38E-09	8.40E-09	8.38E-09	5.59E-09	2.45E-09	5.18E-08
1755	561302	4192115	1.06E-08	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.78E-09	4.71E-09	6.80E-08	7.60E-09	1.04E-08	8.13E-09	8.16E-09	8.13E-09	5.42E-09	2.37E-09	5.02E-08
1756	561309.5	4192121	1.03E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.56E-09	4.58E-09	6.60E-08	7.38E-09	1.01E-08	7.90E-09	7.92E-09	7.90E-09	5.27E-09	2.31E-09	4.88E-08
1757	561316.9	4192126	1.00E-08	1.26E-08	9.91E-09	9.94E-09	9.91E-09	7.35E-09	4.46E-09	6.42E-08	7.18E-09	9.84E-09	7.69E-09	7.71E-09	7.69E-09	5.12E-09	2.24E-09	4.75E-08
1758	561324.4	4192132	9.79E-09	1.23E-08	9.66E-09	9.69E-09	9.66E-09	7.16E-09	4.34E-09	6.26E-08	7.00E-09	9.59E-09	7.49E-09	7.51E-09	7.49E-09	4.99E-09	2.19E-09	4.63E-08
1759	561331.9	4192137	9.56E-09	1.20E-08	9.44E-09	9.47E-09	9.44E-09	7.00E-09	4.24E-09	6.12E-08	6.84E-09	9.37E-09	7.32E-09	7.34E-09	7.32E-09	4.88E-09	2.14E-09	4.52E-08
1760	561377.9	4192180	8.97E-09	1.13E-08	8.85E-09	8.88E-09	8.85E-09	6.56E-09	3.98E-09	5.74E-08	6.41E-09	8.79E-09	6.86E-09	6.88E-09	6.86E-09	4.58E-09	2.00E-09	4.24E-08
1761	561379.2	4192189	9.25E-09	1.16E-08	9.12E-09	9.15E-09	9.12E-09	6.77E-09	4.10E-09	5.91E-08	6.61E-09	9.06E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.37E-08
1762	561380.4	4192198	9.52E-09	1.20E-08	9.39E-09	9.42E-09	9.39E-09	6.97E-09	4.22E-09	6.09E-08	6.81E-09	9.33E-09	7.28E-09	7.30E-09	7.28E-09	4.86E-09	2.13E-09	4.50E-08
1763	561381.7	4192207	9.78E-09	1.23E-08	9.65E-09	9.68E-09	9.65E-09	7.16E-09	4.34E-09	6.26E-08	6.99E-09	9.58E-09	7.48E-09	7.50E-09	7.48E-09	4.99E-09	2.18E-09	4.62E-08
1764	561383	4192217	1.00E-08	1.26E-08	9.89E-09	9.92E-09	9.89E-09	7.34E-09	4.45E-09	6.41E-08	7.17E-09	9.82E-09	7.67E-09	7.69E-09	7.67E-09	5.11E-09	2.24E-09	4.74E-08
1765	561384.3	4192226	1.02E-08	1.29E-08	1.01E-08	1.01E-08	1.01E-08	7.50E-09	4.54E-09	6.55E-08	7.33E-09	1.00E-08	7.84E-09	7.86E-09	7.84E-09	5.23E-09	2.29E-09	4.84E-08
1766	561385.5	4192235	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.46E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.93E-08
1767	561386.8	4192244	1.06E-08	1.33E-08	1.05E-08	1.05E-08	1.05E-08	7.76E-09	4.70E-09	6.78E-08	7.58E-09	1.04E-08	8.11E-09	8.13E-09	8.11E-09	5.41E-09	2.37E-09	5.01E-08
1768	561388.1	4192254	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.85E-09	4.76E-09	6.86E-08	7.67E-09	1.05E-08	8.21E-09	8.23E-09	8.21E-09	5.47E-09	2.40E-09	5.07E-08
1769	561389.4	4192263	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.93E-09	4.80E-09	6.93E-08	7.74E-09	1.06E-08	8.29E-09	8.31E-09	8.29E-09	5.53E-09	2.42E-09	5.12E-08
1770	561390.6	4192272	1.09E-08	1.37E-08	1.08E-08	1.08E-08	1.08E-08	7.98E-09	4.84E-09	6.97E-08	7.80E-09	1.07E-08	8.34E-09	8.37E-09	8.34E-09	5.56E-09	2.44E-09	5.15E-08
1771	561391.9	4192281	1.09E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.86E-09	7.00E-08	7.83E-09	1.07E-08	8.38E-09	8.40E-09	8.38E-09	5.59E-09	2.45E-09	5.18E-08
1772	561393.2	4192290	1.10E-08	1.38E-08	1.08E-08	1.09E-08	1.08E-08	8.03E-09	4.87E-09	7.02E-08	7.85E-09	1.08E-08	8.40E-09	8.42E-09	8.40E-09	5.60E-09	2.45E-09	5.19E-08
1773	561264.7	4192088	1.23E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.02E-09	5.47E-09	7.88E-08	8.82E-09	1.21E-08	9.43E-09	9.46E-09	9.43E-09	6.29E-09	2.75E-09	5.83E-08
1774	561255.2	4192085	1.30E-08	1.63E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.76E-09	8.31E-08	9.29E-09	1.27E-08	9.94E-09	9.97E-09	9.94E-09	6.63E-09	2.90E-09	6.14E-08
1775	561245.6	4192083	1.37E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.06E-09	8.74E-08	9.77E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	6.97E-09	3.05E-09	6.46E-08
1776	561236.1	4192081	1.43E-08	1.80E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.36E-09	9.17E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.20E-09	6.78E-08
1777	561226.6	4192078	1.50E-08	1.89E-08	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	9.61E-08	1.07E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	7.10E-08
1778	561217	4192076	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	1.00E-07	1.12E-08	1.54E-08	1.20E-08	1.20E-08	1.20E-08	8.01E-09	3.51E-09	7.42E-08
1779	561207.5	4192074	1.64E-08	2.06E-08	1.61E-08	1.62E-08	1.61E-08	1.20E-08	7.26E-09	1.05E-07	1.17E-08	1.60E-08	1.25E-08	1.26E-08	1.25E-08	8.35E-09	3.65E-09	7.73E-08
1780	561198	4192071	1.70E-08	2.14E-08	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.80E-09	8.03E-08
1781	561188.4	4192069	1.76E-08	2.21E-08	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.81E-09	1.13E-07	1.26E-08	1.73E-08	1.35E-08	1.35E-08	1.35E-08	8.98E-09	3.93E-09	8.32E-08
1782	561169.4	4192064	1.87E-08	2.35E-08	1.85E-08	1.85E-08	1.85E-08	1.37E-08	8.30E-09	1.20E-07	1.34E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	9.55E-09	4.18E-09	8.84E-08
1783	561159.9	4192062	1.92E-08	2.41E-08	1.89E-08	1.90E-08	1.89E-08	1.40E-08	8.51E-09	1.23E-07	1.37E-08	1.88E-08	1.47E-08	1.47E-08	1.47E-08	9.79E-09	4.29E-09	9.07E-08
1784	561150.3	4192060	1.96E-08	2.47E-08	1.94E-08	1.94E-08	1.94E-08	1.44E-08	8.70E-09	1.25E-07	1.40E-08	1.92E-08	1.50E-08	1.50E-08	1.50E-08	1.00E-08	4.38E-09	9.27E-08
1785	561140.8	4192057	2.00E-08	2.51E-08	1.97E-08	1.98E-08	1.97E-08	1.46E-08	8.86E-09	1.28E-07	1.43E-08	1.96E-08	1.53E-08	1.53E-08	1.53E-08	1.02E-08	4.46E-09	9.44E-08
1786	561131.3	4192055	2.02E-08	2.55E-08	2.00E-08	2.00E-08	2.00E-08	1.48E-08	8.98E-09	1.30E-07	1.45E-08	1.98E-08	1.55E-08	1.55E-08	1.55E-08	1.03E-08	4.52E-09	9.57E-08
1787	561121.7	4192053	2.05E-08	2.57E-08	2.02E-08	2.02E-08	2.02E-08	1.50E-08	9.08E-09	1.31E-07	1.46E-08	2.00E-08	1.57E-08	1.57E-08	1.57E-08	1.04E-08	4.57E-09	9.67E-08
1788	561112.2	4192050	2.06E-08	2.59E-08	2.03E-08	2.04E-08	2.03E-08	1.51E-08	9.14E-09	1.32E-07	1.47E-08	2.02E-08	1.58E-08	1.58E-08	1.58E-08	1.05E-08	4.60E-09	9.73E-08
1789	561102.7	4192048	2.07E-08	2.60E-08	2.04E-08	2.05E-08	2.04E-08	1.51E-08	9.17E-09	1.32E-07	1.48E-08	2.03E-08	1.58E-08	1.59E-08	1.58E-08	1.05E-08	4.62E-09	9.77E-08
1790	561093.1	4192046	2.07E-08	2.60E-08	2.04E-08	2.05E-08	2.04E-08	1.51E-08	9.17E-09	1.32E-07	1.48E-08	2.03E-08	1.58E-08	1.59E-08	1.58E-08	1.05E-08	4.62E-09	9.77E-08
1791	561298.6	4192101	1.04E-08	1.30E-08	1.02E-08	1.03E-08	1.02E-08	7.58E-09	4.60E-09	6.63E-08	7.41E-09	1.02E-08	7.93E-09	7.95E-09	7.93E-09	5.29E-09	2.31E-09	4.90E-08
1792	561306.5	4192107	1.00E-08	1.26E-08	9.91E-09	9.94E-09	9.91E-09	7.35E-09	4.46E-09	6.42E-08	7.18E-09	9.84E-09	7.68E-09	7.71E-09	7.68E-09	5.12E-09	2.24E-09	4.75E-08
1793	561314.3	4192113	9.74E-09	1.23E-08	9.62E-09	9.64E-09	9.62E-09	7.13E-09	4.32E-09	6.23E-08	6.97E-09	9.55E-09	7.46E-09	7.48E-09	7.46E-09	4.97E-09	2.18E-09	4.61E-08
1794	561322.2	4192119	9.47E-09	1.19E-08	9.35E-09	9.37E-09	9.35E-09	6.93E-09	4.20E-09	6.06E-08	6.77E-09	9.28E-09	7.25E-09	7.27E-09	7.25E-09	4.83E-09	2.12E-09	4.48E-08
1795	561330.1	4192125	9.22E-09	1.16E-08	9.10E-09	9.13E-09	9.10E-09	6.75E-09	4.09E-09	5.90E-08	6.60E-09	9.04E-09	7.06E-09	7.08E-09	7.06E-09	4.71E-09	2.06E-09	4.36E-08
1796	561338	4192131	9.01E-09	1.13E-08	8.89E-09	8.91E-09	8.89E-09	6.59E-09	4.00E-09	5.76E-08	6.44E-09	8.83E-09	6.89E-09	6.91E-09	6.89E-09	4.60E-09	2.01E-09	4.26E-08
1797	561345.8	4192136	8.82E-09	1.11E-08	8.70E-09	8.73E-09	8.70E-09	6.45E-09	3.91E-09	5.64E-08	6.31E-09	8.64E-09	6.75E-09	6.77E-09	6.75E-09	4.50E-09	1.97E-09	4.17E-08
1798	561353.7	4192142	8.66E-09	1.09E-08	8.54E-09	8.57E-09	8.54E-09	6.34E-09	3.84E-09	5.54E-08	6.19E-09	8.48E-09	6.62E-09	6.64E-09	6.62E-09	4.42E-09	1.93E-09	4.09E-08
1799	561386.6	4192175	8.47E-09	1.07E-08	8.36E-09	8.38E-09	8.36E-09	6.20E-09	3.76E-09	5.42E-08	6.06E-09	8.30E-09	6.48E-09	6.50E-09	6.48E-09	4.32E-09	1.89E-09	4.00E-08
1800	561387.9	4192185	8.74E-09	1.10E-08	8.63E-09	8.65E-09	8.63E-09	6.40E-09	3.88E-09	5.59E-08	6.25E-09	8.57E-09	6.69E-09	6.71E-09	6.69E-09	4.46E-09	1.95E-09	4.13E-08
1801	561389.3	4192195	9.01E-09	1.13E-08	8.89E-09	8.92E-09	8.89E-09	6.59E-09	4.00E-09	5.76E-08	6.44E-09	8.83E-09	6.90E-09	6.92E-09	6.90E-09	4.60E-09	2.01E-09	4.26E-08
1802	561390.6	4192204	9.27E-09	1.17E-08	9.15E-09	9.17E-09	9.15E-09	6.78E-09	4.11E-09	5.93E-08	6.63E-09	9.08E-09	7.09E-09	7.11E-09	7.09E-09	4.73E-09	2.07E-09	4.38E-08
1803	561391.9	4192214	9.51E-09	1.20E-08	9.39E-09	9.41E-09	9.39E-09	6.96E-09	4.22E-09	6.08E-08	6.80E-09	9.32E-09	7.28E-09	7.30E-09	7.28E-09	4.85E-09	2.12E-09	4.50E-08
1804	561393.3	4192224	9.73E-09	1.22E-08	9.60E-09	9.63E-09	9.60E-09	7.12E-09	4.32E-09	6.22E-08	6.96E-09	9.53E-09	7.44E-09	7.47E-09	7.44E-09	4.96E-09	2.17E-09	4.60E-08
1805	561394.6	4192234	9.92E-09	1.25E-08	9.79E-09	9.82E-09	9.79E-09	7.26E-09	4.40E-09	6.34E-08	7.09E-09	9.72E-09	7.59E-09	7.61E-09	7.59E-09	5.06E-09	2.22E-09	4.69E-08
1806	561396	4192243	1.01E-08	1.27E-08	9.95E-09	9.97E-09	9.95E-09	7.38E-09	4.47E-09	6.45E-08	7.21E-09	9.87E-09	7.71E-09	7.73E-09	7.71E-09	5.14E-09	2.25E-09	4.76E-08
1807	561397.3	4192253	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.47E-09	4.53E-09	6.53E-08	7.30E-09	1.00E-08	7.81E-09	7.83E-09	7.81E-09	5.21E-09	2.28E-09	4.82E-08
1808	561398.7	4192263	1.03E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.54E-09	4.57E-09	6.59E-08	7.37E-09	1.01E-08	7.88E-09	7.90E-09	7.88E-09	5.26E-09	2.30E-09	4.87E-08
1809	561400	4192272	1.04E-08	1.30E-08	1.02E-08	1.03E-08	1.02E-08	7.59E-09	4.60E-09	6.63E-08	7.41E-09	1.02E-08	7.93E-09	7.96E-09	7.93E-09	5.29E-09	2.32E-09	4.90E-08
1810	561401.4	4192282	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.62E-09	4.62E-09	6.66E-08	7.44E-09	1.02E-08	7.96E-09	7.99E-09	7.96E-09	5.31E-09	2.32E-09	4.92E-08
1811	561402.7	4192292	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.63E-09	4.63E-09	6.67E-08	7.46E-09	1.02E-08	7.98E-09	8.00E-09	7.98E-09	5.32E-09	2.33E-09	4.93E-08
1812	561267.1	4192078	1.17E-08	1.47E-08	1.16E-08	1.16E-08	1.16E-08	8.58E-09	5.20E-09	7.50E-08	8.38E-09	1.15E-08	8.97E-09	8.99E-09	8.97E-09	5.98E-09	2.62E-09	5.54E-08
1813	561257.6	4192076	1.23E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.03E-09	5.47E-09	7.89E-08	8.82E-09	1.21E-08	9.44E-09	9.46E-09	9.44E-09	6.29E-09	2.75E-09	5.83E-08
1814	561248	4192073	1.30E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	9.48E-09	5.75E-09	8.29E-08	9.27E-09	1.27E-08	9.91E-09	9.94E-09	9.91E-09	6.61E-09	2.89E-09	6.12E-08
1815	561238.5	4192071	1.36E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	9.94E-09	6.03E-09	8.69E-08	9.72E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.93E-09	3.03E-09	6.42E-08
1816	561229	4192069	1.42E-08	1.79E-08	1.40E-08	1.41E-08	1.40E-08	1.04E-08	6.31E-09	9.09E-08	1.02E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	7.25E-09	3.18E-09	6.72E-08

1817	561219.4	4192066	1.48E-08	1.87E-08	1.46E-08	1.47E-08	1.46E-08	1.09E-08	6.58E-09	9.49E-08	1.06E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	7.57E-09	3.31E-09	7.01E-08
1818	561209.9	4192064	1.54E-08	1.94E-08	1.52E-08	1.53E-08	1.52E-08	1.13E-08	6.85E-09	9.88E-08	1.10E-08	1.51E-08	1.18E-08	1.19E-08	1.18E-08	7.88E-09	3.45E-09	7.30E-08
1819	561200.4	4192062	1.60E-08	2.02E-08	1.58E-08	1.59E-08	1.58E-08	1.17E-08	7.11E-09	1.03E-07	1.15E-08	1.57E-08	1.23E-08	1.23E-08	1.23E-08	8.18E-09	3.58E-09	7.58E-08
1820	561190.8	4192059	1.66E-08	2.09E-08	1.64E-08	1.64E-08	1.64E-08	1.21E-08	7.36E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.27E-08	1.27E-08	8.47E-09	3.71E-09	7.85E-08
1821	561171.8	4192055	1.76E-08	2.22E-08	1.74E-08	1.74E-08	1.74E-08	1.29E-08	7.82E-09	1.13E-07	1.26E-08	1.73E-08	1.35E-08	1.35E-08	1.35E-08	8.99E-09	3.94E-09	8.33E-08
1822	561162.2	4192052	1.81E-08	2.27E-08	1.78E-08	1.79E-08	1.78E-08	1.32E-08	8.02E-09	1.16E-07	1.29E-08	1.77E-08	1.38E-08	1.39E-08	1.38E-08	9.22E-09	4.04E-09	8.54E-08
1823	561152.7	4192050	1.85E-08	2.32E-08	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.19E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.42E-08	1.41E-08	9.42E-09	4.12E-09	8.72E-08
1824	561143.2	4192048	1.88E-08	2.36E-08	1.85E-08	1.86E-08	1.85E-08	1.37E-08	8.33E-09	1.20E-07	1.34E-08	1.84E-08	1.44E-08	1.44E-08	1.44E-08	9.59E-09	4.20E-09	8.88E-08
1825	561133.6	4192045	1.91E-08	2.40E-08	1.88E-08	1.89E-08	1.88E-08	1.39E-08	8.46E-09	1.22E-07	1.36E-08	1.87E-08	1.46E-08	1.46E-08	1.46E-08	9.72E-09	4.26E-09	9.01E-08
1826	561124.1	4192043	1.93E-08	2.42E-08	1.90E-08	1.91E-08	1.90E-08	1.41E-08	8.55E-09	1.23E-07	1.38E-08	1.89E-08	1.47E-08	1.48E-08	1.47E-08	9.83E-09	4.30E-09	9.11E-08
1827	561114.6	4192040	1.94E-08	2.44E-08	1.92E-08	1.92E-08	1.92E-08	1.42E-08	8.61E-09	1.24E-07	1.39E-08	1.90E-08	1.49E-08	1.49E-08	1.49E-08	9.90E-09	4.34E-09	9.17E-08
1828	561105	4192038	1.95E-08	2.45E-08	1.92E-08	1.93E-08	1.92E-08	1.43E-08	8.65E-09	1.25E-07	1.39E-08	1.91E-08	1.49E-08	1.50E-08	1.49E-08	9.95E-09	4.36E-09	9.22E-08
1829	561095.5	4192036	1.95E-08	2.46E-08	1.93E-08	1.93E-08	1.93E-08	1.43E-08	8.66E-09	1.25E-07	1.40E-08	1.91E-08	1.49E-08	1.50E-08	1.49E-08	9.96E-09	4.36E-09	9.23E-08
1830	561300.6	4192091	9.90E-09	1.25E-08	9.77E-09	9.80E-09	9.77E-09	7.25E-09	4.39E-09	6.34E-08	7.08E-09	9.70E-09	7.58E-09	7.60E-09	7.58E-09	5.05E-09	2.21E-09	4.68E-08
1831	561308.3	4192097	9.60E-09	1.21E-08	9.48E-09	9.50E-09	9.48E-09	7.03E-09	4.26E-09	6.14E-08	6.87E-09	9.41E-09	7.35E-09	7.37E-09	7.35E-09	4.90E-09	2.15E-09	4.54E-08
1832	561316.1	4192103	9.32E-09	1.17E-08	9.20E-09	9.23E-09	9.20E-09	6.82E-09	4.14E-09	5.96E-08	6.67E-09	9.13E-09	7.13E-09	7.15E-09	7.13E-09	4.76E-09	2.08E-09	4.41E-08
1833	561323.9	4192109	9.06E-09	1.14E-08	8.94E-09	8.97E-09	8.94E-09	6.63E-09	4.02E-09	5.80E-08	6.48E-09	8.88E-09	6.93E-09	6.95E-09	6.93E-09	4.62E-09	2.02E-09	4.28E-08
1834	561331.6	4192114	8.82E-09	1.11E-08	8.71E-09	8.73E-09	8.71E-09	6.46E-09	3.92E-09	5.64E-08	6.31E-09	8.65E-09	6.75E-09	6.77E-09	6.75E-09	4.50E-09	1.97E-09	4.17E-08
1835	561339.4	4192120	8.61E-09	1.08E-08	8.50E-09	8.52E-09	8.50E-09	6.30E-09	3.82E-09	5.51E-08	6.16E-09	8.44E-09	6.59E-09	6.61E-09	6.59E-09	4.39E-09	1.92E-09	4.07E-08
1836	561347.2	4192126	8.43E-09	1.06E-08	8.32E-09	8.34E-09	8.32E-09	6.17E-09	3.74E-09	5.39E-08	6.03E-09	8.26E-09	6.45E-09	6.47E-09	6.45E-09	4.30E-09	1.88E-09	3.98E-08
1837	561355	4192132	8.27E-09	1.04E-08	8.16E-09	8.18E-09	8.16E-09	6.05E-09	3.67E-09	5.29E-08	5.91E-09	8.10E-09	6.33E-09	6.35E-09	6.33E-09	4.22E-09	1.85E-09	3.91E-08
1838	561362.7	4192137	8.13E-09	1.02E-08	8.03E-09	8.05E-09	8.03E-09	5.95E-09	3.61E-09	5.20E-08	5.82E-09	7.97E-09	6.22E-09	6.24E-09	6.22E-09	4.15E-09	1.82E-09	3.84E-08
1839	561378.3	4192149	7.92E-09	9.95E-09	7.81E-09	7.83E-09	7.81E-09	5.79E-09	3.51E-09	5.06E-08	5.66E-09	7.76E-09	6.06E-09	6.07E-09	6.06E-09	4.04E-09	1.77E-09	3.74E-08
1840	561396.5	4192180	8.25E-09	1.04E-08	8.14E-09	8.16E-09	8.14E-09	6.04E-09	3.66E-09	5.28E-08	5.90E-09	8.08E-09	6.31E-09	6.33E-09	6.31E-09	4.21E-09	1.84E-09	3.90E-08
1841	561397.8	4192189	8.50E-09	1.07E-08	8.39E-09	8.41E-09	8.39E-09	6.22E-09	3.77E-09	5.44E-08	6.08E-09	8.33E-09	6.50E-09	6.52E-09	6.50E-09	4.34E-09	1.90E-09	4.02E-08
1842	561399.1	4192199	8.74E-09	1.10E-08	8.63E-09	8.65E-09	8.63E-09	6.40E-09	3.88E-09	5.59E-08	6.25E-09	8.56E-09	6.69E-09	6.71E-09	6.69E-09	4.46E-09	1.95E-09	4.13E-08
1843	561400.5	4192208	8.97E-09	1.13E-08	8.85E-09	8.88E-09	8.85E-09	6.56E-09	3.98E-09	5.74E-08	6.41E-09	8.79E-09	6.86E-09	6.88E-09	6.86E-09	4.58E-09	2.00E-09	4.24E-08
1844	561401.8	4192218	9.18E-09	1.15E-08	9.06E-09	9.08E-09	9.06E-09	6.72E-09	4.07E-09	5.87E-08	6.56E-09	8.99E-09	7.02E-09	7.04E-09	7.02E-09	4.68E-09	2.05E-09	4.34E-08
1845	561404.4	4192237	9.52E-09	1.20E-08	9.40E-09	9.43E-09	9.40E-09	6.97E-09	4.23E-09	6.09E-08	6.81E-09	9.33E-09	7.29E-09	7.31E-09	7.29E-09	4.86E-09	2.13E-09	4.50E-08
1846	561405.8	4192247	9.66E-09	1.21E-08	9.53E-09	9.56E-09	9.53E-09	7.07E-09	4.28E-09	6.18E-08	6.90E-09	9.46E-09	7.39E-09	7.41E-09	7.39E-09	4.93E-09	2.16E-09	4.56E-08
1847	561407.1	4192256	9.76E-09	1.23E-08	9.63E-09	9.66E-09	9.63E-09	7.14E-09	4.33E-09	6.24E-08	6.98E-09	9.56E-09	7.47E-09	7.49E-09	7.47E-09	4.98E-09	2.18E-09	4.61E-08
1848	561408.4	4192266	9.83E-09	1.24E-08	9.70E-09	9.73E-09	9.70E-09	7.20E-09	4.36E-09	6.29E-08	7.03E-09	9.64E-09	7.53E-09	7.55E-09	7.53E-09	5.02E-09	2.20E-09	4.65E-08
1849	561409.7	4192276	9.88E-09	1.24E-08	9.76E-09	9.78E-09	9.76E-09	7.23E-09	4.39E-09	6.32E-08	7.07E-09	9.69E-09	7.56E-09	7.59E-09	7.56E-09	5.04E-09	2.21E-09	4.67E-08
1850	561411.1	4192285	9.92E-09	1.25E-08	9.79E-09	9.81E-09	9.79E-09	7.26E-09	4.40E-09	6.34E-08	7.09E-09	9.72E-09	7.59E-09	7.61E-09	7.59E-09	5.06E-09	2.21E-09	4.69E-08
1851	561412.4	4192295	9.93E-09	1.25E-08	9.80E-09	9.83E-09	9.80E-09	7.27E-09	4.41E-09	6.35E-08	7.10E-09	9.73E-09	7.60E-09	7.62E-09	7.60E-09	5.07E-09	2.22E-09	4.69E-08
1852	561269.5	4192068	1.12E-08	1.40E-08	1.10E-08	1.11E-08	1.10E-08	8.17E-09	4.95E-09	7.14E-08	7.99E-09	1.09E-08	8.55E-09	8.57E-09	8.55E-09	5.70E-09	2.49E-09	5.28E-08
1853	561259.9	4192066	1.17E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	8.59E-09	5.21E-09	7.51E-08	8.39E-09	1.15E-08	8.98E-09	9.01E-09	8.98E-09	5.99E-09	2.62E-09	5.55E-08
1854	561250.4	4192064	1.23E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.01E-09	5.46E-09	7.88E-08	8.81E-09	1.21E-08	9.42E-09	9.45E-09	9.42E-09	6.28E-09	2.75E-09	5.82E-08
1855	561240.9	4192061	1.29E-08	1.62E-08	1.27E-08	1.28E-08	1.27E-08	9.44E-09	5.72E-09	8.25E-08	9.22E-09	1.26E-08	9.87E-09	9.90E-09	9.87E-09	6.58E-09	2.88E-09	6.10E-08
1856	561231.3	4192059	1.35E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.86E-09	5.98E-09	8.62E-08	9.64E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.88E-09	3.01E-09	6.37E-08
1857	561221.8	4192057	1.41E-08	1.77E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.24E-09	8.99E-08	1.00E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	7.17E-09	3.14E-09	6.64E-08
1858	561212.3	4192054	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.49E-09	9.35E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.46E-09	3.27E-09	6.91E-08
1859	561202.7	4192052	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	9.70E-08	1.08E-08	1.49E-08	1.16E-08	1.16E-08	1.16E-08	7.74E-09	3.39E-09	7.17E-08
1860	561193.2	4192050	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	1.00E-07	1.12E-08	1.54E-08	1.20E-08	1.20E-08	1.20E-08	8.00E-09	3.50E-09	7.41E-08
1861	561174.2	4192045	1.66E-08	2.09E-08	1.64E-08	1.65E-08	1.64E-08	1.22E-08	7.38E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.28E-08	1.27E-08	8.49E-09	3.72E-09	7.86E-08
1862	561164.6	4192042	1.70E-08	2.14E-08	1.68E-08	1.69E-08	1.68E-08	1.25E-08	7.56E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.31E-08	1.30E-08	8.70E-09	3.81E-09	8.06E-08
1863	561155.1	4192040	1.74E-08	2.19E-08	1.72E-08	1.72E-08	1.72E-08	1.27E-08	7.73E-09	1.11E-07	1.25E-08	1.71E-08	1.33E-08	1.34E-08	1.33E-08	8.88E-09	3.89E-09	8.23E-08
1864	561145.6	4192038	1.77E-08	2.23E-08	1.75E-08	1.75E-08	1.75E-08	1.30E-08	7.86E-09	1.13E-07	1.27E-08	1.74E-08	1.36E-08	1.36E-08	1.36E-08	9.04E-09	3.96E-09	8.37E-08
1865	561136	4192035	1.80E-08	2.26E-08	1.77E-08	1.78E-08	1.77E-08	1.32E-08	7.98E-09	1.15E-07	1.29E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	9.17E-09	4.02E-09	8.50E-08
1866	561126.5	4192033	1.82E-08	2.29E-08	1.79E-08	1.80E-08	1.79E-08	1.33E-08	8.07E-09	1.16E-07	1.30E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	9.28E-09	4.06E-09	8.59E-08
1867	561117	4192031	1.83E-08	2.31E-08	1.81E-08	1.81E-08	1.81E-08	1.34E-08	8.13E-09	1.17E-07	1.31E-08	1.80E-08	1.40E-08	1.41E-08	1.40E-08	9.35E-09	4.10E-09	8.66E-08
1868	561107.4	4192028	1.84E-08	2.32E-08	1.82E-08	1.82E-08	1.82E-08	1.35E-08	8.18E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.41E-08	1.41E-08	9.40E-09	4.12E-09	8.71E-08
1869	561097.9	4192026	1.85E-08	2.32E-08	1.82E-08	1.83E-08	1.82E-08	1.35E-08	8.20E-09	1.18E-07	1.32E-08	1.81E-08	1.41E-08	1.42E-08	1.41E-08	9.43E-09	4.13E-09	8.73E-08
1870	561302.6	4192081	9.48E-09	1.19E-08	9.36E-09	9.38E-09	9.36E-09	6.94E-09	4.21E-09	6.07E-08	6.78E-09	9.29E-09	7.26E-09	7.28E-09	7.26E-09	4.84E-09	2.12E-09	4.48E-08
1871	561310.3	4192087	9.20E-09	1.16E-08	9.08E-09	9.11E-09	9.08E-09	6.73E-09	4.08E-09	5.89E-08	6.58E-09	9.02E-09	7.04E-09	7.06E-09	7.04E-09	4.69E-09	2.06E-09	4.35E-08
1872	561317.9	4192093	8.93E-09	1.12E-08	8.82E-09	8.84E-09	8.82E-09	6.54E-09	3.96E-09	5.71E-08	6.39E-09	8.75E-09	6.84E-09	6.86E-09	6.84E-09	4.56E-09	2.00E-09	4.22E-08
1873	561325.6	4192098	8.68E-09	1.09E-08	8.57E-09	8.59E-09	8.57E-09	6.36E-09	3.85E-09	5.55E-08	6.21E-09	8.51E-09	6.65E-09	6.66E-09	6.65E-09	4.43E-09	1.94E-09	4.10E-08
1874	561333.3	4192104	8.46E-09	1.06E-08	8.35E-09	8.37E-09	8.35E-09	6.19E-09	3.75E-09	5.41E-08	6.05E-09	8.29E-09	6.47E-09	6.49E-09	6.47E-09	4.31E-09	1.89E-09	4.00E-08
1875	561341	4192110	8.25E-09	1.04E-08	8.14E-09	8.16E-09	8.14E-09	6.04E-09	3.66E-09	5.28E-08	5.90E-09	8.08E-09	6.31E-09	6.33E-09	6.31E-09	4.21E-09	1.84E-09	3.90E-08
1876	561348.7	4192116	8.07E-09	1.01E-08	7.96E-09	7.98E-09	7.96E-09	5.91E-09	3.58E-09	5.16E-08	5.77E-09	7.91E-09	6.17E-09	6.19E-09	6.17E-09	4.12E-09	1.80E-09	3.81E-08
1877	561356.3	4192121	7.91E-09	9.95E-09	7.81E-09	7.83E-09	7.81E-09	5.79E-09	3.51E-09	5.06E-08	5.66E-09	7.75E-09	6.05E-09	6.07E-09	6.05E-09	4.04E-09	1.77E-09	3.74E-08
1878	561364	4192127	7.77E-09	9.78E-09	7.67E-09	7.69E-09	7.67E-09	5.69E-09	3.45E-09	4.97E-08	5.56E-09	7.62E-09	5.95E-09	5.97E-09	5.95E-09	3.97E-09	1.74E-09	3.67E-08
1879	561387.1	4192144	7.47E-09	9.40E-09	7.38E-09	7.40E-09	7.38E-09	5.47E-09	3.32E-09	4.78E-08	5.35E-09	7.32E-09	5.72E-09	5.74E-09	5.72E-09	3.81E-09	1.67E-09	3.53E-08
1880	561394.8	4192150	7.40E-09	9.30E-09	7.30E-09	7.32E-09	7.30E-09	5.41E-09	3.28E-09	4.73E-08	5.29E-09	7.25E-09	5.66E-09	5.68E-09	5.66E-09	3.78E-09	1.65E-09	3.50E-08
1881	561406.4	4192184	8.03E-09	1.01E-08	7.92E-09	7.94E-09	7.92E-09	5.87E-09	3.56E-09	5.13E-08	5.74E-09	7.87E-09	6.14E-09	6.16E-09	6.14E-09	4.10E-09	1.79E-09	3.79E-08
1882	561407.7	4192193	8.25E-09	1.04E-08	8.15E-09	8.17E-09	8.15E-09	6.04E-09	3.66E-09	5.28E-08	5.90E-09	8.09E-09	6.32E-09	6.33E-09	6.32E-09	4.21E-09	1.84E-09	3.90E-08
1883	561409	4192203	8.47E-09	1.07E-08	8.36E-09	8.38E-09	8.36E-09	6.20E-09	3.76E-09	5.42E-08	6.06E-09	8.30E-09	6.48E-09	6.50E-09	6.48E-09	4.32E-09	1.89E-09	4.00E-08
1884	561414.2	4192241	9.15E-09	1.15E-08	9.03E-09	9.05E-09	9.03E-09	6.70E-09	4.06E-09	5.85E-08	6.54E-09	8.96E-09	7.00E-09	7.02E-09	7.00E-09	4.67E-09	2.04E-09	4.32E-08
1885	561415.5	4192250	9.26E-09	1.16E-08	9.14E-09	9.16E-09	9.14E-09	6.78E-09	4.11E-09	5.92E-08	6.62E-09	9.07E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.38E-08
1886	561416.9	4192260	9.34E-09	1.17E-08	9.22E-09	9.24E-09	9.22E-09	6.84E-09	4.14E-09	5.98E-08	6.68E-09	9.15E-09	7.15E-09	7.17E-09	7.15E-09	4.77E-09	2.09E-09	4.42E-08
1887	561418.2	4192269	9.40E-09	1.18E-08	9.28E-09	9.30E-09	9.28E-09	6.88E-09	4.17E-09	6.01E-08	6.72E-09	9.21E-09	7.19E-09	7.22E-09	7.19E-09	4.80E-09	2.10E-09	4.44E-08
1888	561419.5	4192279	9.44E-09	1.19E-08	9.32E-09	9.34E-09	9.32E-09	6.91E-09	4.19E-09	6.04E-08	6.75E-09	9.25E-09	7.23E-09	7.25E-09	7.23E-09	4.82E-09	2.11E-09	4.46E-08
1889	561420.8	4192288	9.46E-09	1.19E-08	9.34E-09	9.37E-09	9.34E-09	6.93E-09	4.20E-09	6.05E-08	6.77E-09	9.27E-09	7.24E-09	7.26E-09	7.24E-09	4.83E-09	2.11E-09	4.47E-08
1890	561271.9	4192059	1.07E-08	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.80E-09	4.73E-09	6.82E-08	7.62E-09	1.04E-08	8.16E-09	8.18E-09	8.16E-09	5.44E-09	2.38E-09	5.04E-08
1891	561262.3	4192056	1.12E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	8.19E-09	4.96E-09	7.16E-08	8.00E-09	1.10E-08	8.56E-09	8.59E-09	8.56E-09	5.71E-09	2.50E-09	5.29E-08
1892	561252.8	4192054	1.17E-08	1.47E-08	1.16E-08	1.16E-08	1.16E-08	8.58E-09	5.20E-09	7.50E-08	8.39E-09	1.15E-08	8.97E-09	9.00E-09	8.97E-09	5.98E-09	2.62E-09	5.54E-08
1893	561243.3	4192051	1.23E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.98E-09	5.44E-09	7.85E-08	8.77E-09	1.20E-08	9.39E-09	9.41E-09	9.39E-09	6.26E-09	2.74E-09	5.80E-08
1894	561233.7	4192049	1.28E-08	1.61E-08	1.26E-08	1.27E-08	1.26E-08	9.37E-09	5.68E-09	8.19E-08	9.16E-09	1.25E-08	9.80E-09	9.83E-09	9.80E-09	6.53E-09	2.86E-09	6.05E-08
1895	561224.2	4192047	1.33E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.76E-09	5.92E-09	8.53E-08	9.54E-09	1.31E-08	1.02E-08	1.02E-08	1.02E-08	6.81E-09	2.98E-09	6.31E-08
1896	561214.7	4192044	1.39E-08	1.74E-08	1.37E-08	1.37E-08	1.37E-08	1.01E-08	6.15E-09	8.87E-08	9.91E-09	1.36E-08	1.06E-08	1.06E-08	1.06E-08	7.07E-09	3.10E-09	6.55E-08
1897	561205.1	4192042	1.44E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	9.19E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.33E-09	3.21E-09	6.79E-08
1898	561195.6	4192040	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.59E-09	9.50E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.58E-09	3.32E-09	7.02E-08
1899	561176.5	4192035	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.98E-09	1.01E-07	1.13E-08	1.54E-08	1.20E-08	1.21E-08	1.20E-08	8.03E-09	3.52E-09	7.44E-08
1900	561167	4192033	1.61E-08	2.03E-08	1.59E-08	1.60E-08	1.59E-08	1.18E-08	7.15E-09	1.03E-07	1.15E-08	1.58E-08	1.23E-08	1.24E-08	1.23E-08	8.23E-09	3.60E-09	7.62E-08
1901	561157.5	4192030	1.65E-08	2.07E-08	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.30E-09	1.05E-07	1.18E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.40E-09	3.68E-09	7.78E-08
1902	561147.9	4192028	1.68E-08	2.11E-08	1.65E-08	1.66E-08	1.65E-08	1.23E-08	7.43E-09	1.07E-07	1.20E-08	1.64E-08	1.28E-08	1.29E-08	1.28E-08	8.55E-09	3.74E-09	7.92E-08
1903	561138.4	4192026	1.70E-08	2.14E-08	1.68E-08	1.68E-08	1.68E-08	1.24E-08	7.54E-09	1.09E-07	1.22E-08	1.67E-08	1.30E-08	1.30E-08	1.30E-08	8.67E-09	3.80E-09	8.04E-08
1904	561128.9	4192023	1.72E-08	2.16E-08	1.70E-08	1.70E-08	1.70E-08	1.26E-08	7.63E-09	1.10E-07	1.23E-08	1.69E-08	1.32E-08	1.32E-08	1.32E-08	8.78E-09	3.84E-09	8.13E-08
1905	561119.3	4192021	1.74E-08	2.18E-08	1.71E-08	1.72E-08	1.71E-08	1.27E-08	7.70E-09	1.11E-07	1.24E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	8.85E-09	3.88E-09	8.20E-08
1906	561109.8	4192019	1.75E-08	2.19E-08	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.74E-09	1.12E-07	1.25E-08	1.71E-08	1.34E-08	1.34E-08	1.34E-08	8.90E-09	3.90E-09	8.25E-08
1907	561100.3	4192016	1.75E-08	2.20E-08	1.73E-08	1.73E-08	1.73E-08	1.28E-08	7.77E-09	1.12E-07	1.25E-08	1.72E-08	1.34E-08	1.34E-08	1.34E-08	8.93E-09	3.91E-09	8.28E-08

1908	561304.6	4192071	9.09E-09	1.14E-08	8.97E-09	9.00E-09	8.97E-09	6.65E-09	4.03E-09	5.82E-08	6.50E-09	8.91E-09	6.96E-09	6.98E-09	6.96E-09	4.64E-09	2.03E-09	4.30E-08
1909	561312.2	4192077	8.83E-09	1.11E-08	8.71E-09	8.74E-09	8.71E-09	6.46E-09	3.92E-09	5.65E-08	6.31E-09	8.65E-09	6.75E-09	6.77E-09	6.75E-09	4.50E-09	1.97E-09	4.17E-08
1910	561319.8	4192083	8.57E-09	1.08E-08	8.46E-09	8.48E-09	8.46E-09	6.27E-09	3.80E-09	5.48E-08	6.13E-09	8.40E-09	6.56E-09	6.58E-09	6.56E-09	4.37E-09	1.92E-09	4.05E-08
1911	561327.4	4192088	8.34E-09	1.05E-08	8.23E-09	8.25E-09	8.23E-09	6.10E-09	3.70E-09	5.33E-08	5.96E-09	8.17E-09	6.38E-09	6.40E-09	6.38E-09	4.25E-09	1.86E-09	3.94E-08
1912	561335	4192094	8.12E-09	1.02E-08	8.01E-09	8.03E-09	8.01E-09	5.94E-09	3.60E-09	5.19E-08	5.80E-09	7.95E-09	6.21E-09	6.23E-09	6.21E-09	4.14E-09	1.81E-09	3.84E-08
1913	561342.6	4192100	7.92E-09	9.95E-09	7.81E-09	7.83E-09	7.81E-09	5.79E-09	3.51E-09	5.06E-08	5.66E-09	7.76E-09	6.06E-09	6.07E-09	6.06E-09	4.04E-09	1.77E-09	3.74E-08
1914	561350.2	4192105	7.74E-09	9.73E-09	7.64E-09	7.66E-09	7.64E-09	5.66E-09	3.43E-09	4.95E-08	5.53E-09	7.58E-09	5.92E-09	5.94E-09	5.92E-09	3.95E-09	1.73E-09	3.66E-08
1915	561357.8	4192111	7.58E-09	9.53E-09	7.48E-09	7.50E-09	7.48E-09	5.55E-09	3.36E-09	4.85E-08	5.42E-09	7.43E-09	5.80E-09	5.82E-09	5.80E-09	3.87E-09	1.69E-09	3.58E-08
1916	561365.4	4192116	7.44E-09	9.36E-09	7.35E-09	7.37E-09	7.35E-09	5.45E-09	3.30E-09	4.76E-08	5.32E-09	7.29E-09	5.70E-09	5.71E-09	5.70E-09	3.80E-09	1.66E-09	3.52E-08
1917	561388.2	4192133	7.14E-09	8.99E-09	7.05E-09	7.07E-09	7.05E-09	5.23E-09	3.17E-09	4.57E-08	5.11E-09	7.00E-09	5.47E-09	5.48E-09	5.47E-09	3.65E-09	1.60E-09	3.38E-08
1918	561395.8	4192139	7.07E-09	8.89E-09	6.98E-09	7.00E-09	6.98E-09	5.18E-09	3.14E-09	4.52E-08	5.06E-09	6.93E-09	5.41E-09	5.43E-09	5.41E-09	3.61E-09	1.58E-09	3.34E-08
1919	561403.4	4192145	7.01E-09	8.81E-09	6.91E-09	6.93E-09	6.91E-09	5.13E-09	3.11E-09	4.48E-08	5.01E-09	6.86E-09	5.36E-09	5.38E-09	5.36E-09	3.57E-09	1.56E-09	3.31E-08
1920	561412.3	4192160	7.16E-09	9.01E-09	7.07E-09	7.09E-09	7.07E-09	5.24E-09	3.18E-09	4.58E-08	5.12E-09	7.02E-09	5.48E-09	5.50E-09	5.48E-09	3.65E-09	1.60E-09	3.38E-08
1921	561414.9	4192178	7.60E-09	9.56E-09	7.50E-09	7.52E-09	7.50E-09	5.56E-09	3.37E-09	4.86E-08	5.43E-09	7.45E-09	5.81E-09	5.83E-09	5.81E-09	3.88E-09	1.70E-09	3.59E-08
1922	561416.2	4192188	7.81E-09	9.83E-09	7.71E-09	7.73E-09	7.71E-09	5.72E-09	3.47E-09	5.00E-08	5.59E-09	7.66E-09	5.98E-09	6.00E-09	5.98E-09	3.99E-09	1.75E-09	3.69E-08
1923	561424	4192244	8.80E-09	1.11E-08	8.68E-09	8.71E-09	8.68E-09	6.44E-09	3.90E-09	5.63E-08	6.29E-09	8.62E-09	6.73E-09	6.75E-09	6.73E-09	4.49E-09	1.97E-09	4.16E-08
1924	561425.3	4192253	8.89E-09	1.12E-08	8.77E-09	8.80E-09	8.77E-09	6.51E-09	3.94E-09	5.69E-08	6.36E-09	8.71E-09	6.80E-09	6.82E-09	6.80E-09	4.54E-09	1.99E-09	4.20E-08
1925	561426.6	4192263	8.96E-09	1.13E-08	8.84E-09	8.86E-09	8.84E-09	6.55E-09	3.97E-09	5.73E-08	6.40E-09	8.78E-09	6.85E-09	6.87E-09	6.85E-09	4.57E-09	2.00E-09	4.23E-08
1926	561274.2	4192049	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.46E-09	4.52E-09	6.52E-08	7.29E-09	9.99E-09	7.80E-09	7.82E-09	7.80E-09	5.20E-09	2.28E-09	4.82E-08
1927	561264.7	4192046	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.82E-09	4.74E-09	6.83E-08	7.64E-09	1.05E-08	8.18E-09	8.20E-09	8.18E-09	5.45E-09	2.39E-09	5.05E-08
1928	561255.2	4192044	1.12E-08	1.41E-08	1.10E-08	1.11E-08	1.10E-08	8.19E-09	4.96E-09	7.15E-08	8.00E-09	1.10E-08	8.56E-09	8.58E-09	8.56E-09	5.71E-09	2.50E-09	5.29E-08
1929	561245.6	4192042	1.17E-08	1.47E-08	1.15E-08	1.16E-08	1.15E-08	8.55E-09	5.19E-09	7.48E-08	8.36E-09	1.15E-08	8.94E-09	8.97E-09	8.94E-09	5.96E-09	2.61E-09	5.52E-08
1930	561236.1	4192039	1.22E-08	1.53E-08	1.20E-08	1.21E-08	1.20E-08	8.92E-09	5.41E-09	7.80E-08	8.72E-09	1.19E-08	9.33E-09	9.35E-09	9.33E-09	6.22E-09	2.72E-09	5.76E-08
1931	561226.6	4192037	1.27E-08	1.60E-08	1.25E-08	1.26E-08	1.25E-08	9.28E-09	5.63E-09	8.11E-08	9.07E-09	1.24E-08	9.71E-09	9.73E-09	9.71E-09	6.47E-09	2.83E-09	6.00E-08
1932	561217	4192035	1.32E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	9.64E-09	5.84E-09	8.42E-08	9.42E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.72E-09	2.94E-09	6.23E-08
1933	561207.5	4192032	1.36E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	9.98E-09	6.05E-09	8.73E-08	9.76E-09	1.34E-08	1.04E-08	1.05E-08	1.04E-08	6.96E-09	3.05E-09	6.45E-08
1934	561198	4192030	1.41E-08	1.77E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.25E-09	9.01E-08	1.01E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	7.19E-09	3.15E-09	6.66E-08
1935	561178.9	4192025	1.49E-08	1.88E-08	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.62E-09	9.54E-08	1.07E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.61E-09	3.33E-09	7.05E-08
1936	561169.4	4192023	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.78E-09	9.77E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.79E-09	3.41E-09	7.22E-08
1937	561159.9	4192021	1.56E-08	1.96E-08	1.54E-08	1.54E-08	1.54E-08	1.14E-08	6.92E-09	9.98E-08	1.12E-08	1.53E-08	1.19E-08	1.20E-08	1.19E-08	7.96E-09	3.48E-09	7.37E-08
1938	561150.3	4192018	1.59E-08	2.00E-08	1.57E-08	1.57E-08	1.57E-08	1.16E-08	7.04E-09	1.02E-07	1.13E-08	1.56E-08	1.21E-08	1.22E-08	1.21E-08	8.10E-09	3.55E-09	7.50E-08
1939	561140.8	4192016	1.61E-08	2.03E-08	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.15E-09	1.03E-07	1.15E-08	1.58E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	7.61E-08
1940	561131.3	4192014	1.63E-08	2.05E-08	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.23E-09	1.04E-07	1.17E-08	1.60E-08	1.25E-08	1.25E-08	1.25E-08	8.32E-09	3.64E-09	7.70E-08
1941	561121.7	4192011	1.64E-08	2.07E-08	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.30E-09	1.05E-07	1.18E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.39E-09	3.67E-09	7.77E-08
1942	561112.2	4192009	1.66E-08	2.08E-08	1.63E-08	1.64E-08	1.63E-08	1.21E-08	7.34E-09	1.06E-07	1.18E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	8.45E-09	3.70E-09	7.82E-08
1943	561102.7	4192007	1.66E-08	2.09E-08	1.64E-08	1.64E-08	1.64E-08	1.22E-08	7.37E-09	1.06E-07	1.19E-08	1.63E-08	1.27E-08	1.28E-08	1.27E-08	8.48E-09	3.71E-09	7.85E-08
1944	561306.7	4192061	8.73E-09	1.10E-08	8.62E-09	8.64E-09	8.62E-09	6.39E-09	3.87E-09	5.58E-08	6.24E-09	8.55E-09	6.68E-09	6.70E-09	6.68E-09	4.45E-09	1.95E-09	4.13E-08
1945	561314.3	4192067	8.48E-09	1.07E-08	8.37E-09	8.39E-09	8.37E-09	6.21E-09	3.76E-09	5.42E-08	6.06E-09	8.31E-09	6.49E-09	6.51E-09	6.49E-09	4.33E-09	1.89E-09	4.01E-08
1946	561321.8	4192073	8.24E-09	1.04E-08	8.13E-09	8.15E-09	8.13E-09	6.03E-09	3.66E-09	5.27E-08	5.89E-09	8.07E-09	6.30E-09	6.32E-09	6.30E-09	4.20E-09	1.84E-09	3.89E-08
1947	561329.3	4192078	8.01E-09	1.01E-08	7.91E-09	7.93E-09	7.91E-09	5.86E-09	3.55E-09	5.12E-08	5.73E-09	7.85E-09	6.13E-09	6.15E-09	6.13E-09	4.09E-09	1.79E-09	3.79E-08
1948	561336.8	4192084	7.80E-09	9.81E-09	7.70E-09	7.72E-09	7.70E-09	5.71E-09	3.46E-09	4.99E-08	5.58E-09	7.64E-09	5.97E-09	5.99E-09	5.97E-09	3.98E-09	1.74E-09	3.69E-08
1949	561344.4	4192089	7.61E-09	9.56E-09	7.51E-09	7.53E-09	7.51E-09	5.57E-09	3.37E-09	4.87E-08	5.44E-09	7.45E-09	5.82E-09	5.84E-09	5.82E-09	3.88E-09	1.70E-09	3.59E-08
1950	561351.9	4192095	7.43E-09	9.34E-09	7.33E-09	7.35E-09	7.33E-09	5.44E-09	3.30E-09	4.75E-08	5.31E-09	7.28E-09	5.69E-09	5.70E-09	5.69E-09	3.79E-09	1.66E-09	3.51E-08
1951	561359.4	4192101	7.27E-09	9.15E-09	7.18E-09	7.20E-09	7.18E-09	5.32E-09	3.23E-09	4.65E-08	5.20E-09	7.13E-09	5.57E-09	5.58E-09	5.57E-09	3.71E-09	1.62E-09	3.44E-08
1952	561366.9	4192106	7.14E-09	8.97E-09	7.04E-09	7.06E-09	7.04E-09	5.22E-09	3.17E-09	4.57E-08	5.10E-09	6.99E-09	5.46E-09	5.48E-09	5.46E-09	3.64E-09	1.59E-09	3.37E-08
1953	561389.5	4192123	6.84E-09	8.60E-09	6.75E-09	6.77E-09	6.75E-09	5.00E-09	3.03E-09	4.37E-08	4.89E-09	6.70E-09	5.23E-09	5.25E-09	5.23E-09	3.49E-09	1.53E-09	3.23E-08
1954	561397.1	4192128	6.76E-09	8.51E-09	6.68E-09	6.69E-09	6.68E-09	4.95E-09	3.00E-09	4.33E-08	4.84E-09	6.63E-09	5.18E-09	5.19E-09	5.18E-09	3.45E-09	1.51E-09	3.20E-08
1955	561404.6	4192134	6.70E-09	8.43E-09	6.61E-09	6.63E-09	6.61E-09	4.90E-09	2.97E-09	4.29E-08	4.79E-09	6.57E-09	5.13E-09	5.14E-09	5.13E-09	3.42E-09	1.50E-09	3.17E-08
1956	561412.1	4192140	6.64E-09	8.36E-09	6.56E-09	6.58E-09	6.56E-09	4.86E-09	2.95E-09	4.25E-08	4.75E-09	6.51E-09	5.08E-09	5.10E-09	5.08E-09	3.39E-09	1.48E-09	3.14E-08
1957	561420.9	4192154	6.80E-09	8.55E-09	6.71E-09	6.73E-09	6.71E-09	4.98E-09	3.02E-09	4.35E-08	4.86E-09	6.66E-09	5.20E-09	5.22E-09	5.20E-09	3.47E-09	1.52E-09	3.21E-08
1958	561422.2	4192164	7.00E-09	8.81E-09	6.91E-09	6.93E-09	6.91E-09	5.13E-09	3.11E-09	4.48E-08	5.01E-09	6.86E-09	5.36E-09	5.38E-09	5.36E-09	3.57E-09	1.56E-09	3.31E-08
1959	561440.2	4192294	8.66E-09	1.09E-08	8.54E-09	8.57E-09	8.54E-09	6.34E-09	3.84E-09	5.54E-08	6.19E-09	8.48E-09	6.63E-09	6.64E-09	6.63E-09	4.42E-09	1.93E-09	4.09E-08
1960	561441.5	4192303	8.65E-09	1.09E-08	8.54E-09	8.56E-09	8.54E-09	6.33E-09	3.84E-09	5.54E-08	6.19E-09	8.48E-09	6.62E-09	6.64E-09	6.62E-09	4.42E-09	1.93E-09	4.09E-08
1961	561276.6	4192039	9.76E-09	1.23E-08	9.63E-09	9.66E-09	9.63E-09	7.14E-09	4.33E-09	6.24E-08	6.98E-09	9.56E-09	7.47E-09	7.49E-09	7.47E-09	4.98E-09	2.18E-09	4.61E-08
1962	561267.1	4192037	1.02E-08	1.29E-08	1.01E-08	1.01E-08	1.01E-08	7.48E-09	4.53E-09	6.54E-08	7.31E-09	1.00E-08	7.82E-09	7.84E-09	7.82E-09	5.21E-09	2.28E-09	4.83E-08
1963	561257.6	4192034	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.82E-09	4.74E-09	6.84E-08	7.64E-09	1.05E-08	8.18E-09	8.20E-09	8.18E-09	5.45E-09	2.39E-09	5.05E-08
1964	561248	4192032	1.12E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.16E-09	4.95E-09	7.14E-08	7.98E-09	1.09E-08	8.54E-09	8.56E-09	8.54E-09	5.69E-09	2.49E-09	5.27E-08
1965	561238.5	4192030	1.16E-08	1.46E-08	1.15E-08	1.15E-08	1.15E-08	8.51E-09	5.16E-09	7.43E-08	8.31E-09	1.14E-08	8.89E-09	8.92E-09	8.89E-09	5.93E-09	2.60E-09	5.49E-08
1966	561229	4192027	1.21E-08	1.52E-08	1.19E-08	1.20E-08	1.19E-08	8.84E-09	5.36E-09	7.73E-08	8.64E-09	1.18E-08	9.25E-09	9.27E-09	9.25E-09	6.17E-09	2.70E-09	5.71E-08
1967	561219.4	4192025	1.25E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	9.17E-09	5.56E-09	8.02E-08	8.97E-09	1.23E-08	9.59E-09	9.62E-09	9.59E-09	6.40E-09	2.80E-09	5.93E-08
1968	561209.9	4192023	1.30E-08	1.63E-08	1.28E-08	1.28E-08	1.28E-08	9.49E-09	5.76E-09	8.30E-08	9.28E-09	1.27E-08	9.93E-09	9.96E-09	9.93E-09	6.62E-09	2.90E-09	6.13E-08
1969	561200.4	4192020	1.34E-08	1.68E-08	1.32E-08	1.33E-08	1.32E-08	9.80E-09	5.94E-09	8.57E-08	9.58E-09	1.31E-08	1.02E-08	1.03E-08	1.02E-08	6.83E-09	2.99E-09	6.33E-08
1970	561181.3	4192016	1.42E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.28E-09	9.06E-08	1.01E-08	1.39E-08	1.08E-08	1.09E-08	1.08E-08	7.22E-09	3.16E-09	6.69E-08
1971	561171.8	4192013	1.45E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.43E-09	9.27E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.40E-09	3.24E-09	6.85E-08
1972	561162.2	4192011	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.57E-09	9.47E-08	1.06E-08	1.45E-08	1.13E-08	1.14E-08	1.13E-08	7.55E-09	3.31E-09	6.99E-08
1973	561152.7	4192009	1.51E-08	1.89E-08	1.49E-08	1.49E-08	1.49E-08	1.10E-08	6.68E-09	9.63E-08	1.08E-08	1.48E-08	1.15E-08	1.16E-08	1.15E-08	7.68E-09	3.36E-09	7.12E-08
1974	561143.2	4192006	1.53E-08	1.92E-08	1.51E-08	1.51E-08	1.51E-08	1.12E-08	6.78E-09	9.77E-08	1.09E-08	1.50E-08	1.17E-08	1.17E-08	1.17E-08	7.80E-09	3.41E-09	7.22E-08
1975	561133.6	4192004	1.55E-08	1.95E-08	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.86E-09	9.90E-08	1.11E-08	1.52E-08	1.18E-08	1.19E-08	1.18E-08	7.89E-09	3.46E-09	7.31E-08
1976	561124.1	4192002	1.56E-08	1.96E-08	1.54E-08	1.55E-08	1.54E-08	1.14E-08	6.93E-09	9.99E-08	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.97E-09	3.49E-09	7.38E-08
1977	561114.6	4191999	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.98E-09	1.01E-07	1.12E-08	1.54E-08	1.20E-08	1.21E-08	1.20E-08	8.02E-09	3.51E-09	7.43E-08
1978	561105.1	4191997	1.58E-08	1.99E-08	1.56E-08	1.56E-08	1.56E-08	1.16E-08	7.01E-09	1.01E-07	1.13E-08	1.55E-08	1.21E-08	1.21E-08	1.21E-08	8.06E-09	3.53E-09	7.47E-08
1979	561310.4	4192053	8.34E-09	1.05E-08	8.23E-09	8.26E-09	8.23E-09	6.11E-09	3.70E-09	5.34E-08	5.97E-09	8.17E-09	6.38E-09	6.40E-09	6.38E-09	4.26E-09	1.86E-09	3.94E-08
1980	561318.3	4192059	8.10E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.92E-09	3.59E-09	5.18E-08	5.79E-09	7.93E-09	6.20E-09	6.21E-09	6.20E-09	4.13E-09	1.81E-09	3.83E-08
1981	561326.1	4192064	7.86E-09	9.88E-09	7.76E-09	7.78E-09	7.76E-09	5.75E-09	3.49E-09	5.03E-08	5.62E-09	7.70E-09	6.01E-09	6.03E-09	6.01E-09	4.01E-09	1.76E-09	3.71E-08
1982	561334	4192070	7.63E-09	9.60E-09	7.53E-09	7.55E-09	7.53E-09	5.59E-09	3.39E-09	4.88E-08	5.46E-09	7.48E-09	5.84E-09	5.86E-09	5.84E-09	3.90E-09	1.71E-09	3.61E-08
1983	561341.8	4192076	7.43E-09	9.34E-09	7.33E-09	7.35E-09	7.33E-09	5.43E-09	3.29E-09	4.75E-08	5.31E-09	7.28E-09	5.68E-09	5.70E-09	5.68E-09	3.79E-09	1.66E-09	3.51E-08
1984	561349.7	4192082	7.24E-09	9.10E-09	7.14E-09	7.16E-09	7.14E-09	5.30E-09	3.21E-09	4.63E-08	5.17E-09	7.09E-09	5.54E-09	5.55E-09	5.54E-09	3.69E-09	1.62E-09	3.42E-08
1985	561357.6	4192088	7.06E-09	8.88E-09	6.97E-09	6.99E-09	6.97E-09	5.17E-09	3.13E-09	4.52E-08	5.05E-09	6.92E-09	5.41E-09	5.42E-09	5.41E-09	3.60E-09	1.58E-09	3.34E-08
1986	561365.4	4192093	6.91E-09	8.69E-09	6.82E-09	6.84E-09	6.82E-09	5.06E-09	3.07E-09	4.42E-08	4.94E-09	6.77E-09	5.29E-09	5.30E-09	5.29E-09	3.53E-09	1.54E-09	3.27E-08
1987	561373.3	4192099	6.77E-09	8.52E-09	6.69E-09	6.70E-09	6.69E-09	4.96E-09	3.01E-09	4.33E-08	4.84E-09	6.64E-09	5.18E-09	5.20E-09	5.18E-09	3.46E-09	1.51E-09	3.20E-08
1988	561389	4192111	6.57E-09	8.26E-09	6.48E-09	6.50E-09	6.48E-09	4.81E-09	2.91E-09	4.20E-08	4.70E-09	6.44E-09	5.03E-09	5.04E-09	5.03E-09	3.35E-09	1.47E-09	3.10E-08
1989	561396.8	4192117	6.49E-09	8.16E-09	6.40E-09	6.42E-09	6.40E-09	4.75E-09	2.88E-09	4.15E-08	4.64E-09	6.36E-09	4.97E-09	4.98E-09	4.97E-09	3.31E-09	1.45E-09	3.07E-08
1990	561404.7	4192123	6.42E-09	8.08E-09	6.34E-09	6.36E-09	6.34E-09	4.70E-09	2.85E-09	4.11E-08	4.59E-09	6.29E-09	4.92E-09	4.93E-09	4.92E-09	3.28E-09	1.43E-09	3.04E-08
1991	561412.5	4192128	6.37E-09	8.00E-09	6.28E-09	6.30E-09	6.28E-09	4.66E-09	2.82E-09	4.07E-08	4.55E-09	6.24E-09	4.87E-09	4.88E-09	4.87E-09	3.25E-09	1.42E-09	3.01E-08
1992	561420.4	4192134	6.32E-09	7.95E-09	6.24E-09	6.25E-09	6.24E-09	4.62E-09	2.80E-09	4.04E-08	4.52E-09	6.19E-09	4.84E-09	4.85E-09	4.84E-09	3.22E-09	1.41E-09	2.99E-08
1993	561429.6	4192150	6.48E-09	8.15E-09	6.39E-09	6.41E-09	6.39E-09	4.74E-09	2.87E-09	4.14E-08	4.63E-09	6.35E-09	4.96E-09	4.97E-09	4.96E-09	3.31E-09	1.45E-09	3.06E-08
1994	561430.9	4192159	6.68E-09	8.40E-09	6.59E-09	6.61E-09	6.59E-09	4.89E-09	2.96E-09	4.27E-08	4.78E-09	6.54E-09	5.11E-09	5.13E-09	5.11E-09	3.41E-09	1.49E-09	3.16E-08
1995	561447	4192276	8.27E-09	1.04E-08	8.16E-09	8.19E-09	8.16E-09	6.05E-09	3.67E-09	5.29E-08	5.92E-09	8.11E-09	6.33E-09	6.35E-09	6.33E-09	4.22E-09	1.85E-09	3.91E-08
1996	561448.3	4192285	8.29E-09	1.04E-08	8.18E-09	8.20E-09	8.18E-09	6.07E-09	3.68E-09	5.30E-08	5.93E-09	8.12E-09	6.34E-09	6.36E-09	6.34E-09	4.23E-09	1.85E-09	3.92E-08
1997	561449.7	4192295	8.29E-09	1.04E-08	8.18E-09	8.20E-09	8.18E-09	6.07E-09	3.68E-09	5.30E-08	5.93E-09	8.12E-09	6.34E-09	6.36E-09	6.34E-09	4.23E-09	1.85E-09	3.92E-08
1998	561451	4192305	8.28E-09	1.04E-08	8.17E-09	8.20E-09	8.17E-09	6.06E-09	3.67E-09	5.30E-08	5.92E-09	8.11E-09	6.34E-09	6.35E-09	6.34E-09	4.23E-09	1.85E-09	3.91E-08

1999	561279	4192029	9.36E-09	1.18E-08	9.23E-09	9.26E-09	9.23E-09	6.85E-09	4.15E-09	5.99E-08	6.69E-09	9.17E-09	7.16E-09	7.18E-09	7.16E-09	4.77E-09	2.09E-09	4.42E-08
2000	561269.5	4192027	9.79E-09	1.23E-08	9.66E-09	9.69E-09	9.66E-09	7.16E-09	4.34E-09	6.26E-08	7.00E-09	9.59E-09	7.49E-09	7.51E-09	7.49E-09	4.99E-09	2.19E-09	4.63E-08
2001	561259.9	4192025	1.02E-08	1.29E-08	1.01E-08	1.01E-08	1.01E-08	7.48E-09	4.54E-09	6.54E-08	7.31E-09	1.00E-08	7.83E-09	7.85E-09	7.83E-09	5.22E-09	2.28E-09	4.83E-08
2002	561250.4	4192022	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.80E-09	4.73E-09	6.82E-08	7.63E-09	1.04E-08	8.16E-09	8.18E-09	8.16E-09	5.44E-09	2.38E-09	5.04E-08
2003	561240.9	4192020	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.12E-09	4.92E-09	7.10E-08	7.94E-09	1.09E-08	8.49E-09	8.52E-09	8.49E-09	5.66E-09	2.48E-09	5.25E-08
2004	561231.3	4192018	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.12E-09	7.38E-08	8.25E-09	1.13E-08	8.82E-09	8.85E-09	8.82E-09	5.88E-09	2.58E-09	5.45E-08
2005	561221.8	4192015	1.20E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.75E-09	5.30E-09	7.64E-08	8.55E-09	1.17E-08	9.15E-09	9.17E-09	9.15E-09	6.10E-09	2.67E-09	5.65E-08
2006	561212.3	4192013	1.24E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.04E-09	5.48E-09	7.90E-08	8.84E-09	1.21E-08	9.46E-09	9.48E-09	9.46E-09	6.31E-09	2.76E-09	5.84E-08
2007	561202.8	4192011	1.27E-08	1.60E-08	1.26E-08	1.26E-08	1.26E-08	9.33E-09	5.66E-09	8.15E-08	9.12E-09	1.25E-08	9.76E-09	9.78E-09	9.76E-09	6.50E-09	2.85E-09	6.03E-08
2008	561183.7	4192006	1.35E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.85E-09	5.97E-09	8.61E-08	9.63E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.87E-09	3.01E-09	6.36E-08
2009	561174.2	4192004	1.38E-08	1.73E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.11E-09	8.81E-08	9.86E-09	1.35E-08	1.05E-08	1.06E-08	1.05E-08	7.03E-09	3.08E-09	6.51E-08
2010	561164.6	4192001	1.41E-08	1.77E-08	1.39E-08	1.39E-08	1.39E-08	1.03E-08	6.24E-09	9.00E-08	1.01E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	7.18E-09	3.14E-09	6.65E-08
2011	561155.1	4191999	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.35E-09	9.16E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.30E-09	3.20E-09	6.77E-08
2012	561145.6	4191997	1.45E-08	1.83E-08	1.43E-08	1.44E-08	1.43E-08	1.06E-08	6.44E-09	9.29E-08	1.04E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.41E-09	3.24E-09	6.87E-08
2013	561136	4191994	1.47E-08	1.85E-08	1.45E-08	1.46E-08	1.45E-08	1.08E-08	6.52E-09	9.41E-08	1.05E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	7.50E-09	3.29E-09	6.95E-08
2014	561126.5	4191992	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.59E-09	9.50E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.58E-09	3.32E-09	7.02E-08
2015	561117	4191990	1.50E-08	1.88E-08	1.48E-08	1.48E-08	1.48E-08	1.09E-08	6.64E-09	9.57E-08	1.07E-08	1.47E-08	1.14E-08	1.15E-08	1.14E-08	7.63E-09	3.34E-09	7.07E-08
2016	561107.4	4191987	1.50E-08	1.89E-08	1.48E-08	1.49E-08	1.48E-08	1.10E-08	6.67E-09	9.62E-08	1.08E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	7.67E-09	3.36E-09	7.11E-08
2017	561312.5	4192043	8.03E-09	1.01E-08	7.93E-09	7.95E-09	7.93E-09	5.88E-09	3.56E-09	5.14E-08	5.75E-09	7.87E-09	6.15E-09	6.17E-09	6.15E-09	4.10E-09	1.79E-09	3.80E-08
2018	561320.3	4192049	7.80E-09	9.81E-09	7.70E-09	7.72E-09	7.70E-09	5.71E-09	3.46E-09	4.99E-08	5.58E-09	7.64E-09	5.97E-09	5.99E-09	5.97E-09	3.98E-09	1.74E-09	3.69E-08
2019	561328	4192054	7.58E-09	9.53E-09	7.48E-09	7.50E-09	7.48E-09	5.54E-09	3.36E-09	4.85E-08	5.42E-09	7.42E-09	5.80E-09	5.81E-09	5.80E-09	3.87E-09	1.69E-09	3.58E-08
2020	561335.8	4192060	7.36E-09	9.26E-09	7.26E-09	7.28E-09	7.26E-09	5.39E-09	3.27E-09	4.71E-08	5.26E-09	7.21E-09	5.63E-09	5.65E-09	5.63E-09	3.76E-09	1.64E-09	3.48E-08
2021	561343.6	4192066	7.16E-09	9.00E-09	7.07E-09	7.09E-09	7.07E-09	5.24E-09	3.18E-09	4.58E-08	5.12E-09	7.02E-09	5.48E-09	5.49E-09	5.48E-09	3.65E-09	1.60E-09	3.38E-08
2022	561351.3	4192072	6.98E-09	8.77E-09	6.88E-09	6.90E-09	6.88E-09	5.11E-09	3.09E-09	4.46E-08	4.99E-09	6.83E-09	5.34E-09	5.35E-09	5.34E-09	3.56E-09	1.56E-09	3.30E-08
2023	561359.1	4192077	6.81E-09	8.56E-09	6.72E-09	6.74E-09	6.72E-09	4.98E-09	3.02E-09	4.35E-08	4.87E-09	6.67E-09	5.21E-09	5.22E-09	5.21E-09	3.47E-09	1.52E-09	3.22E-08
2024	561366.9	4192083	6.65E-09	8.37E-09	6.57E-09	6.58E-09	6.57E-09	4.87E-09	2.95E-09	4.26E-08	4.76E-09	6.52E-09	5.09E-09	5.11E-09	5.09E-09	3.39E-09	1.49E-09	3.14E-08
2025	561374.7	4192089	6.52E-09	8.19E-09	6.43E-09	6.45E-09	6.43E-09	4.77E-09	2.89E-09	4.17E-08	4.66E-09	6.39E-09	4.99E-09	5.00E-09	4.99E-09	3.32E-09	1.46E-09	3.08E-08
2026	561390.2	4192100	6.30E-09	7.93E-09	6.22E-09	6.24E-09	6.22E-09	4.61E-09	2.80E-09	4.03E-08	4.51E-09	6.18E-09	4.82E-09	4.84E-09	4.82E-09	3.22E-09	1.41E-09	2.98E-08
2027	561398	4192106	6.22E-09	7.83E-09	6.14E-09	6.16E-09	6.14E-09	4.56E-09	2.76E-09	3.98E-08	4.45E-09	6.10E-09	4.76E-09	4.78E-09	4.76E-09	3.18E-09	1.39E-09	2.94E-08
2028	561405.8	4192112	6.16E-09	7.74E-09	6.08E-09	6.09E-09	6.08E-09	4.51E-09	2.73E-09	3.94E-08	4.40E-09	6.03E-09	4.71E-09	4.73E-09	4.71E-09	3.14E-09	1.38E-09	2.91E-08
2029	561413.5	4192118	6.10E-09	7.67E-09	6.02E-09	6.04E-09	6.02E-09	4.46E-09	2.71E-09	3.90E-08	4.36E-09	5.98E-09	4.67E-09	4.68E-09	4.67E-09	3.11E-09	1.36E-09	2.88E-08
2030	561421.3	4192123	6.06E-09	7.61E-09	5.98E-09	5.99E-09	5.98E-09	4.43E-09	2.69E-09	3.87E-08	4.33E-09	5.93E-09	4.63E-09	4.65E-09	4.63E-09	3.09E-09	1.35E-09	2.86E-08
2031	561451.4	4192240	7.75E-09	9.75E-09	7.65E-09	7.67E-09	7.65E-09	5.67E-09	3.44E-09	4.96E-08	5.54E-09	7.59E-09	5.93E-09	5.95E-09	5.93E-09	3.95E-09	1.73E-09	3.66E-08
2032	561456.7	4192279	7.94E-09	9.98E-09	7.84E-09	7.86E-09	7.84E-09	5.81E-09	3.52E-09	5.08E-08	5.68E-09	7.78E-09	6.08E-09	6.09E-09	6.08E-09	4.05E-09	1.77E-09	3.75E-08
2033	561458.1	4192288	7.95E-09	9.99E-09	7.84E-09	7.87E-09	7.84E-09	5.82E-09	3.53E-09	5.08E-08	5.68E-09	7.79E-09	6.08E-09	6.10E-09	6.08E-09	4.06E-09	1.78E-09	3.76E-08
2034	561281.4	4192020	8.98E-09	1.13E-08	8.87E-09	8.89E-09	8.87E-09	6.58E-09	3.99E-09	5.75E-08	6.42E-09	8.80E-09	6.87E-09	6.89E-09	6.87E-09	4.58E-09	2.01E-09	4.25E-08
2035	561271.9	4192017	9.39E-09	1.18E-08	9.27E-09	9.29E-09	9.27E-09	6.87E-09	4.17E-09	6.01E-08	6.71E-09	9.20E-09	7.18E-09	7.20E-09	7.18E-09	4.79E-09	2.10E-09	4.44E-08
2036	561262.3	4192015	9.80E-09	1.23E-08	9.67E-09	9.70E-09	9.67E-09	7.17E-09	4.35E-09	6.27E-08	7.01E-09	9.60E-09	7.50E-09	7.52E-09	7.50E-09	5.00E-09	2.19E-09	4.63E-08
2037	561252.8	4192013	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.47E-09	4.53E-09	6.53E-08	7.30E-09	1.00E-08	7.81E-09	7.83E-09	7.81E-09	5.21E-09	2.28E-09	4.82E-08
2038	561243.3	4192010	1.06E-08	1.33E-08	1.05E-08	1.05E-08	1.05E-08	7.77E-09	4.71E-09	6.79E-08	7.59E-09	1.04E-08	8.12E-09	8.15E-09	8.12E-09	5.42E-09	2.37E-09	5.02E-08
2039	561233.7	4192008	1.10E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.06E-09	4.89E-09	7.05E-08	7.88E-09	1.08E-08	8.43E-09	8.45E-09	8.43E-09	5.62E-09	2.46E-09	5.21E-08
2040	561224.2	4192006	1.14E-08	1.43E-08	1.13E-08	1.13E-08	1.13E-08	8.35E-09	5.06E-09	7.30E-08	8.16E-09	1.12E-08	8.73E-09	8.76E-09	8.73E-09	5.82E-09	2.55E-09	5.39E-08
2041	561214.7	4192003	1.18E-08	1.48E-08	1.16E-08	1.17E-08	1.16E-08	8.63E-09	5.23E-09	7.54E-08	8.43E-09	1.16E-08	9.02E-09	9.05E-09	9.02E-09	6.02E-09	2.63E-09	5.57E-08
2042	561205.1	4192001	1.22E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	8.90E-09	5.39E-09	7.77E-08	8.69E-09	1.19E-08	9.30E-09	9.33E-09	9.30E-09	6.20E-09	2.72E-09	5.74E-08
2043	561186.1	4191996	1.28E-08	1.61E-08	1.27E-08	1.27E-08	1.27E-08	9.38E-09	5.69E-09	8.20E-08	9.17E-09	1.26E-08	9.81E-09	9.84E-09	9.81E-09	6.54E-09	2.86E-09	6.06E-08
2044	561176.5	4191994	1.31E-08	1.65E-08	1.29E-08	1.30E-08	1.29E-08	9.60E-09	5.82E-09	8.39E-08	9.38E-09	1.29E-08	1.00E-08	1.01E-08	1.00E-08	6.69E-09	2.93E-09	6.20E-08
2045	561167	4191992	1.34E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.80E-09	5.94E-09	8.56E-08	9.57E-09	1.31E-08	1.02E-08	1.03E-08	1.02E-08	6.83E-09	2.99E-09	6.33E-08
2046	561157.5	4191989	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.97E-09	6.04E-09	8.71E-08	9.74E-09	1.33E-08	1.04E-08	1.05E-08	1.04E-08	6.95E-09	3.04E-09	6.44E-08
2047	561147.9	4191987	1.38E-08	1.74E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.13E-09	8.84E-08	9.89E-09	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.05E-09	3.09E-09	6.53E-08
2048	561138.4	4191985	1.40E-08	1.76E-08	1.38E-08	1.39E-08	1.38E-08	1.02E-08	6.21E-09	8.95E-08	1.00E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.14E-09	3.13E-09	6.62E-08
2049	561128.9	4191982	1.41E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.03E-08	6.27E-09	9.04E-08	1.01E-08	1.39E-08	1.08E-08	1.09E-08	1.08E-08	7.21E-09	3.16E-09	6.68E-08
2050	561119.4	4191980	1.42E-08	1.79E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.32E-09	9.11E-08	1.02E-08	1.40E-08	1.09E-08	1.09E-08	1.09E-08	7.27E-09	3.18E-09	6.73E-08
2051	561109.8	4191978	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.36E-09	9.16E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.31E-09	3.20E-09	6.77E-08
2052	561314.6	4192033	7.74E-09	9.74E-09	7.64E-09	7.66E-09	7.64E-09	5.67E-09	3.44E-09	4.95E-08	5.54E-09	7.59E-09	5.93E-09	5.94E-09	5.93E-09	3.95E-09	1.73E-09	3.66E-08
2053	561322.3	4192039	7.52E-09	9.46E-09	7.43E-09	7.45E-09	7.43E-09	5.51E-09	3.34E-09	4.81E-08	5.38E-09	7.37E-09	5.76E-09	5.77E-09	5.76E-09	3.84E-09	1.68E-09	3.56E-08
2054	561330	4192044	7.31E-09	9.19E-09	7.21E-09	7.23E-09	7.21E-09	5.35E-09	3.24E-09	4.68E-08	5.23E-09	7.16E-09	5.59E-09	5.61E-09	5.59E-09	3.73E-09	1.63E-09	3.46E-08
2055	561337.7	4192050	7.11E-09	8.94E-09	7.01E-09	7.03E-09	7.01E-09	5.20E-09	3.15E-09	4.55E-08	5.08E-09	6.96E-09	5.44E-09	5.45E-09	5.44E-09	3.63E-09	1.59E-09	3.36E-08
2056	561345.4	4192056	6.91E-09	8.69E-09	6.82E-09	6.84E-09	6.82E-09	5.06E-09	3.07E-09	4.42E-08	4.94E-09	6.77E-09	5.29E-09	5.30E-09	5.29E-09	3.53E-09	1.54E-09	3.27E-08
2057	561353.1	4192061	6.73E-09	8.47E-09	6.64E-09	6.66E-09	6.64E-09	4.93E-09	2.99E-09	4.31E-08	4.81E-09	6.60E-09	5.15E-09	5.17E-09	5.15E-09	3.44E-09	1.50E-09	3.18E-08
2058	561360.8	4192067	6.57E-09	8.26E-09	6.48E-09	6.50E-09	6.48E-09	4.81E-09	2.91E-09	4.20E-08	4.70E-09	6.43E-09	5.03E-09	5.04E-09	5.03E-09	3.35E-09	1.47E-09	3.10E-08
2059	561368.5	4192073	6.42E-09	8.07E-09	6.33E-09	6.35E-09	6.33E-09	4.70E-09	2.85E-09	4.10E-08	4.59E-09	6.29E-09	4.91E-09	4.92E-09	4.91E-09	3.27E-09	1.43E-09	3.03E-08
2060	561376.2	4192078	6.28E-09	7.90E-09	6.20E-09	6.21E-09	6.20E-09	4.60E-09	2.79E-09	4.02E-08	4.49E-09	6.15E-09	4.81E-09	4.82E-09	4.81E-09	3.20E-09	1.40E-09	2.97E-08
2061	561399.3	4192096	5.98E-09	7.52E-09	5.90E-09	5.92E-09	5.90E-09	4.38E-09	2.65E-09	3.82E-08	4.28E-09	5.86E-09	4.58E-09	4.59E-09	4.58E-09	3.05E-09	1.34E-09	2.83E-08
2062	561407	4192101	5.91E-09	7.43E-09	5.83E-09	5.85E-09	5.83E-09	4.33E-09	2.62E-09	3.78E-08	4.23E-09	5.79E-09	4.52E-09	4.54E-09	4.52E-09	3.02E-09	1.32E-09	2.79E-08
2063	561414.7	4192107	5.85E-09	7.36E-09	5.78E-09	5.79E-09	5.78E-09	4.28E-09	2.60E-09	3.74E-08	4.19E-09	5.74E-09	4.48E-09	4.49E-09	4.48E-09	2.99E-09	1.31E-09	2.77E-08
2064	561422.4	4192113	5.81E-09	7.30E-09	5.73E-09	5.75E-09	5.73E-09	4.25E-09	2.58E-09	3.71E-08	4.15E-09	5.69E-09	4.44E-09	4.46E-09	4.44E-09	2.96E-09	1.30E-09	2.74E-08
2065	561458.6	4192225	7.31E-09	9.19E-09	7.21E-09	7.23E-09	7.21E-09	5.35E-09	3.24E-09	4.67E-08	5.23E-09	7.16E-09	5.59E-09	5.61E-09	5.59E-09	3.73E-09	1.63E-09	3.45E-08
2066	561459.9	4192234	7.40E-09	9.31E-09	7.31E-09	7.33E-09	7.31E-09	5.42E-09	3.28E-09	4.74E-08	5.29E-09	7.25E-09	5.67E-09	5.68E-09	5.67E-09	3.78E-09	1.65E-09	3.50E-08
2067	561461.2	4192244	7.48E-09	9.41E-09	7.38E-09	7.40E-09	7.38E-09	5.47E-09	3.32E-09	4.78E-08	5.35E-09	7.33E-09	5.72E-09	5.74E-09	5.72E-09	3.82E-09	1.67E-09	3.54E-08
2068	561283.8	4192010	8.64E-09	1.09E-08	8.52E-09	8.55E-09	8.52E-09	6.32E-09	3.83E-09	5.52E-08	6.18E-09	8.46E-09	6.61E-09	6.63E-09	6.61E-09	4.41E-09	1.93E-09	4.08E-08
2069	561274.2	4192008	9.02E-09	1.13E-08	8.90E-09	8.92E-09	8.90E-09	6.60E-09	4.00E-09	5.77E-08	6.45E-09	8.83E-09	6.90E-09	6.92E-09	6.90E-09	4.60E-09	2.01E-09	4.26E-08
2070	561264.7	4192005	9.40E-09	1.18E-08	9.28E-09	9.30E-09	9.28E-09	6.88E-09	4.17E-09	6.01E-08	6.72E-09	9.21E-09	7.19E-09	7.21E-09	7.19E-09	4.80E-09	2.10E-09	4.44E-08
2071	561255.2	4192003	9.78E-09	1.23E-08	9.66E-09	9.68E-09	9.66E-09	7.16E-09	4.34E-09	6.26E-08	7.00E-09	9.59E-09	7.49E-09	7.51E-09	7.49E-09	4.99E-09	2.19E-09	4.62E-08
2072	561245.7	4192001	1.02E-08	1.28E-08	1.00E-08	1.01E-08	1.00E-08	7.44E-09	4.51E-09	6.50E-08	7.27E-09	9.96E-09	7.78E-09	7.80E-09	7.78E-09	5.19E-09	2.27E-09	4.80E-08
2073	561236.1	4191998	1.05E-08	1.33E-08	1.04E-08	1.04E-08	1.04E-08	7.72E-09	4.68E-09	6.74E-08	7.54E-09	1.03E-08	8.07E-09	8.09E-09	8.07E-09	5.38E-09	2.35E-09	4.98E-08
2074	561226.6	4191996	1.09E-08	1.37E-08	1.08E-08	1.08E-08	1.08E-08	7.98E-09	4.84E-09	6.98E-08	7.80E-09	1.07E-08	8.35E-09	8.37E-09	8.35E-09	5.57E-09	2.44E-09	5.16E-08
2075	561217.1	4191994	1.13E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	8.24E-09	5.00E-09	7.20E-08	8.06E-09	1.10E-08	8.62E-09	8.64E-09	8.62E-09	5.75E-09	2.52E-09	5.32E-08
2076	561188.5	4191987	1.22E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.95E-09	5.43E-09	7.82E-08	8.75E-09	1.20E-08	9.36E-09	9.38E-09	9.36E-09	6.24E-09	2.73E-09	5.78E-08
2077	561178.9	4191984	1.25E-08	1.57E-08	1.23E-08	1.24E-08	1.23E-08	9.16E-09	5.55E-09	8.00E-08	8.95E-09	1.23E-08	9.57E-09	9.60E-09	9.57E-09	6.38E-09	2.79E-09	5.91E-08
2078	561169.4	4191982	1.28E-08	1.60E-08	1.26E-08	1.26E-08	1.26E-08	9.34E-09	5.66E-09	8.16E-08	9.13E-09	1.25E-08	9.77E-09	9.79E-09	9.77E-09	6.51E-09	2.85E-09	6.03E-08
2079	561159.9	4191980	1.30E-08	1.63E-08	1.28E-08	1.29E-08	1.28E-08	9.50E-09	5.76E-09	8.31E-08	9.29E-09	1.27E-08	9.94E-09	9.97E-09	9.94E-09	6.63E-09	2.90E-09	6.14E-08
2080	561150.3	4191977	1.32E-08	1.66E-08	1.30E-08	1.30E-08	1.30E-08	9.65E-09	5.85E-09	8.43E-08	9.42E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.72E-09	2.94E-09	6.23E-08
2081	561140.8	4191975	1.33E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.77E-09	5.92E-09	8.54E-08	9.54E-09	1.31E-08	1.02E-08	1.02E-08	1.02E-08	6.81E-09	2.98E-09	6.31E-08
2082	561131.3	4191973	1.35E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	9.87E-09	5.98E-09	8.63E-08	9.64E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.88E-09	3.01E-09	6.37E-08
2083	561121.7	4191970	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.95E-09	6.03E-09	8.70E-08	9.72E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
2084	561112.2	4191968	1.37E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.07E-09	8.75E-08	9.78E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	6.98E-09	3.06E-09	6.46E-08
2085	561316.7	4192023	7.47E-09	9.40E-09	7.38E-09	7.40E-09	7.38E-09	5.47E-09	3.32E-09	4.78E-08	5.34E-09	7.32E-09	5.72E-09	5.74E-09	5.72E-09	3.81E-09	1.67E-09	3.53E-08
2086	561324.3	4192029	7.27E-09	9.14E-09	7.17E-09	7.19E-09	7.17E-09	5.32E-09	3.22E-09	4.65E-08	5.20E-09	7.12E-09	5.56E-09	5.58E-09	5.56E-09	3.71E-09	1.62E-09	3.43E-08
2087	561331.9	4192034	7.06E-09	8.88E-09	6.97E-09	6.99E-09	6.97E-09	5.17E-09	3.13E-09	4.52E-08	5.05E-09	6.92E-09	5.40E-09	5.42E-09	5.40E-09	3.60E-09	1.58E-09	3.34E-08
2088	561339.6	4192040	6.87E-09	8.63E-09	6.78E-09	6.79E-09	6.78E-09	5.03E-09	3.05E-09	4.39E-08	4.91E-09	6.73E-09	5.25E-09	5.27E-09	5.25E-09	3.50E-09	1.53E-09	3.25E-08
2089	561347.2	4192046	6.68E-09	8.40E-09	6.59E-09	6.61E-09	6.59E-09	4.89E-09	2.96E-09	4.27E-08	4.78E-09	6.55E-09	5.11E-09	5.13E-09	5.11E-09	3.41E-09	1.49E-09	3.16E-08

2090	561354.8	4192051	6.51E-09	8.18E-09	6.42E-09	6.44E-09	6.42E-09	4.76E-09	2.89E-09	4.16E-08	4.65E-09	6.38E-09	4.98E-09	4.99E-09	4.98E-09	3.32E-09	1.45E-09	3.08E-08
2091	561362.5	4192057	6.34E-09	7.98E-09	6.26E-09	6.28E-09	6.26E-09	4.64E-09	2.82E-09	4.06E-08	4.54E-09	6.22E-09	4.86E-09	4.87E-09	4.86E-09	3.24E-09	1.42E-09	3.00E-08
2092	561370.1	4192063	6.20E-09	7.79E-09	6.11E-09	6.13E-09	6.11E-09	4.53E-09	2.75E-09	3.96E-08	4.43E-09	6.07E-09	4.74E-09	4.75E-09	4.74E-09	3.16E-09	1.38E-09	2.93E-08
2093	561377.7	4192068	6.06E-09	7.62E-09	5.98E-09	6.00E-09	5.98E-09	4.43E-09	2.69E-09	3.88E-08	4.33E-09	5.94E-09	4.64E-09	4.65E-09	4.64E-09	3.09E-09	1.35E-09	2.86E-08
2094	561400.6	4192085	5.76E-09	7.24E-09	5.68E-09	5.70E-09	5.68E-09	4.21E-09	2.55E-09	3.68E-08	4.12E-09	5.64E-09	4.40E-09	4.42E-09	4.40E-09	2.94E-09	1.29E-09	2.72E-08
2095	561408.3	4192091	5.68E-09	7.15E-09	5.61E-09	5.63E-09	5.61E-09	4.16E-09	2.52E-09	3.64E-08	4.07E-09	5.57E-09	4.35E-09	4.36E-09	4.35E-09	2.90E-09	1.27E-09	2.69E-08
2096	561415.9	4192096	5.62E-09	7.07E-09	5.55E-09	5.57E-09	5.55E-09	4.12E-09	2.50E-09	3.60E-08	4.02E-09	5.51E-09	4.30E-09	4.32E-09	4.30E-09	2.87E-09	1.26E-09	2.66E-08
2097	561423.5	4192102	5.58E-09	7.01E-09	5.50E-09	5.52E-09	5.50E-09	4.08E-09	2.47E-09	3.57E-08	3.99E-09	5.46E-09	4.27E-09	4.28E-09	4.27E-09	2.85E-09	1.25E-09	2.64E-08
2098	561468.4	4192228	7.08E-09	8.90E-09	6.99E-09	7.01E-09	6.99E-09	5.18E-09	3.14E-09	4.53E-08	5.06E-09	6.94E-09	5.42E-09	5.43E-09	5.42E-09	3.61E-09	1.58E-09	3.35E-08
2099	561469.7	4192238	7.16E-09	9.00E-09	7.07E-09	7.09E-09	7.07E-09	5.24E-09	3.18E-09	4.58E-08	5.12E-09	7.02E-09	5.48E-09	5.49E-09	5.48E-09	3.65E-09	1.60E-09	3.38E-08
2100	561471	4192247	7.22E-09	9.08E-09	7.13E-09	7.15E-09	7.13E-09	5.29E-09	3.20E-09	4.62E-08	5.16E-09	7.08E-09	5.53E-09	5.54E-09	5.53E-09	3.68E-09	1.61E-09	3.41E-08
2101	561326.4	4192019	7.02E-09	8.83E-09	6.93E-09	6.95E-09	6.93E-09	5.14E-09	3.12E-09	4.49E-08	5.02E-09	6.88E-09	5.37E-09	5.39E-09	5.37E-09	3.58E-09	1.57E-09	3.32E-08
2102	561334	4192024	6.83E-09	8.59E-09	6.74E-09	6.76E-09	6.74E-09	5.00E-09	3.03E-09	4.37E-08	4.88E-09	6.69E-09	5.23E-09	5.24E-09	5.23E-09	3.48E-09	1.53E-09	3.23E-08
2103	561341.5	4192030	6.64E-09	8.35E-09	6.55E-09	6.57E-09	6.55E-09	4.86E-09	2.95E-09	4.25E-08	4.75E-09	6.51E-09	5.08E-09	5.10E-09	5.08E-09	3.39E-09	1.48E-09	3.14E-08
2104	561349.1	4192035	6.46E-09	8.13E-09	6.38E-09	6.40E-09	6.38E-09	4.73E-09	2.87E-09	4.13E-08	4.62E-09	6.33E-09	4.95E-09	4.96E-09	4.95E-09	3.30E-09	1.44E-09	3.05E-08
2105	561356.7	4192041	6.30E-09	7.92E-09	6.21E-09	6.23E-09	6.21E-09	4.61E-09	2.79E-09	4.03E-08	4.50E-09	6.17E-09	4.82E-09	4.83E-09	4.82E-09	3.21E-09	1.41E-09	2.98E-08
2106	561364.2	4192047	6.14E-09	7.72E-09	6.06E-09	6.07E-09	6.06E-09	4.49E-09	2.72E-09	3.93E-08	4.39E-09	6.01E-09	4.70E-09	4.71E-09	4.70E-09	3.13E-09	1.37E-09	2.90E-08
2107	561371.8	4192052	5.99E-09	7.54E-09	5.91E-09	5.93E-09	5.91E-09	4.39E-09	2.66E-09	3.83E-08	4.29E-09	5.87E-09	4.59E-09	4.60E-09	4.59E-09	3.06E-09	1.34E-09	2.83E-08
2108	561379.4	4192058	5.86E-09	7.37E-09	5.78E-09	5.80E-09	5.78E-09	4.29E-09	2.60E-09	3.75E-08	4.19E-09	5.74E-09	4.48E-09	4.50E-09	4.48E-09	2.99E-09	1.31E-09	2.77E-08
2109	561402.1	4192075	5.55E-09	6.98E-09	5.48E-09	5.49E-09	5.48E-09	4.06E-09	2.46E-09	3.55E-08	3.97E-09	5.44E-09	4.25E-09	4.26E-09	4.25E-09	2.83E-09	1.24E-09	2.62E-08
2110	561409.7	4192080	5.47E-09	6.89E-09	5.40E-09	5.42E-09	5.40E-09	4.01E-09	2.43E-09	3.50E-08	3.92E-09	5.36E-09	4.19E-09	4.20E-09	4.19E-09	2.79E-09	1.22E-09	2.59E-08
2111	561417.2	4192086	5.41E-09	6.81E-09	5.34E-09	5.36E-09	5.34E-09	3.96E-09	2.40E-09	3.46E-08	3.87E-09	5.30E-09	4.14E-09	4.15E-09	4.14E-09	2.76E-09	1.21E-09	2.56E-08
2112	561424.8	4192092	5.36E-09	6.74E-09	5.29E-09	5.31E-09	5.29E-09	3.92E-09	2.38E-09	3.43E-08	3.83E-09	5.25E-09	4.10E-09	4.11E-09	4.10E-09	2.74E-09	1.20E-09	2.53E-08
2113	561478.2	4192232	6.86E-09	8.63E-09	6.77E-09	6.79E-09	6.77E-09	5.02E-09	3.04E-09	4.39E-08	4.91E-09	6.72E-09	5.25E-09	5.26E-09	5.25E-09	3.50E-09	1.53E-09	3.24E-08
2114	561479.4	4192241	6.93E-09	8.71E-09	6.83E-09	6.85E-09	6.83E-09	5.07E-09	3.07E-09	4.43E-08	4.95E-09	6.79E-09	5.30E-09	5.31E-09	5.30E-09	3.53E-09	1.55E-09	3.27E-08
2115	561480.7	4192250	6.98E-09	8.77E-09	6.89E-09	6.91E-09	6.89E-09	5.11E-09	3.10E-09	4.46E-08	4.99E-09	6.84E-09	5.34E-09	5.35E-09	5.34E-09	3.56E-09	1.56E-09	3.30E-08
2116	561353.7	4192027	6.20E-09	7.80E-09	6.12E-09	6.14E-09	6.12E-09	4.54E-09	2.75E-09	3.97E-08	4.43E-09	6.08E-09	4.75E-09	4.76E-09	4.75E-09	3.16E-09	1.39E-09	2.93E-08
2117	561361.5	4192033	6.04E-09	7.59E-09	5.96E-09	5.97E-09	5.96E-09	4.42E-09	2.68E-09	3.86E-08	4.32E-09	5.91E-09	4.62E-09	4.63E-09	4.62E-09	3.08E-09	1.35E-09	2.85E-08
2118	561369.3	4192039	5.88E-09	7.40E-09	5.80E-09	5.82E-09	5.80E-09	4.30E-09	2.61E-09	3.76E-08	4.21E-09	5.76E-09	4.50E-09	4.51E-09	4.50E-09	3.00E-09	1.31E-09	2.78E-08
2119	561377.2	4192045	5.74E-09	7.22E-09	5.66E-09	5.68E-09	5.66E-09	4.20E-09	2.55E-09	3.67E-08	4.10E-09	5.62E-09	4.39E-09	4.40E-09	4.39E-09	2.93E-09	1.28E-09	2.71E-08
2120	561385	4192051	5.61E-09	7.06E-09	5.54E-09	5.55E-09	5.54E-09	4.11E-09	2.49E-09	3.59E-08	4.01E-09	5.50E-09	4.29E-09	4.31E-09	4.29E-09	2.86E-09	1.25E-09	2.65E-08
2121	561400.7	4192062	5.39E-09	6.78E-09	5.32E-09	5.34E-09	5.32E-09	3.95E-09	2.39E-09	3.45E-08	3.86E-09	5.28E-09	4.13E-09	4.14E-09	4.13E-09	2.75E-09	1.20E-09	2.55E-08
2122	561408.5	4192068	5.31E-09	6.67E-09	5.24E-09	5.25E-09	5.24E-09	3.88E-09	2.35E-09	3.39E-08	3.79E-09	5.20E-09	4.06E-09	4.07E-09	4.06E-09	2.71E-09	1.19E-09	2.51E-08
2123	561416.4	4192074	5.23E-09	6.58E-09	5.17E-09	5.18E-09	5.17E-09	3.83E-09	2.32E-09	3.35E-08	3.74E-09	5.13E-09	4.01E-09	4.02E-09	4.01E-09	2.67E-09	1.17E-09	2.47E-08
2124	561424.2	4192080	5.18E-09	6.51E-09	5.11E-09	5.12E-09	5.11E-09	3.79E-09	2.30E-09	3.31E-08	3.70E-09	5.07E-09	3.96E-09	3.97E-09	3.96E-09	2.64E-09	1.16E-09	2.45E-08
2125	561432.1	4192086	5.13E-09	6.45E-09	5.06E-09	5.07E-09	5.06E-09	3.75E-09	2.27E-09	3.28E-08	3.67E-09	5.02E-09	3.92E-09	3.93E-09	3.92E-09	2.62E-09	1.15E-09	2.42E-08
2126	561487.3	4192231	6.61E-09	8.32E-09	6.53E-09	6.55E-09	6.53E-09	4.84E-09	2.93E-09	4.23E-08	4.73E-09	6.48E-09	5.06E-09	5.08E-09	5.06E-09	3.38E-09	1.48E-09	3.13E-08
2127	561488.6	4192240	6.68E-09	8.40E-09	6.59E-09	6.61E-09	6.59E-09	4.89E-09	2.96E-09	4.27E-08	4.78E-09	6.55E-09	5.11E-09	5.13E-09	5.11E-09	3.41E-09	1.49E-09	3.16E-08
2128	561490	4192250	6.73E-09	8.46E-09	6.64E-09	6.66E-09	6.64E-09	4.93E-09	2.99E-09	4.30E-08	4.81E-09	6.59E-09	5.15E-09	5.16E-09	5.15E-09	3.43E-09	1.50E-09	3.18E-08
2129	561281.4	4191978	8.04E-09	1.01E-08	7.93E-09	7.95E-09	7.93E-09	5.88E-09	3.57E-09	5.14E-08	5.75E-09	7.88E-09	6.15E-09	6.17E-09	6.15E-09	4.10E-09	1.80E-09	3.80E-08
2130	561271.9	4191976	8.36E-09	1.05E-08	8.25E-09	8.27E-09	8.25E-09	6.12E-09	3.71E-09	5.35E-08	5.98E-09	8.19E-09	6.40E-09	6.41E-09	6.40E-09	4.26E-09	1.87E-09	3.95E-08
2131	561262.3	4191974	8.68E-09	1.09E-08	8.56E-09	8.59E-09	8.56E-09	6.35E-09	3.85E-09	5.55E-08	6.20E-09	8.50E-09	6.64E-09	6.66E-09	6.64E-09	4.43E-09	1.94E-09	4.10E-08
2132	561252.8	4191971	8.99E-09	1.13E-08	8.87E-09	8.90E-09	8.87E-09	6.58E-09	3.99E-09	5.75E-08	6.43E-09	8.81E-09	6.88E-09	6.90E-09	6.88E-09	4.59E-09	2.01E-09	4.25E-08
2133	561243.3	4191969	9.30E-09	1.17E-08	9.18E-09	9.20E-09	9.18E-09	6.81E-09	4.13E-09	5.95E-08	6.65E-09	9.11E-09	7.12E-09	7.14E-09	7.12E-09	4.75E-09	2.08E-09	4.40E-08
2134	561233.7	4191967	9.60E-09	1.21E-08	9.48E-09	9.50E-09	9.48E-09	7.03E-09	4.26E-09	6.14E-08	6.87E-09	9.41E-09	7.35E-09	7.37E-09	7.35E-09	4.90E-09	2.15E-09	4.54E-08
2135	561224.2	4191964	9.90E-09	1.24E-08	9.77E-09	9.79E-09	9.77E-09	7.24E-09	4.39E-09	6.33E-08	7.08E-09	9.70E-09	7.57E-09	7.59E-09	7.57E-09	5.05E-09	2.21E-09	4.68E-08
2136	561214.7	4191962	1.02E-08	1.28E-08	1.00E-08	1.01E-08	1.00E-08	7.45E-09	4.52E-09	6.51E-08	7.28E-09	9.97E-09	7.79E-09	7.81E-09	7.79E-09	5.19E-09	2.27E-09	4.81E-08
2137	561205.1	4191960	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.47E-09	1.02E-08	7.99E-09	8.02E-09	7.99E-09	5.33E-09	2.33E-09	4.94E-08
2138	561195.6	4191957	1.07E-08	1.34E-08	1.06E-08	1.06E-08	1.06E-08	7.83E-09	4.75E-09	6.84E-08	7.65E-09	1.05E-08	8.18E-09	8.21E-09	8.18E-09	5.46E-09	2.39E-09	5.06E-08
2139	561186.1	4191955	1.09E-08	1.37E-08	1.08E-08	1.08E-08	1.08E-08	8.00E-09	4.85E-09	6.99E-08	7.82E-09	1.07E-08	8.36E-09	8.39E-09	8.36E-09	5.58E-09	2.44E-09	5.17E-08
2140	561176.6	4191953	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	7.13E-08	7.97E-09	1.09E-08	8.53E-09	8.55E-09	8.53E-09	5.69E-09	2.49E-09	5.27E-08
2141	561167	4191950	1.13E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	8.30E-09	5.03E-09	7.25E-08	8.11E-09	1.11E-08	8.67E-09	8.70E-09	8.67E-09	5.78E-09	2.53E-09	5.36E-08
2142	561157.5	4191948	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.42E-09	5.10E-09	7.36E-08	8.23E-09	1.13E-08	8.80E-09	8.83E-09	8.80E-09	5.87E-09	2.57E-09	5.44E-08
2143	561148	4191946	1.16E-08	1.47E-08	1.15E-08	1.15E-08	1.15E-08	8.53E-09	5.17E-09	7.45E-08	8.33E-09	1.14E-08	8.91E-09	8.94E-09	8.91E-09	5.94E-09	2.60E-09	5.51E-08
2144	561138.4	4191943	1.18E-08	1.48E-08	1.16E-08	1.17E-08	1.16E-08	8.62E-09	5.23E-09	7.53E-08	8.42E-09	1.15E-08	9.01E-09	9.04E-09	9.01E-09	6.01E-09	2.63E-09	5.57E-08
2145	561128.9	4191941	1.19E-08	1.49E-08	1.17E-08	1.18E-08	1.17E-08	8.70E-09	5.27E-09	7.60E-08	8.50E-09	1.16E-08	9.10E-09	9.12E-09	9.10E-09	6.07E-09	2.66E-09	5.62E-08
2146	561119.4	4191939	1.20E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	8.76E-09	5.31E-09	7.66E-08	8.56E-09	1.17E-08	9.16E-09	9.19E-09	9.16E-09	6.11E-09	2.67E-09	5.66E-08
2147	561324.4	4191994	6.72E-09	8.45E-09	6.64E-09	6.65E-09	6.64E-09	4.92E-09	2.98E-09	4.30E-08	4.81E-09	6.59E-09	5.15E-09	5.16E-09	5.15E-09	3.43E-09	1.50E-09	3.18E-08
2148	561332.2	4192000	6.54E-09	8.22E-09	6.45E-09	6.47E-09	6.45E-09	4.79E-09	2.90E-09	4.18E-08	4.68E-09	6.41E-09	5.00E-09	5.02E-09	5.00E-09	3.34E-09	1.46E-09	3.09E-08
2149	561371	4192029	5.70E-09	7.17E-09	5.63E-09	5.64E-09	5.63E-09	4.17E-09	2.53E-09	3.65E-08	4.08E-09	5.59E-09	4.37E-09	4.38E-09	4.37E-09	2.91E-09	1.27E-09	2.70E-08
2150	561378.8	4192035	5.57E-09	7.00E-09	5.49E-09	5.51E-09	5.49E-09	4.07E-09	2.47E-09	3.56E-08	3.98E-09	5.45E-09	4.26E-09	4.27E-09	4.26E-09	2.84E-09	1.24E-09	2.63E-08
2151	561386.6	4192040	5.44E-09	6.84E-09	5.37E-09	5.38E-09	5.37E-09	3.98E-09	2.41E-09	3.48E-08	3.89E-09	5.33E-09	4.16E-09	4.17E-09	4.16E-09	2.78E-09	1.22E-09	2.57E-08
2152	561417.7	4192063	5.06E-09	6.36E-09	4.99E-09	5.00E-09	4.99E-09	3.70E-09	2.24E-09	3.23E-08	3.62E-09	4.95E-09	3.87E-09	3.88E-09	3.87E-09	2.58E-09	1.13E-09	2.39E-08
2153	561425.5	4192069	4.99E-09	6.28E-09	4.93E-09	4.94E-09	4.93E-09	3.65E-09	2.22E-09	3.19E-08	3.57E-09	4.89E-09	3.82E-09	3.83E-09	3.82E-09	2.55E-09	1.12E-09	2.36E-08
2154	561433.2	4192075	4.94E-09	6.21E-09	4.88E-09	4.89E-09	4.88E-09	3.62E-09	2.19E-09	3.16E-08	3.53E-09	4.84E-09	3.78E-09	3.79E-09	3.78E-09	2.52E-09	1.10E-09	2.34E-08
2155	561283.8	4191969	7.75E-09	9.75E-09	7.65E-09	7.67E-09	7.65E-09	5.67E-09	3.44E-09	4.96E-08	5.54E-09	7.59E-09	5.93E-09	5.95E-09	5.93E-09	3.95E-09	1.73E-09	3.66E-08
2156	561274.3	4191966	8.05E-09	1.01E-08	7.95E-09	7.97E-09	7.95E-09	5.89E-09	3.57E-09	5.15E-08	5.76E-09	7.89E-09	6.16E-09	6.18E-09	6.16E-09	4.11E-09	1.80E-09	3.81E-08
2157	561264.7	4191964	8.35E-09	1.05E-08	8.24E-09	8.27E-09	8.24E-09	6.11E-09	3.71E-09	5.34E-08	5.97E-09	8.18E-09	6.39E-09	6.41E-09	6.39E-09	4.26E-09	1.87E-09	3.95E-08
2158	561255.2	4191962	8.65E-09	1.09E-08	8.54E-09	8.56E-09	8.54E-09	6.33E-09	3.84E-09	5.53E-08	6.19E-09	8.48E-09	6.62E-09	6.64E-09	6.62E-09	4.41E-09	1.93E-09	4.09E-08
2159	561245.7	4191959	8.94E-09	1.12E-08	8.82E-09	8.85E-09	8.82E-09	6.54E-09	3.97E-09	5.72E-08	6.39E-09	8.76E-09	6.84E-09	6.86E-09	6.84E-09	4.56E-09	2.00E-09	4.23E-08
2160	561236.1	4191957	9.23E-09	1.16E-08	9.11E-09	9.13E-09	9.11E-09	6.75E-09	4.09E-09	5.90E-08	6.60E-09	9.04E-09	7.06E-09	7.08E-09	7.06E-09	4.71E-09	2.06E-09	4.36E-08
2161	561226.6	4191955	9.50E-09	1.19E-08	9.38E-09	9.40E-09	9.38E-09	6.95E-09	4.22E-09	6.08E-08	6.79E-09	9.31E-09	7.27E-09	7.29E-09	7.27E-09	4.85E-09	2.12E-09	4.49E-08
2162	561217.1	4191952	9.77E-09	1.23E-08	9.64E-09	9.66E-09	9.64E-09	7.15E-09	4.33E-09	6.25E-08	6.98E-09	9.57E-09	7.47E-09	7.49E-09	7.47E-09	4.98E-09	2.18E-09	4.62E-08
2163	561207.5	4191950	1.00E-08	1.26E-08	9.88E-09	9.91E-09	9.88E-09	7.33E-09	4.44E-09	6.41E-08	7.16E-09	9.81E-09	7.66E-09	7.69E-09	7.66E-09	5.11E-09	2.24E-09	4.73E-08
2164	561198	4191948	1.03E-08	1.29E-08	1.01E-08	1.01E-08	1.01E-08	7.50E-09	4.55E-09	6.56E-08	7.33E-09	1.00E-08	7.85E-09	7.87E-09	7.85E-09	5.23E-09	2.29E-09	4.85E-08
2165	561188.5	4191945	1.05E-08	1.32E-08	1.03E-08	1.04E-08	1.03E-08	7.66E-09	4.65E-09	6.70E-08	7.49E-09	1.03E-08	8.01E-09	8.04E-09	8.01E-09	5.34E-09	2.34E-09	4.95E-08
2166	561178.9	4191943	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.81E-09	4.74E-09	6.83E-08	7.63E-09	1.05E-08	8.17E-09	8.19E-09	8.17E-09	5.45E-09	2.38E-09	5.05E-08
2167	561169.4	4191941	1.09E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.95E-09	4.82E-09	6.95E-08	7.77E-09	1.06E-08	8.31E-09	8.33E-09	8.31E-09	5.54E-09	2.43E-09	5.13E-08
2168	561159.9	4191938	1.10E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.07E-09	4.89E-09	7.05E-08	7.88E-09	1.08E-08	8.43E-09	8.46E-09	8.43E-09	5.62E-09	2.46E-09	5.21E-08
2169	561150.3	4191936	1.12E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.17E-09	4.95E-09	7.14E-08	7.98E-09	1.09E-08	8.54E-09	8.56E-09	8.54E-09	5.69E-09	2.49E-09	5.27E-08
2170	561140.8	4191934	1.13E-08	1.42E-08	1.11E-08	1.12E-08	1.11E-08	8.26E-09	5.01E-09	7.22E-08	8.07E-09	1.11E-08	8.63E-09	8.66E-09	8.63E-09	5.76E-09	2.52E-09	5.33E-08
2171	561131.3	4191931	1.14E-08	1.43E-08	1.12E-08	1.13E-08	1.12E-08	8.34E-09	5.05E-09	7.28E-08	8.14E-09	1.12E-08	8.72E-09	8.74E-09	8.72E-09	5.81E-09	2.54E-09	5.38E-08
2172	561121.7	4191929	1.15E-08	1.44E-08	1.13E-08	1.14E-08	1.13E-08	8.40E-09	5.09E-09	7.34E-08	8.21E-09	1.12E-08	8.78E-09	8.81E-09	8.78E-09	5.85E-09	2.56E-09	5.42E-08
2173	561326.5	4191984	6.51E-09	8.19E-09	6.43E-09	6.44E-09	6.43E-09	4.77E-09	2.89E-09	4.17E-08	4.66E-09	6.38E-09	4.98E-09	5.00E-09	4.98E-09	3.32E-09	1.45E-09	3.08E-08
2174	561334.3	4191990	6.34E-09	7.97E-09	6.25E-09	6.27E-09	6.25E-09	4.64E-09	2.81E-09	4.05E-08	4.53E-09	6.21E-09	4.85E-09	4.86E-09	4.85E-09	3.23E-09	1.42E-09	3.00E-08
2175	561342	4191996	6.17E-09	7.75E-09	6.08E-09	6.10E-09	6.08E-09	4.51E-09	2.74E-09	3.94E-08	4.41E-09	6.04E-09	4.72E-09	4.73E-09	4.72E-09	3.15E-09	1.38E-09	2.91E-08
2176	561349.7	4192001	6.00E-09	7.54E-09	5.92E-09	5.94E-09	5.92E-09	4.39E-09	2.66E-09	3.84E-08	4.29E-09	5.88E-09	4.59E-09	4.60E-09	4.59E-09	3.06E-09	1.34E-09	2.83E-08
2177	561357.4	4192007	5.84E-09	7.34E-09	5.76E-09	5.78E-09	5.76E-09	4.27E-09	2.59E-09	3.73E-08	4.17E-09	5.72E-09	4.47E-09	4.48E-09	4.47E-09	2.98E-09	1.30E-09	2.76E-08
2178	561286.2	4191959	7.48E-09	9.41E-09	7.38E-09	7.40E-09	7.38E-09	5.48E-09	3.32E-09	4.79E-08	5.35E-09	7.33E-09	5.72E-09	5.74E-09	5.72E-09	3.82E-09	1.67E-09	3.54E-08
2179	561276.6	4191957	7.77E-09	9.77E-09	7.66E-09	7.68E-09	7.66E-09	5.68E-09	3.45E-09	4.97E-08	5.55E-09	7.61E-09	5.94E-09	5.96E-09	5.94E-09	3.96E-09	1.73E-09	3.67E-08
2180	561267.1	4191954	8.05E-09	1.01E-08	7.94E-09	7.96E-09	7.94E-09	5.89E-09	3.57E-09	5.15E-08	5.76E-09	7.89E-09	6.16E-09	6.18E-09	6.16E-09	4.11E-09	1.80E-09	3.80E-08

2181	561257.6	4191952	8.33E-09	1.05E-08	8.22E-09	8.24E-09	8.22E-09	6.10E-09	3.70E-09	5.33E-08	5.96E-09	8.16E-09	6.37E-09	6.39E-09	6.37E-09	4.25E-09	1.86E-09	3.94E-08
2182	561248	4191950	8.60E-09	1.08E-08	8.49E-09	8.51E-09	8.49E-09	6.30E-09	3.82E-09	5.50E-08	6.15E-09	8.43E-09	6.58E-09	6.60E-09	6.58E-09	4.39E-09	1.92E-09	4.07E-08
2183	561238.5	4191947	8.87E-09	1.12E-08	8.76E-09	8.78E-09	8.76E-09	6.49E-09	3.94E-09	5.67E-08	6.34E-09	8.69E-09	6.79E-09	6.81E-09	6.79E-09	4.53E-09	1.98E-09	4.19E-08
2184	561229	4191945	9.13E-09	1.15E-08	9.01E-09	9.04E-09	9.01E-09	6.68E-09	4.05E-09	5.84E-08	6.53E-09	8.95E-09	6.99E-09	7.01E-09	6.99E-09	4.66E-09	2.04E-09	4.32E-08
2185	561219.4	4191943	9.38E-09	1.18E-08	9.26E-09	9.28E-09	9.26E-09	6.86E-09	4.16E-09	6.00E-08	6.71E-09	9.19E-09	7.18E-09	7.20E-09	7.18E-09	4.79E-09	2.10E-09	4.43E-08
2186	561209.9	4191940	9.62E-09	1.21E-08	9.49E-09	9.52E-09	9.49E-09	7.04E-09	4.27E-09	6.15E-08	6.88E-09	9.42E-09	7.36E-09	7.38E-09	7.36E-09	4.91E-09	2.15E-09	4.55E-08
2187	561200.4	4191938	9.84E-09	1.24E-08	9.71E-09	9.74E-09	9.71E-09	7.20E-09	4.37E-09	6.29E-08	7.04E-09	9.64E-09	7.53E-09	7.55E-09	7.53E-09	5.02E-09	2.20E-09	4.65E-08
2188	561190.9	4191936	1.00E-08	1.26E-08	9.92E-09	9.94E-09	9.92E-09	7.35E-09	4.46E-09	6.43E-08	7.18E-09	9.84E-09	7.69E-09	7.71E-09	7.69E-09	5.13E-09	2.24E-09	4.75E-08
2189	561181.3	4191933	1.02E-08	1.29E-08	1.01E-08	1.01E-08	1.01E-08	7.49E-09	4.54E-09	6.55E-08	7.32E-09	1.00E-08	7.83E-09	7.86E-09	7.83E-09	5.22E-09	2.29E-09	4.84E-08
2190	561171.8	4191931	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.62E-09	4.62E-09	6.66E-08	7.45E-09	1.02E-08	7.97E-09	7.99E-09	7.97E-09	5.31E-09	2.33E-09	4.92E-08
2191	561162.3	4191929	1.06E-08	1.33E-08	1.04E-08	1.05E-08	1.04E-08	7.73E-09	4.69E-09	6.76E-08	7.56E-09	1.04E-08	8.09E-09	8.11E-09	8.09E-09	5.39E-09	2.36E-09	4.99E-08
2192	561152.7	4191926	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.83E-09	4.75E-09	6.85E-08	7.65E-09	1.05E-08	8.19E-09	8.21E-09	8.19E-09	5.46E-09	2.39E-09	5.06E-08
2193	561143.2	4191924	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.92E-09	4.80E-09	6.92E-08	7.74E-09	1.06E-08	8.28E-09	8.30E-09	8.28E-09	5.52E-09	2.42E-09	5.11E-08
2194	561133.7	4191922	1.09E-08	1.37E-08	1.08E-08	1.08E-08	1.08E-08	7.99E-09	4.85E-09	6.99E-08	7.81E-09	1.07E-08	8.36E-09	8.38E-09	8.36E-09	5.57E-09	2.44E-09	5.16E-08
2195	561124.1	4191919	1.10E-08	1.38E-08	1.09E-08	1.09E-08	1.09E-08	8.06E-09	4.88E-09	7.04E-08	7.87E-09	1.08E-08	8.42E-09	8.45E-09	8.42E-09	5.62E-09	2.46E-09	5.20E-08
2196	560814.6	4192518	1.79E-08	2.25E-08	1.77E-08	1.77E-08	1.77E-08	1.31E-08	7.94E-09	1.14E-07	1.28E-08	1.75E-08	1.37E-08	1.37E-08	1.37E-08	9.13E-09	4.00E-09	8.45E-08
2197	560817.7	4192535	1.76E-08	2.21E-08	1.73E-08	1.74E-08	1.73E-08	1.29E-08	7.79E-09	1.12E-07	1.26E-08	1.72E-08	1.34E-08	1.35E-08	1.34E-08	8.96E-09	3.92E-09	8.30E-08
2198	560820.7	4192553	1.73E-08	2.17E-08	1.71E-08	1.71E-08	1.71E-08	1.27E-08	7.67E-09	1.11E-07	1.24E-08	1.69E-08	1.32E-08	1.33E-08	1.32E-08	8.82E-09	3.86E-09	8.17E-08
2199	560804.8	4192520	1.68E-08	2.11E-08	1.65E-08	1.66E-08	1.65E-08	1.23E-08	7.43E-09	1.07E-07	1.20E-08	1.64E-08	1.28E-08	1.29E-08	1.28E-08	8.55E-09	3.74E-09	7.92E-08
2200	560807.8	4192537	1.65E-08	2.07E-08	1.62E-08	1.63E-08	1.62E-08	1.20E-08	7.30E-09	1.05E-07	1.18E-08	1.61E-08	1.26E-08	1.26E-08	1.26E-08	8.40E-09	3.68E-09	7.78E-08
2201	560810.9	4192554	1.62E-08	2.04E-08	1.60E-08	1.60E-08	1.60E-08	1.19E-08	7.19E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.24E-08	1.24E-08	8.27E-09	3.62E-09	7.66E-08
2202	560792.9	4192506	1.61E-08	2.03E-08	1.59E-08	1.59E-08	1.59E-08	1.18E-08	7.15E-09	1.03E-07	1.15E-08	1.58E-08	1.23E-08	1.24E-08	1.23E-08	8.22E-09	3.60E-09	7.61E-08
2203	560794.9	4192522	1.57E-08	1.98E-08	1.55E-08	1.56E-08	1.55E-08	1.15E-08	6.98E-09	1.01E-07	1.12E-08	1.54E-08	1.20E-08	1.21E-08	1.20E-08	8.03E-09	3.51E-09	7.43E-08
2204	560798	4192539	1.55E-08	1.94E-08	1.53E-08	1.53E-08	1.53E-08	1.13E-08	6.86E-09	9.89E-08	1.11E-08	1.51E-08	1.18E-08	1.19E-08	1.18E-08	7.89E-09	3.45E-09	7.30E-08
2205	560801	4192556	1.52E-08	1.92E-08	1.50E-08	1.51E-08	1.50E-08	1.11E-08	6.76E-09	9.74E-08	1.09E-08	1.49E-08	1.17E-08	1.17E-08	1.17E-08	7.77E-09	3.40E-09	7.20E-08
2206	560783.1	4192507	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	9.70E-08	1.08E-08	1.49E-08	1.16E-08	1.16E-08	1.16E-08	7.74E-09	3.39E-09	7.17E-08
2207	560785.1	4192524	1.48E-08	1.86E-08	1.46E-08	1.46E-08	1.46E-08	1.08E-08	6.57E-09	9.47E-08	1.06E-08	1.45E-08	1.13E-08	1.14E-08	1.13E-08	7.55E-09	3.31E-09	6.99E-08
2208	560788.1	4192541	1.45E-08	1.83E-08	1.44E-08	1.44E-08	1.44E-08	1.06E-08	6.45E-09	9.30E-08	1.04E-08	1.43E-08	1.11E-08	1.12E-08	1.11E-08	7.42E-09	3.25E-09	6.87E-08
2209	560791.2	4192558	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.36E-09	9.17E-08	1.03E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.20E-09	6.78E-08
2210	560773.2	4192508	1.43E-08	1.80E-08	1.41E-08	1.42E-08	1.41E-08	1.05E-08	6.36E-09	9.16E-08	1.02E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	7.31E-09	3.20E-09	6.77E-08
2211	560775.2	4192525	1.40E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.20E-09	8.94E-08	9.99E-09	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.13E-09	3.12E-09	6.60E-08
2212	560778.3	4192542	1.37E-08	1.73E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.09E-09	8.78E-08	9.82E-09	1.35E-08	1.05E-08	1.05E-08	1.05E-08	7.00E-09	3.07E-09	6.49E-08
2213	560781.3	4192560	1.35E-08	1.70E-08	1.34E-08	1.34E-08	1.34E-08	9.90E-09	6.00E-09	8.65E-08	9.67E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.90E-09	3.02E-09	6.39E-08
2214	560763.4	4192511	1.35E-08	1.70E-08	1.33E-08	1.34E-08	1.33E-08	9.90E-09	6.00E-09	8.65E-08	9.67E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.90E-09	3.02E-09	6.39E-08
2215	560765.4	4192527	1.32E-08	1.66E-08	1.30E-08	1.31E-08	1.30E-08	9.67E-09	5.86E-09	8.45E-08	9.45E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.74E-09	2.95E-09	6.25E-08
2216	560768.4	4192544	1.30E-08	1.63E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.76E-09	8.31E-08	9.29E-09	1.27E-08	9.94E-09	9.97E-09	9.94E-09	6.63E-09	2.90E-09	6.14E-08
2217	560771.5	4192561	1.28E-08	1.61E-08	1.26E-08	1.27E-08	1.26E-08	9.37E-09	5.68E-09	8.19E-08	9.15E-09	1.25E-08	9.80E-09	9.82E-09	9.80E-09	6.53E-09	2.86E-09	6.05E-08
2218	560753.6	4192512	1.28E-08	1.61E-08	1.27E-08	1.27E-08	1.27E-08	9.39E-09	5.69E-09	8.20E-08	9.17E-09	1.26E-08	9.82E-09	9.84E-09	9.82E-09	6.54E-09	2.87E-09	6.06E-08
2219	560752.6	4192497	1.32E-08	1.66E-08	1.30E-08	1.31E-08	1.30E-08	9.66E-09	5.86E-09	8.45E-08	9.44E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.74E-09	2.95E-09	6.24E-08
2220	560755.6	4192529	1.25E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	9.17E-09	5.56E-09	8.01E-08	8.96E-09	1.23E-08	9.59E-09	9.61E-09	9.59E-09	6.39E-09	2.80E-09	5.92E-08
2221	560758.6	4192546	1.23E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.01E-09	5.46E-09	7.88E-08	8.81E-09	1.21E-08	9.42E-09	9.45E-09	9.42E-09	6.28E-09	2.75E-09	5.82E-08
2222	560761.6	4192563	1.21E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	8.88E-09	5.38E-09	7.76E-08	8.68E-09	1.19E-08	9.29E-09	9.31E-09	9.29E-09	6.19E-09	2.71E-09	5.74E-08
2223	560743.7	4192514	1.22E-08	1.53E-08	1.20E-08	1.21E-08	1.20E-08	8.92E-09	5.41E-09	7.79E-08	8.71E-09	1.19E-08	9.32E-09	9.35E-09	9.32E-09	6.22E-09	2.72E-09	5.76E-08
2224	560742.7	4192497	1.26E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	9.19E-09	5.57E-09	8.03E-08	8.98E-09	1.23E-08	9.61E-09	9.63E-09	9.61E-09	6.41E-09	2.80E-09	5.93E-08
2225	560745.7	4192531	1.19E-08	1.50E-08	1.17E-08	1.18E-08	1.17E-08	8.71E-09	5.28E-09	7.61E-08	8.51E-09	1.17E-08	9.10E-09	9.13E-09	9.10E-09	6.07E-09	2.66E-09	5.62E-08
2226	560748.8	4192548	1.17E-08	1.47E-08	1.15E-08	1.16E-08	1.15E-08	8.56E-09	5.19E-09	7.48E-08	8.36E-09	1.15E-08	8.95E-09	8.97E-09	8.95E-09	5.97E-09	2.61E-09	5.53E-08
2227	560751.8	4192565	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.11E-09	7.37E-08	8.24E-09	1.13E-08	8.82E-09	8.84E-09	8.82E-09	5.88E-09	2.57E-09	5.45E-08
2228	560733.8	4192515	1.16E-08	1.46E-08	1.14E-08	1.15E-08	1.14E-08	8.49E-09	5.14E-09	7.42E-08	8.29E-09	1.14E-08	8.87E-09	8.90E-09	8.87E-09	5.92E-09	2.59E-09	5.48E-08
2229	560735.9	4192532	1.13E-08	1.42E-08	1.12E-08	1.12E-08	1.12E-08	8.28E-09	5.02E-09	7.24E-08	8.09E-09	1.11E-08	8.66E-09	8.69E-09	8.66E-09	5.77E-09	2.53E-09	5.35E-08
2230	560738.9	4192549	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.14E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.51E-09	8.54E-09	8.51E-09	5.68E-09	2.49E-09	5.26E-08
2231	560742	4192567	1.10E-08	1.38E-08	1.08E-08	1.09E-08	1.08E-08	8.02E-09	4.86E-09	7.01E-08	7.84E-09	1.07E-08	8.39E-09	8.41E-09	8.39E-09	5.59E-09	2.45E-09	5.18E-08
2232	560724	4192518	1.10E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.07E-09	4.89E-09	7.06E-08	7.89E-09	1.08E-08	8.44E-09	8.46E-09	8.44E-09	5.63E-09	2.46E-09	5.21E-08
2233	560726	4192534	1.08E-08	1.36E-08	1.06E-08	1.07E-08	1.06E-08	7.89E-09	4.78E-09	6.90E-08	7.71E-09	1.06E-08	8.25E-09	8.28E-09	8.25E-09	5.50E-09	2.41E-09	5.10E-08
2234	560729.1	4192551	1.06E-08	1.33E-08	1.05E-08	1.05E-08	1.05E-08	7.76E-09	4.70E-09	6.78E-08	7.58E-09	1.04E-08	8.11E-09	8.14E-09	8.11E-09	5.41E-09	2.37E-09	5.01E-08
2235	560732.1	4192568	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.65E-09	4.64E-09	6.68E-08	7.47E-09	1.02E-08	7.99E-09	8.02E-09	7.99E-09	5.33E-09	2.33E-09	4.94E-08
2236	560716.2	4192536	1.03E-08	1.29E-08	1.02E-08	1.02E-08	1.02E-08	7.53E-09	4.56E-09	6.58E-08	7.36E-09	1.01E-08	7.87E-09	7.89E-09	7.87E-09	5.25E-09	2.30E-09	4.86E-08
2237	560719.2	4192553	1.01E-08	1.27E-08	9.98E-09	1.00E-08	9.98E-09	7.40E-09	4.49E-09	6.47E-08	7.23E-09	9.91E-09	7.74E-09	7.76E-09	7.74E-09	5.16E-09	2.26E-09	4.78E-08
2238	560722.3	4192570	9.97E-09	1.25E-08	9.84E-09	9.86E-09	9.84E-09	7.30E-09	4.42E-09	6.38E-08	7.13E-09	9.77E-09	7.63E-09	7.65E-09	7.63E-09	5.09E-09	2.23E-09	4.71E-08
2239	560706.3	4192538	9.82E-09	1.24E-08	9.70E-09	9.72E-09	9.70E-09	7.19E-09	4.36E-09	6.28E-08	7.03E-09	9.63E-09	7.52E-09	7.54E-09	7.52E-09	5.01E-09	2.19E-09	4.64E-08
2240	560709.4	4192555	9.67E-09	1.22E-08	9.54E-09	9.57E-09	9.54E-09	7.08E-09	4.29E-09	6.18E-08	6.91E-09	9.47E-09	7.40E-09	7.42E-09	7.40E-09	4.93E-09	2.16E-09	4.57E-08
2241	560712.4	4192572	9.53E-09	1.20E-08	9.40E-09	9.43E-09	9.40E-09	6.97E-09	4.23E-09	6.09E-08	6.81E-09	9.33E-09	7.29E-09	7.31E-09	7.29E-09	4.86E-09	2.13E-09	4.50E-08
2242	560699.5	4192556	9.25E-09	1.16E-08	9.13E-09	9.16E-09	9.13E-09	6.77E-09	4.10E-09	5.92E-08	6.62E-09	9.06E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.37E-08
2243	560702.6	4192574	9.11E-09	1.15E-08	9.00E-09	9.02E-09	9.00E-09	6.67E-09	4.04E-09	5.83E-08	6.52E-09	8.93E-09	6.98E-09	6.99E-09	6.98E-09	4.65E-09	2.04E-09	4.31E-08
2244	560692.7	4192575	8.73E-09	1.10E-08	8.62E-09	8.64E-09	8.62E-09	6.39E-09	3.87E-09	5.59E-08	6.24E-09	8.56E-09	6.68E-09	6.70E-09	6.68E-09	4.46E-09	1.95E-09	4.13E-08
2245	560834.1	4192584	1.78E-08	2.24E-08	1.76E-08	1.76E-08	1.76E-08	1.30E-08	7.90E-09	1.14E-07	1.27E-08	1.74E-08	1.36E-08	1.37E-08	1.36E-08	9.08E-09	3.98E-09	8.41E-08
2246	560828.8	4192574	1.75E-08	2.20E-08	1.73E-08	1.73E-08	1.73E-08	1.28E-08	7.77E-09	1.12E-07	1.25E-08	1.72E-08	1.34E-08	1.34E-08	1.34E-08	8.93E-09	3.91E-09	8.28E-08
2247	560823.6	4192564	1.72E-08	2.17E-08	1.70E-08	1.71E-08	1.70E-08	1.26E-08	7.65E-09	1.10E-07	1.23E-08	1.69E-08	1.32E-08	1.32E-08	1.32E-08	8.80E-09	3.85E-09	8.15E-08
2248	560842.7	4192621	1.78E-08	2.23E-08	1.75E-08	1.76E-08	1.75E-08	1.30E-08	7.88E-09	1.14E-07	1.27E-08	1.74E-08	1.36E-08	1.36E-08	1.36E-08	9.06E-09	3.97E-09	8.39E-08
2249	560837.4	4192611	1.74E-08	2.19E-08	1.72E-08	1.73E-08	1.72E-08	1.28E-08	7.74E-09	1.12E-07	1.25E-08	1.71E-08	1.33E-08	1.34E-08	1.33E-08	8.90E-09	3.89E-09	8.24E-08
2250	560832.2	4192601	1.71E-08	2.15E-08	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.60E-09	1.10E-07	1.22E-08	1.68E-08	1.31E-08	1.31E-08	1.31E-08	8.74E-09	3.82E-09	8.09E-08
2251	560826.9	4192591	1.68E-08	2.12E-08	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.46E-09	1.08E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.58E-09	3.76E-09	7.95E-08
2252	560821.6	4192580	1.65E-08	2.08E-08	1.63E-08	1.64E-08	1.63E-08	1.21E-08	7.34E-09	1.06E-07	1.18E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	8.44E-09	3.69E-09	7.82E-08
2253	560816.3	4192570	1.63E-08	2.05E-08	1.61E-08	1.61E-08	1.61E-08	1.19E-08	7.22E-09	1.04E-07	1.16E-08	1.60E-08	1.25E-08	1.25E-08	1.25E-08	8.31E-09	3.64E-09	7.70E-08
2254	560840.9	4192638	1.71E-08	2.15E-08	1.69E-08	1.69E-08	1.69E-08	1.25E-08	7.59E-09	1.09E-07	1.22E-08	1.68E-08	1.31E-08	1.31E-08	1.31E-08	8.73E-09	3.82E-09	8.09E-08
2255	560835.6	4192628	1.68E-08	2.11E-08	1.66E-08	1.66E-08	1.66E-08	1.23E-08	7.46E-09	1.08E-07	1.20E-08	1.65E-08	1.29E-08	1.29E-08	1.29E-08	8.58E-09	3.76E-09	7.95E-08
2256	560830.3	4192618	1.65E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.32E-09	1.06E-07	1.18E-08	1.62E-08	1.26E-08	1.27E-08	1.26E-08	8.42E-09	3.69E-09	7.80E-08
2257	560825	4192608	1.62E-08	2.04E-08	1.60E-08	1.60E-08	1.60E-08	1.19E-08	7.19E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.24E-08	1.24E-08	8.27E-09	3.62E-09	7.66E-08
2258	560819.7	4192597	1.59E-08	2.00E-08	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.06E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.12E-09	3.56E-09	7.53E-08
2259	560814.4	4192587	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.95E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	7.40E-08
2260	560809.2	4192577	1.54E-08	1.94E-08	1.52E-08	1.53E-08	1.52E-08	1.13E-08	6.84E-09	9.86E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.87E-09	3.44E-09	7.29E-08
2261	560803.9	4192567	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.74E-09	9.72E-08	1.09E-08	1.49E-08	1.16E-08	1.17E-08	1.16E-08	7.75E-09	3.39E-09	7.18E-08
2262	560839	4192655	1.65E-08	2.08E-08	1.63E-08	1.63E-08	1.63E-08	1.21E-08	7.33E-09	1.06E-07	1.18E-08	1.62E-08	1.26E-08	1.27E-08	1.26E-08	8.42E-09	3.69E-09	7.80E-08
2263	560833.7	4192645	1.62E-08	2.04E-08	1.60E-08	1.61E-08	1.60E-08	1.19E-08	7.20E-09	1.04E-07	1.16E-08	1.59E-08	1.24E-08	1.25E-08	1.24E-08	8.28E-09	3.63E-09	7.67E-08
2264	560828.4	4192635	1.59E-08	2.01E-08	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.08E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.14E-09	3.56E-09	7.54E-08
2265	560823.2	4192625	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.95E-09	1.00E-07	1.12E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	7.99E-09	3.50E-09	7.40E-08
2266	560817.9	4192615	1.54E-08	1.93E-08	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.82E-09	9.84E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.85E-09	3.43E-09	7.27E-08
2267	560812.6	4192604	1.51E-08	1.90E-08	1.49E-08	1.49E-08	1.49E-08	1.11E-08	6.70E-09	9.66E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.71E-09	3.37E-09	7.14E-08
2268	560807.3	4192594	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.59E-09	9.50E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.58E-09	3.32E-09	7.02E-08
2269	560802	4192584	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.49E-09	9.35E-08	1.05E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.46E-09	3.27E-09	6.91E-08
2270	560796.7	4192574	1.44E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.39E-09	9.21E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.35E-09	3.22E-09	6.81E-08
2271	560837.2	4192672	1.59E-08	2.00E-08	1.57E-08	1.58E-08	1.57E-08	1.17E-08	7.07E-09	1.02E-07	1.14E-08	1.56E-08	1.22E-08	1.22E-08	1.22E-08	8.13E-09	3.56E-09	7.53E-08

2272	560831.9	4192662	1.57E-08	1.97E-08	1.55E-08	1.55E-08	1.55E-08	1.15E-08	6.96E-09	1.00E-07	1.12E-08	1.54E-08	1.20E-08	1.20E-08	1.20E-08	8.00E-09	3.50E-09	7.42E-08
2273	560826.6	4192652	1.54E-08	1.94E-08	1.52E-08	1.53E-08	1.52E-08	1.13E-08	6.84E-09	9.87E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.87E-09	3.45E-09	7.29E-08
2274	560821.3	4192642	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.72E-09	9.69E-08	1.08E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	7.73E-09	3.39E-09	7.16E-08
2275	560816	4192632	1.49E-08	1.87E-08	1.47E-08	1.47E-08	1.47E-08	1.09E-08	6.60E-09	9.52E-08	1.06E-08	1.46E-08	1.14E-08	1.14E-08	1.14E-08	7.59E-09	3.32E-09	7.03E-08
2276	560810.7	4192621	1.46E-08	1.84E-08	1.44E-08	1.45E-08	1.44E-08	1.07E-08	6.48E-09	9.35E-08	1.04E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	7.46E-09	3.26E-09	6.91E-08
2277	560805.4	4192611	1.44E-08	1.81E-08	1.42E-08	1.42E-08	1.42E-08	1.05E-08	6.37E-09	9.18E-08	1.03E-08	1.41E-08	1.10E-08	1.10E-08	1.10E-08	7.32E-09	3.21E-09	6.79E-08
2278	560800.1	4192601	1.41E-08	1.78E-08	1.39E-08	1.40E-08	1.39E-08	1.03E-08	6.26E-09	9.03E-08	1.01E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	7.20E-09	3.15E-09	6.67E-08
2279	560794.8	4192591	1.39E-08	1.75E-08	1.37E-08	1.37E-08	1.37E-08	1.02E-08	6.16E-09	8.88E-08	9.93E-09	1.36E-08	1.06E-08	1.07E-08	1.06E-08	7.09E-09	3.10E-09	6.56E-08
2280	560789.5	4192581	1.37E-08	1.72E-08	1.35E-08	1.35E-08	1.35E-08	1.00E-08	6.07E-09	8.75E-08	9.78E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	6.98E-09	3.06E-09	6.46E-08
2281	560784.2	4192571	1.35E-08	1.70E-08	1.33E-08	1.33E-08	1.33E-08	9.87E-09	5.98E-09	8.63E-08	9.64E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.88E-09	3.01E-09	6.37E-08
2282	560835.5	4192690	1.54E-08	1.93E-08	1.52E-08	1.52E-08	1.52E-08	1.13E-08	6.82E-09	9.83E-08	1.10E-08	1.51E-08	1.18E-08	1.18E-08	1.18E-08	7.84E-09	3.43E-09	7.27E-08
2283	560830.3	4192680	1.52E-08	1.91E-08	1.50E-08	1.50E-08	1.50E-08	1.11E-08	6.73E-09	9.70E-08	1.08E-08	1.49E-08	1.16E-08	1.16E-08	1.16E-08	7.74E-09	3.39E-09	7.17E-08
2284	560825.1	4192670	1.49E-08	1.88E-08	1.47E-08	1.48E-08	1.47E-08	1.09E-08	6.63E-09	9.56E-08	1.07E-08	1.46E-08	1.14E-08	1.15E-08	1.14E-08	7.62E-09	3.34E-09	7.06E-08
2285	560819.9	4192660	1.47E-08	1.85E-08	1.45E-08	1.45E-08	1.45E-08	1.08E-08	6.52E-09	9.40E-08	1.05E-08	1.44E-08	1.12E-08	1.13E-08	1.12E-08	7.50E-09	3.28E-09	6.95E-08
2286	560814.7	4192650	1.44E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.41E-09	9.24E-08	1.03E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.37E-09	3.23E-09	6.83E-08
2287	560809.5	4192640	1.42E-08	1.78E-08	1.40E-08	1.40E-08	1.40E-08	1.04E-08	6.30E-09	9.08E-08	1.01E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	7.24E-09	3.17E-09	6.71E-08
2288	560804.3	4192630	1.39E-08	1.75E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.19E-09	8.92E-08	9.97E-09	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.11E-09	3.11E-09	6.59E-08
2289	560799.1	4192620	1.37E-08	1.72E-08	1.35E-08	1.36E-08	1.35E-08	1.00E-08	6.08E-09	8.76E-08	9.80E-09	1.34E-08	1.05E-08	1.05E-08	1.05E-08	6.99E-09	3.06E-09	6.48E-08
2290	560793.8	4192610	1.35E-08	1.69E-08	1.33E-08	1.33E-08	1.33E-08	9.86E-09	5.98E-09	8.62E-08	9.64E-09	1.32E-08	1.03E-08	1.03E-08	1.03E-08	6.88E-09	3.01E-09	6.37E-08
2291	560788.6	4192600	1.33E-08	1.67E-08	1.31E-08	1.31E-08	1.31E-08	9.71E-09	5.88E-09	8.48E-08	9.48E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.77E-09	2.96E-09	6.27E-08
2292	560783.4	4192590	1.31E-08	1.64E-08	1.29E-08	1.29E-08	1.29E-08	9.56E-09	5.80E-09	8.35E-08	9.34E-09	1.28E-08	1.00E-08	1.00E-08	1.00E-08	6.66E-09	2.92E-09	6.17E-08
2293	560778.2	4192580	1.29E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	9.42E-09	5.71E-09	8.24E-08	9.21E-09	1.26E-08	9.85E-09	9.88E-09	9.85E-09	6.57E-09	2.88E-09	6.09E-08
2294	560828.4	4192697	1.47E-08	1.84E-08	1.45E-08	1.45E-08	1.45E-08	1.07E-08	6.50E-09	9.37E-08	1.05E-08	1.44E-08	1.12E-08	1.12E-08	1.12E-08	7.48E-09	3.27E-09	6.93E-08
2295	560823.2	4192687	1.45E-08	1.82E-08	1.43E-08	1.43E-08	1.43E-08	1.06E-08	6.41E-09	9.25E-08	1.03E-08	1.42E-08	1.11E-08	1.11E-08	1.11E-08	7.38E-09	3.23E-09	6.83E-08
2296	560818	4192677	1.42E-08	1.79E-08	1.41E-08	1.41E-08	1.41E-08	1.04E-08	6.32E-09	9.11E-08	1.02E-08	1.40E-08	1.09E-08	1.09E-08	1.09E-08	7.27E-09	3.18E-09	6.73E-08
2297	560812.8	4192667	1.40E-08	1.76E-08	1.38E-08	1.39E-08	1.38E-08	1.03E-08	6.22E-09	8.96E-08	1.00E-08	1.37E-08	1.07E-08	1.08E-08	1.07E-08	7.15E-09	3.13E-09	6.62E-08
2298	560807.5	4192657	1.38E-08	1.73E-08	1.36E-08	1.36E-08	1.36E-08	1.01E-08	6.11E-09	8.81E-08	9.85E-09	1.35E-08	1.05E-08	1.06E-08	1.05E-08	7.03E-09	3.08E-09	6.51E-08
2299	560802.3	4192647	1.35E-08	1.70E-08	1.34E-08	1.34E-08	1.34E-08	9.90E-09	6.00E-09	8.65E-08	9.67E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.90E-09	3.02E-09	6.39E-08
2300	560797.1	4192637	1.33E-08	1.67E-08	1.31E-08	1.32E-08	1.31E-08	9.73E-09	5.90E-09	8.50E-08	9.50E-09	1.30E-08	1.02E-08	1.02E-08	1.02E-08	6.78E-09	2.97E-09	6.28E-08
2301	560791.9	4192627	1.31E-08	1.64E-08	1.29E-08	1.29E-08	1.29E-08	9.56E-09	5.80E-09	8.36E-08	9.34E-09	1.28E-08	1.00E-08	1.00E-08	1.00E-08	6.66E-09	2.92E-09	6.17E-08
2302	560786.7	4192617	1.28E-08	1.62E-08	1.27E-08	1.27E-08	1.27E-08	9.40E-09	5.70E-09	8.22E-08	9.19E-09	1.26E-08	9.83E-09	9.86E-09	9.83E-09	6.55E-09	2.87E-09	6.07E-08
2303	560781.4	4192607	1.26E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.25E-09	5.61E-09	8.09E-08	9.04E-09	1.24E-08	9.68E-09	9.70E-09	9.68E-09	6.45E-09	2.82E-09	5.98E-08
2304	560776.2	4192597	1.25E-08	1.57E-08	1.23E-08	1.23E-08	1.23E-08	9.11E-09	5.53E-09	7.97E-08	8.91E-09	1.22E-08	9.53E-09	9.56E-09	9.53E-09	6.35E-09	2.78E-09	5.89E-08
2305	560771	4192587	1.23E-08	1.54E-08	1.21E-08	1.22E-08	1.21E-08	8.99E-09	5.45E-09	7.85E-08	8.78E-09	1.20E-08	9.40E-09	9.42E-09	9.40E-09	6.27E-09	2.74E-09	5.80E-08
2306	560765.8	4192577	1.21E-08	1.52E-08	1.20E-08	1.20E-08	1.20E-08	8.88E-09	5.38E-09	7.76E-08	8.67E-09	1.19E-08	9.28E-09	9.31E-09	9.28E-09	6.19E-09	2.71E-09	5.73E-08
2307	560821.4	4192704	1.40E-08	1.76E-08	1.38E-08	1.38E-08	1.38E-08	1.02E-08	6.21E-09	8.95E-08	1.00E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.14E-09	3.12E-09	6.61E-08
2308	560816.1	4192694	1.38E-08	1.74E-08	1.36E-08	1.37E-08	1.36E-08	1.01E-08	6.12E-09	8.83E-08	9.87E-09	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.04E-09	3.08E-09	6.52E-08
2309	560810.9	4192684	1.36E-08	1.71E-08	1.34E-08	1.35E-08	1.34E-08	9.95E-09	6.03E-09	8.70E-08	9.72E-09	1.33E-08	1.04E-08	1.04E-08	1.04E-08	6.94E-09	3.04E-09	6.43E-08
2310	560805.7	4192674	1.34E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.79E-09	5.93E-09	8.55E-08	9.56E-09	1.31E-08	1.02E-08	1.03E-08	1.02E-08	6.82E-09	2.99E-09	6.32E-08
2311	560800.4	4192664	1.31E-08	1.65E-08	1.30E-08	1.30E-08	1.30E-08	9.62E-09	5.83E-09	8.41E-08	9.40E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.71E-09	2.94E-09	6.21E-08
2312	560795.2	4192654	1.29E-08	1.62E-08	1.27E-08	1.28E-08	1.27E-08	9.45E-09	5.73E-09	8.26E-08	9.24E-09	1.27E-08	9.88E-09	9.91E-09	9.88E-09	6.59E-09	2.89E-09	6.10E-08
2313	560790	4192644	1.27E-08	1.60E-08	1.25E-08	1.26E-08	1.25E-08	9.29E-09	5.63E-09	8.12E-08	9.07E-09	1.24E-08	9.71E-09	9.74E-09	9.71E-09	6.47E-09	2.83E-09	6.00E-08
2314	560784.7	4192634	1.25E-08	1.57E-08	1.23E-08	1.23E-08	1.23E-08	9.13E-09	5.53E-09	7.98E-08	8.92E-09	1.22E-08	9.54E-09	9.57E-09	9.54E-09	6.36E-09	2.79E-09	5.89E-08
2315	560779.5	4192623	1.23E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.98E-09	5.44E-09	7.84E-08	8.77E-09	1.20E-08	9.39E-09	9.41E-09	9.39E-09	6.26E-09	2.74E-09	5.80E-08
2316	560774.3	4192613	1.21E-08	1.52E-08	1.19E-08	1.19E-08	1.19E-08	8.83E-09	5.36E-09	7.72E-08	8.63E-09	1.18E-08	9.24E-09	9.26E-09	9.24E-09	6.16E-09	2.70E-09	5.71E-08
2317	560769	4192603	1.19E-08	1.50E-08	1.17E-08	1.18E-08	1.17E-08	8.70E-09	5.27E-09	7.60E-08	8.50E-09	1.16E-08	9.10E-09	9.12E-09	9.10E-09	6.07E-09	2.66E-09	5.62E-08
2318	560763.8	4192593	1.17E-08	1.47E-08	1.16E-08	1.16E-08	1.16E-08	8.58E-09	5.20E-09	7.50E-08	8.38E-09	1.15E-08	8.97E-09	9.00E-09	8.97E-09	5.98E-09	2.62E-09	5.54E-08
2319	560758.6	4192583	1.16E-08	1.46E-08	1.14E-08	1.15E-08	1.14E-08	8.47E-09	5.14E-09	7.41E-08	8.28E-09	1.13E-08	8.86E-09	8.88E-09	8.86E-09	5.91E-09	2.59E-09	5.47E-08
2320	560814.3	4192711	1.34E-08	1.68E-08	1.32E-08	1.32E-08	1.32E-08	9.79E-09	5.93E-09	8.55E-08	9.56E-09	1.31E-08	1.02E-08	1.03E-08	1.02E-08	6.82E-09	2.99E-09	6.32E-08
2321	560809	4192701	1.32E-08	1.66E-08	1.30E-08	1.31E-08	1.30E-08	9.65E-09	5.85E-09	8.44E-08	9.43E-09	1.29E-08	1.01E-08	1.01E-08	1.01E-08	6.73E-09	2.95E-09	6.24E-08
2322	560803.8	4192691	1.30E-08	1.63E-08	1.28E-08	1.29E-08	1.28E-08	9.51E-09	5.77E-09	8.31E-08	9.29E-09	1.27E-08	9.94E-09	9.97E-09	9.94E-09	6.63E-09	2.90E-09	6.14E-08
2323	560798.6	4192681	1.28E-08	1.61E-08	1.26E-08	1.27E-08	1.26E-08	9.36E-09	5.67E-09	8.18E-08	9.14E-09	1.25E-08	9.78E-09	9.81E-09	9.78E-09	6.52E-09	2.86E-09	6.04E-08
2324	560793.3	4192671	1.26E-08	1.58E-08	1.24E-08	1.24E-08	1.24E-08	9.20E-09	5.58E-09	8.04E-08	8.99E-09	1.23E-08	9.62E-09	9.64E-09	9.62E-09	6.41E-09	2.81E-09	5.94E-08
2325	560788.1	4192661	1.23E-08	1.55E-08	1.22E-08	1.22E-08	1.22E-08	9.04E-09	5.48E-09	7.90E-08	8.83E-09	1.21E-08	9.45E-09	9.48E-09	9.45E-09	6.30E-09	2.76E-09	5.84E-08
2326	560782.8	4192650	1.21E-08	1.53E-08	1.20E-08	1.20E-08	1.20E-08	8.88E-09	5.38E-09	7.76E-08	8.68E-09	1.19E-08	9.28E-09	9.31E-09	9.28E-09	6.19E-09	2.71E-09	5.73E-08
2327	560777.6	4192640	1.19E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.73E-09	5.29E-09	7.63E-08	8.53E-09	1.17E-08	9.12E-09	9.15E-09	9.12E-09	6.08E-09	2.66E-09	5.64E-08
2328	560772.3	4192630	1.17E-08	1.47E-08	1.16E-08	1.16E-08	1.16E-08	8.58E-09	5.20E-09	7.50E-08	8.39E-09	1.15E-08	8.97E-09	9.00E-09	8.97E-09	5.98E-09	2.62E-09	5.54E-08
2329	560767.1	4192620	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.45E-09	5.12E-09	7.38E-08	8.25E-09	1.13E-08	8.83E-09	8.86E-09	8.83E-09	5.89E-09	2.58E-09	5.45E-08
2330	560761.8	4192610	1.14E-08	1.43E-08	1.12E-08	1.12E-08	1.12E-08	8.32E-09	5.04E-09	7.27E-08	8.13E-09	1.11E-08	8.70E-09	8.72E-09	8.70E-09	5.80E-09	2.54E-09	5.37E-08
2331	560756.6	4192600	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.20E-09	4.97E-09	7.17E-08	8.01E-09	1.10E-08	8.57E-09	8.60E-09	8.57E-09	5.72E-09	2.50E-09	5.30E-08
2332	560751.3	4192590	1.11E-08	1.39E-08	1.09E-08	1.10E-08	1.09E-08	8.10E-09	4.91E-09	7.08E-08	7.91E-09	1.08E-08	8.47E-09	8.49E-09	8.47E-09	5.65E-09	2.47E-09	5.23E-08
2333	560746.1	4192580	1.09E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.86E-09	7.00E-08	7.83E-09	1.07E-08	8.38E-09	8.40E-09	8.38E-09	5.59E-09	2.45E-09	5.17E-08
2334	560807.2	4192718	1.28E-08	1.61E-08	1.26E-08	1.27E-08	1.26E-08	9.37E-09	5.68E-09	8.19E-08	9.15E-09	1.25E-08	9.79E-09	9.82E-09	9.79E-09	6.53E-09	2.86E-09	6.05E-08
2335	560802	4192708	1.26E-08	1.59E-08	1.25E-08	1.25E-08	1.25E-08	9.24E-09	5.60E-09	8.08E-08	9.03E-09	1.24E-08	9.66E-09	9.69E-09	9.66E-09	6.44E-09	2.82E-09	5.97E-08
2336	560796.7	4192698	1.24E-08	1.56E-08	1.23E-08	1.23E-08	1.23E-08	9.10E-09	5.52E-09	7.96E-08	8.89E-09	1.22E-08	9.52E-09	9.54E-09	9.52E-09	6.35E-09	2.78E-09	5.88E-08
2337	560791.4	4192688	1.22E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.96E-09	5.43E-09	7.83E-08	8.75E-09	1.20E-08	9.36E-09	9.39E-09	9.36E-09	6.24E-09	2.73E-09	5.78E-08
2338	560786.2	4192678	1.20E-08	1.51E-08	1.19E-08	1.19E-08	1.19E-08	8.80E-09	5.34E-09	7.69E-08	8.60E-09	1.18E-08	9.21E-09	9.23E-09	9.21E-09	6.14E-09	2.69E-09	5.69E-08
2339	560780.9	4192668	1.18E-08	1.49E-08	1.17E-08	1.17E-08	1.17E-08	8.65E-09	5.24E-09	7.56E-08	8.45E-09	1.16E-08	9.05E-09	9.07E-09	9.05E-09	6.03E-09	2.64E-09	5.59E-08
2340	560775.7	4192657	1.16E-08	1.46E-08	1.15E-08	1.15E-08	1.15E-08	8.50E-09	5.15E-09	7.43E-08	8.30E-09	1.14E-08	8.89E-09	8.91E-09	8.89E-09	5.93E-09	2.59E-09	5.49E-08
2341	560770.4	4192647	1.14E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.35E-09	5.06E-09	7.30E-08	8.16E-09	1.12E-08	8.74E-09	8.76E-09	8.74E-09	5.82E-09	2.55E-09	5.40E-08
2342	560765.2	4192637	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.22E-09	4.98E-09	7.18E-08	8.03E-09	1.10E-08	8.59E-09	8.61E-09	8.59E-09	5.73E-09	2.51E-09	5.31E-08
2343	560759.9	4192627	1.10E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.09E-09	4.90E-09	7.07E-08	7.90E-09	1.08E-08	8.45E-09	8.48E-09	8.45E-09	5.64E-09	2.47E-09	5.22E-08
2344	560754.7	4192617	1.09E-08	1.37E-08	1.07E-08	1.08E-08	1.07E-08	7.96E-09	4.83E-09	6.96E-08	7.78E-09	1.07E-08	8.32E-09	8.35E-09	8.32E-09	5.55E-09	2.43E-09	5.14E-08
2345	560749.4	4192607	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.85E-09	4.76E-09	6.86E-08	7.67E-09	1.05E-08	8.21E-09	8.23E-09	8.21E-09	5.47E-09	2.40E-09	5.07E-08
2346	560744.1	4192597	1.06E-08	1.33E-08	1.05E-08	1.05E-08	1.05E-08	7.75E-09	4.70E-09	6.78E-08	7.58E-09	1.04E-08	8.11E-09	8.13E-09	8.11E-09	5.40E-09	2.37E-09	5.01E-08
2347	560738.9	4192587	1.05E-08	1.32E-08	1.03E-08	1.04E-08	1.03E-08	7.67E-09	4.65E-09	6.70E-08	7.49E-09	1.03E-08	8.02E-09	8.04E-09	8.02E-09	5.35E-09	2.34E-09	4.95E-08
2348	560800.1	4192725	1.23E-08	1.54E-08	1.21E-08	1.21E-08	1.21E-08	8.97E-09	5.44E-09	7.84E-08	8.77E-09	1.20E-08	9.38E-09	9.41E-09	9.38E-09	6.26E-09	2.74E-09	5.80E-08
2349	560794.9	4192715	1.21E-08	1.52E-08	1.19E-08	1.20E-08	1.19E-08	8.85E-09	5.37E-09	7.74E-08	8.65E-09	1.19E-08	9.26E-09	9.28E-09	9.26E-09	6.17E-09	2.70E-09	5.72E-08
2350	560789.6	4192705	1.19E-08	1.50E-08	1.18E-08	1.18E-08	1.18E-08	8.72E-09	5.29E-09	7.62E-08	8.52E-09	1.17E-08	9.12E-09	9.14E-09	9.12E-09	6.08E-09	2.66E-09	5.63E-08
2351	560784.3	4192695	1.17E-08	1.47E-08	1.16E-08	1.16E-08	1.16E-08	8.58E-09	5.20E-09	7.50E-08	8.39E-09	1.15E-08	8.97E-09	9.00E-09	8.97E-09	5.98E-09	2.62E-09	5.54E-08
2352	560779.1	4192685	1.15E-08	1.45E-08	1.14E-08	1.14E-08	1.14E-08	8.44E-09	5.11E-09	7.37E-08	8.24E-09	1.13E-08	8.82E-09	8.85E-09	8.82E-09	5.88E-09	2.58E-09	5.45E-08
2353	560773.8	4192674	1.13E-08	1.42E-08	1.12E-08	1.12E-08	1.12E-08	8.29E-09	5.03E-09	7.25E-08	8.10E-09	1.11E-08	8.67E-09	8.69E-09	8.67E-09	5.78E-09	2.53E-09	5.35E-08
2354	560768.5	4192664	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.15E-09	4.94E-09	7.12E-08	7.96E-09	1.09E-08	8.52E-09	8.54E-09	8.52E-09	5.68E-09	2.49E-09	5.26E-08
2355	560763.3	4192654	1.09E-08	1.38E-08	1.08E-08	1.08E-08	1.08E-08	8.01E-09	4.85E-09	7.00E-08	7.82E-09	1.07E-08	8.37E-09	8.40E-09	8.37E-09	5.58E-09	2.44E-09	5.17E-08
2356	560758	4192644	1.08E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.88E-09	4.77E-09	6.88E-08	7.69E-09	1.05E-08	8.23E-09	8.26E-09	8.23E-09	5.49E-09	2.40E-09	5.09E-08
2357	560752.8	4192634	1.06E-08	1.33E-08	1.05E-08	1.05E-08	1.05E-08	7.75E-09	4.70E-09	6.77E-08	7.57E-09	1.04E-08	8.11E-09	8.13E-09	8.11E-09	5.40E-09	2.37E-09	5.01E-08
2358	560747.5	4192624	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.63E-09	4.63E-09	6.67E-08	7.46E-09	1.02E-08	7.98E-09	8.00E-09	7.98E-09	5.32E-09	2.33E-09	4.93E-08
2359	560742.2	4192614	1.03E-08	1.29E-08	1.01E-08	1.02E-08	1.01E-08	7.52E-09	4.56E-09	6.58E-08	7.35E-09	1.01E-08	7.87E-09	7.89E-09	7.87E-09	5.25E-09	2.30E-09	4.86E-08
2360	560737	4192604	1.02E-08	1.28E-08	1.00E-08	1.00E-08	1.00E-08	7.43E-09	4.50E-09	6.49E-08	7.26E-09	9.95E-09	7.77E-09	7.79E-09	7.77E-09	5.18E-09	2.27E-09	4.80E-08
2361	560731.7	4192594	1.00E-08	1.26E-08	9.91E-09	9.94E-09	9.91E-09	7.35E-09	4.46E-09	6.42E-08	7.18E-09	9.84E-09	7.69E-09	7.71E-09	7.69E-09	5.12E-09	2.24E-09	4.75E-08
2362	560726.4	4192584	9.95E-09	1.25E-08	9.82E-09	9.84E-09	9.82E-09	7.28E-09	4.41E-09	6.36E-08	7.11E-09	9.75E-09	7.61E-09	7.63E-09	7.61E-09	5.08E-09	2.22E-09	4.70E-08

2363	560793.1	4192732	1.18E-08	1.48E-08	1.16E-08	1.16E-08	1.16E-08	8.61E-09	5.22E-09	7.52E-08	8.41E-09	1.15E-08	9.00E-09	9.03E-09	9.00E-09	6.00E-09	2.63E-09	5.56E-08
2364	560787.8	4192722	1.16E-08	1.46E-08	1.15E-08	1.15E-08	1.15E-08	8.49E-09	5.15E-09	7.42E-08	8.30E-09	1.14E-08	8.88E-09	8.91E-09	8.88E-09	5.92E-09	2.59E-09	5.48E-08
2365	560782.5	4192712	1.14E-08	1.44E-08	1.13E-08	1.13E-08	1.13E-08	8.37E-09	5.07E-09	7.31E-08	8.18E-09	1.12E-08	8.75E-09	8.77E-09	8.75E-09	5.83E-09	2.55E-09	5.40E-08
2366	560777.2	4192702	1.12E-08	1.41E-08	1.11E-08	1.11E-08	1.11E-08	8.23E-09	4.99E-09	7.20E-08	8.04E-09	1.10E-08	8.61E-09	8.63E-09	8.61E-09	5.74E-09	2.51E-09	5.32E-08
2367	560772	4192692	1.11E-08	1.39E-08	1.09E-08	1.09E-08	1.09E-08	8.09E-09	4.91E-09	7.07E-08	7.91E-09	1.08E-08	8.46E-09	8.49E-09	8.46E-09	5.64E-09	2.47E-09	5.23E-08
2368	560766.7	4192681	1.09E-08	1.37E-08	1.07E-08	1.08E-08	1.07E-08	7.96E-09	4.82E-09	6.95E-08	7.77E-09	1.07E-08	8.32E-09	8.34E-09	8.32E-09	5.55E-09	2.43E-09	5.14E-08
2369	560761.4	4192671	1.07E-08	1.34E-08	1.05E-08	1.06E-08	1.05E-08	7.82E-09	4.74E-09	6.83E-08	7.64E-09	1.05E-08	8.17E-09	8.20E-09	8.17E-09	5.45E-09	2.39E-09	5.05E-08
2370	560756.1	4192661	1.05E-08	1.32E-08	1.04E-08	1.04E-08	1.04E-08	7.68E-09	4.66E-09	6.72E-08	7.51E-09	1.03E-08	8.03E-09	8.06E-09	8.03E-09	5.36E-09	2.35E-09	4.96E-08
2371	560750.9	4192651	1.03E-08	1.30E-08	1.02E-08	1.02E-08	1.02E-08	7.56E-09	4.58E-09	6.60E-08	7.38E-09	1.01E-08	7.90E-09	7.92E-09	7.90E-09	5.27E-09	2.31E-09	4.88E-08
2372	560745.6	4192641	1.02E-08	1.28E-08	1.00E-08	1.01E-08	1.00E-08	7.44E-09	4.51E-09	6.50E-08	7.27E-09	9.96E-09	7.78E-09	7.80E-09	7.78E-09	5.19E-09	2.27E-09	4.80E-08
2373	560740.3	4192631	1.00E-08	1.26E-08	9.88E-09	9.90E-09	9.88E-09	7.32E-09	4.44E-09	6.40E-08	7.16E-09	9.81E-09	7.66E-09	7.68E-09	7.66E-09	5.11E-09	2.24E-09	4.73E-08
2374	560735	4192621	9.87E-09	1.24E-08	9.74E-09	9.76E-09	9.74E-09	7.22E-09	4.38E-09	6.31E-08	7.06E-09	9.67E-09	7.55E-09	7.57E-09	7.55E-09	5.03E-09	2.20E-09	4.66E-08
2375	560729.8	4192611	9.74E-09	1.23E-08	9.61E-09	9.64E-09	9.61E-09	7.13E-09	4.32E-09	6.23E-08	6.97E-09	9.55E-09	7.46E-09	7.48E-09	7.46E-09	4.97E-09	2.18E-09	4.60E-08
2376	560724.5	4192601	9.64E-09	1.21E-08	9.51E-09	9.54E-09	9.51E-09	7.05E-09	4.27E-09	6.16E-08	6.89E-09	9.44E-09	7.37E-09	7.39E-09	7.37E-09	4.92E-09	2.15E-09	4.55E-08
2377	560719.2	4192590	9.54E-09	1.20E-08	9.42E-09	9.44E-09	9.42E-09	6.98E-09	4.23E-09	6.10E-08	6.82E-09	9.35E-09	7.30E-09	7.32E-09	7.30E-09	4.87E-09	2.13E-09	4.51E-08
2378	560786	4192739	1.13E-08	1.42E-08	1.11E-08	1.12E-08	1.11E-08	8.27E-09	5.01E-09	7.22E-08	8.08E-09	1.11E-08	8.64E-09	8.67E-09	8.64E-09	5.76E-09	2.52E-09	5.34E-08
2379	560780.7	4192729	1.11E-08	1.40E-08	1.10E-08	1.10E-08	1.10E-08	8.16E-09	4.94E-09	7.13E-08	7.97E-09	1.09E-08	8.53E-09	8.55E-09	8.53E-09	5.69E-09	2.49E-09	5.27E-08
2380	560775.4	4192719	1.10E-08	1.38E-08	1.08E-08	1.09E-08	1.08E-08	8.03E-09	4.87E-09	7.02E-08	7.85E-09	1.08E-08	8.40E-09	8.42E-09	8.40E-09	5.60E-09	2.45E-09	5.19E-08
2381	560770.1	4192709	1.08E-08	1.36E-08	1.07E-08	1.07E-08	1.07E-08	7.91E-09	4.79E-09	6.91E-08	7.73E-09	1.06E-08	8.27E-09	8.29E-09	8.27E-09	5.51E-09	2.41E-09	5.11E-08
2382	560764.9	4192699	1.06E-08	1.34E-08	1.05E-08	1.05E-08	1.05E-08	7.77E-09	4.71E-09	6.79E-08	7.60E-09	1.04E-08	8.13E-09	8.15E-09	8.13E-09	5.42E-09	2.37E-09	5.02E-08
2383	560759.6	4192688	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.64E-09	4.63E-09	6.68E-08	7.47E-09	1.02E-08	7.99E-09	8.01E-09	7.99E-09	5.33E-09	2.33E-09	4.93E-08
2384	560754.3	4192678	1.03E-08	1.29E-08	1.01E-08	1.02E-08	1.01E-08	7.51E-09	4.55E-09	6.56E-08	7.34E-09	1.01E-08	7.85E-09	7.87E-09	7.85E-09	5.24E-09	2.29E-09	4.85E-08
2385	560749	4192668	1.01E-08	1.27E-08	9.95E-09	9.98E-09	9.95E-09	7.38E-09	4.47E-09	6.45E-08	7.21E-09	9.88E-09	7.72E-09	7.74E-09	7.72E-09	5.15E-09	2.25E-09	4.77E-08
2386	560743.7	4192658	9.92E-09	1.25E-08	9.79E-09	9.82E-09	9.79E-09	7.26E-09	4.40E-09	6.34E-08	7.09E-09	9.72E-09	7.59E-09	7.61E-09	7.59E-09	5.06E-09	2.22E-09	4.69E-08
2387	560738.4	4192648	9.76E-09	1.23E-08	9.63E-09	9.66E-09	9.63E-09	7.14E-09	4.33E-09	6.24E-08	6.98E-09	9.56E-09	7.47E-09	7.49E-09	7.47E-09	4.98E-09	2.18E-09	4.61E-08
2388	560733.2	4192638	9.61E-09	1.21E-08	9.49E-09	9.51E-09	9.49E-09	7.03E-09	4.26E-09	6.15E-08	6.87E-09	9.42E-09	7.36E-09	7.38E-09	7.36E-09	4.90E-09	2.15E-09	4.54E-08
2389	560727.9	4192628	9.48E-09	1.19E-08	9.35E-09	9.38E-09	9.35E-09	6.94E-09	4.20E-09	6.06E-08	6.78E-09	9.28E-09	7.25E-09	7.27E-09	7.25E-09	4.83E-09	2.12E-09	4.48E-08
2390	560722.6	4192618	9.36E-09	1.18E-08	9.23E-09	9.26E-09	9.23E-09	6.85E-09	4.15E-09	5.99E-08	6.69E-09	9.17E-09	7.16E-09	7.18E-09	7.16E-09	4.77E-09	2.09E-09	4.42E-08
2391	560717.3	4192607	9.25E-09	1.16E-08	9.13E-09	9.16E-09	9.13E-09	6.77E-09	4.11E-09	5.92E-08	6.62E-09	9.07E-09	7.08E-09	7.10E-09	7.08E-09	4.72E-09	2.07E-09	4.37E-08
2392	560712	4192597	9.17E-09	1.15E-08	9.05E-09	9.07E-09	9.05E-09	6.71E-09	4.07E-09	5.86E-08	6.55E-09	8.98E-09	7.01E-09	7.03E-09	7.01E-09	4.68E-09	2.05E-09	4.33E-08
2393	560706.7	4192587	9.09E-09	1.14E-08	8.97E-09	8.99E-09	8.97E-09	6.65E-09	4.03E-09	5.81E-08	6.50E-09	8.91E-09	6.96E-09	6.98E-09	6.96E-09	4.64E-09	2.03E-09	4.30E-08
2394	560778.9	4192746	1.09E-08	1.37E-08	1.07E-08	1.07E-08	1.07E-08	7.95E-09	4.82E-09	6.94E-08	7.76E-09	1.06E-08	8.31E-09	8.33E-09	8.31E-09	5.54E-09	2.43E-09	5.13E-08
2395	560773.6	4192736	1.07E-08	1.35E-08	1.06E-08	1.06E-08	1.06E-08	7.84E-09	4.75E-09	6.85E-08	7.66E-09	1.05E-08	8.20E-09	8.22E-09	8.20E-09	5.47E-09	2.39E-09	5.06E-08
2396	560768.3	4192726	1.06E-08	1.33E-08	1.04E-08	1.04E-08	1.04E-08	7.72E-09	4.68E-09	6.75E-08	7.55E-09	1.03E-08	8.08E-09	8.10E-09	8.08E-09	5.38E-09	2.36E-09	4.99E-08
2397	560763	4192716	1.04E-08	1.31E-08	1.03E-08	1.03E-08	1.03E-08	7.60E-09	4.61E-09	6.64E-08	7.43E-09	1.02E-08	7.95E-09	7.97E-09	7.95E-09	5.30E-09	2.32E-09	4.91E-08
2398	560757.8	4192706	1.02E-08	1.28E-08	1.01E-08	1.01E-08	1.01E-08	7.48E-09	4.53E-09	6.53E-08	7.30E-09	1.00E-08	7.82E-09	7.84E-09	7.82E-09	5.21E-09	2.28E-09	4.83E-08
2399	560752.5	4192695	1.00E-08	1.26E-08	9.91E-09	9.94E-09	9.91E-09	7.35E-09	4.45E-09	6.42E-08	7.18E-09	9.84E-09	7.68E-09	7.70E-09	7.68E-09	5.12E-09	2.24E-09	4.75E-08
2400	560747.2	4192685	9.87E-09	1.24E-08	9.74E-09	9.76E-09	9.74E-09	7.22E-09	4.38E-09	6.31E-08	7.06E-09	9.67E-09	7.55E-09	7.57E-09	7.55E-09	5.03E-09	2.20E-09	4.66E-08
2401	560741.9	4192675	9.70E-09	1.22E-08	9.57E-09	9.60E-09	9.57E-09	7.10E-09	4.30E-09	6.20E-08	6.94E-09	9.50E-09	7.42E-09	7.44E-09	7.42E-09	4.95E-09	2.17E-09	4.58E-08
2402	560736.6	4192665	9.54E-09	1.20E-08	9.41E-09	9.44E-09	9.41E-09	6.98E-09	4.23E-09	6.10E-08	6.82E-09	9.35E-09	7.30E-09	7.32E-09	7.30E-09	4.87E-09	2.13E-09	4.51E-08
2403	560731.3	4192655	9.39E-09	1.18E-08	9.26E-09	9.29E-09	9.26E-09	6.87E-09	4.16E-09	6.00E-08	6.71E-09	9.20E-09	7.18E-09	7.20E-09	7.18E-09	4.79E-09	2.10E-09	4.44E-08
2404	560726	4192645	9.24E-09	1.16E-08	9.12E-09	9.15E-09	9.12E-09	6.76E-09	4.10E-09	5.91E-08	6.61E-09	9.06E-09	7.07E-09	7.09E-09	7.07E-09	4.72E-09	2.06E-09	4.37E-08
2405	560720.7	4192635	9.11E-09	1.15E-08	8.99E-09	9.02E-09	8.99E-09	6.67E-09	4.04E-09	5.83E-08	6.51E-09	8.93E-09	6.97E-09	6.99E-09	6.97E-09	4.65E-09	2.04E-09	4.31E-08
2406	560715.4	4192624	9.00E-09	1.13E-08	8.88E-09	8.90E-09	8.88E-09	6.59E-09	3.99E-09	5.76E-08	6.43E-09	8.82E-09	6.89E-09	6.90E-09	6.89E-09	4.59E-09	2.01E-09	4.25E-08
2407	560710.1	4192614	8.90E-09	1.12E-08	8.78E-09	8.81E-09	8.78E-09	6.51E-09	3.95E-09	5.69E-08	6.36E-09	8.72E-09	6.81E-09	6.83E-09	6.81E-09	4.54E-09	1.99E-09	4.21E-08
2408	560704.8	4192604	8.81E-09	1.11E-08	8.70E-09	8.72E-09	8.70E-09	6.45E-09	3.91E-09	5.64E-08	6.30E-09	8.63E-09	6.74E-09	6.76E-09	6.74E-09	4.50E-09	1.97E-09	4.16E-08
2409	560699.5	4192594	8.74E-09	1.10E-08	8.62E-09	8.65E-09	8.62E-09	6.39E-09	3.88E-09	5.59E-08	6.25E-09	8.56E-09	6.69E-09	6.71E-09	6.69E-09	4.46E-09	1.95E-09	4.13E-08
2410	561025.5	4192215	8.48E-08	1.07E-07	8.37E-08	8.40E-08	8.37E-08	6.21E-08	3.76E-08	5.43E-07	6.07E-08	8.31E-08	6.49E-08	6.51E-08	6.49E-08	4.33E-08	1.90E-08	4.01E-07

			T4iRev							T4fRev						
			8.87E-03	1.12E-02	8.76E-03	8.78E-03	8.76E-03	6.49E-03	3.94E-03	6.35E-03	8.70E-03	6.79E-03	6.81E-03	6.79E-03	4.53E-03	1.98E-03
	UTM X	UTM Y	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
1	560828.8	4192712	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.13E-04	4.93E-04	7.94E-04	1.09E-03	8.50E-04	8.53E-04	8.50E-04	5.67E-04	2.48E-04
2	560833.9	4192728	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.11E-04	4.92E-04	7.93E-04	1.09E-03	8.48E-04	8.51E-04	8.48E-04	5.66E-04	2.48E-04
3	560824.7	4192721	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.86E-04	4.76E-04	7.67E-04	1.05E-03	8.21E-04	8.24E-04	8.21E-04	5.48E-04	2.40E-04
4	560827.4	4192736	1.06E-03	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.77E-04	4.71E-04	7.59E-04	1.04E-03	8.12E-04	8.15E-04	8.12E-04	5.42E-04	2.37E-04
5	560817.8	4192728	1.03E-03	1.29E-03	1.01E-03	1.02E-03	1.01E-03	7.52E-04	4.56E-04	7.35E-04	1.01E-03	7.86E-04	7.89E-04	7.86E-04	5.24E-04	2.30E-04
6	560832.6	4192752	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.10E-04	8.07E-04	5.38E-04	2.36E-04
7	560823.2	4192745	1.03E-03	1.29E-03	1.01E-03	1.02E-03	1.01E-03	7.51E-04	4.55E-04	7.34E-04	1.01E-03	7.85E-04	7.87E-04	7.85E-04	5.23E-04	2.29E-04
8	560813.8	4192738	9.94E-04	1.25E-03	9.81E-04	9.84E-04	9.81E-04	7.28E-04	4.41E-04	7.11E-04	9.74E-04	7.61E-04	7.63E-04	7.61E-04	5.07E-04	2.22E-04
9	560828.2	4192761	1.02E-03	1.28E-03	1.00E-03	1.01E-03	1.00E-03	7.45E-04	4.52E-04	7.28E-04	9.98E-04	7.79E-04	7.81E-04	7.79E-04	5.19E-04	2.27E-04
10	560818.9	4192754	9.91E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	7.26E-04	4.40E-04	7.09E-04	9.71E-04	7.59E-04	7.61E-04	7.59E-04	5.06E-04	2.21E-04
11	560809.6	4192747	9.63E-04	1.21E-03	9.50E-04	9.53E-04	9.50E-04	7.05E-04	4.27E-04	6.88E-04	9.43E-04	7.37E-04	7.39E-04	7.37E-04	4.91E-04	2.15E-04
12	560800.4	4192740	9.33E-04	1.17E-03	9.20E-04	9.23E-04	9.20E-04	6.83E-04	4.14E-04	6.67E-04	9.14E-04	7.14E-04	7.16E-04	7.14E-04	4.76E-04	2.08E-04
13	560831.7	4192776	1.00E-03	1.26E-03	9.90E-04	9.92E-04	9.90E-04	7.34E-04	4.45E-04	7.17E-04	9.83E-04	7.67E-04	7.70E-04	7.67E-04	5.12E-04	2.24E-04
14	560822.1	4192769	9.79E-04	1.23E-03	9.66E-04	9.69E-04	9.66E-04	7.17E-04	4.34E-04	7.00E-04	9.59E-04	7.49E-04	7.51E-04	7.49E-04	5.00E-04	2.19E-04
15	560812.5	4192762	9.53E-04	1.20E-03	9.41E-04	9.43E-04	9.41E-04	6.97E-04	4.23E-04	6.82E-04	9.34E-04	7.29E-04	7.31E-04	7.29E-04	4.86E-04	2.13E-04
16	560802.9	4192754	9.25E-04	1.16E-03	9.13E-04	9.15E-04	9.13E-04	6.77E-04	4.10E-04	6.61E-04	9.06E-04	7.08E-04	7.10E-04	7.08E-04	4.72E-04	2.07E-04
17	560793.4	4192747	8.96E-04	1.13E-03	8.84E-04	8.86E-04	8.84E-04	6.55E-04	3.97E-04	6.40E-04	8.78E-04	6.85E-04	6.87E-04	6.85E-04	4.57E-04	2.00E-04
18	560827.1	4192785	9.68E-04	1.22E-03	9.55E-04	9.58E-04	9.55E-04	7.08E-04	4.29E-04	6.92E-04	9.48E-04	7.41E-04	7.43E-04	7.41E-04	4.94E-04	2.16E-04
19	560817.7	4192778	9.46E-04	1.19E-03	9.34E-04	9.37E-04	9.34E-04	6.93E-04	4.20E-04	6.77E-04	9.27E-04	7.24E-04	7.26E-04	7.24E-04	4.83E-04	2.11E-04
20	560808.2	4192771	9.23E-04	1.16E-03	9.10E-04	9.13E-04	9.10E-04	6.75E-04	4.09E-04	6.60E-04	9.04E-04	7.06E-04	7.08E-04	7.06E-04	4.71E-04	2.06E-04
21	560798.8	4192764	8.97E-04	1.13E-03	8.85E-04	8.87E-04	8.85E-04	6.56E-04	3.98E-04	6.41E-04	8.79E-04	6.86E-04	6.88E-04	6.86E-04	4.58E-04	2.00E-04
22	560789.4	4192756	8.70E-04	1.09E-03	8.58E-04	8.61E-04	8.58E-04	6.37E-04	3.86E-04	6.22E-04	8.52E-04	6.66E-04	6.67E-04	6.66E-04	4.44E-04	1.94E-04
23	560998.7	4192564	7.21E-03	9.06E-03	7.11E-03	7.13E-03	7.11E-03	5.27E-03	3.20E-03	5.15E-03	7.06E-03	5.51E-03	5.53E-03	5.51E-03	3.68E-03	1.61E-03
24	561014.6	4192568	8.01E-03	1.01E-02	7.90E-03	7.93E-03	7.90E-03	5.86E-03	3.55E-03	5.73E-03	7.85E-03	6.13E-03	6.15E-03	6.13E-03	4.09E-03	1.79E-03
25	561030.5	4192573	8.32E-03	1.05E-02	8.21E-03	8.24E-03	8.21E-03	6.09E-03	3.69E-03	5.95E-03	8.15E-03	6.37E-03	6.39E-03	6.37E-03	4.25E-03	1.86E-03
26	560991.4	4192572	6.03E-03	7.59E-03	5.95E-03	5.97E-03	5.95E-03	4.42E-03	2.68E-03	4.31E-03	5.91E-03	4.62E-03	4.63E-03	4.62E-03	3.08E-03	1.35E-03
27	561004.1	4192576	6.57E-03	8.27E-03	6.49E-03	6.51E-03	6.49E-03	4.81E-03	2.92E-03	4.70E-03	6.44E-03	5.03E-03	5.04E-03	5.03E-03	3.35E-03	1.47E-03
28	561020	4192580	7.06E-03	8.87E-03	6.96E-03	6.98E-03	6.96E-03	5.16E-03	3.13E-03	5.05E-03	6.91E-03	5.40E-03	5.42E-03	5.40E-03	3.60E-03	1.58E-03
29	561035.9	4192584	7.29E-03	9.17E-03	7.20E-03	7.22E-03	7.20E-03	5.34E-03	3.24E-03	5.22E-03	7.15E-03	5.58E-03	5.60E-03	5.58E-03	3.72E-03	1.63E-03
30	560987.6	4192581	5.29E-03	6.65E-03	5.22E-03	5.24E-03	5.22E-03	3.87E-03	2.35E-03	3.78E-03	5.18E-03	4.05E-03	4.06E-03	4.05E-03	2.70E-03	1.18E-03
31	561001.5	4192585	5.75E-03	7.23E-03	5.67E-03	5.69E-03	5.67E-03	4.21E-03	2.55E-03	4.11E-03	5.63E-03	4.40E-03	4.41E-03	4.40E-03	2.93E-03	1.28E-03
32	561017.4	4192590	6.17E-03	7.75E-03	6.09E-03	6.10E-03	6.09E-03	4.51E-03	2.74E-03	4.41E-03	6.04E-03	4.72E-03	4.73E-03	4.72E-03	3.15E-03	1.38E-03
33	561033.2	4192594	6.43E-03	8.08E-03	6.34E-03	6.36E-03	6.34E-03	4.70E-03	2.85E-03	4.60E-03	6.30E-03	4.92E-03	4.93E-03	4.92E-03	3.28E-03	1.44E-03
34	560983.8	4192590	4.71E-03	5.92E-03	4.65E-03	4.66E-03	4.65E-03	3.45E-03	2.09E-03	3.37E-03	4.61E-03	3.60E-03	3.61E-03	3.60E-03	2.40E-03	1.05E-03
35	560998.9	4192595	5.11E-03	6.42E-03	5.04E-03	5.05E-03	5.04E-03	3.74E-03	2.27E-03	3.65E-03	5.00E-03	3.91E-03	3.92E-03	3.91E-03	2.60E-03	1.14E-03
36	561014.8	4192599	5.46E-03	6.87E-03	5.39E-03	5.41E-03	5.39E-03	4.00E-03	2.42E-03	3.91E-03	5.35E-03	4.18E-03	4.19E-03	4.18E-03	2.79E-03	1.22E-03
37	561030.6	4192604	5.72E-03	7.19E-03	5.64E-03	5.66E-03	5.64E-03	4.18E-03	2.54E-03	4.09E-03	5.60E-03	4.38E-03	4.39E-03	4.38E-03	2.92E-03	1.28E-03
38	560982.8	4192600	4.30E-03	5.41E-03	4.24E-03	4.25E-03	4.24E-03	3.15E-03	1.91E-03	3.07E-03	4.21E-03	3.29E-03	3.30E-03	3.29E-03	2.19E-03	9.60E-04
39	560996.3	4192605	4.59E-03	5.77E-03	4.53E-03	4.54E-03	4.53E-03	3.36E-03	2.04E-03	3.28E-03	4.50E-03	3.51E-03	3.52E-03	3.51E-03	2.34E-03	1.03E-03
40	561012.2	4192609	4.90E-03	6.16E-03	4.83E-03	4.85E-03	4.83E-03	3.58E-03	2.17E-03	3.50E-03	4.80E-03	3.75E-03	3.76E-03	3.75E-03	2.50E-03	1.09E-03
41	561028	4192613	5.13E-03	6.45E-03	5.06E-03	5.07E-03	5.06E-03	3.75E-03	2.28E-03	3.67E-03	5.02E-03	3.92E-03	3.94E-03	3.92E-03	2.62E-03	1.15E-03
42	560979.4	4192610	3.91E-03	4.91E-03	3.86E-03	3.87E-03	3.86E-03	2.86E-03	1.73E-03	2.79E-03	3.83E-03	2.99E-03	3.00E-03	2.99E-03	1.99E-03	8.73E-04
43	560993.7	4192614	4.17E-03	5.24E-03	4.11E-03	4.12E-03	4.11E-03	3.05E-03	1.85E-03	2.98E-03	4.08E-03	3.19E-03	3.20E-03	3.19E-03	2.13E-03	9.31E-04
44	561009.5	4192619	4.43E-03	5.57E-03	4.37E-03	4.38E-03	4.37E-03	3.24E-03	1.96E-03	3.17E-03	4.34E-03	3.39E-03	3.40E-03	3.39E-03	2.26E-03	9.89E-04
45	561025.4	4192623	4.63E-03	5.83E-03	4.57E-03	4.59E-03	4.57E-03	3.39E-03	2.06E-03	3.31E-03	4.54E-03	3.55E-03	3.56E-03	3.55E-03	2.36E-03	1.04E-03
46	560976	4192619	3.58E-03	4.50E-03	3.53E-03	3.54E-03	3.53E-03	2.62E-03	1.59E-03	2.56E-03	3.51E-03	2.74E-03	2.75E-03	2.74E-03	1.83E-03	8.00E-04
47	560991.1	4192624	3.81E-03	4.79E-03	3.76E-03	3.77E-03	3.76E-03	2.79E-03	1.69E-03	2.72E-03	3.73E-03	2.91E-03	2.92E-03	2.91E-03	1.94E-03	8.51E-04
48	561006.9	4192628	4.04E-03	5.07E-03	3.98E-03	3.99E-03	3.98E-03	2.95E-03	1.79E-03	2.89E-03	3.95E-03	3.09E-03	3.10E-03	3.09E-03	2.06E-03	9.01E-04
49	561022.8	4192633	4.21E-03	5.30E-03	4.16E-03	4.17E-03	4.16E-03	3.08E-03	1.87E-03	3.01E-03	4.13E-03	3.22E-03	3.23E-03	3.22E-03	2.15E-03	9.41E-04
50	560974.6	4192629	3.32E-03	4.18E-03	3.28E-03	3.29E-03	3.28E-03	2.43E-03	1.48E-03	2.38E-03	3.26E-03	2.54E-03	2.55E-03	2.54E-03	1.70E-03	7.43E-04
51	560962.8	4192624	3.17E-03	3.98E-03	3.12E-03	3.13E-03	3.12E-03	2.32E-03	1.40E-03	2.26E-03	3.10E-03	2.42E-03	2.43E-03	2.42E-03	1.62E-03	7.07E-04
52	560988.5	4192634	3.51E-03	4.41E-03	3.46E-03	3.47E-03	3.46E-03	2.57E-03	1.56E-03	2.51E-03	3.43E-03	2.68E-03	2.69E-03	2.68E-03	1.79E-03	7.83E-04
53	561004.3	4192638	3.70E-03	4.65E-03	3.65E-03	3.66E-03	3.65E-03	2.71E-03	1.64E-03	2.65E-03	3.62E-03	2.83E-03	2.84E-03	2.83E-03	1.89E-03	8.26E-04
54	561020.2	4192642	3.85E-03	4.84E-03	3.80E-03	3.81E-03	3.80E-03	2.82E-03	1.71E-03	2.75E-03	3.77E-03	2.95E-03	2.96E-03	2.95E-03	1.97E-03	8.60E-04
55	560971.4	4192639	3.08E-03	3.87E-03	3.04E-03	3.05E-03	3.04E-03	2.25E-03	1.37E-03	2.20E-03	3.02E-03	2.36E-03	2.36E-03	2.36E-03	1.57E-03	6.88E-04
56	560958.4	4192633	2.93E-03	3.68E-03	2.89E-03	2.90E-03	2.89E-03	2.14E-03	1.30E-03	2.09E-03	2.87E-03	2.24E-03	2.25E-03	2.24E-03	1.49E-03	6.54E-04
57	560985.9	4192643	3.24E-03	4.08E-03	3.20E-03	3.21E-03	3.20E-03	2.37E-03	1.44E-03	2.32E-03	3.18E-03	2.48E-03	2.49E-03	2.48E-03	1.65E-03	7.24E-04
58	561001.7	4192648	3.41E-03	4.29E-03	3.36E-03	3.37E-03	3.36E-03	2.49E-03	1.51E-03	2.44E-03	3.34E-03	2.61E-03	2.62E-03	2.61E-03	1.74E-03	7.61E-04
59	561017.6	4192652	3.54E-03	4.45E-03	3.49E-03	3.50E-03	3.49E-03	2.59E-03	1.57E-03	2.53E-03	3.47E-03	2.71E-03	2.72E-03	2.71E-03	1.81E-03	7.91E-04
60	560968.2	4192648	2.87E-03	3.61E-03	2.83E-03	2.84E-03	2.83E-03	2.10E-03	1.27E-03	2.05E-03	2.81E-03	2.19E-03	2.20E-03	2.19E-03	1.46E-03	6.40E-04
61	560954.1	4192642	2.72E-03	3.42E-03	2.69E-03	2.69E-03	2.69E-03	1.99E-03	1.21E-03	1.95E-03	2.67E-03	2.08E-03	2.09E-03	2.08E-03	1.39E-03	6.08E-04
62	560983.2	4192653	3.01E-03	3.79E-03	2.97E-03	2.98E-03	2.97E-03	2.20E-03	1.34E-03	2.15E-03	2.95E-03	2.30E-03	2.31E-03	2.30E-03	1.54E-03	6.73E-04
63	560999.1	4192657	3.15E-03	3.97E-03	3.11E-03	3.12E-03	3.11E-03	2.31E-03	1.40E-03	2.26E-03	3.09E-03	2.41E-03	2.42E-03	2.41E-03	1.61E-03	7.05E-04
64	561015	4192662	3.27E-03	4.11E-03	3.22E-03	3.23E-03	3.22E-03	2.39E-03	1.45E-03	2.34E-03	3.20E-03	2.50E-03	2.51E-03	2.50E-03	1.67E-03	7.30E-04
65	560966.6	4192658	2.69E-03	3.38E-03	2.66E-03	2.66E-03	2.66E-03	1.97E-03	1.19E-03	1.92E-03	2.64E-03	2.06E-03	2.06E-03	2.06E-03	1.37E-03	6.01E-04
66	560954.3	4192653	2.58E-03	3.25E-03	2.55E-03	2.56E-03	2.55E-03	1.89E-03	1.15E-03	1.85E-03	2.53E-03	1.98E-03	1.98E-03	1.98E-03	1.32E-03	5.77E-04
67	560980.6	4192663	2.81E-03	3.53E-03	2.77E-03	2.78E-03	2.77E-03	2.05E-03	1.25E-03	2.01E-03	2.75E-03	2.15E-03	2.15E-03	2.15E-03	1.43E-03	6.27E-04
68	560996.5	4192667	2.93E-03	3.69E-03	2.89E-03	2.90E-03	2.89E-03	2.15E-03	1.30E-03	2.10E-03	2.87E-03	2.24E-03	2.25E-03	2.24E-03	1.50E-03	6.55E-04
69	561012.4	4192671	3.02E-03	3.80E-03	2.99E-03	2.99E-03	2.99E-03	2.21E-03	1.34E-03	2.16E-03	2.96E-03	2.31E-03	2.32E-03	2.31E-03	1.54E-03	6.76E-04
70	560963.5	4192667	2.52E-03	3.17E-03	2.49E-03	2.49E-03	2.49E-03	1.85E-03	1.12E-03	1.80E-03	2.47E-03	1.93E-03	1.93E-03	1.93E-03	1.29E-03	5.63E-04
71	560950.3	4192662	2.42E-03	3.04E-03	2.39E-03	2.40E-03	2.39E-03	1.77E-03	1.07E-03	1.73E-03	2.37E-03	1.85E-03	1.86E-03	1.85E-03	1.24E-03	5.41E-04
72	560978	4192672	2.63E-03	3.30E-03	2.59E-03	2.60E-03	2.59E-03	1.92E-03	1.17E-03	1.88E-03	2.57E-03	2.01E-03	2.02E-03	2.01E-03	1.34E-03	5.87E-04
73	560993.9	4192677	2.73E-03	3.44E-03	2.70E-03	2.70E-03	2.70E-03	2.00E-03	1.21E-03	1.95E-03	2.68E-03	2.09E-03	2.10E-03	2.09E-03	1.39E-03	6.10E-04
74	561009.8	4192681	2.81E-03	3.54E-03	2.78E-03	2.78E-03	2.78E-03	2.06E-03	1.25E-03	2.01E-03	2.76E-03	2.15E-03	2.16E-03	2.15E-03	1.43E-03	6.28E-04
75	560960.4	4192677	2.37E-03	2.98E-03	2.34E-03	2.34E-03	2.34E-03	1.73E-03	1.05E-03	1.69E-03	2.32E-03	1.81E-03	1.82E-03	1.81E-03	1.21E-03	5.29E-04
76	560946.2	4192671	2.27E-03	2.86E-03	2.24E-03	2.25E-03	2.24E-03	1.66E-03	1.01E-03	1.63E-03	2.23E-03	1.74E-03	1.75E-03	1.74E-03	1.16E-03	5.08E-04
77	560975.4	4192682	2.46E-03	3.10E-03	2.43E-03	2.44E-03	2.43E-03	1.80E-03	1.09E-03	1.76E-03	2.41E-03	1.88E-03	1.89E-03	1.88E-03	1.26E-03	5.50E-04

78	560991.3	4192686	2.55E-03	3.21E-03	2.52E-03	2.53E-03	2.52E-03	1.87E-03	1.13E-03	1.83E-03	2.50E-03	1.95E-03	1.96E-03	1.95E-03	1.30E-03	5.71E-04
79	561007.2	4192691	2.62E-03	3.30E-03	2.59E-03	2.59E-03	2.59E-03	1.92E-03	1.16E-03	1.87E-03	2.57E-03	2.01E-03	2.01E-03	2.01E-03	1.34E-03	5.86E-04
80	560957.3	4192686	2.23E-03	2.81E-03	2.20E-03	2.21E-03	2.20E-03	1.63E-03	9.90E-04	1.60E-03	2.19E-03	1.71E-03	1.71E-03	1.71E-03	1.14E-03	4.99E-04
81	560942.2	4192680	2.14E-03	2.69E-03	2.11E-03	2.12E-03	2.11E-03	1.57E-03	9.50E-04	1.53E-03	2.10E-03	1.64E-03	1.64E-03	1.64E-03	1.09E-03	4.79E-04
82	560972.8	4192692	2.32E-03	2.91E-03	2.29E-03	2.29E-03	2.29E-03	1.69E-03	1.03E-03	1.66E-03	2.27E-03	1.77E-03	1.78E-03	1.77E-03	1.18E-03	5.17E-04
83	560988.7	4192696	2.39E-03	3.01E-03	2.36E-03	2.37E-03	2.36E-03	1.75E-03	1.06E-03	1.71E-03	2.35E-03	1.83E-03	1.84E-03	1.83E-03	1.22E-03	5.35E-04
84	561004.6	4192700	2.45E-03	3.08E-03	2.42E-03	2.43E-03	2.42E-03	1.79E-03	1.09E-03	1.75E-03	2.40E-03	1.88E-03	1.88E-03	1.88E-03	1.25E-03	5.48E-04
85	560955.6	4192696	2.11E-03	2.66E-03	2.09E-03	2.09E-03	2.09E-03	1.55E-03	9.38E-04	1.51E-03	2.07E-03	1.62E-03	1.62E-03	1.62E-03	1.08E-03	4.72E-04
86	560942.2	4192691	2.05E-03	2.57E-03	2.02E-03	2.02E-03	2.02E-03	1.50E-03	9.08E-04	1.46E-03	2.00E-03	1.57E-03	1.57E-03	1.57E-03	1.04E-03	4.57E-04
87	560970.2	4192701	2.18E-03	2.74E-03	2.15E-03	2.16E-03	2.15E-03	1.60E-03	9.68E-04	1.56E-03	2.14E-03	1.67E-03	1.67E-03	1.67E-03	1.11E-03	4.88E-04
88	560986.1	4192706	2.25E-03	2.83E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	9.98E-04	1.61E-03	2.21E-03	1.72E-03	1.73E-03	1.72E-03	1.15E-03	5.03E-04
89	561002	4192710	2.30E-03	2.89E-03	2.27E-03	2.27E-03	2.27E-03	1.68E-03	1.02E-03	1.64E-03	2.25E-03	1.76E-03	1.76E-03	1.76E-03	1.17E-03	5.13E-04
90	560952.6	4192706	2.00E-03	2.51E-03	1.97E-03	1.98E-03	1.97E-03	1.46E-03	8.87E-04	1.43E-03	1.96E-03	1.53E-03	1.53E-03	1.53E-03	1.02E-03	4.47E-04
91	560938.4	4192700	1.94E-03	2.43E-03	1.91E-03	1.92E-03	1.91E-03	1.42E-03	8.59E-04	1.38E-03	1.90E-03	1.48E-03	1.49E-03	1.48E-03	9.88E-04	4.33E-04
92	560967.6	4192711	2.06E-03	2.59E-03	2.03E-03	2.04E-03	2.03E-03	1.51E-03	9.14E-04	1.47E-03	2.02E-03	1.58E-03	1.58E-03	1.58E-03	1.05E-03	4.60E-04
93	560983.5	4192715	2.12E-03	2.67E-03	2.09E-03	2.10E-03	2.09E-03	1.55E-03	9.40E-04	1.52E-03	2.08E-03	1.62E-03	1.63E-03	1.62E-03	1.08E-03	4.73E-04
94	560999.4	4192720	2.16E-03	2.72E-03	2.13E-03	2.14E-03	2.13E-03	1.58E-03	9.58E-04	1.54E-03	2.12E-03	1.65E-03	1.66E-03	1.65E-03	1.10E-03	4.83E-04
95	560949.6	4192715	1.90E-03	2.38E-03	1.87E-03	1.88E-03	1.87E-03	1.39E-03	8.41E-04	1.36E-03	1.86E-03	1.45E-03	1.45E-03	1.45E-03	9.67E-04	4.23E-04
96	560934.7	4192709	1.84E-03	2.31E-03	1.81E-03	1.82E-03	1.81E-03	1.34E-03	8.14E-04	1.31E-03	1.80E-03	1.40E-03	1.41E-03	1.40E-03	9.37E-04	4.10E-04
97	560965	4192721	1.95E-03	2.45E-03	1.92E-03	1.93E-03	1.92E-03	1.43E-03	8.65E-04	1.39E-03	1.91E-03	1.49E-03	1.50E-03	1.49E-03	9.95E-04	4.36E-04
98	560980.9	4192725	2.00E-03	2.52E-03	1.97E-03	1.98E-03	1.97E-03	1.46E-03	8.88E-04	1.43E-03	1.96E-03	1.53E-03	1.54E-03	1.53E-03	1.02E-03	4.47E-04
99	560996.8	4192729	2.03E-03	2.56E-03	2.01E-03	2.01E-03	2.01E-03	1.49E-03	9.03E-04	1.46E-03	1.99E-03	1.56E-03	1.56E-03	1.56E-03	1.04E-03	4.55E-04
100	560947.7	4192725	1.80E-03	2.27E-03	1.78E-03	1.78E-03	1.78E-03	1.32E-03	8.00E-04	1.29E-03	1.77E-03	1.38E-03	1.38E-03	1.38E-03	9.20E-04	4.03E-04
101	560934.2	4192720	1.76E-03	2.21E-03	1.73E-03	1.74E-03	1.73E-03	1.29E-03	7.79E-04	1.26E-03	1.72E-03	1.34E-03	1.35E-03	1.34E-03	8.96E-04	3.92E-04
102	560962.4	4192730	1.85E-03	2.32E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.20E-04	1.32E-03	1.81E-03	1.41E-03	1.42E-03	1.41E-03	9.43E-04	4.13E-04
103	560978.3	4192735	1.89E-03	2.38E-03	1.87E-03	1.87E-03	1.87E-03	1.38E-03	8.39E-04	1.35E-03	1.85E-03	1.45E-03	1.45E-03	1.45E-03	9.65E-04	4.23E-04
104	560994.2	4192739	1.92E-03	2.42E-03	1.90E-03	1.90E-03	1.90E-03	1.41E-03	8.52E-04	1.37E-03	1.88E-03	1.47E-03	1.47E-03	1.47E-03	9.80E-04	4.29E-04
105	560939.9	4192754	1.56E-03	1.96E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.91E-04	1.11E-03	1.53E-03	1.19E-03	1.20E-03	1.19E-03	7.95E-04	3.48E-04
106	560926.3	4192749	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.77E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.79E-04	3.41E-04
107	560954.6	4192759	1.59E-03	2.00E-03	1.57E-03	1.57E-03	1.57E-03	1.16E-03	7.04E-04	1.14E-03	1.56E-03	1.21E-03	1.22E-03	1.21E-03	8.10E-04	3.55E-04
108	560970.5	4192764	1.62E-03	2.03E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.17E-04	1.16E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	8.25E-04	3.61E-04
109	560986.4	4192768	1.63E-03	2.05E-03	1.61E-03	1.62E-03	1.61E-03	1.20E-03	7.25E-04	1.17E-03	1.60E-03	1.25E-03	1.25E-03	1.25E-03	8.33E-04	3.65E-04
110	560937	4192764	1.49E-03	1.87E-03	1.47E-03	1.47E-03	1.47E-03	1.09E-03	6.60E-04	1.06E-03	1.46E-03	1.14E-03	1.14E-03	1.14E-03	7.59E-04	3.32E-04
111	560922.8	4192758	1.46E-03	1.83E-03	1.44E-03	1.44E-03	1.44E-03	1.07E-03	6.47E-04	1.04E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	7.44E-04	3.26E-04
112	560952	4192769	1.51E-03	1.90E-03	1.49E-03	1.50E-03	1.49E-03	1.11E-03	6.71E-04	1.08E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	7.72E-04	3.38E-04
113	560967.9	4192773	1.54E-03	1.93E-03	1.52E-03	1.52E-03	1.52E-03	1.13E-03	6.82E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.85E-04	3.44E-04
114	560983.8	4192777	1.55E-03	1.95E-03	1.53E-03	1.54E-03	1.53E-03	1.14E-03	6.89E-04	1.11E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	7.92E-04	3.47E-04
115	560934.1	4192773	1.42E-03	1.79E-03	1.40E-03	1.41E-03	1.40E-03	1.04E-03	6.30E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.25E-04	3.17E-04
116	560919.3	4192767	1.40E-03	1.75E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.19E-04	9.98E-04	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.12E-04	3.12E-04
117	560949.4	4192779	1.44E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.41E-04	1.03E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.37E-04	3.23E-04
118	560965.3	4192783	1.47E-03	1.84E-03	1.45E-03	1.45E-03	1.45E-03	1.07E-03	6.50E-04	1.05E-03	1.44E-03	1.12E-03	1.12E-03	1.12E-03	7.48E-04	3.27E-04
119	560981.2	4192787	1.48E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	1.08E-03	6.56E-04	1.06E-03	1.45E-03	1.13E-03	1.13E-03	1.13E-03	7.54E-04	3.30E-04
120	560932	4192783	1.36E-03	1.71E-03	1.34E-03	1.35E-03	1.34E-03	9.96E-04	6.04E-04	9.73E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.94E-04	3.04E-04
121	560918.4	4192778	1.34E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	9.81E-04	5.95E-04	9.59E-04	1.31E-03	1.03E-03	1.03E-03	1.03E-03	6.84E-04	2.99E-04
122	560946.8	4192788	1.38E-03	1.74E-03	1.36E-03	1.37E-03	1.36E-03	1.01E-03	6.12E-04	9.87E-04	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.04E-04	3.08E-04
123	560962.7	4192793	1.40E-03	1.76E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.21E-04	1.00E-03	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.14E-04	3.12E-04
124	560978.6	4192797	1.41E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.19E-04	3.15E-04
125	560929.2	4192793	1.30E-03	1.64E-03	1.29E-03	1.29E-03	1.29E-03	9.54E-04	5.78E-04	9.32E-04	1.28E-03	9.97E-04	1.00E-03	9.97E-04	6.65E-04	2.91E-04
126	560915	4192787	1.28E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	9.40E-04	5.70E-04	9.19E-04	1.26E-03	9.83E-04	9.86E-04	9.83E-04	6.56E-04	2.87E-04
127	560944.2	4192798	1.32E-03	1.66E-03	1.30E-03	1.31E-03	1.30E-03	9.67E-04	5.86E-04	9.44E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.74E-04	2.95E-04
128	560960.1	4192802	1.34E-03	1.68E-03	1.32E-03	1.32E-03	1.32E-03	9.78E-04	5.93E-04	9.56E-04	1.31E-03	1.02E-03	1.03E-03	1.02E-03	6.82E-04	2.99E-04
129	560976	4192806	1.34E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.84E-04	5.96E-04	9.61E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.86E-04	3.00E-04
130	560926.3	4192802	1.25E-03	1.57E-03	1.23E-03	1.24E-03	1.23E-03	9.15E-04	5.54E-04	8.94E-04	1.22E-03	9.56E-04	9.59E-04	9.56E-04	6.38E-04	2.79E-04
131	560911.6	4192796	1.23E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.02E-04	5.47E-04	8.81E-04	1.21E-03	9.43E-04	9.46E-04	9.43E-04	6.29E-04	2.75E-04
132	560941.6	4192808	1.26E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.26E-04	5.61E-04	9.04E-04	1.24E-03	9.68E-04	9.71E-04	9.68E-04	6.45E-04	2.83E-04
133	560957.5	4192812	1.28E-03	1.61E-03	1.26E-03	1.27E-03	1.26E-03	9.36E-04	5.67E-04	9.14E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	6.52E-04	2.86E-04
134	560973.4	4192816	1.28E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	9.40E-04	5.70E-04	9.19E-04	1.26E-03	9.83E-04	9.86E-04	9.83E-04	6.56E-04	2.87E-04
135	560924.2	4192812	1.20E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	8.78E-04	5.32E-04	8.58E-04	1.18E-03	9.18E-04	9.21E-04	9.18E-04	6.12E-04	2.68E-04
136	560910.5	4192807	1.19E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.68E-04	5.26E-04	8.49E-04	1.16E-03	9.08E-04	9.11E-04	9.08E-04	6.05E-04	2.65E-04
137	560939	4192817	1.21E-03	1.52E-03	1.20E-03	1.20E-03	1.20E-03	8.87E-04	5.38E-04	8.67E-04	1.19E-03	9.28E-04	9.30E-04	9.28E-04	6.19E-04	2.71E-04
138	560954.9	4192821	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.96E-04	5.43E-04	8.75E-04	1.20E-03	9.37E-04	9.39E-04	9.37E-04	6.25E-04	2.73E-04
139	560970.8	4192826	1.23E-03	1.55E-03	1.21E-03	1.22E-03	1.21E-03	9.00E-04	5.45E-04	8.79E-04	1.20E-03	9.41E-04	9.43E-04	9.41E-04	6.27E-04	2.75E-04
140	560921.4	4192822	1.15E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.43E-04	5.11E-04	8.24E-04	1.13E-03	8.82E-04	8.84E-04	8.82E-04	5.88E-04	2.57E-04
141	560907.2	4192816	1.14E-03	1.43E-03	1.13E-03	1.13E-03	1.13E-03	8.35E-04	5.06E-04	8.15E-04	1.12E-03	8.73E-04	8.75E-04	8.73E-04	5.82E-04	2.55E-04
142	560936.4	4192827	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.52E-04	5.16E-04	8.32E-04	1.14E-03	8.90E-04	8.93E-04	8.90E-04	5.94E-04	2.60E-04
143	560952.3	4192831	1.17E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.59E-04	5.21E-04	8.39E-04	1.15E-03	8.98E-04	9.01E-04	8.98E-04	5.99E-04	2.62E-04
144	560968.2	4192835	1.18E-03	1.48E-03	1.16E-03	1.17E-03	1.16E-03	8.62E-04	5.23E-04	8.42E-04	1.15E-03	9.01E-04	9.04E-04	9.01E-04	6.01E-04	2.63E-04
145	560918.5	4192831	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.11E-04	4.92E-04	7.92E-04	1.09E-03	8.48E-04	8.50E-04	8.48E-04	5.65E-04	2.47E-04
146	560903.9	4192825	1.10E-03	1.38E-03	1.08E-03	1.09E-03	1.08E-03	8.03E-04	4.87E-04	7.85E-04	1.07E-03	8.40E-04	8.42E-04	8.40E-04	5.60E-04	2.45E-04
147	560933.8	4192837	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.18E-04	4.96E-04	7.99E-04	1.10E-03	8.55E-04	8.58E-04	8.55E-04	5.70E-04	2.50E-04
148	560949.7	4192841	1.13E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	5.00E-04	8.05E-04	1.10E-03	8.62E-04	8.64E-04	8.62E-04	5.75E-04	2.52E-04
149	560965.6	4192845	1.13E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	8.27E-04	5.01E-04	8.08E-04	1.11E-03	8.64E-04	8.67E-04	8.64E-04	5.76E-04	2.52E-04
150	561056.9	4192580	8.56E-03	1.08E-02	8.45E-03	8.47E-03	8.45E-03	6.27E-03	3.80E-03	6.12E-03	8.39E-03	6.55E-03	6.57E-03	6.55E-03	4.37E-03	1.91E-03
151	561066.1	4192582	8.72E-03	1.10E-02	8.61E-03	8.63E-03	8.61E-03	6.38E-03	3.87E-03	6.24E-03	8.54E-03	6.67E-03	6.69E-03	6.67E-03	4.45E-03	1.95E-03
152	561075.3	4192585	8.84E-03	1.11E-02	8.73E-03	8.75E-03	8.73E-03	6.47E-03	3.92E-03	6.32E-03	8.66E-03	6.77E-03	6.78E-03	6.77E-03	4.51E-03	1.97E-03
153	561084.5	4192587	8.87E-03	1.12E-02	8.76E-03	8.78E-03	8.76E-03	6.49E-03	3.94E-03	6.35E-03	8.70E-03	6.79E-03	6.81E-03	6.79E-03	4.53E-03	1.98E-03
154	561093.8	4192590	8.80E-03	1.11E-02	8.69E-03	8.71E-03	8.69E-03	6.44E-03	3.90E-03	6.29E-03	8.62E-03	6.73E-03	6.75E-03	6.73E-03	4.49E-03	1.97E-03
155	561103	4192592	8.61E-03	1.08E-02	8.50E-03	8.52E-03	8.50E-03	6.30E-03	3.82E-03	6.16E-03	8.44E-03	6.59E-03	6.61E-03	6.59E-03	4.39E-03	1.92E-03
156	561112.2	4192595	8.30E-03	1.04E-02	8.19E-03	8.21E-03	8.19E-03	6.07E-03	3.68E-03	5.93E-03	8.13E-03	6.35E-03	6.37E-03	6.35E-03	4.23E-03	1.85E-03
157	561121.4	4192597	7.84E-03	9.86E-03	7.74E-03	7.76E-03	7.74E-03	5.74E-03	3.48E-03	5.61E-03	7.68E-03	6.00E-03	6.02E-03	6.00E-03	4.00E-03	1.75E-03
158	561130.6	4192600	7.24E-03	9.10E-03	7.14E-03	7.16E-03	7.14E-03	5.30E-03	3.21E-03	5.17E-03	7.09E-03	5.54E-03	5.55E-03	5.54E-03	3.69E-03	1.62E-03

159	561054.3	4192589	7.50E-03	9.43E-03	7.40E-03	7.42E-03	7.40E-03	5.49E-03	3.33E-03	5.36E-03	7.35E-03	5.74E-03	5.75E-03	5.74E-03	3.83E-03	1.68E-03
160	561063.5	4192592	7.59E-03	9.55E-03	7.49E-03	7.51E-03	7.49E-03	5.56E-03	3.37E-03	5.43E-03	7.44E-03	5.81E-03	5.83E-03	5.81E-03	3.87E-03	1.70E-03
161	561072.7	4192594	7.65E-03	9.62E-03	7.55E-03	7.57E-03	7.55E-03	5.60E-03	3.39E-03	5.47E-03	7.50E-03	5.85E-03	5.87E-03	5.85E-03	3.90E-03	1.71E-03
162	561081.9	4192597	7.65E-03	9.62E-03	7.55E-03	7.57E-03	7.55E-03	5.60E-03	3.39E-03	5.47E-03	7.50E-03	5.85E-03	5.87E-03	5.85E-03	3.90E-03	1.71E-03
163	561091.2	4192599	7.58E-03	9.53E-03	7.48E-03	7.50E-03	7.48E-03	5.54E-03	3.36E-03	5.42E-03	7.42E-03	5.80E-03	5.81E-03	5.80E-03	3.87E-03	1.69E-03
164	561100.4	4192602	7.41E-03	9.32E-03	7.31E-03	7.33E-03	7.31E-03	5.42E-03	3.29E-03	5.30E-03	7.26E-03	5.67E-03	5.69E-03	5.67E-03	3.78E-03	1.66E-03
165	561109.6	4192604	7.15E-03	8.99E-03	7.05E-03	7.07E-03	7.05E-03	5.23E-03	3.17E-03	5.11E-03	7.00E-03	5.47E-03	5.48E-03	5.47E-03	3.65E-03	1.60E-03
166	561118.8	4192607	6.78E-03	8.53E-03	6.69E-03	6.71E-03	6.69E-03	4.96E-03	3.01E-03	4.85E-03	6.64E-03	5.19E-03	5.20E-03	5.19E-03	3.46E-03	1.51E-03
167	561128	4192609	6.32E-03	7.94E-03	6.23E-03	6.25E-03	6.23E-03	4.62E-03	2.80E-03	4.52E-03	6.19E-03	4.83E-03	4.85E-03	4.83E-03	3.22E-03	1.41E-03
168	561051.7	4192599	6.63E-03	8.33E-03	6.54E-03	6.56E-03	6.54E-03	4.85E-03	2.94E-03	4.74E-03	6.49E-03	5.07E-03	5.09E-03	5.07E-03	3.38E-03	1.48E-03
169	561060.9	4192602	6.69E-03	8.41E-03	6.60E-03	6.62E-03	6.60E-03	4.90E-03	2.97E-03	4.78E-03	6.55E-03	5.12E-03	5.13E-03	5.12E-03	3.41E-03	1.49E-03
170	561070.1	4192604	6.72E-03	8.45E-03	6.63E-03	6.65E-03	6.63E-03	4.92E-03	2.98E-03	4.80E-03	6.58E-03	5.14E-03	5.15E-03	5.14E-03	3.43E-03	1.50E-03
171	561079.3	4192606	6.70E-03	8.42E-03	6.61E-03	6.63E-03	6.61E-03	4.90E-03	2.97E-03	4.79E-03	6.56E-03	5.13E-03	5.14E-03	5.13E-03	3.42E-03	1.50E-03
172	561088.5	4192609	6.62E-03	8.32E-03	6.53E-03	6.55E-03	6.53E-03	4.84E-03	2.94E-03	4.73E-03	6.49E-03	5.06E-03	5.08E-03	5.06E-03	3.38E-03	1.48E-03
173	561097.8	4192611	6.47E-03	8.14E-03	6.39E-03	6.40E-03	6.39E-03	4.74E-03	2.87E-03	4.63E-03	6.34E-03	4.95E-03	4.97E-03	4.95E-03	3.30E-03	1.45E-03
174	561107	4192614	6.25E-03	7.86E-03	6.17E-03	6.18E-03	6.17E-03	4.57E-03	2.77E-03	4.47E-03	6.12E-03	4.78E-03	4.80E-03	4.78E-03	3.19E-03	1.40E-03
175	561116.2	4192616	5.95E-03	7.49E-03	5.87E-03	5.89E-03	5.87E-03	4.36E-03	2.64E-03	4.26E-03	5.83E-03	4.56E-03	4.57E-03	4.56E-03	3.04E-03	1.33E-03
176	561125.4	4192619	5.59E-03	7.03E-03	5.52E-03	5.53E-03	5.52E-03	4.09E-03	2.48E-03	4.00E-03	5.48E-03	4.28E-03	4.29E-03	4.28E-03	2.85E-03	1.25E-03
177	561049.1	4192609	5.90E-03	7.42E-03	5.83E-03	5.84E-03	5.83E-03	4.32E-03	2.62E-03	4.22E-03	5.79E-03	4.52E-03	4.53E-03	4.52E-03	3.01E-03	1.32E-03
178	561058.3	4192611	5.95E-03	7.48E-03	5.87E-03	5.89E-03	5.87E-03	4.36E-03	2.64E-03	4.26E-03	5.83E-03	4.55E-03	4.57E-03	4.55E-03	3.04E-03	1.33E-03
179	561067.5	4192614	5.96E-03	7.50E-03	5.89E-03	5.90E-03	5.89E-03	4.36E-03	2.65E-03	4.26E-03	5.84E-03	4.56E-03	4.58E-03	4.56E-03	3.04E-03	1.33E-03
180	561076.7	4192616	5.93E-03	7.46E-03	5.86E-03	5.87E-03	5.86E-03	4.34E-03	2.63E-03	4.24E-03	5.81E-03	4.54E-03	4.55E-03	4.54E-03	3.03E-03	1.33E-03
181	561085.9	4192619	5.85E-03	7.36E-03	5.78E-03	5.79E-03	5.78E-03	4.29E-03	2.60E-03	4.19E-03	5.74E-03	4.48E-03	4.49E-03	4.48E-03	2.99E-03	1.31E-03
182	561095.2	4192621	5.72E-03	7.20E-03	5.65E-03	5.66E-03	5.65E-03	4.19E-03	2.54E-03	4.09E-03	5.61E-03	4.38E-03	4.39E-03	4.38E-03	2.92E-03	1.28E-03
183	561104.4	4192624	5.53E-03	6.96E-03	5.46E-03	5.48E-03	5.46E-03	4.05E-03	2.46E-03	3.96E-03	5.42E-03	4.24E-03	4.25E-03	4.24E-03	2.82E-03	1.24E-03
184	561113.6	4192626	5.29E-03	6.66E-03	5.22E-03	5.24E-03	5.22E-03	3.87E-03	2.35E-03	3.79E-03	5.19E-03	4.05E-03	4.06E-03	4.05E-03	2.70E-03	1.18E-03
185	561122.8	4192629	5.00E-03	6.29E-03	4.94E-03	4.95E-03	4.94E-03	3.66E-03	2.22E-03	3.58E-03	4.90E-03	3.83E-03	3.84E-03	3.83E-03	2.55E-03	1.12E-03
186	561046.5	4192618	5.30E-03	6.66E-03	5.23E-03	5.24E-03	5.23E-03	3.88E-03	2.35E-03	3.79E-03	5.19E-03	4.05E-03	4.07E-03	4.05E-03	2.70E-03	1.18E-03
187	561055.7	4192621	5.34E-03	6.71E-03	5.27E-03	5.28E-03	5.27E-03	3.91E-03	2.37E-03	3.82E-03	5.23E-03	4.08E-03	4.10E-03	4.08E-03	2.72E-03	1.19E-03
188	561064.9	4192623	5.34E-03	6.72E-03	5.27E-03	5.28E-03	5.27E-03	3.91E-03	2.37E-03	3.82E-03	5.23E-03	4.09E-03	4.10E-03	4.09E-03	2.72E-03	1.19E-03
189	561074.1	4192626	5.31E-03	6.67E-03	5.24E-03	5.25E-03	5.24E-03	3.88E-03	2.35E-03	3.79E-03	5.20E-03	4.06E-03	4.07E-03	4.06E-03	2.71E-03	1.19E-03
190	561083.3	4192628	5.23E-03	6.58E-03	5.16E-03	5.18E-03	5.16E-03	3.83E-03	2.32E-03	3.74E-03	5.13E-03	4.00E-03	4.01E-03	4.00E-03	2.67E-03	1.17E-03
191	561092.6	4192631	5.11E-03	6.43E-03	5.05E-03	5.06E-03	5.05E-03	3.74E-03	2.27E-03	3.66E-03	5.01E-03	3.91E-03	3.93E-03	3.91E-03	2.61E-03	1.14E-03
192	561101.8	4192633	4.95E-03	6.23E-03	4.89E-03	4.90E-03	4.89E-03	3.63E-03	2.20E-03	3.54E-03	4.85E-03	3.79E-03	3.80E-03	3.79E-03	2.53E-03	1.11E-03
193	561111	4192636	4.75E-03	5.98E-03	4.69E-03	4.71E-03	4.69E-03	3.48E-03	2.11E-03	3.40E-03	4.66E-03	3.64E-03	3.65E-03	3.64E-03	2.43E-03	1.06E-03
194	561120.2	4192638	4.52E-03	5.69E-03	4.46E-03	4.47E-03	4.46E-03	3.31E-03	2.01E-03	3.23E-03	4.43E-03	3.46E-03	3.47E-03	3.46E-03	2.31E-03	1.01E-03
195	561043.9	4192628	4.78E-03	6.01E-03	4.72E-03	4.73E-03	4.72E-03	3.50E-03	2.12E-03	3.42E-03	4.69E-03	3.66E-03	3.67E-03	3.66E-03	2.44E-03	1.07E-03
196	561053.1	4192630	4.81E-03	6.05E-03	4.75E-03	4.76E-03	4.75E-03	3.52E-03	2.14E-03	3.44E-03	4.72E-03	3.68E-03	3.69E-03	3.68E-03	2.46E-03	1.08E-03
197	561062.3	4192633	4.81E-03	6.05E-03	4.75E-03	4.77E-03	4.75E-03	3.52E-03	2.14E-03	3.44E-03	4.72E-03	3.68E-03	3.70E-03	3.68E-03	2.46E-03	1.08E-03
198	561071.5	4192635	4.78E-03	6.01E-03	4.72E-03	4.73E-03	4.72E-03	3.50E-03	2.12E-03	3.42E-03	4.69E-03	3.66E-03	3.67E-03	3.66E-03	2.44E-03	1.07E-03
199	561080.7	4192638	4.71E-03	5.93E-03	4.65E-03	4.66E-03	4.65E-03	3.45E-03	2.09E-03	3.37E-03	4.62E-03	3.61E-03	3.62E-03	3.61E-03	2.40E-03	1.05E-03
200	561090	4192640	4.61E-03	5.80E-03	4.55E-03	4.56E-03	4.55E-03	3.37E-03	2.05E-03	3.30E-03	4.52E-03	3.53E-03	3.54E-03	3.53E-03	2.35E-03	1.03E-03
201	561099.2	4192643	4.47E-03	5.63E-03	4.42E-03	4.43E-03	4.42E-03	3.27E-03	1.98E-03	3.20E-03	4.38E-03	3.42E-03	3.43E-03	3.42E-03	2.28E-03	9.99E-04
202	561108.4	4192645	4.31E-03	5.42E-03	4.25E-03	4.26E-03	4.25E-03	3.15E-03	1.91E-03	3.08E-03	4.22E-03	3.30E-03	3.31E-03	3.30E-03	2.20E-03	9.62E-04
203	561117.6	4192648	4.11E-03	5.17E-03	4.06E-03	4.07E-03	4.06E-03	3.01E-03	1.83E-03	2.94E-03	4.03E-03	3.15E-03	3.16E-03	3.15E-03	2.10E-03	9.19E-04
204	561041.3	4192638	4.34E-03	5.46E-03	4.29E-03	4.30E-03	4.29E-03	3.18E-03	1.93E-03	3.11E-03	4.25E-03	3.32E-03	3.33E-03	3.32E-03	2.22E-03	9.70E-04
205	561050.5	4192640	4.37E-03	5.49E-03	4.31E-03	4.32E-03	4.31E-03	3.20E-03	1.94E-03	3.12E-03	4.28E-03	3.34E-03	3.35E-03	3.34E-03	2.23E-03	9.76E-04
206	561059.7	4192643	4.37E-03	5.49E-03	4.31E-03	4.32E-03	4.31E-03	3.20E-03	1.94E-03	3.12E-03	4.28E-03	3.34E-03	3.35E-03	3.34E-03	2.23E-03	9.76E-04
207	561068.9	4192645	4.34E-03	5.45E-03	4.28E-03	4.29E-03	4.28E-03	3.17E-03	1.92E-03	3.10E-03	4.25E-03	3.32E-03	3.33E-03	3.32E-03	2.21E-03	9.69E-04
208	561078.1	4192648	4.27E-03	5.38E-03	4.22E-03	4.23E-03	4.22E-03	3.13E-03	1.90E-03	3.06E-03	4.19E-03	3.27E-03	3.28E-03	3.27E-03	2.18E-03	9.55E-04
209	561087.3	4192650	4.19E-03	5.26E-03	4.13E-03	4.14E-03	4.13E-03	3.06E-03	1.86E-03	2.99E-03	4.10E-03	3.20E-03	3.21E-03	3.20E-03	2.14E-03	9.35E-04
210	561096.6	4192653	4.07E-03	5.12E-03	4.02E-03	4.03E-03	4.02E-03	2.98E-03	1.81E-03	2.91E-03	3.99E-03	3.11E-03	3.12E-03	3.11E-03	2.08E-03	9.09E-04
211	561105.8	4192655	3.93E-03	4.94E-03	3.88E-03	3.89E-03	3.88E-03	2.87E-03	1.74E-03	2.81E-03	3.85E-03	3.01E-03	3.01E-03	3.01E-03	2.00E-03	8.77E-04
212	561115	4192658	3.77E-03	4.74E-03	3.72E-03	3.73E-03	3.72E-03	2.76E-03	1.67E-03	2.69E-03	3.69E-03	2.88E-03	2.89E-03	2.88E-03	1.92E-03	8.42E-04
213	561038.7	4192647	3.96E-03	4.98E-03	3.91E-03	3.92E-03	3.91E-03	2.90E-03	1.76E-03	2.83E-03	3.88E-03	3.03E-03	3.04E-03	3.03E-03	2.02E-03	8.85E-04
214	561047.9	4192650	3.98E-03	5.01E-03	3.93E-03	3.94E-03	3.93E-03	2.92E-03	1.77E-03	2.85E-03	3.90E-03	3.05E-03	3.06E-03	3.05E-03	2.03E-03	8.90E-04
215	561057.1	4192652	3.98E-03	5.01E-03	3.93E-03	3.94E-03	3.93E-03	2.91E-03	1.77E-03	2.85E-03	3.90E-03	3.05E-03	3.06E-03	3.05E-03	2.03E-03	8.89E-04
216	561066.3	4192655	3.95E-03	4.97E-03	3.90E-03	3.91E-03	3.90E-03	2.89E-03	1.75E-03	2.83E-03	3.87E-03	3.03E-03	3.03E-03	3.03E-03	2.02E-03	8.83E-04
217	561075.5	4192657	3.90E-03	4.90E-03	3.85E-03	3.86E-03	3.85E-03	2.85E-03	1.73E-03	2.79E-03	3.82E-03	2.98E-03	2.99E-03	2.98E-03	1.99E-03	8.71E-04
218	561084.7	4192660	3.82E-03	4.81E-03	3.77E-03	3.78E-03	3.77E-03	2.80E-03	1.70E-03	2.73E-03	3.74E-03	2.92E-03	2.93E-03	2.92E-03	1.95E-03	8.54E-04
219	561094	4192662	3.72E-03	4.68E-03	3.67E-03	3.68E-03	3.67E-03	2.72E-03	1.65E-03	2.66E-03	3.65E-03	2.85E-03	2.86E-03	2.85E-03	1.90E-03	8.31E-04
220	561103.2	4192665	3.60E-03	4.53E-03	3.56E-03	3.57E-03	3.56E-03	2.64E-03	1.60E-03	2.58E-03	3.53E-03	2.76E-03	2.77E-03	2.76E-03	1.84E-03	8.05E-04
221	561112.4	4192667	3.47E-03	4.36E-03	3.42E-03	3.43E-03	3.42E-03	2.54E-03	1.54E-03	2.48E-03	3.40E-03	2.65E-03	2.66E-03	2.65E-03	1.77E-03	7.75E-04
222	561036	4192657	3.63E-03	4.57E-03	3.58E-03	3.59E-03	3.58E-03	2.66E-03	1.61E-03	2.60E-03	3.56E-03	2.78E-03	2.79E-03	2.78E-03	1.85E-03	8.11E-04
223	561045.3	4192659	3.65E-03	4.59E-03	3.60E-03	3.61E-03	3.60E-03	2.67E-03	1.62E-03	2.61E-03	3.58E-03	2.79E-03	2.80E-03	2.79E-03	1.86E-03	8.15E-04
224	561054.5	4192662	3.65E-03	4.59E-03	3.60E-03	3.61E-03	3.60E-03	2.67E-03	1.62E-03	2.61E-03	3.57E-03	2.79E-03	2.80E-03	2.79E-03	1.86E-03	8.15E-04
225	561063.7	4192664	3.62E-03	4.55E-03	3.57E-03	3.58E-03	3.57E-03	2.65E-03	1.61E-03	2.59E-03	3.55E-03	2.77E-03	2.78E-03	2.77E-03	1.85E-03	8.09E-04
226	561072.9	4192667	3.57E-03	4.50E-03	3.53E-03	3.54E-03	3.53E-03	2.62E-03	1.59E-03	2.56E-03	3.50E-03	2.74E-03	2.74E-03	2.74E-03	1.82E-03	7.99E-04
227	561082.1	4192669	3.51E-03	4.41E-03	3.46E-03	3.47E-03	3.46E-03	2.57E-03	1.56E-03	2.51E-03	3.44E-03	2.68E-03	2.69E-03	2.68E-03	1.79E-03	7.84E-04
228	561091.4	4192672	3.42E-03	4.30E-03	3.38E-03	3.39E-03	3.38E-03	2.50E-03	1.52E-03	2.45E-03	3.35E-03	2.62E-03	2.63E-03	2.62E-03	1.75E-03	7.64E-04
229	561100.6	4192674	3.32E-03	4.18E-03	3.28E-03	3.29E-03	3.28E-03	2.43E-03	1.47E-03	2.37E-03	3.25E-03	2.54E-03	2.55E-03	2.54E-03	1.69E-03	7.42E-04
230	561109.8	4192677	3.21E-03	4.03E-03	3.16E-03	3.17E-03	3.16E-03	2.35E-03	1.42E-03	2.29E-03	3.14E-03	2.45E-03	2.46E-03	2.45E-03	1.64E-03	7.16E-04
231	561033.4	4192667	3.34E-03	4.20E-03	3.30E-03	3.31E-03	3.30E-03	2.45E-03	1.48E-03	2.39E-03	3.28E-03	2.56E-03	2.57E-03	2.56E-03	1.71E-03	7.47E-04
232	561042.7	4192669	3.36E-03	4.22E-03	3.31E-03	3.32E-03	3.31E-03	2.46E-03	1.49E-03	2.40E-03	3.29E-03	2.57E-03	2.58E-03	2.57E-03	1.71E-03	7.50E-04
233	561051.9	4192672	3.35E-03	4.22E-03	3.31E-03	3.32E-03	3.31E-03	2.45E-03	1.49E-03	2.40E-03	3.29E-03	2.57E-03	2.57E-03	2.57E-03	1.71E-03	7.49E-04
234	561061.1	4192674	3.33E-03	4.19E-03	3.29E-03	3.30E-03	3.29E-03	2.44E-03	1.48E-03	2.38E-03	3.26E-03	2.55E-03	2.56E-03	2.55E-03	1.70E-03	7.44E-04
235	561070.3	4192677	3.29E-03	4.14E-03	3.25E-03	3.26E-03	3.25E-03	2.41E-03	1.46E-03	2.35E-03	3.22E-03	2.52E-03	2.53E-03	2.52E-03	1.68E-03	7.35E-04
236	561079.5	4192679	3.23E-03	4.07E-03	3.19E-03	3.20E-03	3.19E-03	2.37E-03	1.43E-03	2.31E-03	3.17E-03	2.47E-03	2.48E-03	2.47E-03	1.65E-03	7.22E-04
237	561088.7	4192682	3.16E-03	3.97E-03	3.12E-03	3.13E-03	3.12E-03	2.31E-03	1.40E-03	2.26E-03	3.10E-03	2.42E-03	2.42E-03	2.42E-03	1.61E-03	7.06E-04
238	561098	4192684	3.07E-03	3.87E-03	3.03E-03	3.04E-03	3.03E-03	2.25E-03	1.36E-03	2.20E-03	3.01E-03	2.35E-03	2.36E-03	2.35E-03	1.57E-03	6.87E-04
239	561107.2	4192686	2.98E-03	3.74E-03	2.94E-03	2.95E-03	2.94E-03	2.18E-03	1.32E-03	2.13E-03	2.92E-03	2.28E-03	2.28E-03	2.28E-03	1.52E-03	6.65E-04

240	561030.8	4192676	3.09E-03	3.89E-03	3.05E-03	3.06E-03	3.05E-03	2.26E-03	1.37E-03	2.21E-03	3.03E-03	2.36E-03	2.37E-03	2.36E-03	1.58E-03	6.90E-04
241	561040.1	4192679	3.10E-03	3.90E-03	3.06E-03	3.07E-03	3.06E-03	2.27E-03	1.38E-03	2.22E-03	3.04E-03	2.37E-03	2.38E-03	2.37E-03	1.58E-03	6.93E-04
242	561049.3	4192681	3.10E-03	3.89E-03	3.06E-03	3.06E-03	3.06E-03	2.27E-03	1.37E-03	2.21E-03	3.03E-03	2.37E-03	2.38E-03	2.37E-03	1.58E-03	6.92E-04
243	561058.5	4192684	3.08E-03	3.87E-03	3.04E-03	3.05E-03	3.04E-03	2.25E-03	1.37E-03	2.20E-03	3.01E-03	2.35E-03	2.36E-03	2.35E-03	1.57E-03	6.87E-04
244	561067.7	4192686	3.04E-03	3.82E-03	3.00E-03	3.01E-03	3.00E-03	2.23E-03	1.35E-03	2.18E-03	2.98E-03	2.33E-03	2.33E-03	2.33E-03	1.55E-03	6.79E-04
245	561076.9	4192689	2.99E-03	3.76E-03	2.95E-03	2.96E-03	2.95E-03	2.19E-03	1.33E-03	2.14E-03	2.93E-03	2.29E-03	2.30E-03	2.29E-03	1.53E-03	6.68E-04
246	561086.1	4192691	2.93E-03	3.68E-03	2.89E-03	2.90E-03	2.89E-03	2.14E-03	1.30E-03	2.09E-03	2.87E-03	2.24E-03	2.25E-03	2.24E-03	1.49E-03	6.54E-04
247	561095.4	4192694	2.85E-03	3.59E-03	2.82E-03	2.82E-03	2.82E-03	2.09E-03	1.27E-03	2.04E-03	2.80E-03	2.18E-03	2.19E-03	2.18E-03	1.46E-03	6.38E-04
248	561104.6	4192696	2.77E-03	3.48E-03	2.73E-03	2.74E-03	2.73E-03	2.03E-03	1.23E-03	1.98E-03	2.72E-03	2.12E-03	2.13E-03	2.12E-03	1.41E-03	6.19E-04
249	561028.2	4192686	2.87E-03	3.60E-03	2.83E-03	2.84E-03	2.83E-03	2.10E-03	1.27E-03	2.05E-03	2.81E-03	2.19E-03	2.20E-03	2.19E-03	1.46E-03	6.40E-04
250	561037.4	4192688	2.87E-03	3.61E-03	2.84E-03	2.84E-03	2.84E-03	2.10E-03	1.27E-03	2.06E-03	2.82E-03	2.20E-03	2.21E-03	2.20E-03	1.47E-03	6.42E-04
251	561046.7	4192691	2.87E-03	3.61E-03	2.83E-03	2.84E-03	2.83E-03	2.10E-03	1.27E-03	2.05E-03	2.81E-03	2.20E-03	2.20E-03	2.20E-03	1.46E-03	6.41E-04
252	561055.9	4192693	2.85E-03	3.59E-03	2.81E-03	2.82E-03	2.81E-03	2.09E-03	1.27E-03	2.04E-03	2.79E-03	2.18E-03	2.19E-03	2.18E-03	1.45E-03	6.37E-04
253	561065.1	4192696	2.82E-03	3.55E-03	2.78E-03	2.79E-03	2.78E-03	2.06E-03	1.25E-03	2.02E-03	2.76E-03	2.16E-03	2.16E-03	2.16E-03	1.44E-03	6.30E-04
254	561074.3	4192698	2.78E-03	3.49E-03	2.74E-03	2.75E-03	2.74E-03	2.03E-03	1.23E-03	1.99E-03	2.72E-03	2.13E-03	2.13E-03	2.13E-03	1.42E-03	6.20E-04
255	561083.5	4192701	2.72E-03	3.42E-03	2.69E-03	2.70E-03	2.69E-03	1.99E-03	1.21E-03	1.95E-03	2.67E-03	2.08E-03	2.09E-03	2.08E-03	1.39E-03	6.08E-04
256	561092.8	4192703	2.66E-03	3.34E-03	2.62E-03	2.63E-03	2.62E-03	1.95E-03	1.18E-03	1.90E-03	2.61E-03	2.04E-03	2.04E-03	2.04E-03	1.36E-03	5.94E-04
257	561102	4192706	2.59E-03	3.25E-03	2.55E-03	2.56E-03	2.55E-03	1.89E-03	1.15E-03	1.85E-03	2.54E-03	1.98E-03	1.99E-03	1.98E-03	1.32E-03	5.78E-04
258	561034.8	4192698	2.67E-03	3.36E-03	2.64E-03	2.64E-03	2.64E-03	1.96E-03	1.19E-03	1.91E-03	2.62E-03	2.04E-03	2.05E-03	2.04E-03	1.36E-03	5.97E-04
259	561044.1	4192701	2.67E-03	3.35E-03	2.63E-03	2.64E-03	2.63E-03	1.95E-03	1.18E-03	1.91E-03	2.61E-03	2.04E-03	2.05E-03	2.04E-03	1.36E-03	5.96E-04
260	561053.3	4192703	2.65E-03	3.33E-03	2.62E-03	2.62E-03	2.62E-03	1.94E-03	1.18E-03	1.90E-03	2.60E-03	2.03E-03	2.03E-03	2.03E-03	1.35E-03	5.92E-04
261	561062.5	4192706	2.62E-03	3.30E-03	2.59E-03	2.60E-03	2.59E-03	1.92E-03	1.16E-03	1.88E-03	2.57E-03	2.01E-03	2.01E-03	2.01E-03	1.34E-03	5.86E-04
262	561071.7	4192708	2.59E-03	3.25E-03	2.55E-03	2.56E-03	2.55E-03	1.89E-03	1.15E-03	1.85E-03	2.53E-03	1.98E-03	1.98E-03	1.98E-03	1.32E-03	5.78E-04
263	561080.9	4192710	2.54E-03	3.19E-03	2.51E-03	2.51E-03	2.51E-03	1.86E-03	1.13E-03	1.82E-03	2.49E-03	1.94E-03	1.95E-03	1.94E-03	1.30E-03	5.67E-04
264	561090.2	4192713	2.48E-03	3.12E-03	2.45E-03	2.46E-03	2.45E-03	1.82E-03	1.10E-03	1.78E-03	2.43E-03	1.90E-03	1.91E-03	1.90E-03	1.27E-03	5.55E-04
265	561099.4	4192715	2.42E-03	3.05E-03	2.39E-03	2.40E-03	2.39E-03	1.77E-03	1.07E-03	1.73E-03	2.37E-03	1.85E-03	1.86E-03	1.85E-03	1.24E-03	5.41E-04
266	561032.2	4192708	2.49E-03	3.13E-03	2.46E-03	2.47E-03	2.46E-03	1.82E-03	1.11E-03	1.78E-03	2.44E-03	1.91E-03	1.91E-03	1.91E-03	1.27E-03	5.57E-04
267	561041.5	4192710	2.49E-03	3.13E-03	2.45E-03	2.46E-03	2.45E-03	1.82E-03	1.10E-03	1.78E-03	2.44E-03	1.90E-03	1.91E-03	1.90E-03	1.27E-03	5.56E-04
268	561050.7	4192713	2.47E-03	3.11E-03	2.44E-03	2.45E-03	2.44E-03	1.81E-03	1.10E-03	1.77E-03	2.42E-03	1.89E-03	1.90E-03	1.89E-03	1.26E-03	5.52E-04
269	561059.9	4192715	2.45E-03	3.08E-03	2.42E-03	2.42E-03	2.42E-03	1.79E-03	1.09E-03	1.75E-03	2.40E-03	1.87E-03	1.88E-03	1.87E-03	1.25E-03	5.47E-04
270	561069.1	4192718	2.42E-03	3.04E-03	2.38E-03	2.39E-03	2.38E-03	1.77E-03	1.07E-03	1.73E-03	2.37E-03	1.85E-03	1.85E-03	1.85E-03	1.23E-03	5.40E-04
271	561078.3	4192720	2.38E-03	2.99E-03	2.34E-03	2.35E-03	2.34E-03	1.74E-03	1.05E-03	1.70E-03	2.33E-03	1.82E-03	1.82E-03	1.82E-03	1.21E-03	5.31E-04
272	561087.5	4192723	2.33E-03	2.93E-03	2.30E-03	2.30E-03	2.30E-03	1.70E-03	1.03E-03	1.66E-03	2.28E-03	1.78E-03	1.79E-03	1.78E-03	1.19E-03	5.20E-04
273	561096.8	4192725	2.27E-03	2.86E-03	2.24E-03	2.25E-03	2.24E-03	1.66E-03	1.01E-03	1.63E-03	2.23E-03	1.74E-03	1.74E-03	1.74E-03	1.16E-03	5.08E-04
274	561029.6	4192717	2.33E-03	2.93E-03	2.30E-03	2.31E-03	2.30E-03	1.71E-03	1.03E-03	1.67E-03	2.28E-03	1.78E-03	1.79E-03	1.78E-03	1.19E-03	5.21E-04
275	561038.9	4192720	2.32E-03	2.92E-03	2.29E-03	2.30E-03	2.29E-03	1.70E-03	1.03E-03	1.66E-03	2.28E-03	1.78E-03	1.78E-03	1.78E-03	1.19E-03	5.19E-04
276	561048.1	4192722	2.31E-03	2.91E-03	2.28E-03	2.29E-03	2.28E-03	1.69E-03	1.03E-03	1.65E-03	2.26E-03	1.77E-03	1.77E-03	1.77E-03	1.18E-03	5.16E-04
277	561057.3	4192725	2.29E-03	2.88E-03	2.26E-03	2.27E-03	2.26E-03	1.68E-03	1.02E-03	1.64E-03	2.24E-03	1.75E-03	1.76E-03	1.75E-03	1.17E-03	5.12E-04
278	561066.5	4192727	2.26E-03	2.84E-03	2.23E-03	2.24E-03	2.23E-03	1.66E-03	1.00E-03	1.62E-03	2.22E-03	1.73E-03	1.74E-03	1.73E-03	1.15E-03	5.05E-04
279	561075.7	4192730	2.23E-03	2.80E-03	2.20E-03	2.20E-03	2.20E-03	1.63E-03	9.88E-04	1.59E-03	2.18E-03	1.70E-03	1.71E-03	1.70E-03	1.14E-03	4.97E-04
280	561084.9	4192732	2.18E-03	2.75E-03	2.16E-03	2.16E-03	2.16E-03	1.60E-03	9.69E-04	1.56E-03	2.14E-03	1.67E-03	1.68E-03	1.67E-03	1.11E-03	4.88E-04
281	561094.2	4192735	2.14E-03	2.69E-03	2.11E-03	2.12E-03	2.11E-03	1.56E-03	9.49E-04	1.53E-03	2.10E-03	1.64E-03	1.64E-03	1.64E-03	1.09E-03	4.78E-04
282	561027	4192727	2.18E-03	2.75E-03	2.16E-03	2.16E-03	2.16E-03	1.60E-03	9.69E-04	1.56E-03	2.14E-03	1.67E-03	1.68E-03	1.67E-03	1.11E-03	4.88E-04
283	561036.2	4192729	2.18E-03	2.74E-03	2.15E-03	2.16E-03	2.15E-03	1.60E-03	9.67E-04	1.56E-03	2.14E-03	1.67E-03	1.67E-03	1.67E-03	1.11E-03	4.87E-04
284	561045.5	4192732	2.17E-03	2.73E-03	2.14E-03	2.14E-03	2.14E-03	1.59E-03	9.61E-04	1.55E-03	2.12E-03	1.66E-03	1.66E-03	1.66E-03	1.11E-03	4.84E-04
285	561054.7	4192734	2.15E-03	2.70E-03	2.12E-03	2.13E-03	2.12E-03	1.57E-03	9.53E-04	1.54E-03	2.10E-03	1.64E-03	1.65E-03	1.64E-03	1.10E-03	4.80E-04
286	561063.9	4192737	2.12E-03	2.67E-03	2.10E-03	2.10E-03	2.10E-03	1.55E-03	9.42E-04	1.52E-03	2.08E-03	1.62E-03	1.63E-03	1.62E-03	1.08E-03	4.74E-04
287	561073.1	4192739	2.09E-03	2.63E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.28E-04	1.50E-03	2.05E-03	1.60E-03	1.61E-03	1.60E-03	1.07E-03	4.67E-04
288	561082.3	4192742	2.06E-03	2.59E-03	2.03E-03	2.03E-03	2.03E-03	1.50E-03	9.12E-04	1.47E-03	2.01E-03	1.57E-03	1.58E-03	1.57E-03	1.05E-03	4.59E-04
289	561091.6	4192744	2.01E-03	2.53E-03	1.99E-03	1.99E-03	1.99E-03	1.47E-03	8.94E-04	1.44E-03	1.97E-03	1.54E-03	1.55E-03	1.54E-03	1.03E-03	4.50E-04
290	561024.4	4192737	2.05E-03	2.58E-03	2.03E-03	2.03E-03	2.03E-03	1.50E-03	9.11E-04	1.47E-03	2.01E-03	1.57E-03	1.58E-03	1.57E-03	1.05E-03	4.59E-04
291	561033.6	4192739	2.05E-03	2.58E-03	2.02E-03	2.03E-03	2.02E-03	1.50E-03	9.09E-04	1.46E-03	2.01E-03	1.57E-03	1.57E-03	1.57E-03	1.04E-03	4.57E-04
292	561042.9	4192742	2.04E-03	2.56E-03	2.01E-03	2.02E-03	2.01E-03	1.49E-03	9.04E-04	1.46E-03	2.00E-03	1.56E-03	1.56E-03	1.56E-03	1.04E-03	4.55E-04
293	561052.1	4192744	2.02E-03	2.54E-03	1.99E-03	2.00E-03	1.99E-03	1.48E-03	8.96E-04	1.44E-03	1.98E-03	1.55E-03	1.55E-03	1.55E-03	1.03E-03	4.51E-04
294	561061.3	4192747	2.00E-03	2.51E-03	1.97E-03	1.98E-03	1.97E-03	1.46E-03	8.86E-04	1.43E-03	1.96E-03	1.53E-03	1.53E-03	1.53E-03	1.02E-03	4.46E-04
295	561070.5	4192749	1.97E-03	2.48E-03	1.94E-03	1.95E-03	1.94E-03	1.44E-03	8.74E-04	1.41E-03	1.93E-03	1.51E-03	1.51E-03	1.51E-03	1.00E-03	4.40E-04
296	561079.7	4192752	1.94E-03	2.44E-03	1.91E-03	1.92E-03	1.91E-03	1.42E-03	8.60E-04	1.39E-03	1.90E-03	1.48E-03	1.49E-03	1.48E-03	9.89E-04	4.33E-04
297	561089	4192754	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.70E-04	4.25E-04
298	561021.8	4192746	1.93E-03	2.43E-03	1.91E-03	1.91E-03	1.91E-03	1.42E-03	8.58E-04	1.38E-03	1.90E-03	1.48E-03	1.48E-03	1.48E-03	9.87E-04	4.32E-04
299	561031	4192749	1.93E-03	2.43E-03	1.90E-03	1.91E-03	1.90E-03	1.41E-03	8.56E-04	1.38E-03	1.89E-03	1.48E-03	1.48E-03	1.48E-03	9.84E-04	4.31E-04
300	561040.3	4192751	1.92E-03	2.41E-03	1.89E-03	1.90E-03	1.89E-03	1.40E-03	8.51E-04	1.37E-03	1.88E-03	1.47E-03	1.47E-03	1.47E-03	9.79E-04	4.28E-04
301	561049.5	4192754	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.71E-04	4.25E-04
302	561058.7	4192756	1.88E-03	2.37E-03	1.86E-03	1.86E-03	1.86E-03	1.38E-03	8.35E-04	1.35E-03	1.84E-03	1.44E-03	1.44E-03	1.44E-03	9.61E-04	4.21E-04
303	561067.9	4192759	1.86E-03	2.34E-03	1.83E-03	1.84E-03	1.83E-03	1.36E-03	8.24E-04	1.33E-03	1.82E-03	1.42E-03	1.43E-03	1.42E-03	9.48E-04	4.15E-04
304	561077.1	4192761	1.83E-03	2.30E-03	1.81E-03	1.81E-03	1.81E-03	1.34E-03	8.12E-04	1.31E-03	1.79E-03	1.40E-03	1.40E-03	1.40E-03	9.34E-04	4.09E-04
305	561086.3	4192764	1.80E-03	2.26E-03	1.77E-03	1.78E-03	1.77E-03	1.32E-03	7.98E-04	1.29E-03	1.76E-03	1.38E-03	1.38E-03	1.38E-03	9.18E-04	4.02E-04
306	561019.2	4192756	1.83E-03	2.30E-03	1.80E-03	1.81E-03	1.80E-03	1.34E-03	8.10E-04	1.31E-03	1.79E-03	1.40E-03	1.40E-03	1.40E-03	9.32E-04	4.08E-04
307	561028.4	4192758	1.82E-03	2.29E-03	1.80E-03	1.80E-03	1.80E-03	1.33E-03	8.08E-04	1.30E-03	1.78E-03	1.39E-03	1.40E-03	1.39E-03	9.29E-04	4.07E-04
308	561037.6	4192761	1.81E-03	2.28E-03	1.79E-03	1.79E-03	1.79E-03	1.32E-03	8.03E-04	1.29E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	9.24E-04	4.04E-04
309	561046.9	4192763	1.80E-03	2.26E-03	1.77E-03	1.78E-03	1.77E-03	1.31E-03	7.97E-04	1.28E-03	1.76E-03	1.37E-03	1.38E-03	1.37E-03	9.17E-04	4.01E-04
310	561056.1	4192766	1.78E-03	2.24E-03	1.75E-03	1.76E-03	1.75E-03	1.30E-03	7.89E-04	1.27E-03	1.74E-03	1.36E-03	1.36E-03	1.36E-03	9.07E-04	3.97E-04
311	561065.3	4192768	1.76E-03	2.21E-03	1.73E-03	1.74E-03	1.73E-03	1.29E-03	7.79E-04	1.26E-03	1.72E-03	1.34E-03	1.35E-03	1.34E-03	8.96E-04	3.92E-04
312	561074.5	4192771	1.73E-03	2.18E-03	1.71E-03	1.71E-03	1.71E-03	1.27E-03	7.68E-04	1.24E-03	1.70E-03	1.33E-03	1.33E-03	1.33E-03	8.83E-04	3.87E-04
313	561083.7	4192773	1.70E-03	2.14E-03	1.68E-03	1.69E-03	1.68E-03	1.25E-03	7.56E-04	1.22E-03	1.67E-03	1.30E-03	1.31E-03	1.30E-03	8.69E-04	3.81E-04
314	561016.6	4192766	1.73E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.66E-04	1.24E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	8.81E-04	3.86E-04
315	561025.8	4192768	1.72E-03	2.16E-03	1.70E-03	1.70E-03	1.70E-03	1.26E-03	7.64E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.78E-04	3.85E-04
316	561035	4192771	1.71E-03	2.15E-03	1.69E-03	1.69E-03	1.69E-03	1.25E-03	7.60E-04	1.22E-03	1.68E-03	1.31E-03	1.31E-03	1.31E-03	8.74E-04	3.82E-04
317	561044.3	4192773	1.70E-03	2.14E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.54E-04	1.22E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.67E-04	3.80E-04
318	561053.5	4192776	1.68E-03	2.12E-03	1.66E-03	1.67E-03	1.66E-03	1.23E-03	7.47E-04	1.20E-03	1.65E-03	1.29E-03	1.29E-03	1.29E-03	8.59E-04	3.76E-04
319	561062.7	4192778	1.66E-03	2.09E-03	1.64E-03	1.65E-03	1.64E-03	1.22E-03	7.38E-04	1.19E-03	1.63E-03	1.27E-03	1.28E-03	1.27E-03	8.49E-04	3.72E-04
320	561071.9	4192781	1.64E-03	2.06E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.28E-04	1.17E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.37E-04	3.67E-04

321	561081.1	4192783	1.62E-03	2.03E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.17E-04	1.16E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	8.24E-04	3.61E-04
322	561014	4192775	1.64E-03	2.06E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.26E-04	1.17E-03	1.60E-03	1.25E-03	1.26E-03	1.25E-03	8.35E-04	3.66E-04
323	561023.2	4192778	1.63E-03	2.05E-03	1.61E-03	1.61E-03	1.61E-03	1.19E-03	7.24E-04	1.17E-03	1.60E-03	1.25E-03	1.25E-03	1.25E-03	8.32E-04	3.64E-04
324	561032.4	4192780	1.62E-03	2.04E-03	1.60E-03	1.61E-03	1.60E-03	1.19E-03	7.20E-04	1.16E-03	1.59E-03	1.24E-03	1.24E-03	1.24E-03	8.28E-04	3.62E-04
325	561041.7	4192783	1.61E-03	2.02E-03	1.59E-03	1.59E-03	1.59E-03	1.18E-03	7.14E-04	1.15E-03	1.58E-03	1.23E-03	1.24E-03	1.23E-03	8.22E-04	3.60E-04
326	561050.9	4192785	1.60E-03	2.01E-03	1.57E-03	1.58E-03	1.57E-03	1.17E-03	7.08E-04	1.14E-03	1.56E-03	1.22E-03	1.22E-03	1.22E-03	8.14E-04	3.56E-04
327	561060.1	4192788	1.58E-03	1.98E-03	1.56E-03	1.56E-03	1.56E-03	1.15E-03	7.00E-04	1.13E-03	1.55E-03	1.21E-03	1.21E-03	1.21E-03	8.05E-04	3.52E-04
328	561069.3	4192790	1.56E-03	1.96E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.91E-04	1.11E-03	1.53E-03	1.19E-03	1.20E-03	1.19E-03	7.95E-04	3.48E-04
329	561078.5	4192793	1.54E-03	1.93E-03	1.52E-03	1.52E-03	1.52E-03	1.12E-03	6.81E-04	1.10E-03	1.50E-03	1.17E-03	1.18E-03	1.17E-03	7.83E-04	3.43E-04
330	561011.4	4192785	1.55E-03	1.95E-03	1.53E-03	1.54E-03	1.53E-03	1.14E-03	6.89E-04	1.11E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	7.93E-04	3.47E-04
331	561020.6	4192787	1.55E-03	1.95E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.87E-04	1.11E-03	1.52E-03	1.18E-03	1.19E-03	1.18E-03	7.90E-04	3.46E-04
332	561029.8	4192790	1.54E-03	1.94E-03	1.52E-03	1.52E-03	1.52E-03	1.13E-03	6.83E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.85E-04	3.44E-04
333	561039.1	4192792	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.78E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.80E-04	3.41E-04
334	561048.3	4192795	1.51E-03	1.90E-03	1.49E-03	1.50E-03	1.49E-03	1.11E-03	6.72E-04	1.08E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	7.73E-04	3.38E-04
335	561057.5	4192797	1.50E-03	1.88E-03	1.48E-03	1.48E-03	1.48E-03	1.10E-03	6.65E-04	1.07E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	7.65E-04	3.35E-04
336	561066.7	4192800	1.48E-03	1.86E-03	1.46E-03	1.47E-03	1.46E-03	1.08E-03	6.57E-04	1.06E-03	1.45E-03	1.13E-03	1.14E-03	1.13E-03	7.55E-04	3.31E-04
337	561075.9	4192802	1.46E-03	1.84E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.48E-04	1.04E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	7.45E-04	3.26E-04
338	561008.8	4192795	1.48E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	1.08E-03	6.55E-04	1.06E-03	1.45E-03	1.13E-03	1.13E-03	1.13E-03	7.54E-04	3.30E-04
339	561018	4192797	1.47E-03	1.85E-03	1.45E-03	1.46E-03	1.45E-03	1.08E-03	6.53E-04	1.05E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	7.51E-04	3.29E-04
340	561027.2	4192800	1.46E-03	1.84E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.49E-04	1.05E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	7.47E-04	3.27E-04
341	561036.4	4192802	1.45E-03	1.83E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.45E-04	1.04E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	7.41E-04	3.25E-04
342	561045.7	4192805	1.44E-03	1.81E-03	1.42E-03	1.43E-03	1.42E-03	1.05E-03	6.39E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.35E-04	3.22E-04
343	561054.9	4192807	1.43E-03	1.79E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.02E-03	1.40E-03	1.09E-03	1.09E-03	1.09E-03	7.28E-04	3.19E-04
344	561064.1	4192810	1.41E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.19E-04	3.15E-04
345	561073.3	4192812	1.39E-03	1.75E-03	1.37E-03	1.38E-03	1.37E-03	1.02E-03	6.17E-04	9.95E-04	1.36E-03	1.06E-03	1.07E-03	1.06E-03	7.10E-04	3.11E-04
346	561006.2	4192804	1.41E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.24E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.18E-04	3.14E-04
347	561015.4	4192807	1.40E-03	1.76E-03	1.38E-03	1.39E-03	1.38E-03	1.03E-03	6.22E-04	1.00E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.15E-04	3.13E-04
348	561024.6	4192809	1.39E-03	1.75E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.18E-04	9.96E-04	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.11E-04	3.11E-04
349	561033.8	4192812	1.38E-03	1.74E-03	1.37E-03	1.37E-03	1.37E-03	1.01E-03	6.14E-04	9.89E-04	1.36E-03	1.06E-03	1.06E-03	1.06E-03	7.06E-04	3.09E-04
350	561043.1	4192814	1.37E-03	1.73E-03	1.35E-03	1.36E-03	1.35E-03	1.00E-03	6.09E-04	9.81E-04	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.00E-04	3.06E-04
351	561052.3	4192817	1.36E-03	1.71E-03	1.34E-03	1.34E-03	1.34E-03	9.94E-04	6.03E-04	9.72E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.93E-04	3.03E-04
352	561061.5	4192819	1.34E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.83E-04	5.96E-04	9.61E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.86E-04	3.00E-04
353	561070.7	4192822	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.71E-04	5.89E-04	9.49E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.77E-04	2.96E-04
354	561003.6	4192814	1.34E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	9.82E-04	5.95E-04	9.59E-04	1.31E-03	1.03E-03	1.03E-03	1.03E-03	6.84E-04	3.00E-04
355	561012.8	4192816	1.34E-03	1.68E-03	1.32E-03	1.32E-03	1.32E-03	9.78E-04	5.93E-04	9.55E-04	1.31E-03	1.02E-03	1.03E-03	1.02E-03	6.82E-04	2.98E-04
356	561022	4192819	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.72E-04	5.89E-04	9.50E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.78E-04	2.97E-04
357	561031.2	4192821	1.32E-03	1.66E-03	1.30E-03	1.31E-03	1.30E-03	9.66E-04	5.85E-04	9.43E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.73E-04	2.95E-04
358	561040.5	4192824	1.31E-03	1.65E-03	1.29E-03	1.29E-03	1.29E-03	9.58E-04	5.81E-04	9.36E-04	1.28E-03	1.00E-03	1.00E-03	1.00E-03	6.68E-04	2.92E-04
359	561049.7	4192826	1.30E-03	1.63E-03	1.28E-03	1.28E-03	1.28E-03	9.49E-04	5.75E-04	9.27E-04	1.27E-03	9.92E-04	9.95E-04	9.92E-04	6.61E-04	2.90E-04
360	561058.9	4192829	1.28E-03	1.61E-03	1.27E-03	1.27E-03	1.27E-03	9.39E-04	5.69E-04	9.17E-04	1.26E-03	9.81E-04	9.84E-04	9.81E-04	6.54E-04	2.86E-04
361	561068.1	4192831	1.27E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.28E-04	5.62E-04	9.06E-04	1.24E-03	9.70E-04	9.73E-04	9.70E-04	6.47E-04	2.83E-04
362	561001	4192824	1.28E-03	1.61E-03	1.26E-03	1.27E-03	1.26E-03	9.37E-04	5.68E-04	9.16E-04	1.25E-03	9.80E-04	9.83E-04	9.80E-04	6.53E-04	2.86E-04
363	561010.2	4192826	1.28E-03	1.60E-03	1.26E-03	1.26E-03	1.26E-03	9.33E-04	5.66E-04	9.12E-04	1.25E-03	9.76E-04	9.79E-04	9.76E-04	6.51E-04	2.85E-04
364	561019.4	4192829	1.27E-03	1.59E-03	1.25E-03	1.26E-03	1.25E-03	9.28E-04	5.63E-04	9.07E-04	1.24E-03	9.71E-04	9.73E-04	9.71E-04	6.47E-04	2.83E-04
365	561028.6	4192831	1.26E-03	1.58E-03	1.24E-03	1.25E-03	1.24E-03	9.22E-04	5.59E-04	9.01E-04	1.23E-03	9.64E-04	9.67E-04	9.64E-04	6.43E-04	2.81E-04
366	561037.9	4192834	1.25E-03	1.57E-03	1.23E-03	1.24E-03	1.23E-03	9.15E-04	5.54E-04	8.94E-04	1.22E-03	9.56E-04	9.59E-04	9.56E-04	6.38E-04	2.79E-04
367	561047.1	4192836	1.24E-03	1.56E-03	1.22E-03	1.23E-03	1.22E-03	9.06E-04	5.49E-04	8.85E-04	1.21E-03	9.48E-04	9.50E-04	9.48E-04	6.32E-04	2.77E-04
368	561056.3	4192838	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.97E-04	5.44E-04	8.76E-04	1.20E-03	9.38E-04	9.41E-04	9.38E-04	6.25E-04	2.74E-04
369	561065.5	4192841	1.21E-03	1.52E-03	1.20E-03	1.20E-03	1.20E-03	8.87E-04	5.38E-04	8.67E-04	1.19E-03	9.27E-04	9.30E-04	9.27E-04	6.18E-04	2.71E-04
370	560998.4	4192833	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.96E-04	5.43E-04	8.76E-04	1.20E-03	9.37E-04	9.40E-04	9.37E-04	6.25E-04	2.74E-04
371	561007.6	4192836	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.92E-04	5.41E-04	8.72E-04	1.19E-03	9.33E-04	9.36E-04	9.33E-04	6.22E-04	2.72E-04
372	561016.8	4192838	1.21E-03	1.52E-03	1.20E-03	1.20E-03	1.20E-03	8.87E-04	5.38E-04	8.67E-04	1.19E-03	9.28E-04	9.31E-04	9.28E-04	6.19E-04	2.71E-04
373	561026	4192841	1.20E-03	1.51E-03	1.19E-03	1.19E-03	1.19E-03	8.81E-04	5.34E-04	8.61E-04	1.18E-03	9.22E-04	9.24E-04	9.22E-04	6.15E-04	2.69E-04
374	561035.2	4192843	1.19E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.75E-04	5.30E-04	8.55E-04	1.17E-03	9.14E-04	9.17E-04	9.14E-04	6.10E-04	2.67E-04
375	561044.5	4192846	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.67E-04	5.25E-04	8.47E-04	1.16E-03	9.06E-04	9.09E-04	9.06E-04	6.04E-04	2.65E-04
376	561053.7	4192848	1.17E-03	1.47E-03	1.16E-03	1.16E-03	1.16E-03	8.58E-04	5.20E-04	8.39E-04	1.15E-03	8.97E-04	9.00E-04	8.97E-04	5.98E-04	2.62E-04
377	561062.9	4192851	1.16E-03	1.46E-03	1.14E-03	1.15E-03	1.14E-03	8.49E-04	5.15E-04	8.29E-04	1.14E-03	8.88E-04	8.90E-04	8.88E-04	5.92E-04	2.59E-04
378	560995.8	4192843	1.17E-03	1.47E-03	1.16E-03	1.16E-03	1.16E-03	8.58E-04	5.20E-04	8.38E-04	1.15E-03	8.97E-04	8.99E-04	8.97E-04	5.98E-04	2.62E-04
379	561005	4192845	1.17E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	8.54E-04	5.18E-04	8.35E-04	1.14E-03	8.93E-04	8.96E-04	8.93E-04	5.95E-04	2.61E-04
380	561014.2	4192848	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.49E-04	5.15E-04	8.30E-04	1.14E-03	8.88E-04	8.91E-04	8.88E-04	5.92E-04	2.59E-04
381	561023.4	4192850	1.15E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.44E-04	5.11E-04	8.24E-04	1.13E-03	8.82E-04	8.85E-04	8.82E-04	5.88E-04	2.58E-04
382	561032.6	4192853	1.14E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.37E-04	5.08E-04	8.18E-04	1.12E-03	8.75E-04	8.78E-04	8.75E-04	5.84E-04	2.56E-04
383	561041.9	4192855	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	8.11E-04	1.11E-03	8.68E-04	8.70E-04	8.68E-04	5.79E-04	2.53E-04
384	561051.1	4192858	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.22E-04	4.98E-04	8.03E-04	1.10E-03	8.60E-04	8.62E-04	8.60E-04	5.73E-04	2.51E-04
385	561060.3	4192860	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.14E-04	4.93E-04	7.95E-04	1.09E-03	8.51E-04	8.53E-04	8.51E-04	5.67E-04	2.48E-04
386	560993.2	4192853	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.22E-04	4.98E-04	8.03E-04	1.10E-03	8.60E-04	8.62E-04	8.60E-04	5.73E-04	2.51E-04
387	561002.4	4192855	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.18E-04	4.96E-04	8.00E-04	1.10E-03	8.56E-04	8.58E-04	8.56E-04	5.71E-04	2.50E-04
388	561011.6	4192857	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.14E-04	4.93E-04	7.95E-04	1.09E-03	8.51E-04	8.53E-04	8.51E-04	5.67E-04	2.48E-04
389	561020.8	4192860	1.10E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	8.09E-04	4.90E-04	7.90E-04	1.08E-03	8.45E-04	8.48E-04	8.45E-04	5.64E-04	2.47E-04
390	561030	4192862	1.10E-03	1.38E-03	1.08E-03	1.09E-03	1.08E-03	8.02E-04	4.86E-04	7.84E-04	1.07E-03	8.39E-04	8.41E-04	8.39E-04	5.59E-04	2.45E-04
391	561039.3	4192865	1.09E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.96E-04	4.82E-04	7.78E-04	1.07E-03	8.32E-04	8.34E-04	8.32E-04	5.55E-04	2.43E-04
392	561048.5	4192867	1.08E-03	1.35E-03	1.06E-03	1.07E-03	1.06E-03	7.88E-04	4.78E-04	7.70E-04	1.06E-03	8.24E-04	8.27E-04	8.24E-04	5.50E-04	2.41E-04
393	561057.7	4192870	1.07E-03	1.34E-03	1.05E-03	1.06E-03	1.05E-03	7.80E-04	4.73E-04	7.62E-04	1.04E-03	8.16E-04	8.18E-04	8.16E-04	5.44E-04	2.38E-04
394	561179.1	4192570	5.25E-03	6.61E-03	5.19E-03	5.20E-03	5.19E-03	3.85E-03	2.33E-03	3.76E-03	5.15E-03	4.02E-03	4.03E-03	4.02E-03	2.68E-03	1.17E-03
395	561181.2	4192560	5.46E-03	6.86E-03	5.39E-03	5.40E-03	5.39E-03	3.99E-03	2.42E-03	3.90E-03	5.35E-03	4.18E-03	4.19E-03	4.18E-03	2.78E-03	1.22E-03
396	561183.4	4192551	5.64E-03	7.10E-03	5.57E-03	5.59E-03	5.57E-03	4.13E-03	2.50E-03	4.04E-03	5.53E-03	4.32E-03	4.33E-03	4.32E-03	2.88E-03	1.26E-03
397	561185.5	4192541	5.81E-03	7.30E-03	5.73E-03	5.74E-03	5.73E-03	4.25E-03	2.58E-03	4.15E-03	5.69E-03	4.44E-03	4.45E-03	4.44E-03	2.96E-03	1.30E-03
398	561187.6	4192532	5.93E-03	7.46E-03	5.86E-03	5.87E-03	5.86E-03	4.34E-03	2.63E-03	4.24E-03	5.81E-03	4.54E-03	4.55E-03	4.54E-03	3.03E-03	1.33E-03
399	561189.7	4192522	6.03E-03	7.59E-03	5.95E-03	5.97E-03	5.95E-03	4.42E-03	2.68E-03	4.31E-03	5.91E-03	4.62E-03	4.63E-03	4.62E-03	3.08E-03	1.35E-03
400	561191.9	4192512	6.10E-03	7.67E-03	6.02E-03	6.03E-03	6.02E-03	4.46E-03	2.71E-03	4.36E-03	5.97E-03	4.67E-03	4.68E-03	4.67E-03	3.11E-03	1.36E-03
401	561194	4192503	6.13E-03	7.71E-03	6.05E-03	6.07E-03	6.05E-03	4.49E-03	2.72E-03	4.38E-03	6.01E-03	4.69E-03	4.70E-03	4.69E-03	3.13E-03	1.37E-03

402	561196.1	4192493	6.15E-03	7.73E-03	6.07E-03	6.08E-03	6.07E-03	4.50E-03	2.73E-03	4.40E-03	6.02E-03	4.70E-03	4.72E-03	4.70E-03	3.14E-03	1.37E-03
403	561198.3	4192483	6.14E-03	7.72E-03	6.06E-03	6.08E-03	6.06E-03	4.49E-03	2.72E-03	4.39E-03	6.02E-03	4.70E-03	4.71E-03	4.70E-03	3.13E-03	1.37E-03
404	561200.4	4192474	6.09E-03	7.66E-03	6.01E-03	6.03E-03	6.01E-03	4.46E-03	2.70E-03	4.36E-03	5.97E-03	4.66E-03	4.67E-03	4.66E-03	3.11E-03	1.36E-03
405	561202.5	4192464	6.02E-03	7.57E-03	5.94E-03	5.95E-03	5.94E-03	4.40E-03	2.67E-03	4.30E-03	5.89E-03	4.60E-03	4.62E-03	4.60E-03	3.07E-03	1.34E-03
406	561204.7	4192455	5.94E-03	7.47E-03	5.86E-03	5.88E-03	5.86E-03	4.35E-03	2.63E-03	4.25E-03	5.82E-03	4.54E-03	4.56E-03	4.54E-03	3.03E-03	1.33E-03
407	561206.8	4192445	5.90E-03	7.42E-03	5.82E-03	5.84E-03	5.82E-03	4.32E-03	2.62E-03	4.22E-03	5.78E-03	4.51E-03	4.53E-03	4.51E-03	3.01E-03	1.32E-03
408	561208.9	4192435	5.85E-03	7.36E-03	5.78E-03	5.79E-03	5.78E-03	4.28E-03	2.60E-03	4.19E-03	5.74E-03	4.48E-03	4.49E-03	4.48E-03	2.99E-03	1.31E-03
409	561211.1	4192426	5.81E-03	7.31E-03	5.73E-03	5.75E-03	5.73E-03	4.25E-03	2.58E-03	4.16E-03	5.69E-03	4.45E-03	4.46E-03	4.45E-03	2.96E-03	1.30E-03
410	561213.2	4192416	5.76E-03	7.24E-03	5.69E-03	5.70E-03	5.69E-03	4.22E-03	2.56E-03	4.12E-03	5.65E-03	4.41E-03	4.42E-03	4.41E-03	2.94E-03	1.29E-03
411	561215.3	4192406	5.71E-03	7.18E-03	5.63E-03	5.65E-03	5.63E-03	4.18E-03	2.53E-03	4.08E-03	5.59E-03	4.37E-03	4.38E-03	4.37E-03	2.91E-03	1.27E-03
412	561188.8	4192572	4.48E-03	5.63E-03	4.42E-03	4.43E-03	4.42E-03	3.28E-03	1.99E-03	3.20E-03	4.39E-03	3.43E-03	3.44E-03	3.43E-03	2.28E-03	1.00E-03
413	561191	4192563	4.62E-03	5.81E-03	4.56E-03	4.57E-03	4.56E-03	3.38E-03	2.05E-03	3.30E-03	4.53E-03	3.54E-03	3.54E-03	3.54E-03	2.36E-03	1.03E-03
414	561193.1	4192553	4.76E-03	5.98E-03	4.69E-03	4.71E-03	4.69E-03	3.48E-03	2.11E-03	3.40E-03	4.66E-03	3.64E-03	3.65E-03	3.64E-03	2.43E-03	1.06E-03
415	561195.2	4192543	4.88E-03	6.13E-03	4.81E-03	4.83E-03	4.81E-03	3.57E-03	2.16E-03	3.49E-03	4.78E-03	3.73E-03	3.74E-03	3.73E-03	2.49E-03	1.09E-03
416	561197.4	4192534	4.98E-03	6.26E-03	4.91E-03	4.93E-03	4.91E-03	3.64E-03	2.21E-03	3.56E-03	4.88E-03	3.81E-03	3.82E-03	3.81E-03	2.54E-03	1.11E-03
417	561199.5	4192524	5.06E-03	6.36E-03	4.99E-03	5.00E-03	4.99E-03	3.70E-03	2.24E-03	3.62E-03	4.95E-03	3.87E-03	3.88E-03	3.87E-03	2.58E-03	1.13E-03
418	561201.6	4192514	5.11E-03	6.43E-03	5.05E-03	5.06E-03	5.05E-03	3.74E-03	2.27E-03	3.66E-03	5.01E-03	3.91E-03	3.92E-03	3.91E-03	2.61E-03	1.14E-03
419	561203.8	4192505	5.15E-03	6.48E-03	5.08E-03	5.10E-03	5.08E-03	3.77E-03	2.29E-03	3.68E-03	5.05E-03	3.94E-03	3.95E-03	3.94E-03	2.63E-03	1.15E-03
420	561205.9	4192495	5.17E-03	6.50E-03	5.10E-03	5.12E-03	5.10E-03	3.78E-03	2.29E-03	3.70E-03	5.07E-03	3.96E-03	3.97E-03	3.96E-03	2.64E-03	1.16E-03
421	561208	4192486	5.17E-03	6.50E-03	5.11E-03	5.12E-03	5.11E-03	3.79E-03	2.29E-03	3.70E-03	5.07E-03	3.96E-03	3.97E-03	3.96E-03	2.64E-03	1.16E-03
422	561210.2	4192476	5.14E-03	6.46E-03	5.07E-03	5.09E-03	5.07E-03	3.76E-03	2.28E-03	3.68E-03	5.04E-03	3.93E-03	3.95E-03	3.93E-03	2.62E-03	1.15E-03
423	561212.3	4192466	5.10E-03	6.41E-03	5.03E-03	5.05E-03	5.03E-03	3.73E-03	2.26E-03	3.65E-03	5.00E-03	3.90E-03	3.91E-03	3.90E-03	2.60E-03	1.14E-03
424	561214.4	4192457	5.05E-03	6.35E-03	4.98E-03	5.00E-03	4.98E-03	3.70E-03	2.24E-03	3.61E-03	4.95E-03	3.87E-03	3.88E-03	3.87E-03	2.58E-03	1.13E-03
425	561216.6	4192447	5.02E-03	6.31E-03	4.95E-03	4.97E-03	4.95E-03	3.67E-03	2.23E-03	3.59E-03	4.92E-03	3.84E-03	3.85E-03	3.84E-03	2.56E-03	1.12E-03
426	561218.7	4192437	4.98E-03	6.26E-03	4.91E-03	4.93E-03	4.91E-03	3.64E-03	2.21E-03	3.56E-03	4.88E-03	3.81E-03	3.82E-03	3.81E-03	2.54E-03	1.11E-03
427	561220.8	4192428	4.93E-03	6.20E-03	4.87E-03	4.88E-03	4.87E-03	3.61E-03	2.19E-03	3.53E-03	4.83E-03	3.78E-03	3.79E-03	3.78E-03	2.52E-03	1.10E-03
428	561223	4192418	4.87E-03	6.13E-03	4.81E-03	4.82E-03	4.81E-03	3.57E-03	2.16E-03	3.49E-03	4.78E-03	3.73E-03	3.74E-03	3.73E-03	2.49E-03	1.09E-03
429	561225.1	4192409	4.81E-03	6.05E-03	4.75E-03	4.76E-03	4.75E-03	3.52E-03	2.13E-03	3.44E-03	4.71E-03	3.68E-03	3.69E-03	3.68E-03	2.45E-03	1.07E-03
430	561229.4	4192389	4.64E-03	5.83E-03	4.57E-03	4.59E-03	4.57E-03	3.39E-03	2.06E-03	3.32E-03	4.54E-03	3.55E-03	3.56E-03	3.55E-03	2.37E-03	1.04E-03
431	561179.3	4192608	3.96E-03	4.98E-03	3.90E-03	3.92E-03	3.90E-03	2.90E-03	1.76E-03	2.83E-03	3.88E-03	3.03E-03	3.04E-03	3.03E-03	2.02E-03	8.84E-04
432	561163.8	4192617	4.31E-03	5.43E-03	4.26E-03	4.27E-03	4.26E-03	3.16E-03	1.91E-03	3.09E-03	4.23E-03	3.30E-03	3.31E-03	3.30E-03	2.20E-03	9.64E-04
433	561196.5	4192584	3.77E-03	4.74E-03	3.72E-03	3.73E-03	3.72E-03	2.76E-03	1.67E-03	2.70E-03	3.70E-03	2.89E-03	2.89E-03	2.89E-03	1.92E-03	8.43E-04
434	561198.6	4192574	3.88E-03	4.88E-03	3.83E-03	3.84E-03	3.83E-03	2.84E-03	1.72E-03	2.77E-03	3.80E-03	2.97E-03	2.98E-03	2.97E-03	1.98E-03	8.66E-04
435	561200.7	4192565	3.98E-03	5.00E-03	3.93E-03	3.94E-03	3.93E-03	2.91E-03	1.77E-03	2.85E-03	3.90E-03	3.05E-03	3.05E-03	3.05E-03	2.03E-03	8.89E-04
436	561202.9	4192555	4.08E-03	5.13E-03	4.03E-03	4.04E-03	4.03E-03	2.98E-03	1.81E-03	2.92E-03	4.00E-03	3.12E-03	3.13E-03	3.12E-03	2.08E-03	9.11E-04
437	561205	4192545	4.17E-03	5.24E-03	4.12E-03	4.13E-03	4.12E-03	3.05E-03	1.85E-03	2.98E-03	4.09E-03	3.19E-03	3.20E-03	3.19E-03	2.13E-03	9.31E-04
438	561207.1	4192536	4.25E-03	5.34E-03	4.19E-03	4.20E-03	4.19E-03	3.11E-03	1.88E-03	3.04E-03	4.16E-03	3.25E-03	3.26E-03	3.25E-03	2.17E-03	9.49E-04
439	561209.3	4192526	4.31E-03	5.42E-03	4.26E-03	4.27E-03	4.26E-03	3.16E-03	1.91E-03	3.08E-03	4.22E-03	3.30E-03	3.31E-03	3.30E-03	2.20E-03	9.63E-04
440	561211.4	4192517	4.36E-03	5.48E-03	4.30E-03	4.31E-03	4.30E-03	3.19E-03	1.93E-03	3.12E-03	4.27E-03	3.34E-03	3.35E-03	3.34E-03	2.22E-03	9.74E-04
441	561213.5	4192507	4.39E-03	5.52E-03	4.33E-03	4.35E-03	4.33E-03	3.21E-03	1.95E-03	3.14E-03	4.30E-03	3.36E-03	3.37E-03	3.36E-03	2.24E-03	9.81E-04
442	561215.7	4192497	4.41E-03	5.55E-03	4.35E-03	4.36E-03	4.35E-03	3.23E-03	1.96E-03	3.15E-03	4.32E-03	3.37E-03	3.38E-03	3.37E-03	2.25E-03	9.85E-04
443	561217.8	4192488	4.41E-03	5.55E-03	4.36E-03	4.37E-03	4.36E-03	3.23E-03	1.96E-03	3.16E-03	4.32E-03	3.38E-03	3.39E-03	3.38E-03	2.25E-03	9.86E-04
444	561219.9	4192478	4.40E-03	5.53E-03	4.34E-03	4.35E-03	4.34E-03	3.22E-03	1.95E-03	3.15E-03	4.31E-03	3.37E-03	3.38E-03	3.37E-03	2.24E-03	9.83E-04
445	561222.1	4192469	4.38E-03	5.50E-03	4.32E-03	4.33E-03	4.32E-03	3.20E-03	1.94E-03	3.13E-03	4.29E-03	3.35E-03	3.36E-03	3.35E-03	2.23E-03	9.78E-04
446	561224.2	4192459	4.35E-03	5.47E-03	4.29E-03	4.30E-03	4.29E-03	3.18E-03	1.93E-03	3.11E-03	4.26E-03	3.33E-03	3.34E-03	3.33E-03	2.22E-03	9.71E-04
447	561226.3	4192449	4.32E-03	5.43E-03	4.26E-03	4.27E-03	4.26E-03	3.16E-03	1.91E-03	3.09E-03	4.23E-03	3.30E-03	3.31E-03	3.30E-03	2.20E-03	9.64E-04
448	561228.5	4192440	4.28E-03	5.38E-03	4.22E-03	4.23E-03	4.22E-03	3.13E-03	1.90E-03	3.06E-03	4.19E-03	3.27E-03	3.28E-03	3.27E-03	2.18E-03	9.55E-04
449	561230.6	4192430	4.23E-03	5.32E-03	4.17E-03	4.19E-03	4.17E-03	3.10E-03	1.88E-03	3.03E-03	4.14E-03	3.24E-03	3.25E-03	3.24E-03	2.16E-03	9.45E-04
450	561232.7	4192420	4.18E-03	5.25E-03	4.12E-03	4.13E-03	4.12E-03	3.06E-03	1.85E-03	2.99E-03	4.09E-03	3.20E-03	3.20E-03	3.20E-03	2.13E-03	9.33E-04
451	561234.9	4192411	4.11E-03	5.17E-03	4.06E-03	4.07E-03	4.06E-03	3.01E-03	1.82E-03	2.94E-03	4.03E-03	3.15E-03	3.16E-03	3.15E-03	2.10E-03	9.18E-04
452	561239.1	4192392	3.95E-03	4.97E-03	3.90E-03	3.91E-03	3.90E-03	2.89E-03	1.75E-03	2.82E-03	3.87E-03	3.02E-03	3.03E-03	3.02E-03	2.01E-03	8.82E-04
453	561184.2	4192617	3.52E-03	4.43E-03	3.48E-03	3.49E-03	3.48E-03	2.58E-03	1.56E-03	2.52E-03	3.45E-03	2.69E-03	2.70E-03	2.69E-03	1.80E-03	7.87E-04
454	561169.4	4192626	3.80E-03	4.78E-03	3.75E-03	3.76E-03	3.75E-03	2.78E-03	1.68E-03	2.72E-03	3.72E-03	2.91E-03	2.91E-03	2.91E-03	1.94E-03	8.48E-04
455	561160.1	4192627	4.07E-03	5.12E-03	4.02E-03	4.03E-03	4.02E-03	2.98E-03	1.81E-03	2.91E-03	3.99E-03	3.11E-03	3.12E-03	3.11E-03	2.08E-03	9.09E-04
456	561206.2	4192586	3.32E-03	4.18E-03	3.28E-03	3.29E-03	3.28E-03	2.43E-03	1.47E-03	2.38E-03	3.26E-03	2.54E-03	2.55E-03	2.54E-03	1.70E-03	7.42E-04
457	561208.4	4192576	3.40E-03	4.28E-03	3.36E-03	3.37E-03	3.36E-03	2.49E-03	1.51E-03	2.43E-03	3.33E-03	2.60E-03	2.61E-03	2.60E-03	1.74E-03	7.60E-04
458	561210.5	4192567	3.48E-03	4.37E-03	3.43E-03	3.44E-03	3.43E-03	2.54E-03	1.54E-03	2.49E-03	3.41E-03	2.66E-03	2.67E-03	2.66E-03	1.77E-03	7.76E-04
459	561212.6	4192557	3.55E-03	4.46E-03	3.50E-03	3.51E-03	3.50E-03	2.60E-03	1.57E-03	2.54E-03	3.48E-03	2.72E-03	2.72E-03	2.72E-03	1.81E-03	7.93E-04
460	561214.8	4192548	3.62E-03	4.55E-03	3.57E-03	3.58E-03	3.57E-03	2.65E-03	1.60E-03	2.59E-03	3.54E-03	2.77E-03	2.78E-03	2.77E-03	1.85E-03	8.08E-04
461	561216.9	4192538	3.68E-03	4.63E-03	3.63E-03	3.64E-03	3.63E-03	2.69E-03	1.63E-03	2.63E-03	3.60E-03	2.81E-03	2.82E-03	2.81E-03	1.88E-03	8.22E-04
462	561219	4192528	3.73E-03	4.69E-03	3.68E-03	3.69E-03	3.68E-03	2.73E-03	1.65E-03	2.67E-03	3.65E-03	2.85E-03	2.86E-03	2.85E-03	1.90E-03	8.33E-04
463	561221.2	4192519	3.77E-03	4.74E-03	3.72E-03	3.73E-03	3.72E-03	2.76E-03	1.67E-03	2.70E-03	3.69E-03	2.88E-03	2.89E-03	2.88E-03	1.92E-03	8.42E-04
464	561223.3	4192509	3.80E-03	4.78E-03	3.75E-03	3.76E-03	3.75E-03	2.78E-03	1.68E-03	2.72E-03	3.72E-03	2.91E-03	2.91E-03	2.91E-03	1.94E-03	8.48E-04
465	561225.4	4192500	3.81E-03	4.80E-03	3.76E-03	3.77E-03	3.76E-03	2.79E-03	1.69E-03	2.73E-03	3.74E-03	2.92E-03	2.93E-03	2.92E-03	1.95E-03	8.52E-04
466	561227.6	4192490	3.82E-03	4.80E-03	3.77E-03	3.78E-03	3.77E-03	2.79E-03	1.69E-03	2.73E-03	3.74E-03	2.92E-03	2.93E-03	2.92E-03	1.95E-03	8.53E-04
467	561229.7	4192480	3.81E-03	4.79E-03	3.76E-03	3.77E-03	3.76E-03	2.79E-03	1.69E-03	2.73E-03	3.74E-03	2.92E-03	2.93E-03	2.92E-03	1.95E-03	8.52E-04
468	561231.8	4192471	3.80E-03	4.78E-03	3.75E-03	3.76E-03	3.75E-03	2.78E-03	1.68E-03	2.72E-03	3.72E-03	2.91E-03	2.91E-03	2.91E-03	1.94E-03	8.48E-04
469	561234	4192461	3.78E-03	4.75E-03	3.73E-03	3.74E-03	3.73E-03	2.76E-03	1.68E-03	2.70E-03	3.70E-03	2.89E-03	2.90E-03	2.89E-03	1.93E-03	8.43E-04
470	561236.1	4192451	3.74E-03	4.71E-03	3.70E-03	3.71E-03	3.70E-03	2.74E-03	1.66E-03	2.68E-03	3.67E-03	2.87E-03	2.87E-03	2.87E-03	1.91E-03	8.36E-04
471	561238.2	4192442	3.71E-03	4.66E-03	3.66E-03	3.67E-03	3.66E-03	2.71E-03	1.64E-03	2.65E-03	3.63E-03	2.84E-03	2.84E-03	2.84E-03	1.89E-03	8.28E-04
472	561240.4	4192432	3.66E-03	4.61E-03	3.62E-03	3.63E-03	3.62E-03	2.68E-03	1.63E-03	2.62E-03	3.59E-03	2.80E-03	2.81E-03	2.80E-03	1.87E-03	8.18E-04
473	561242.5	4192423	3.61E-03	4.54E-03	3.57E-03	3.58E-03	3.57E-03	2.64E-03	1.60E-03	2.58E-03	3.54E-03	2.77E-03	2.77E-03	2.77E-03	1.84E-03	8.07E-04
474	561244.6	4192413	3.56E-03	4.47E-03	3.51E-03	3.52E-03	3.51E-03	2.60E-03	1.58E-03	2.54E-03	3.49E-03	2.72E-03	2.73E-03	2.72E-03	1.82E-03	7.95E-04
475	561248.9	4192394	3.42E-03	4.30E-03	3.37E-03	3.38E-03	3.37E-03	2.50E-03	1.52E-03	2.44E-03	3.35E-03	2.61E-03	2.62E-03	2.61E-03	1.74E-03	7.63E-04
476	561189.3	4192626	3.16E-03	3.98E-03	3.12E-03	3.13E-03	3.12E-03	2.32E-03	1.40E-03	2.26E-03	3.10E-03	2.42E-03	2.43E-03	2.42E-03	1.61E-03	7.07E-04
477	561174.8	4192634	3.39E-03	4.26E-03	3.34E-03	3.35E-03	3.34E-03	2.48E-03	1.50E-03	2.42E-03	3.32E-03	2.59E-03	2.60E-03	2.59E-03	1.73E-03	7.56E-04
478	561165.8	4192636	3.61E-03	4.54E-03	3.56E-03	3.57E-03	3.56E-03	2.64E-03	1.60E-03	2.58E-03	3.53E-03	2.76E-03	2.77E-03	2.76E-03	1.84E-03	8.06E-04
479	561156.7	4192637	3.82E-03	4.80E-03	3.77E-03	3.78E-03	3.77E-03	2.79E-03	1.69E-03	2.73E-03	3.74E-03	2.92E-03	2.93E-03	2.92E-03	1.95E-03	8.52E-04
480	561216	4192588	2.95E-03	3.71E-03	2.91E-03	2.92E-03	2.91E-03	2.16E-03	1.31E-03	2.11E-03	2.89E-03	2.26E-03	2.27E-03	2.26E-03	1.51E-03	6.60E-04
481	561218.1	4192579	3.01E-03	3.79E-03	2.97E-03	2.98E-03	2.97E-03	2.20E-03	1.34E-03	2.15E-03	2.95E-03	2.31E-03	2.31E-03	2.31E-03	1.54E-03	6.73E-04
482	561220.3	4192569	3.07E-03	3.86E-03	3.03E-03	3.04E-03	3.03E-03	2.25E-03	1.36E-03	2.19E-03	3.01E-03	2.35E-03	2.35E-03	2.35E-03	1.57E-03	6.85E-04

483	561222.4	4192559	3.12E-03	3.93E-03	3.08E-03	3.09E-03	3.08E-03	2.29E-03	1.39E-03	2.23E-03	3.06E-03	2.39E-03	2.40E-03	2.39E-03	1.59E-03	6.97E-04
484	561224.5	4192550	3.17E-03	3.99E-03	3.13E-03	3.14E-03	3.13E-03	2.32E-03	1.41E-03	2.27E-03	3.11E-03	2.43E-03	2.44E-03	2.43E-03	1.62E-03	7.09E-04
485	561226.7	4192540	3.22E-03	4.05E-03	3.18E-03	3.19E-03	3.18E-03	2.36E-03	1.43E-03	2.30E-03	3.16E-03	2.47E-03	2.47E-03	2.47E-03	1.64E-03	7.20E-04
486	561228.8	4192531	3.26E-03	4.10E-03	3.22E-03	3.23E-03	3.22E-03	2.39E-03	1.45E-03	2.33E-03	3.20E-03	2.50E-03	2.50E-03	2.50E-03	1.67E-03	7.29E-04
487	561230.9	4192521	3.30E-03	4.15E-03	3.25E-03	3.26E-03	3.25E-03	2.41E-03	1.46E-03	2.36E-03	3.23E-03	2.52E-03	2.53E-03	2.52E-03	1.68E-03	7.36E-04
488	561233.1	4192511	3.32E-03	4.18E-03	3.28E-03	3.29E-03	3.28E-03	2.43E-03	1.47E-03	2.37E-03	3.25E-03	2.54E-03	2.55E-03	2.54E-03	1.69E-03	7.42E-04
489	561235.2	4192502	3.33E-03	4.19E-03	3.29E-03	3.30E-03	3.29E-03	2.44E-03	1.48E-03	2.38E-03	3.27E-03	2.55E-03	2.56E-03	2.55E-03	1.70E-03	7.45E-04
490	561237.3	4192492	3.34E-03	4.20E-03	3.30E-03	3.31E-03	3.30E-03	2.44E-03	1.48E-03	2.39E-03	3.27E-03	2.56E-03	2.56E-03	2.56E-03	1.70E-03	7.46E-04
491	561239.5	4192482	3.34E-03	4.20E-03	3.29E-03	3.30E-03	3.29E-03	2.44E-03	1.48E-03	2.39E-03	3.27E-03	2.55E-03	2.56E-03	2.55E-03	1.70E-03	7.45E-04
492	561241.6	4192473	3.32E-03	4.18E-03	3.28E-03	3.29E-03	3.28E-03	2.43E-03	1.47E-03	2.38E-03	3.26E-03	2.54E-03	2.55E-03	2.54E-03	1.70E-03	7.42E-04
493	561243.7	4192463	3.30E-03	4.15E-03	3.26E-03	3.27E-03	3.26E-03	2.42E-03	1.47E-03	2.36E-03	3.24E-03	2.53E-03	2.54E-03	2.53E-03	1.69E-03	7.38E-04
494	561245.9	4192454	3.28E-03	4.12E-03	3.23E-03	3.24E-03	3.23E-03	2.40E-03	1.45E-03	2.34E-03	3.21E-03	2.51E-03	2.51E-03	2.51E-03	1.67E-03	7.32E-04
495	561248	4192444	3.24E-03	4.08E-03	3.20E-03	3.21E-03	3.20E-03	2.37E-03	1.44E-03	2.32E-03	3.18E-03	2.48E-03	2.49E-03	2.48E-03	1.66E-03	7.25E-04
496	561250.1	4192434	3.21E-03	4.03E-03	3.16E-03	3.17E-03	3.16E-03	2.35E-03	1.42E-03	2.29E-03	3.14E-03	2.45E-03	2.46E-03	2.45E-03	1.64E-03	7.16E-04
497	561252.3	4192425	3.16E-03	3.98E-03	3.12E-03	3.13E-03	3.12E-03	2.31E-03	1.40E-03	2.26E-03	3.10E-03	2.42E-03	2.43E-03	2.42E-03	1.61E-03	7.06E-04
498	561254.4	4192415	3.11E-03	3.91E-03	3.07E-03	3.08E-03	3.07E-03	2.28E-03	1.38E-03	2.23E-03	3.05E-03	2.38E-03	2.39E-03	2.38E-03	1.59E-03	6.95E-04
499	561258.6	4192396	2.99E-03	3.76E-03	2.95E-03	2.96E-03	2.95E-03	2.19E-03	1.33E-03	2.14E-03	2.93E-03	2.29E-03	2.29E-03	2.29E-03	1.52E-03	6.67E-04
500	561204.8	4192620	2.83E-03	3.56E-03	2.79E-03	2.80E-03	2.79E-03	2.07E-03	1.26E-03	2.03E-03	2.77E-03	2.17E-03	2.17E-03	2.17E-03	1.44E-03	6.33E-04
501	561194.3	4192634	2.86E-03	3.60E-03	2.83E-03	2.83E-03	2.83E-03	2.10E-03	1.27E-03	2.05E-03	2.81E-03	2.19E-03	2.20E-03	2.19E-03	1.46E-03	6.40E-04
502	561180.2	4192643	3.05E-03	3.83E-03	3.01E-03	3.02E-03	3.01E-03	2.23E-03	1.35E-03	2.18E-03	2.99E-03	2.33E-03	2.34E-03	2.33E-03	1.55E-03	6.81E-04
503	561162.4	4192645	3.41E-03	4.29E-03	3.36E-03	3.37E-03	3.36E-03	2.50E-03	1.51E-03	2.44E-03	3.34E-03	2.61E-03	2.62E-03	2.61E-03	1.74E-03	7.62E-04
504	561153.5	4192647	3.57E-03	4.49E-03	3.52E-03	3.53E-03	3.52E-03	2.61E-03	1.58E-03	2.55E-03	3.50E-03	2.73E-03	2.74E-03	2.73E-03	1.82E-03	7.97E-04
505	561227.9	4192581	2.69E-03	3.38E-03	2.65E-03	2.66E-03	2.65E-03	1.97E-03	1.19E-03	1.92E-03	2.64E-03	2.06E-03	2.06E-03	2.06E-03	1.37E-03	6.01E-04
506	561230	4192571	2.73E-03	3.44E-03	2.70E-03	2.70E-03	2.70E-03	2.00E-03	1.21E-03	1.95E-03	2.68E-03	2.09E-03	2.10E-03	2.09E-03	1.39E-03	6.10E-04
507	561232.2	4192562	2.77E-03	3.49E-03	2.74E-03	2.74E-03	2.74E-03	2.03E-03	1.23E-03	1.98E-03	2.72E-03	2.12E-03	2.13E-03	2.12E-03	1.42E-03	6.20E-04
508	561234.3	4192552	2.81E-03	3.54E-03	2.78E-03	2.78E-03	2.78E-03	2.06E-03	1.25E-03	2.01E-03	2.76E-03	2.15E-03	2.16E-03	2.15E-03	1.44E-03	6.28E-04
509	561236.4	4192542	2.85E-03	3.58E-03	2.81E-03	2.82E-03	2.81E-03	2.09E-03	1.26E-03	2.04E-03	2.79E-03	2.18E-03	2.19E-03	2.18E-03	1.45E-03	6.37E-04
510	561238.6	4192533	2.88E-03	3.62E-03	2.84E-03	2.85E-03	2.84E-03	2.11E-03	1.28E-03	2.06E-03	2.82E-03	2.21E-03	2.21E-03	2.21E-03	1.47E-03	6.44E-04
511	561240.7	4192523	2.91E-03	3.66E-03	2.87E-03	2.88E-03	2.87E-03	2.13E-03	1.29E-03	2.08E-03	2.85E-03	2.23E-03	2.23E-03	2.23E-03	1.48E-03	6.50E-04
512	561242.8	4192513	2.93E-03	3.68E-03	2.89E-03	2.90E-03	2.89E-03	2.14E-03	1.30E-03	2.10E-03	2.87E-03	2.24E-03	2.25E-03	2.24E-03	1.49E-03	6.55E-04
513	561245	4192504	2.94E-03	3.70E-03	2.90E-03	2.91E-03	2.90E-03	2.15E-03	1.31E-03	2.10E-03	2.88E-03	2.25E-03	2.26E-03	2.25E-03	1.50E-03	6.57E-04
514	561247.1	4192494	2.95E-03	3.71E-03	2.91E-03	2.92E-03	2.91E-03	2.16E-03	1.31E-03	2.11E-03	2.89E-03	2.26E-03	2.26E-03	2.26E-03	1.50E-03	6.58E-04
515	561249.2	4192485	2.94E-03	3.70E-03	2.91E-03	2.91E-03	2.91E-03	2.15E-03	1.31E-03	2.11E-03	2.88E-03	2.25E-03	2.26E-03	2.25E-03	1.50E-03	6.58E-04
516	561251.4	4192475	2.93E-03	3.69E-03	2.90E-03	2.90E-03	2.90E-03	2.15E-03	1.30E-03	2.10E-03	2.87E-03	2.25E-03	2.25E-03	2.25E-03	1.50E-03	6.55E-04
517	561253.5	4192465	2.92E-03	3.67E-03	2.88E-03	2.89E-03	2.88E-03	2.13E-03	1.29E-03	2.09E-03	2.86E-03	2.23E-03	2.24E-03	2.23E-03	1.49E-03	6.52E-04
518	561255.6	4192456	2.89E-03	3.64E-03	2.86E-03	2.86E-03	2.86E-03	2.12E-03	1.28E-03	2.07E-03	2.84E-03	2.21E-03	2.22E-03	2.21E-03	1.48E-03	6.46E-04
519	561257.7	4192446	2.86E-03	3.60E-03	2.83E-03	2.84E-03	2.83E-03	2.10E-03	1.27E-03	2.05E-03	2.81E-03	2.19E-03	2.20E-03	2.19E-03	1.46E-03	6.40E-04
520	561259.9	4192437	2.83E-03	3.56E-03	2.79E-03	2.80E-03	2.79E-03	2.07E-03	1.26E-03	2.02E-03	2.77E-03	2.17E-03	2.17E-03	2.17E-03	1.44E-03	6.32E-04
521	561262	4192427	2.79E-03	3.51E-03	2.76E-03	2.76E-03	2.76E-03	2.04E-03	1.24E-03	2.00E-03	2.74E-03	2.14E-03	2.14E-03	2.14E-03	1.43E-03	6.24E-04
522	561268.4	4192398	2.64E-03	3.32E-03	2.61E-03	2.61E-03	2.61E-03	1.93E-03	1.17E-03	1.89E-03	2.59E-03	2.02E-03	2.03E-03	2.02E-03	1.35E-03	5.90E-04
523	561209.8	4192629	2.59E-03	3.25E-03	2.55E-03	2.56E-03	2.55E-03	1.89E-03	1.15E-03	1.85E-03	2.53E-03	1.98E-03	1.98E-03	1.98E-03	1.32E-03	5.77E-04
524	561199.4	4192643	2.61E-03	3.28E-03	2.58E-03	2.58E-03	2.58E-03	1.91E-03	1.16E-03	1.87E-03	2.56E-03	2.00E-03	2.00E-03	2.00E-03	1.33E-03	5.83E-04
525	561185.5	4192651	2.77E-03	3.48E-03	2.73E-03	2.74E-03	2.73E-03	2.02E-03	1.23E-03	1.98E-03	2.71E-03	2.12E-03	2.12E-03	2.12E-03	1.41E-03	6.18E-04
526	561168	4192654	3.07E-03	3.87E-03	3.03E-03	3.04E-03	3.03E-03	2.25E-03	1.36E-03	2.20E-03	3.01E-03	2.35E-03	2.36E-03	2.35E-03	1.57E-03	6.87E-04
527	561150.5	4192656	3.34E-03	4.20E-03	3.30E-03	3.30E-03	3.30E-03	2.44E-03	1.48E-03	2.39E-03	3.27E-03	2.56E-03	2.56E-03	2.56E-03	1.70E-03	7.46E-04
528	561237.7	4192583	2.42E-03	3.04E-03	2.39E-03	2.39E-03	2.39E-03	1.77E-03	1.07E-03	1.73E-03	2.37E-03	1.85E-03	1.86E-03	1.85E-03	1.23E-03	5.40E-04
529	561239.8	4192573	2.45E-03	3.08E-03	2.42E-03	2.43E-03	2.42E-03	1.79E-03	1.09E-03	1.75E-03	2.40E-03	1.88E-03	1.88E-03	1.88E-03	1.25E-03	5.47E-04
530	561241.9	4192564	2.48E-03	3.12E-03	2.45E-03	2.46E-03	2.45E-03	1.82E-03	1.10E-03	1.77E-03	2.43E-03	1.90E-03	1.90E-03	1.90E-03	1.27E-03	5.54E-04
531	561244.1	4192554	2.51E-03	3.16E-03	2.48E-03	2.48E-03	2.48E-03	1.84E-03	1.11E-03	1.80E-03	2.46E-03	1.92E-03	1.93E-03	1.92E-03	1.28E-03	5.61E-04
532	561246.2	4192545	2.54E-03	3.19E-03	2.51E-03	2.51E-03	2.51E-03	1.86E-03	1.13E-03	1.82E-03	2.49E-03	1.94E-03	1.95E-03	1.94E-03	1.30E-03	5.67E-04
533	561248.3	4192535	2.57E-03	3.23E-03	2.53E-03	2.54E-03	2.53E-03	1.88E-03	1.14E-03	1.83E-03	2.51E-03	1.96E-03	1.97E-03	1.96E-03	1.31E-03	5.73E-04
534	561250.5	4192525	2.59E-03	3.25E-03	2.55E-03	2.56E-03	2.55E-03	1.89E-03	1.15E-03	1.85E-03	2.54E-03	1.98E-03	1.99E-03	1.98E-03	1.32E-03	5.78E-04
535	561252.6	4192516	2.60E-03	3.28E-03	2.57E-03	2.58E-03	2.57E-03	1.91E-03	1.16E-03	1.86E-03	2.55E-03	1.99E-03	2.00E-03	1.99E-03	1.33E-03	5.82E-04
536	561254.7	4192506	2.62E-03	3.29E-03	2.58E-03	2.59E-03	2.58E-03	1.91E-03	1.16E-03	1.87E-03	2.56E-03	2.00E-03	2.01E-03	2.00E-03	1.33E-03	5.84E-04
537	561256.9	4192496	2.62E-03	3.29E-03	2.59E-03	2.59E-03	2.59E-03	1.92E-03	1.16E-03	1.87E-03	2.57E-03	2.00E-03	2.01E-03	2.00E-03	1.34E-03	5.85E-04
538	561259	4192487	2.62E-03	3.29E-03	2.58E-03	2.59E-03	2.58E-03	1.92E-03	1.16E-03	1.87E-03	2.56E-03	2.00E-03	2.01E-03	2.00E-03	1.34E-03	5.85E-04
539	561261.1	4192477	2.61E-03	3.28E-03	2.57E-03	2.58E-03	2.57E-03	1.91E-03	1.16E-03	1.87E-03	2.56E-03	2.00E-03	2.00E-03	2.00E-03	1.33E-03	5.83E-04
540	561263.2	4192468	2.59E-03	3.26E-03	2.56E-03	2.57E-03	2.56E-03	1.90E-03	1.15E-03	1.86E-03	2.54E-03	1.99E-03	1.99E-03	1.99E-03	1.32E-03	5.80E-04
541	561265.4	4192458	2.57E-03	3.24E-03	2.54E-03	2.55E-03	2.54E-03	1.88E-03	1.14E-03	1.84E-03	2.52E-03	1.97E-03	1.98E-03	1.97E-03	1.31E-03	5.75E-04
542	561267.5	4192448	2.55E-03	3.21E-03	2.52E-03	2.52E-03	2.52E-03	1.87E-03	1.13E-03	1.82E-03	2.50E-03	1.95E-03	1.96E-03	1.95E-03	1.30E-03	5.69E-04
543	561269.6	4192439	2.52E-03	3.17E-03	2.49E-03	2.49E-03	2.49E-03	1.84E-03	1.12E-03	1.80E-03	2.47E-03	1.93E-03	1.93E-03	1.93E-03	1.29E-03	5.63E-04
544	561271.8	4192429	2.49E-03	3.13E-03	2.46E-03	2.46E-03	2.46E-03	1.82E-03	1.10E-03	1.78E-03	2.44E-03	1.90E-03	1.91E-03	1.90E-03	1.27E-03	5.56E-04
545	561278.2	4192400	2.36E-03	2.96E-03	2.32E-03	2.33E-03	2.32E-03	1.72E-03	1.04E-03	1.68E-03	2.31E-03	1.80E-03	1.81E-03	1.80E-03	1.20E-03	5.26E-04
546	561222.4	4192627	2.34E-03	2.94E-03	2.31E-03	2.31E-03	2.31E-03	1.71E-03	1.04E-03	1.67E-03	2.29E-03	1.79E-03	1.79E-03	1.79E-03	1.19E-03	5.22E-04
547	561216.7	4192635	2.36E-03	2.97E-03	2.33E-03	2.34E-03	2.33E-03	1.73E-03	1.05E-03	1.69E-03	2.32E-03	1.81E-03	1.81E-03	1.81E-03	1.21E-03	5.28E-04
548	561210.9	4192643	2.38E-03	3.00E-03	2.35E-03	2.36E-03	2.35E-03	1.74E-03	1.06E-03	1.70E-03	2.33E-03	1.82E-03	1.83E-03	1.82E-03	1.22E-03	5.32E-04
549	561205.2	4192651	2.39E-03	3.01E-03	2.36E-03	2.37E-03	2.36E-03	1.75E-03	1.06E-03	1.71E-03	2.34E-03	1.83E-03	1.84E-03	1.83E-03	1.22E-03	5.34E-04
550	561189.7	4192660	2.54E-03	3.20E-03	2.51E-03	2.52E-03	2.51E-03	1.86E-03	1.13E-03	1.82E-03	2.49E-03	1.95E-03	1.95E-03	1.95E-03	1.30E-03	5.68E-04
551	561180	4192661	2.69E-03	3.39E-03	2.66E-03	2.67E-03	2.66E-03	1.97E-03	1.20E-03	1.93E-03	2.64E-03	2.06E-03	2.07E-03	2.06E-03	1.37E-03	6.02E-04
552	561170.3	4192663	2.84E-03	3.57E-03	2.80E-03	2.81E-03	2.80E-03	2.08E-03	1.26E-03	2.03E-03	2.78E-03	2.17E-03	2.18E-03	2.17E-03	1.45E-03	6.34E-04
553	561160.5	4192664	2.97E-03	3.74E-03	2.93E-03	2.94E-03	2.93E-03	2.18E-03	1.32E-03	2.13E-03	2.91E-03	2.28E-03	2.28E-03	2.28E-03	1.52E-03	6.64E-04
554	561150.8	4192666	3.09E-03	3.89E-03	3.05E-03	3.06E-03	3.05E-03	2.26E-03	1.37E-03	2.21E-03	3.03E-03	2.37E-03	2.37E-03	2.37E-03	1.58E-03	6.90E-04
555	561253.8	4192556	2.25E-03	2.83E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	1.00E-03	1.61E-03	2.21E-03	1.73E-03	1.73E-03	1.73E-03	1.15E-03	5.04E-04
556	561256	4192547	2.27E-03	2.86E-03	2.24E-03	2.25E-03	2.24E-03	1.66E-03	1.01E-03	1.63E-03	2.23E-03	1.74E-03	1.75E-03	1.74E-03	1.16E-03	5.08E-04
557	561258.1	4192537	2.30E-03	2.89E-03	2.27E-03	2.27E-03	2.27E-03	1.68E-03	1.02E-03	1.64E-03	2.25E-03	1.76E-03	1.76E-03	1.76E-03	1.17E-03	5.13E-04
558	561260.2	4192527	2.32E-03	2.91E-03	2.29E-03	2.29E-03	2.29E-03	1.70E-03	1.03E-03	1.66E-03	2.27E-03	1.77E-03	1.78E-03	1.77E-03	1.18E-03	5.17E-04
559	561262.4	4192518	2.33E-03	2.93E-03	2.30E-03	2.31E-03	2.30E-03	1.71E-03	1.03E-03	1.67E-03	2.28E-03	1.78E-03	1.79E-03	1.78E-03	1.19E-03	5.21E-04
560	561264.5	4192508	2.34E-03	2.94E-03	2.31E-03	2.32E-03	2.31E-03	1.71E-03	1.04E-03	1.67E-03	2.29E-03	1.79E-03	1.80E-03	1.79E-03	1.19E-03	5.23E-04
561	561266.6	4192499	2.34E-03	2.95E-03	2.31E-03	2.32E-03	2.31E-03	1.71E-03	1.04E-03	1.68E-03	2.30E-03	1.79E-03	1.80E-03	1.79E-03	1.20E-03	5.23E-04
562	561268.7	4192489	2.34E-03	2.94E-03	2.31E-03	2.32E-03	2.31E-03	1.71E-03	1.04E-03	1.67E-03	2.29E-03	1.79E-03	1.80E-03	1.79E-03	1.19E-03	5.23E-04
563	561270.9	4192479	2.33E-03	2.93E-03	2.30E-03	2.31E-03	2.30E-03	1.71E-03	1.04E-03	1.67E-03	2.29E-03	1.79E-03	1.79E-03	1.79E-03	1.19E-03	5.21E-04

564	561273	4192470	2.32E-03	2.92E-03	2.29E-03	2.30E-03	2.29E-03	1.70E-03	1.03E-03	1.66E-03	2.27E-03	1.78E-03	1.78E-03	1.78E-03	1.18E-03	5.18E-04
565	561275.1	4192460	2.30E-03	2.90E-03	2.27E-03	2.28E-03	2.27E-03	1.69E-03	1.02E-03	1.65E-03	2.26E-03	1.76E-03	1.77E-03	1.76E-03	1.18E-03	5.15E-04
566	561277.3	4192450	2.28E-03	2.87E-03	2.25E-03	2.26E-03	2.25E-03	1.67E-03	1.01E-03	1.63E-03	2.24E-03	1.75E-03	1.75E-03	1.75E-03	1.16E-03	5.10E-04
567	561279.4	4192441	2.26E-03	2.84E-03	2.23E-03	2.24E-03	2.23E-03	1.65E-03	1.00E-03	1.62E-03	2.21E-03	1.73E-03	1.73E-03	1.73E-03	1.15E-03	5.05E-04
568	561281.5	4192431	2.23E-03	2.81E-03	2.20E-03	2.21E-03	2.20E-03	1.63E-03	9.90E-04	1.60E-03	2.19E-03	1.71E-03	1.71E-03	1.71E-03	1.14E-03	4.99E-04
569	561287.9	4192402	2.12E-03	2.66E-03	2.09E-03	2.10E-03	2.09E-03	1.55E-03	9.40E-04	1.52E-03	2.08E-03	1.62E-03	1.63E-03	1.62E-03	1.08E-03	4.73E-04
570	561232.7	4192628	2.13E-03	2.68E-03	2.10E-03	2.11E-03	2.10E-03	1.56E-03	9.45E-04	1.52E-03	2.09E-03	1.63E-03	1.63E-03	1.63E-03	1.09E-03	4.76E-04
571	561227.1	4192636	2.16E-03	2.71E-03	2.13E-03	2.13E-03	2.13E-03	1.58E-03	9.57E-04	1.54E-03	2.11E-03	1.65E-03	1.65E-03	1.65E-03	1.10E-03	4.82E-04
572	561221.5	4192644	2.18E-03	2.74E-03	2.15E-03	2.16E-03	2.15E-03	1.59E-03	9.67E-04	1.56E-03	2.13E-03	1.67E-03	1.67E-03	1.67E-03	1.11E-03	4.87E-04
573	561215.9	4192652	2.19E-03	2.76E-03	2.17E-03	2.17E-03	2.17E-03	1.61E-03	9.74E-04	1.57E-03	2.15E-03	1.68E-03	1.68E-03	1.68E-03	1.12E-03	4.90E-04
574	561210.3	4192659	2.20E-03	2.77E-03	2.17E-03	2.18E-03	2.17E-03	1.61E-03	9.77E-04	1.57E-03	2.16E-03	1.69E-03	1.69E-03	1.69E-03	1.12E-03	4.92E-04
575	561195.1	4192669	2.33E-03	2.93E-03	2.30E-03	2.31E-03	2.30E-03	1.71E-03	1.03E-03	1.67E-03	2.29E-03	1.78E-03	1.79E-03	1.78E-03	1.19E-03	5.21E-04
576	561185.6	4192670	2.46E-03	3.10E-03	2.43E-03	2.44E-03	2.43E-03	1.80E-03	1.09E-03	1.76E-03	2.41E-03	1.88E-03	1.89E-03	1.88E-03	1.26E-03	5.50E-04
577	561176.1	4192671	2.59E-03	3.26E-03	2.56E-03	2.56E-03	2.56E-03	1.89E-03	1.15E-03	1.85E-03	2.54E-03	1.98E-03	1.99E-03	1.98E-03	1.32E-03	5.78E-04
578	561166.6	4192673	2.71E-03	3.41E-03	2.67E-03	2.68E-03	2.67E-03	1.98E-03	1.20E-03	1.94E-03	2.65E-03	2.07E-03	2.08E-03	2.07E-03	1.38E-03	6.05E-04
579	561157.1	4192674	2.81E-03	3.54E-03	2.78E-03	2.78E-03	2.78E-03	2.06E-03	1.25E-03	2.01E-03	2.76E-03	2.15E-03	2.16E-03	2.15E-03	1.44E-03	6.29E-04
580	561147.6	4192675	2.91E-03	3.65E-03	2.87E-03	2.88E-03	2.87E-03	2.13E-03	1.29E-03	2.08E-03	2.85E-03	2.22E-03	2.23E-03	2.22E-03	1.48E-03	6.49E-04
581	561231.8	4192645	2.00E-03	2.51E-03	1.97E-03	1.98E-03	1.97E-03	1.46E-03	8.86E-04	1.43E-03	1.96E-03	1.53E-03	1.53E-03	1.53E-03	1.02E-03	4.46E-04
582	561226.3	4192653	2.02E-03	2.53E-03	1.99E-03	1.99E-03	1.99E-03	1.48E-03	8.94E-04	1.44E-03	1.97E-03	1.54E-03	1.55E-03	1.54E-03	1.03E-03	4.50E-04
583	561220.8	4192660	2.03E-03	2.55E-03	2.00E-03	2.01E-03	2.00E-03	1.48E-03	9.00E-04	1.45E-03	1.99E-03	1.55E-03	1.56E-03	1.55E-03	1.04E-03	4.53E-04
584	561215.3	4192668	2.04E-03	2.56E-03	2.01E-03	2.02E-03	2.01E-03	1.49E-03	9.03E-04	1.46E-03	2.00E-03	1.56E-03	1.56E-03	1.56E-03	1.04E-03	4.55E-04
585	561200.5	4192677	2.15E-03	2.70E-03	2.12E-03	2.13E-03	2.12E-03	1.57E-03	9.54E-04	1.54E-03	2.11E-03	1.65E-03	1.65E-03	1.65E-03	1.10E-03	4.80E-04
586	561191.1	4192678	2.26E-03	2.85E-03	2.23E-03	2.24E-03	2.23E-03	1.66E-03	1.00E-03	1.62E-03	2.22E-03	1.73E-03	1.74E-03	1.73E-03	1.16E-03	5.06E-04
587	561181.8	4192680	2.37E-03	2.99E-03	2.34E-03	2.35E-03	2.34E-03	1.74E-03	1.05E-03	1.70E-03	2.33E-03	1.82E-03	1.82E-03	1.82E-03	1.21E-03	5.30E-04
588	561172.5	4192681	2.48E-03	3.12E-03	2.45E-03	2.45E-03	2.45E-03	1.81E-03	1.10E-03	1.77E-03	2.43E-03	1.90E-03	1.90E-03	1.90E-03	1.27E-03	5.54E-04
589	561163.1	4192682	2.58E-03	3.24E-03	2.54E-03	2.55E-03	2.54E-03	1.89E-03	1.14E-03	1.84E-03	2.52E-03	1.97E-03	1.98E-03	1.97E-03	1.31E-03	5.76E-04
590	561153.8	4192684	2.66E-03	3.35E-03	2.63E-03	2.63E-03	2.63E-03	1.95E-03	1.18E-03	1.90E-03	2.61E-03	2.04E-03	2.04E-03	2.04E-03	1.36E-03	5.95E-04
591	561144.4	4192685	2.73E-03	3.44E-03	2.70E-03	2.71E-03	2.70E-03	2.00E-03	1.21E-03	1.96E-03	2.68E-03	2.09E-03	2.10E-03	2.09E-03	1.40E-03	6.11E-04
592	561264.8	4192599	1.79E-03	2.26E-03	1.77E-03	1.78E-03	1.77E-03	1.31E-03	7.96E-04	1.28E-03	1.76E-03	1.37E-03	1.38E-03	1.37E-03	9.16E-04	4.01E-04
593	561267	4192589	1.81E-03	2.28E-03	1.79E-03	1.79E-03	1.79E-03	1.32E-03	8.03E-04	1.29E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	9.23E-04	4.04E-04
594	561269.1	4192580	1.82E-03	2.29E-03	1.80E-03	1.80E-03	1.80E-03	1.33E-03	8.09E-04	1.30E-03	1.79E-03	1.40E-03	1.40E-03	1.40E-03	9.31E-04	4.07E-04
595	561271.2	4192570	1.84E-03	2.31E-03	1.81E-03	1.82E-03	1.81E-03	1.34E-03	8.15E-04	1.31E-03	1.80E-03	1.41E-03	1.41E-03	1.41E-03	9.37E-04	4.10E-04
596	561273.4	4192561	1.85E-03	2.33E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.20E-04	1.32E-03	1.81E-03	1.41E-03	1.42E-03	1.41E-03	9.43E-04	4.13E-04
597	561275.5	4192551	1.86E-03	2.34E-03	1.84E-03	1.84E-03	1.84E-03	1.36E-03	8.26E-04	1.33E-03	1.82E-03	1.42E-03	1.43E-03	1.42E-03	9.50E-04	4.16E-04
598	561277.6	4192541	1.87E-03	2.36E-03	1.85E-03	1.85E-03	1.85E-03	1.37E-03	8.31E-04	1.34E-03	1.84E-03	1.43E-03	1.44E-03	1.43E-03	9.56E-04	4.19E-04
599	561279.7	4192532	1.89E-03	2.37E-03	1.86E-03	1.87E-03	1.86E-03	1.38E-03	8.36E-04	1.35E-03	1.85E-03	1.44E-03	1.45E-03	1.44E-03	9.62E-04	4.21E-04
600	561281.9	4192522	1.89E-03	2.38E-03	1.87E-03	1.87E-03	1.87E-03	1.39E-03	8.40E-04	1.35E-03	1.86E-03	1.45E-03	1.45E-03	1.45E-03	9.66E-04	4.23E-04
601	561284	4192513	1.90E-03	2.39E-03	1.87E-03	1.88E-03	1.87E-03	1.39E-03	8.43E-04	1.36E-03	1.86E-03	1.45E-03	1.46E-03	1.45E-03	9.69E-04	4.24E-04
602	561286.1	4192503	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.70E-04	4.25E-04
603	561288.3	4192493	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.43E-04	1.36E-03	1.86E-03	1.45E-03	1.46E-03	1.45E-03	9.69E-04	4.24E-04
604	561290.4	4192484	1.90E-03	2.38E-03	1.87E-03	1.88E-03	1.87E-03	1.39E-03	8.41E-04	1.36E-03	1.86E-03	1.45E-03	1.45E-03	1.45E-03	9.67E-04	4.23E-04
605	561292.5	4192474	1.89E-03	2.37E-03	1.86E-03	1.87E-03	1.86E-03	1.38E-03	8.37E-04	1.35E-03	1.85E-03	1.44E-03	1.45E-03	1.44E-03	9.63E-04	4.22E-04
606	561252.9	4192631	1.79E-03	2.25E-03	1.76E-03	1.77E-03	1.76E-03	1.31E-03	7.93E-04	1.28E-03	1.75E-03	1.37E-03	1.37E-03	1.37E-03	9.12E-04	3.99E-04
607	561225.8	4192669	1.88E-03	2.37E-03	1.86E-03	1.86E-03	1.86E-03	1.38E-03	8.35E-04	1.35E-03	1.84E-03	1.44E-03	1.44E-03	1.44E-03	9.60E-04	4.20E-04
608	561220.4	4192677	1.89E-03	2.38E-03	1.86E-03	1.87E-03	1.86E-03	1.38E-03	8.38E-04	1.35E-03	1.85E-03	1.45E-03	1.45E-03	1.45E-03	9.64E-04	4.22E-04
609	561205.8	4192686	1.99E-03	2.50E-03	1.96E-03	1.97E-03	1.96E-03	1.46E-03	8.83E-04	1.42E-03	1.95E-03	1.52E-03	1.53E-03	1.52E-03	1.02E-03	4.45E-04
610	561196.6	4192687	2.09E-03	2.63E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.28E-04	1.50E-03	2.05E-03	1.60E-03	1.60E-03	1.60E-03	1.07E-03	4.67E-04
611	561187.4	4192688	2.19E-03	2.75E-03	2.16E-03	2.17E-03	2.16E-03	1.60E-03	9.71E-04	1.57E-03	2.14E-03	1.68E-03	1.68E-03	1.68E-03	1.12E-03	4.89E-04
612	561178.2	4192690	2.28E-03	2.87E-03	2.25E-03	2.26E-03	2.25E-03	1.67E-03	1.01E-03	1.63E-03	2.24E-03	1.75E-03	1.75E-03	1.75E-03	1.16E-03	5.10E-04
613	561169	4192691	2.37E-03	2.98E-03	2.34E-03	2.35E-03	2.34E-03	1.73E-03	1.05E-03	1.70E-03	2.32E-03	1.81E-03	1.82E-03	1.81E-03	1.21E-03	5.30E-04
614	561159.8	4192692	2.45E-03	3.08E-03	2.42E-03	2.42E-03	2.42E-03	1.79E-03	1.09E-03	1.75E-03	2.40E-03	1.87E-03	1.88E-03	1.87E-03	1.25E-03	5.47E-04
615	561150.6	4192693	2.52E-03	3.17E-03	2.48E-03	2.49E-03	2.48E-03	1.84E-03	1.12E-03	1.80E-03	2.47E-03	1.93E-03	1.93E-03	1.93E-03	1.28E-03	5.62E-04
616	561141.4	4192695	2.57E-03	3.24E-03	2.54E-03	2.55E-03	2.54E-03	1.88E-03	1.14E-03	1.84E-03	2.52E-03	1.97E-03	1.98E-03	1.97E-03	1.31E-03	5.75E-04
617	561274.6	4192601	1.65E-03	2.07E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.31E-04	1.18E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.41E-04	3.68E-04
618	561276.7	4192592	1.66E-03	2.09E-03	1.64E-03	1.64E-03	1.64E-03	1.21E-03	7.36E-04	1.19E-03	1.63E-03	1.27E-03	1.27E-03	1.27E-03	8.47E-04	3.71E-04
619	561278.8	4192582	1.67E-03	2.10E-03	1.65E-03	1.65E-03	1.65E-03	1.22E-03	7.41E-04	1.19E-03	1.64E-03	1.28E-03	1.28E-03	1.28E-03	8.52E-04	3.73E-04
620	561281	4192572	1.68E-03	2.11E-03	1.66E-03	1.66E-03	1.66E-03	1.23E-03	7.45E-04	1.20E-03	1.65E-03	1.29E-03	1.29E-03	1.29E-03	8.57E-04	3.75E-04
621	561283.1	4192563	1.69E-03	2.12E-03	1.67E-03	1.67E-03	1.67E-03	1.24E-03	7.49E-04	1.21E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	8.61E-04	3.77E-04
622	561285.2	4192553	1.70E-03	2.13E-03	1.67E-03	1.68E-03	1.67E-03	1.24E-03	7.53E-04	1.21E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.66E-04	3.79E-04
623	561287.4	4192544	1.71E-03	2.15E-03	1.68E-03	1.69E-03	1.68E-03	1.25E-03	7.57E-04	1.22E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	8.70E-04	3.81E-04
624	561289.5	4192534	1.71E-03	2.16E-03	1.69E-03	1.70E-03	1.69E-03	1.25E-03	7.60E-04	1.23E-03	1.68E-03	1.31E-03	1.32E-03	1.31E-03	8.74E-04	3.83E-04
625	561291.6	4192524	1.72E-03	2.16E-03	1.70E-03	1.70E-03	1.70E-03	1.26E-03	7.63E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.77E-04	3.84E-04
626	561293.8	4192515	1.72E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.65E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.79E-04	3.85E-04
627	561295.9	4192505	1.73E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.66E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.81E-04	3.86E-04
628	561298	4192495	1.73E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.66E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.80E-04	3.85E-04
629	561300.2	4192486	1.72E-03	2.17E-03	1.70E-03	1.70E-03	1.70E-03	1.26E-03	7.64E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.79E-04	3.85E-04
630	561302.3	4192476	1.72E-03	2.16E-03	1.69E-03	1.70E-03	1.69E-03	1.26E-03	7.62E-04	1.23E-03	1.68E-03	1.31E-03	1.32E-03	1.31E-03	8.76E-04	3.84E-04
631	561304.4	4192467	1.71E-03	2.15E-03	1.69E-03	1.69E-03	1.69E-03	1.25E-03	7.58E-04	1.22E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	8.72E-04	3.82E-04
632	561306.6	4192457	1.70E-03	2.14E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.53E-04	1.21E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.66E-04	3.79E-04
633	561308.7	4192447	1.69E-03	2.12E-03	1.66E-03	1.67E-03	1.66E-03	1.23E-03	7.48E-04	1.21E-03	1.65E-03	1.29E-03	1.29E-03	1.29E-03	8.60E-04	3.76E-04
634	561310.8	4192438	1.67E-03	2.10E-03	1.65E-03	1.65E-03	1.65E-03	1.22E-03	7.41E-04	1.19E-03	1.64E-03	1.28E-03	1.28E-03	1.28E-03	8.52E-04	3.73E-04
635	561317.2	4192409	1.60E-03	2.01E-03	1.58E-03	1.58E-03	1.58E-03	1.17E-03	7.09E-04	1.14E-03	1.57E-03	1.22E-03	1.23E-03	1.22E-03	8.15E-04	3.57E-04
636	561263	4192633	1.65E-03	2.07E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.31E-04	1.18E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.41E-04	3.68E-04
637	561257.6	4192641	1.67E-03	2.10E-03	1.65E-03	1.66E-03	1.65E-03	1.22E-03	7.42E-04	1.20E-03	1.64E-03	1.28E-03	1.28E-03	1.28E-03	8.54E-04	3.74E-04
638	561252.3	4192648	1.70E-03	2.13E-03	1.67E-03	1.68E-03	1.67E-03	1.24E-03	7.52E-04	1.21E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.65E-04	3.79E-04
639	561211.1	4192694	1.85E-03	2.33E-03	1.83E-03	1.83E-03	1.83E-03	1.35E-03	8.21E-04	1.32E-03	1.81E-03	1.42E-03	1.42E-03	1.42E-03	9.44E-04	4.13E-04
640	561202	4192695	1.94E-03	2.44E-03	1.91E-03	1.92E-03	1.91E-03	1.42E-03	8.60E-04	1.39E-03	1.90E-03	1.48E-03	1.49E-03	1.48E-03	9.89E-04	4.33E-04
641	561192.9	4192697	2.03E-03	2.55E-03	2.00E-03	2.01E-03	2.00E-03	1.48E-03	8.99E-04	1.45E-03	1.99E-03	1.55E-03	1.56E-03	1.55E-03	1.03E-03	4.53E-04
642	561183.9	4192698	2.11E-03	2.65E-03	2.08E-03	2.09E-03	2.08E-03	1.54E-03	9.37E-04	1.51E-03	2.07E-03	1.62E-03	1.62E-03	1.62E-03	1.08E-03	4.72E-04
643	561174.8	4192699	2.19E-03	2.75E-03	2.16E-03	2.17E-03	2.16E-03	1.60E-03	9.72E-04	1.57E-03	2.15E-03	1.68E-03	1.68E-03	1.68E-03	1.12E-03	4.89E-04
644	561165.7	4192701	2.26E-03	2.85E-03	2.23E-03	2.24E-03	2.23E-03	1.66E-03	1.00E-03	1.62E-03	2.22E-03	1.73E-03	1.74E-03	1.73E-03	1.15E-03	5.05E-04

645	561156.6	4192702	2.33E-03	2.93E-03	2.30E-03	2.30E-03	2.30E-03	1.70E-03	1.03E-03	1.66E-03	2.28E-03	1.78E-03	1.79E-03	1.78E-03	1.19E-03	5.20E-04
646	561147.5	4192703	2.38E-03	3.00E-03	2.35E-03	2.36E-03	2.35E-03	1.74E-03	1.06E-03	1.70E-03	2.33E-03	1.82E-03	1.83E-03	1.82E-03	1.22E-03	5.32E-04
647	561138.4	4192704	2.43E-03	3.05E-03	2.40E-03	2.40E-03	2.40E-03	1.78E-03	1.08E-03	1.74E-03	2.38E-03	1.86E-03	1.86E-03	1.86E-03	1.24E-03	5.42E-04
648	561286.5	4192594	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.77E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.79E-04	3.41E-04
649	561288.6	4192584	1.53E-03	1.93E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.81E-04	1.10E-03	1.50E-03	1.17E-03	1.18E-03	1.17E-03	7.83E-04	3.43E-04
650	561290.7	4192575	1.54E-03	1.94E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.84E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.86E-04	3.44E-04
651	561292.9	4192565	1.55E-03	1.95E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.87E-04	1.11E-03	1.52E-03	1.18E-03	1.19E-03	1.18E-03	7.90E-04	3.46E-04
652	561295	4192555	1.55E-03	1.95E-03	1.53E-03	1.54E-03	1.53E-03	1.14E-03	6.89E-04	1.11E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	7.93E-04	3.47E-04
653	561297.1	4192546	1.56E-03	1.96E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.92E-04	1.12E-03	1.53E-03	1.19E-03	1.20E-03	1.19E-03	7.96E-04	3.48E-04
654	561299.3	4192536	1.57E-03	1.97E-03	1.54E-03	1.55E-03	1.54E-03	1.15E-03	6.95E-04	1.12E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	7.99E-04	3.50E-04
655	561301.4	4192526	1.57E-03	1.97E-03	1.55E-03	1.55E-03	1.55E-03	1.15E-03	6.97E-04	1.12E-03	1.54E-03	1.20E-03	1.20E-03	1.20E-03	8.01E-04	3.51E-04
656	561303.5	4192517	1.57E-03	1.98E-03	1.55E-03	1.56E-03	1.55E-03	1.15E-03	6.98E-04	1.13E-03	1.54E-03	1.20E-03	1.21E-03	1.20E-03	8.03E-04	3.52E-04
657	561305.7	4192507	1.58E-03	1.98E-03	1.56E-03	1.56E-03	1.56E-03	1.15E-03	6.99E-04	1.13E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.04E-04	3.52E-04
658	561307.8	4192498	1.58E-03	1.98E-03	1.56E-03	1.56E-03	1.56E-03	1.15E-03	6.99E-04	1.13E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.04E-04	3.52E-04
659	561309.9	4192488	1.57E-03	1.98E-03	1.55E-03	1.56E-03	1.55E-03	1.15E-03	6.98E-04	1.13E-03	1.54E-03	1.20E-03	1.21E-03	1.20E-03	8.03E-04	3.52E-04
660	561312.1	4192478	1.57E-03	1.97E-03	1.55E-03	1.55E-03	1.55E-03	1.15E-03	6.96E-04	1.12E-03	1.54E-03	1.20E-03	1.20E-03	1.20E-03	8.01E-04	3.51E-04
661	561314.2	4192469	1.56E-03	1.97E-03	1.54E-03	1.55E-03	1.54E-03	1.14E-03	6.94E-04	1.12E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	7.98E-04	3.49E-04
662	561316.3	4192459	1.55E-03	1.96E-03	1.53E-03	1.54E-03	1.53E-03	1.14E-03	6.90E-04	1.11E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	7.93E-04	3.47E-04
663	561318.5	4192450	1.54E-03	1.94E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.85E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.88E-04	3.45E-04
664	561320.6	4192440	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.79E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.81E-04	3.42E-04
665	561327	4192411	1.47E-03	1.85E-03	1.45E-03	1.45E-03	1.45E-03	1.08E-03	6.52E-04	1.05E-03	1.44E-03	1.12E-03	1.13E-03	1.12E-03	7.50E-04	3.28E-04
666	561271.2	4192638	1.53E-03	1.93E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.79E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.81E-04	3.42E-04
667	561265.5	4192646	1.56E-03	1.96E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.91E-04	1.11E-03	1.53E-03	1.19E-03	1.19E-03	1.19E-03	7.94E-04	3.48E-04
668	561259.7	4192654	1.58E-03	1.99E-03	1.56E-03	1.56E-03	1.56E-03	1.16E-03	7.00E-04	1.13E-03	1.55E-03	1.21E-03	1.21E-03	1.21E-03	8.06E-04	3.53E-04
669	561254	4192661	1.60E-03	2.01E-03	1.58E-03	1.58E-03	1.58E-03	1.17E-03	7.09E-04	1.14E-03	1.57E-03	1.22E-03	1.23E-03	1.22E-03	8.15E-04	3.57E-04
670	561248.3	4192669	1.61E-03	2.03E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.16E-04	1.15E-03	1.58E-03	1.23E-03	1.24E-03	1.23E-03	8.23E-04	3.60E-04
671	561242.6	4192677	1.63E-03	2.04E-03	1.60E-03	1.61E-03	1.60E-03	1.19E-03	7.21E-04	1.16E-03	1.59E-03	1.24E-03	1.25E-03	1.24E-03	8.30E-04	3.63E-04
672	561236.8	4192685	1.64E-03	2.06E-03	1.61E-03	1.62E-03	1.61E-03	1.20E-03	7.25E-04	1.17E-03	1.60E-03	1.25E-03	1.25E-03	1.25E-03	8.34E-04	3.65E-04
673	561215.6	4192703	1.73E-03	2.18E-03	1.71E-03	1.71E-03	1.71E-03	1.27E-03	7.68E-04	1.24E-03	1.70E-03	1.33E-03	1.33E-03	1.33E-03	8.83E-04	3.87E-04
674	561205.9	4192704	1.82E-03	2.29E-03	1.79E-03	1.80E-03	1.79E-03	1.33E-03	8.07E-04	1.30E-03	1.78E-03	1.39E-03	1.39E-03	1.39E-03	9.28E-04	4.06E-04
675	561196.2	4192706	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.71E-04	4.25E-04
676	561186.4	4192707	1.98E-03	2.49E-03	1.96E-03	1.96E-03	1.96E-03	1.45E-03	8.80E-04	1.42E-03	1.94E-03	1.52E-03	1.52E-03	1.52E-03	1.01E-03	4.43E-04
677	561176.7	4192708	2.06E-03	2.59E-03	2.03E-03	2.04E-03	2.03E-03	1.51E-03	9.14E-04	1.47E-03	2.02E-03	1.58E-03	1.58E-03	1.58E-03	1.05E-03	4.60E-04
678	561167	4192710	2.13E-03	2.68E-03	2.10E-03	2.11E-03	2.10E-03	1.56E-03	9.45E-04	1.52E-03	2.09E-03	1.63E-03	1.63E-03	1.63E-03	1.09E-03	4.76E-04
679	561157.2	4192711	2.19E-03	2.75E-03	2.16E-03	2.17E-03	2.16E-03	1.60E-03	9.72E-04	1.57E-03	2.15E-03	1.68E-03	1.68E-03	1.68E-03	1.12E-03	4.89E-04
680	561147.5	4192712	2.24E-03	2.82E-03	2.21E-03	2.22E-03	2.21E-03	1.64E-03	9.95E-04	1.60E-03	2.20E-03	1.72E-03	1.72E-03	1.72E-03	1.14E-03	5.01E-04
681	561137.8	4192714	2.28E-03	2.87E-03	2.25E-03	2.26E-03	2.25E-03	1.67E-03	1.01E-03	1.63E-03	2.24E-03	1.75E-03	1.75E-03	1.75E-03	1.17E-03	5.10E-04
682	561294.1	4192606	1.40E-03	1.76E-03	1.38E-03	1.39E-03	1.38E-03	1.03E-03	6.22E-04	1.00E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.16E-04	3.13E-04
683	561296.2	4192596	1.41E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.19E-04	3.15E-04
684	561298.4	4192586	1.41E-03	1.78E-03	1.40E-03	1.40E-03	1.40E-03	1.03E-03	6.27E-04	1.01E-03	1.39E-03	1.08E-03	1.09E-03	1.08E-03	7.21E-04	3.16E-04
685	561300.5	4192577	1.42E-03	1.78E-03	1.40E-03	1.40E-03	1.40E-03	1.04E-03	6.29E-04	1.01E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.24E-04	3.17E-04
686	561302.6	4192567	1.42E-03	1.79E-03	1.40E-03	1.41E-03	1.40E-03	1.04E-03	6.31E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.26E-04	3.18E-04
687	561304.8	4192557	1.43E-03	1.80E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.02E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	7.28E-04	3.19E-04
688	561306.9	4192548	1.43E-03	1.80E-03	1.41E-03	1.42E-03	1.41E-03	1.05E-03	6.36E-04	1.02E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	7.31E-04	3.20E-04
689	561309	4192538	1.44E-03	1.81E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.37E-04	1.03E-03	1.41E-03	1.10E-03	1.10E-03	1.10E-03	7.33E-04	3.21E-04
690	561311.2	4192529	1.44E-03	1.81E-03	1.42E-03	1.43E-03	1.42E-03	1.05E-03	6.39E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.35E-04	3.22E-04
691	561313.3	4192519	1.44E-03	1.81E-03	1.42E-03	1.43E-03	1.42E-03	1.06E-03	6.40E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.36E-04	3.22E-04
692	561315.4	4192509	1.44E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.41E-04	1.03E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.37E-04	3.23E-04
693	561317.6	4192500	1.44E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.41E-04	1.03E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.37E-04	3.23E-04
694	561319.7	4192490	1.44E-03	1.82E-03	1.42E-03	1.43E-03	1.42E-03	1.06E-03	6.41E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.37E-04	3.23E-04
695	561321.8	4192481	1.44E-03	1.81E-03	1.42E-03	1.43E-03	1.42E-03	1.05E-03	6.39E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.35E-04	3.22E-04
696	561324	4192471	1.44E-03	1.81E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.37E-04	1.03E-03	1.41E-03	1.10E-03	1.10E-03	1.10E-03	7.33E-04	3.21E-04
697	561326.1	4192461	1.43E-03	1.80E-03	1.41E-03	1.41E-03	1.41E-03	1.05E-03	6.34E-04	1.02E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	7.29E-04	3.19E-04
698	561328.2	4192452	1.42E-03	1.79E-03	1.40E-03	1.41E-03	1.40E-03	1.04E-03	6.30E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.25E-04	3.17E-04
699	561330.4	4192442	1.41E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.19E-04	3.15E-04
700	561336.8	4192413	1.36E-03	1.71E-03	1.34E-03	1.34E-03	1.34E-03	9.93E-04	6.02E-04	9.70E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
701	561281.3	4192639	1.42E-03	1.78E-03	1.40E-03	1.40E-03	1.40E-03	1.04E-03	6.29E-04	1.01E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.24E-04	3.17E-04
702	561275.7	4192647	1.44E-03	1.81E-03	1.42E-03	1.43E-03	1.42E-03	1.06E-03	6.40E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.36E-04	3.22E-04
703	561270	4192655	1.46E-03	1.84E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.50E-04	1.05E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	7.47E-04	3.27E-04
704	561264.4	4192663	1.48E-03	1.87E-03	1.46E-03	1.47E-03	1.46E-03	1.09E-03	6.58E-04	1.06E-03	1.45E-03	1.13E-03	1.14E-03	1.13E-03	7.57E-04	3.31E-04
705	561258.8	4192671	1.50E-03	1.89E-03	1.48E-03	1.48E-03	1.48E-03	1.10E-03	6.65E-04	1.07E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	7.65E-04	3.35E-04
706	561253.1	4192679	1.51E-03	1.90E-03	1.49E-03	1.50E-03	1.49E-03	1.11E-03	6.71E-04	1.08E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	7.72E-04	3.38E-04
707	561247.5	4192686	1.52E-03	1.92E-03	1.50E-03	1.51E-03	1.50E-03	1.12E-03	6.76E-04	1.09E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	7.77E-04	3.40E-04
708	561241.8	4192694	1.53E-03	1.93E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.79E-04	1.10E-03	1.50E-03	1.17E-03	1.18E-03	1.17E-03	7.81E-04	3.42E-04
709	561236.2	4192702	1.54E-03	1.93E-03	1.52E-03	1.52E-03	1.52E-03	1.12E-03	6.82E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.84E-04	3.43E-04
710	561211.4	4192713	1.70E-03	2.13E-03	1.67E-03	1.68E-03	1.67E-03	1.24E-03	7.52E-04	1.21E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.65E-04	3.79E-04
711	561201.8	4192714	1.77E-03	2.23E-03	1.75E-03	1.75E-03	1.75E-03	1.30E-03	7.86E-04	1.27E-03	1.74E-03	1.36E-03	1.36E-03	1.36E-03	9.04E-04	3.96E-04
712	561192.2	4192715	1.85E-03	2.32E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.19E-04	1.32E-03	1.81E-03	1.41E-03	1.42E-03	1.41E-03	9.42E-04	4.12E-04
713	561182.6	4192717	1.92E-03	2.41E-03	1.89E-03	1.90E-03	1.89E-03	1.40E-03	8.50E-04	1.37E-03	1.88E-03	1.47E-03	1.47E-03	1.47E-03	9.77E-04	4.28E-04
714	561173.1	4192718	1.98E-03	2.49E-03	1.95E-03	1.96E-03	1.95E-03	1.45E-03	8.78E-04	1.42E-03	1.94E-03	1.51E-03	1.52E-03	1.51E-03	1.01E-03	4.42E-04
715	561163.5	4192719	2.04E-03	2.56E-03	2.01E-03	2.02E-03	2.01E-03	1.49E-03	9.03E-04	1.46E-03	2.00E-03	1.56E-03	1.56E-03	1.56E-03	1.04E-03	4.55E-04
716	561153.9	4192721	2.09E-03	2.62E-03	2.06E-03	2.06E-03	2.06E-03	1.53E-03	9.25E-04	1.49E-03	2.04E-03	1.60E-03	1.60E-03	1.60E-03	1.06E-03	4.66E-04
717	561144.3	4192722	2.13E-03	2.68E-03	2.10E-03	2.11E-03	2.10E-03	1.56E-03	9.44E-04	1.52E-03	2.08E-03	1.63E-03	1.63E-03	1.63E-03	1.09E-03	4.75E-04
718	561134.7	4192724	2.16E-03	2.72E-03	2.13E-03	2.14E-03	2.13E-03	1.58E-03	9.59E-04	1.55E-03	2.12E-03	1.65E-03	1.66E-03	1.65E-03	1.10E-03	4.83E-04
719	561303.9	4192608	1.30E-03	1.63E-03	1.28E-03	1.29E-03	1.28E-03	9.51E-04	5.76E-04	9.29E-04	1.27E-03	9.94E-04	9.97E-04	9.94E-04	6.63E-04	2.90E-04
720	561306	4192598	1.30E-03	1.64E-03	1.29E-03	1.29E-03	1.29E-03	9.54E-04	5.78E-04	9.32E-04	1.28E-03	9.97E-04	1.00E-03	9.97E-04	6.65E-04	2.91E-04
721	561308.1	4192589	1.31E-03	1.64E-03	1.29E-03	1.29E-03	1.29E-03	9.56E-04	5.80E-04	9.34E-04	1.28E-03	1.00E-03	1.00E-03	1.00E-03	6.67E-04	2.92E-04
722	561310.3	4192579	1.31E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	9.58E-04	5.81E-04	9.36E-04	1.28E-03	1.00E-03	1.00E-03	1.00E-03	6.68E-04	2.92E-04
723	561312.4	4192569	1.31E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	9.60E-04	5.82E-04	9.38E-04	1.29E-03	1.00E-03	1.01E-03	1.00E-03	6.70E-04	2.93E-04
724	561314.5	4192560	1.32E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	9.63E-04	5.84E-04	9.41E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.72E-04	2.94E-04
725	561316.7	4192550	1.32E-03	1.66E-03	1.30E-03	1.31E-03	1.30E-03	9.66E-04	5.86E-04	9.44E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.74E-04	2.95E-04

726	561318.8	4192540	1.32E-03	1.66E-03	1.31E-03	1.31E-03	1.31E-03	9.69E-04	5.87E-04	9.47E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.75E-04	2.96E-04
727	561320.9	4192531	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.70E-04	5.88E-04	9.48E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.77E-04	2.96E-04
728	561323.1	4192521	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.72E-04	5.89E-04	9.50E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.78E-04	2.97E-04
729	561325.2	4192512	1.33E-03	1.67E-03	1.31E-03	1.32E-03	1.31E-03	9.73E-04	5.90E-04	9.51E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.78E-04	2.97E-04
730	561327.3	4192502	1.33E-03	1.67E-03	1.31E-03	1.32E-03	1.31E-03	9.73E-04	5.90E-04	9.51E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.78E-04	2.97E-04
731	561329.5	4192492	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.72E-04	5.89E-04	9.50E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.78E-04	2.97E-04
732	561331.6	4192483	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.71E-04	5.88E-04	9.48E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.77E-04	2.96E-04
733	561333.7	4192473	1.32E-03	1.66E-03	1.31E-03	1.31E-03	1.31E-03	9.68E-04	5.87E-04	9.46E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.75E-04	2.96E-04
734	561335.9	4192463	1.32E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	9.65E-04	5.85E-04	9.43E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.73E-04	2.94E-04
735	561338	4192454	1.31E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	9.60E-04	5.82E-04	9.38E-04	1.28E-03	1.00E-03	1.01E-03	1.00E-03	6.69E-04	2.93E-04
736	561340.1	4192444	1.30E-03	1.64E-03	1.28E-03	1.29E-03	1.28E-03	9.53E-04	5.77E-04	9.31E-04	1.28E-03	9.96E-04	9.99E-04	9.96E-04	6.64E-04	2.91E-04
737	561346.5	4192415	1.26E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	9.20E-04	5.58E-04	8.99E-04	1.23E-03	9.62E-04	9.65E-04	9.62E-04	6.42E-04	2.81E-04
738	561291.4	4192641	1.32E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	9.64E-04	5.85E-04	9.42E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.72E-04	2.94E-04
739	561285.8	4192649	1.34E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	9.81E-04	5.95E-04	9.59E-04	1.31E-03	1.03E-03	1.03E-03	1.03E-03	6.84E-04	2.99E-04
740	561280.3	4192656	1.36E-03	1.71E-03	1.34E-03	1.35E-03	1.34E-03	9.96E-04	6.04E-04	9.73E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.94E-04	3.04E-04
741	561274.7	4192664	1.38E-03	1.73E-03	1.36E-03	1.37E-03	1.36E-03	1.01E-03	6.12E-04	9.87E-04	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.04E-04	3.08E-04
742	561269.1	4192672	1.40E-03	1.75E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.19E-04	9.98E-04	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.12E-04	3.12E-04
743	561263.6	4192680	1.41E-03	1.77E-03	1.39E-03	1.40E-03	1.39E-03	1.03E-03	6.25E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.19E-04	3.15E-04
744	561258	4192687	1.42E-03	1.79E-03	1.40E-03	1.41E-03	1.40E-03	1.04E-03	6.31E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.25E-04	3.18E-04
745	561252.4	4192695	1.43E-03	1.80E-03	1.41E-03	1.42E-03	1.41E-03	1.05E-03	6.35E-04	1.02E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	7.30E-04	3.20E-04
746	561246.9	4192703	1.44E-03	1.81E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.38E-04	1.03E-03	1.41E-03	1.10E-03	1.10E-03	1.10E-03	7.34E-04	3.21E-04
747	561241.3	4192711	1.44E-03	1.82E-03	1.42E-03	1.43E-03	1.42E-03	1.06E-03	6.40E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.36E-04	3.22E-04
748	561207.4	4192723	1.66E-03	2.08E-03	1.63E-03	1.64E-03	1.63E-03	1.21E-03	7.34E-04	1.18E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	8.45E-04	3.70E-04
749	561197.9	4192724	1.72E-03	2.17E-03	1.70E-03	1.70E-03	1.70E-03	1.26E-03	7.64E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.79E-04	3.85E-04
750	561188.5	4192725	1.79E-03	2.25E-03	1.76E-03	1.77E-03	1.76E-03	1.31E-03	7.92E-04	1.28E-03	1.75E-03	1.37E-03	1.37E-03	1.37E-03	9.11E-04	3.99E-04
751	561179	4192727	1.85E-03	2.32E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.19E-04	1.32E-03	1.81E-03	1.41E-03	1.42E-03	1.41E-03	9.42E-04	4.12E-04
752	561169.6	4192728	1.90E-03	2.39E-03	1.87E-03	1.88E-03	1.87E-03	1.39E-03	8.42E-04	1.36E-03	1.86E-03	1.45E-03	1.46E-03	1.45E-03	9.69E-04	4.24E-04
753	561160.1	4192729	1.95E-03	2.45E-03	1.92E-03	1.93E-03	1.92E-03	1.42E-03	8.64E-04	1.39E-03	1.91E-03	1.49E-03	1.49E-03	1.49E-03	9.93E-04	4.35E-04
754	561150.6	4192731	1.99E-03	2.50E-03	1.96E-03	1.97E-03	1.96E-03	1.45E-03	8.82E-04	1.42E-03	1.95E-03	1.52E-03	1.52E-03	1.52E-03	1.01E-03	4.44E-04
755	561141.2	4192732	2.02E-03	2.54E-03	1.99E-03	2.00E-03	1.99E-03	1.48E-03	8.96E-04	1.45E-03	1.98E-03	1.55E-03	1.55E-03	1.55E-03	1.03E-03	4.51E-04
756	561131.7	4192733	2.05E-03	2.57E-03	2.02E-03	2.03E-03	2.02E-03	1.50E-03	9.08E-04	1.46E-03	2.01E-03	1.57E-03	1.57E-03	1.57E-03	1.04E-03	4.57E-04
757	561313.6	4192610	1.21E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	8.62E-04	1.18E-03	9.23E-04	9.25E-04	9.23E-04	6.15E-04	2.69E-04
758	561315.8	4192600	1.21E-03	1.52E-03	1.19E-03	1.20E-03	1.19E-03	8.84E-04	5.36E-04	8.64E-04	1.18E-03	9.25E-04	9.27E-04	9.25E-04	6.17E-04	2.70E-04
759	561317.9	4192591	1.21E-03	1.52E-03	1.19E-03	1.20E-03	1.19E-03	8.86E-04	5.37E-04	8.66E-04	1.19E-03	9.26E-04	9.29E-04	9.26E-04	6.18E-04	2.70E-04
760	561320	4192581	1.21E-03	1.52E-03	1.20E-03	1.20E-03	1.20E-03	8.87E-04	5.38E-04	8.67E-04	1.19E-03	9.27E-04	9.30E-04	9.27E-04	6.18E-04	2.71E-04
761	561322.2	4192571	1.21E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.88E-04	5.39E-04	8.68E-04	1.19E-03	9.29E-04	9.32E-04	9.29E-04	6.19E-04	2.71E-04
762	561324.3	4192562	1.22E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.91E-04	5.40E-04	8.70E-04	1.19E-03	9.31E-04	9.34E-04	9.31E-04	6.21E-04	2.72E-04
763	561326.4	4192552	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.93E-04	5.41E-04	8.73E-04	1.20E-03	9.34E-04	9.37E-04	9.34E-04	6.23E-04	2.73E-04
764	561328.6	4192543	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.95E-04	5.42E-04	8.74E-04	1.20E-03	9.36E-04	9.38E-04	9.36E-04	6.24E-04	2.73E-04
765	561330.7	4192533	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.96E-04	5.43E-04	8.75E-04	1.20E-03	9.37E-04	9.39E-04	9.37E-04	6.25E-04	2.73E-04
766	561332.8	4192523	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.97E-04	5.44E-04	8.76E-04	1.20E-03	9.38E-04	9.40E-04	9.38E-04	6.25E-04	2.74E-04
767	561335	4192514	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.97E-04	5.44E-04	8.77E-04	1.20E-03	9.38E-04	9.41E-04	9.38E-04	6.26E-04	2.74E-04
768	561337.1	4192504	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.98E-04	5.44E-04	8.77E-04	1.20E-03	9.39E-04	9.41E-04	9.39E-04	6.26E-04	2.74E-04
769	561339.2	4192494	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.97E-04	5.44E-04	8.77E-04	1.20E-03	9.38E-04	9.41E-04	9.38E-04	6.25E-04	2.74E-04
770	561341.4	4192485	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.96E-04	5.43E-04	8.76E-04	1.20E-03	9.37E-04	9.40E-04	9.37E-04	6.25E-04	2.74E-04
771	561343.5	4192475	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.95E-04	5.42E-04	8.74E-04	1.20E-03	9.36E-04	9.38E-04	9.36E-04	6.24E-04	2.73E-04
772	561345.6	4192466	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.92E-04	5.41E-04	8.72E-04	1.19E-03	9.33E-04	9.36E-04	9.33E-04	6.22E-04	2.72E-04
773	561347.7	4192456	1.21E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.89E-04	5.39E-04	8.68E-04	1.19E-03	9.29E-04	9.32E-04	9.29E-04	6.20E-04	2.71E-04
774	561349.9	4192446	1.21E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	8.83E-04	5.35E-04	8.63E-04	1.18E-03	9.23E-04	9.26E-04	9.23E-04	6.15E-04	2.69E-04
775	561301.4	4192643	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.97E-04	5.44E-04	8.76E-04	1.20E-03	9.38E-04	9.40E-04	9.38E-04	6.25E-04	2.74E-04
776	561295.9	4192650	1.25E-03	1.57E-03	1.23E-03	1.23E-03	1.23E-03	9.13E-04	5.54E-04	8.92E-04	1.22E-03	9.55E-04	9.58E-04	9.55E-04	6.37E-04	2.79E-04
777	561290.4	4192658	1.27E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.28E-04	5.63E-04	9.07E-04	1.24E-03	9.70E-04	9.73E-04	9.70E-04	6.47E-04	2.83E-04
778	561284.9	4192666	1.29E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	9.41E-04	5.71E-04	9.20E-04	1.26E-03	9.84E-04	9.87E-04	9.84E-04	6.56E-04	2.87E-04
779	561279.4	4192673	1.30E-03	1.64E-03	1.28E-03	1.29E-03	1.28E-03	9.52E-04	5.77E-04	9.31E-04	1.28E-03	9.96E-04	9.99E-04	9.96E-04	6.64E-04	2.91E-04
780	561273.9	4192681	1.32E-03	1.65E-03	1.30E-03	1.30E-03	1.30E-03	9.62E-04	5.83E-04	9.40E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.71E-04	2.94E-04
781	561268.4	4192689	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.72E-04	5.89E-04	9.49E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.77E-04	2.97E-04
782	561262.9	4192696	1.34E-03	1.68E-03	1.32E-03	1.32E-03	1.32E-03	9.80E-04	5.94E-04	9.57E-04	1.31E-03	1.02E-03	1.03E-03	1.02E-03	6.83E-04	2.99E-04
783	561257.4	4192704	1.35E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.86E-04	5.98E-04	9.63E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.87E-04	3.01E-04
784	561251.9	4192712	1.35E-03	1.70E-03	1.34E-03	1.34E-03	1.34E-03	9.91E-04	6.01E-04	9.68E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.91E-04	3.02E-04
785	561246.4	4192719	1.36E-03	1.71E-03	1.34E-03	1.34E-03	1.34E-03	9.94E-04	6.03E-04	9.71E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.93E-04	3.03E-04
786	561231.6	4192728	1.42E-03	1.79E-03	1.40E-03	1.41E-03	1.40E-03	1.04E-03	6.32E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.26E-04	3.18E-04
787	561203.5	4192732	1.61E-03	2.03E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.15E-04	1.15E-03	1.58E-03	1.23E-03	1.24E-03	1.23E-03	8.23E-04	3.60E-04
788	561194.2	4192734	1.67E-03	2.10E-03	1.65E-03	1.65E-03	1.65E-03	1.22E-03	7.41E-04	1.19E-03	1.64E-03	1.28E-03	1.28E-03	1.28E-03	8.52E-04	3.73E-04
789	561184.9	4192735	1.73E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.66E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.80E-04	3.85E-04
790	561175.5	4192736	1.78E-03	2.23E-03	1.75E-03	1.76E-03	1.75E-03	1.30E-03	7.88E-04	1.27E-03	1.74E-03	1.36E-03	1.36E-03	1.36E-03	9.06E-04	3.97E-04
791	561166.2	4192738	1.82E-03	2.29E-03	1.80E-03	1.80E-03	1.80E-03	1.33E-03	8.08E-04	1.30E-03	1.78E-03	1.39E-03	1.40E-03	1.39E-03	9.29E-04	4.07E-04
792	561156.8	4192739	1.86E-03	2.34E-03	1.84E-03	1.84E-03	1.84E-03	1.36E-03	8.25E-04	1.33E-03	1.82E-03	1.42E-03	1.43E-03	1.42E-03	9.49E-04	4.15E-04
793	561147.5	4192740	1.89E-03	2.38E-03	1.87E-03	1.87E-03	1.87E-03	1.39E-03	8.40E-04	1.35E-03	1.85E-03	1.45E-03	1.45E-03	1.45E-03	9.66E-04	4.23E-04
794	561138.1	4192742	1.92E-03	2.41E-03	1.90E-03	1.90E-03	1.90E-03	1.41E-03	8.52E-04	1.37E-03	1.88E-03	1.47E-03	1.47E-03	1.47E-03	9.80E-04	4.29E-04
795	561128.8	4192743	1.94E-03	2.44E-03	1.92E-03	1.92E-03	1.92E-03	1.42E-03	8.61E-04	1.39E-03	1.90E-03	1.49E-03	1.49E-03	1.49E-03	9.91E-04	4.34E-04
796	561323.4	4192612	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.21E-04	4.98E-04	8.02E-04	1.10E-03	8.59E-04	8.61E-04	8.59E-04	5.73E-04	2.51E-04
797	561325.5	4192602	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.23E-04	4.99E-04	8.04E-04	1.10E-03	8.60E-04	8.63E-04	8.60E-04	5.74E-04	2.51E-04
798	561327.7	4192593	1.13E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	4.99E-04	8.05E-04	1.10E-03	8.61E-04	8.64E-04	8.61E-04	5.74E-04	2.51E-04
799	561329.8	4192583	1.13E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	5.00E-04	8.06E-04	1.10E-03	8.62E-04	8.64E-04	8.62E-04	5.75E-04	2.52E-04
800	561331.9	4192574	1.13E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	8.25E-04	5.00E-04	8.06E-04	1.10E-03	8.63E-04	8.65E-04	8.63E-04	5.75E-04	2.52E-04
801	561334.1	4192564	1.13E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	8.27E-04	5.01E-04	8.08E-04	1.11E-03	8.64E-04	8.67E-04	8.64E-04	5.76E-04	2.52E-04
802	561336.2	4192554	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.28E-04	5.02E-04	8.09E-04	1.11E-03	8.66E-04	8.68E-04	8.66E-04	5.77E-04	2.53E-04
803	561338.3	4192545	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.29E-04	5.03E-04	8.10E-04	1.11E-03	8.67E-04	8.69E-04	8.67E-04	5.78E-04	2.53E-04
804	561340.5	4192535	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	8.11E-04	1.11E-03	8.67E-04	8.70E-04	8.67E-04	5.78E-04	2.53E-04
805	561342.6	4192525	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	8.11E-04	1.11E-03	8.68E-04	8.71E-04	8.68E-04	5.79E-04	2.53E-04
806	561344.7	4192516	1.14E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	8.12E-04	1.11E-03	8.69E-04	8.71E-04	8.69E-04	5.79E-04	2.54E-04

807	561346.9	4192506	1.14E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	8.12E-04	1.11E-03	8.69E-04	8.71E-04	8.69E-04	5.79E-04	2.54E-04
808	561349	4192497	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	8.12E-04	1.11E-03	8.69E-04	8.71E-04	8.69E-04	5.79E-04	2.54E-04
809	561351.1	4192487	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	8.11E-04	1.11E-03	8.68E-04	8.70E-04	8.68E-04	5.78E-04	2.53E-04
810	561353.2	4192477	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.29E-04	5.03E-04	8.10E-04	1.11E-03	8.67E-04	8.69E-04	8.67E-04	5.78E-04	2.53E-04
811	561355.4	4192468	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.28E-04	5.02E-04	8.09E-04	1.11E-03	8.65E-04	8.68E-04	8.65E-04	5.77E-04	2.53E-04
812	561357.5	4192458	1.13E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	8.25E-04	5.00E-04	8.06E-04	1.10E-03	8.63E-04	8.65E-04	8.63E-04	5.75E-04	2.52E-04
813	561359.6	4192449	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.20E-04	4.97E-04	8.01E-04	1.10E-03	8.57E-04	8.60E-04	8.57E-04	5.72E-04	2.50E-04
814	561311.4	4192645	1.14E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.36E-04	5.07E-04	8.17E-04	1.12E-03	8.74E-04	8.77E-04	8.74E-04	5.83E-04	2.55E-04
815	561306	4192652	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.51E-04	5.16E-04	8.32E-04	1.14E-03	8.90E-04	8.93E-04	8.90E-04	5.94E-04	2.60E-04
816	561300.5	4192660	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.66E-04	5.25E-04	8.46E-04	1.16E-03	9.05E-04	9.08E-04	9.05E-04	6.04E-04	2.64E-04
817	561295.1	4192667	1.20E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	8.79E-04	5.33E-04	8.59E-04	1.18E-03	9.19E-04	9.21E-04	9.19E-04	6.13E-04	2.68E-04
818	561289.6	4192675	1.22E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.90E-04	5.39E-04	8.69E-04	1.19E-03	9.30E-04	9.33E-04	9.30E-04	6.20E-04	2.72E-04
819	561284.2	4192683	1.23E-03	1.55E-03	1.21E-03	1.22E-03	1.21E-03	8.99E-04	5.45E-04	8.79E-04	1.20E-03	9.40E-04	9.43E-04	9.40E-04	6.27E-04	2.74E-04
820	561278.7	4192690	1.24E-03	1.56E-03	1.22E-03	1.23E-03	1.22E-03	9.08E-04	5.51E-04	8.87E-04	1.22E-03	9.50E-04	9.52E-04	9.50E-04	6.33E-04	2.77E-04
821	561273.3	4192698	1.25E-03	1.57E-03	1.24E-03	1.24E-03	1.24E-03	9.16E-04	5.55E-04	8.95E-04	1.23E-03	9.58E-04	9.61E-04	9.58E-04	6.39E-04	2.80E-04
822	561267.9	4192705	1.26E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.24E-04	5.60E-04	9.03E-04	1.24E-03	9.66E-04	9.69E-04	9.66E-04	6.44E-04	2.82E-04
823	561262.4	4192713	1.27E-03	1.60E-03	1.25E-03	1.26E-03	1.25E-03	9.30E-04	5.64E-04	9.09E-04	1.24E-03	9.72E-04	9.75E-04	9.72E-04	6.48E-04	2.84E-04
824	561257	4192720	1.28E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	9.34E-04	5.66E-04	9.13E-04	1.25E-03	9.77E-04	9.80E-04	9.77E-04	6.51E-04	2.85E-04
825	561251.5	4192728	1.28E-03	1.61E-03	1.26E-03	1.27E-03	1.26E-03	9.38E-04	5.68E-04	9.16E-04	1.26E-03	9.81E-04	9.83E-04	9.81E-04	6.54E-04	2.86E-04
826	561236.8	4192737	1.34E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	9.81E-04	5.95E-04	9.59E-04	1.31E-03	1.03E-03	1.03E-03	1.03E-03	6.84E-04	2.99E-04
827	561227.6	4192738	1.40E-03	1.76E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.20E-04	1.00E-03	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.13E-04	3.12E-04
828	561199.9	4192742	1.57E-03	1.97E-03	1.55E-03	1.55E-03	1.55E-03	1.15E-03	6.95E-04	1.12E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	7.99E-04	3.50E-04
829	561190.6	4192743	1.62E-03	2.03E-03	1.60E-03	1.60E-03	1.60E-03	1.18E-03	7.18E-04	1.16E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	8.25E-04	3.61E-04
830	561181.4	4192745	1.66E-03	2.09E-03	1.64E-03	1.65E-03	1.64E-03	1.22E-03	7.39E-04	1.19E-03	1.63E-03	1.27E-03	1.28E-03	1.27E-03	8.49E-04	3.72E-04
831	561172.1	4192746	1.71E-03	2.15E-03	1.68E-03	1.69E-03	1.68E-03	1.25E-03	7.57E-04	1.22E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	8.71E-04	3.81E-04
832	561162.9	4192747	1.75E-03	2.19E-03	1.72E-03	1.73E-03	1.72E-03	1.28E-03	7.74E-04	1.25E-03	1.71E-03	1.34E-03	1.34E-03	1.34E-03	8.90E-04	3.90E-04
833	561153.6	4192749	1.78E-03	2.24E-03	1.75E-03	1.76E-03	1.75E-03	1.30E-03	7.89E-04	1.27E-03	1.74E-03	1.36E-03	1.36E-03	1.36E-03	9.07E-04	3.97E-04
834	561144.4	4192750	1.80E-03	2.27E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.01E-04	1.29E-03	1.77E-03	1.38E-03	1.38E-03	1.38E-03	9.21E-04	4.03E-04
835	561135.2	4192751	1.83E-03	2.30E-03	1.80E-03	1.81E-03	1.80E-03	1.34E-03	8.10E-04	1.31E-03	1.79E-03	1.40E-03	1.40E-03	1.40E-03	9.32E-04	4.08E-04
836	561125.9	4192753	1.84E-03	2.32E-03	1.82E-03	1.82E-03	1.82E-03	1.35E-03	8.18E-04	1.32E-03	1.81E-03	1.41E-03	1.41E-03	1.41E-03	9.40E-04	4.12E-04
837	561333.2	4192614	1.05E-03	1.32E-03	1.03E-03	1.04E-03	1.03E-03	7.67E-04	4.65E-04	7.50E-04	1.03E-03	8.02E-04	8.05E-04	8.02E-04	5.35E-04	2.34E-04
838	561335.3	4192605	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.68E-04	4.66E-04	7.51E-04	1.03E-03	8.03E-04	8.06E-04	8.03E-04	5.36E-04	2.35E-04
839	561337.4	4192595	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.69E-04	4.66E-04	7.51E-04	1.03E-03	8.04E-04	8.06E-04	8.04E-04	5.36E-04	2.35E-04
840	561339.6	4192585	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.69E-04	4.66E-04	7.51E-04	1.03E-03	8.04E-04	8.06E-04	8.04E-04	5.36E-04	2.35E-04
841	561341.7	4192576	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.69E-04	4.66E-04	7.51E-04	1.03E-03	8.04E-04	8.06E-04	8.04E-04	5.36E-04	2.35E-04
842	561343.8	4192566	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.69E-04	4.66E-04	7.52E-04	1.03E-03	8.05E-04	8.07E-04	8.05E-04	5.36E-04	2.35E-04
843	561346	4192557	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.52E-04	1.03E-03	8.05E-04	8.07E-04	8.05E-04	5.37E-04	2.35E-04
844	561348.1	4192547	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.53E-04	1.03E-03	8.05E-04	8.08E-04	8.05E-04	5.37E-04	2.35E-04
845	561350.2	4192537	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.67E-04	7.53E-04	1.03E-03	8.06E-04	8.08E-04	8.06E-04	5.37E-04	2.35E-04
846	561352.4	4192528	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.67E-04	7.53E-04	1.03E-03	8.06E-04	8.08E-04	8.06E-04	5.37E-04	2.35E-04
847	561354.5	4192518	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.35E-04
848	561356.6	4192508	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
849	561358.7	4192499	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
850	561360.9	4192489	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
851	561363	4192480	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.67E-04	7.53E-04	1.03E-03	8.06E-04	8.08E-04	8.06E-04	5.38E-04	2.35E-04
852	561365.1	4192470	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.52E-04	1.03E-03	8.05E-04	8.07E-04	8.05E-04	5.37E-04	2.35E-04
853	561367.3	4192460	1.05E-03	1.32E-03	1.03E-03	1.04E-03	1.03E-03	7.67E-04	4.65E-04	7.50E-04	1.03E-03	8.02E-04	8.04E-04	8.02E-04	5.35E-04	2.34E-04
854	561369.4	4192451	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.63E-04	4.63E-04	7.46E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.32E-04	2.33E-04
855	561320	4192648	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.85E-04	4.76E-04	7.67E-04	1.05E-03	8.20E-04	8.23E-04	8.20E-04	5.47E-04	2.40E-04
856	561314.3	4192656	1.09E-03	1.37E-03	1.08E-03	1.08E-03	1.08E-03	8.00E-04	4.85E-04	7.81E-04	1.07E-03	8.36E-04	8.39E-04	8.36E-04	5.58E-04	2.44E-04
857	561308.6	4192664	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.14E-04	4.93E-04	7.95E-04	1.09E-03	8.51E-04	8.53E-04	8.51E-04	5.67E-04	2.48E-04
858	561302.8	4192672	1.13E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	8.26E-04	5.01E-04	8.07E-04	1.11E-03	8.64E-04	8.66E-04	8.64E-04	5.76E-04	2.52E-04
859	561297.1	4192680	1.14E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.37E-04	5.07E-04	8.18E-04	1.12E-03	8.75E-04	8.78E-04	8.75E-04	5.84E-04	2.55E-04
860	561291.4	4192688	1.16E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.46E-04	5.13E-04	8.27E-04	1.13E-03	8.85E-04	8.88E-04	8.85E-04	5.90E-04	2.58E-04
861	561285.6	4192696	1.17E-03	1.47E-03	1.15E-03	1.16E-03	1.15E-03	8.55E-04	5.18E-04	8.36E-04	1.14E-03	8.94E-04	8.97E-04	8.94E-04	5.96E-04	2.61E-04
862	561279.9	4192704	1.18E-03	1.48E-03	1.17E-03	1.17E-03	1.17E-03	8.64E-04	5.24E-04	8.44E-04	1.16E-03	9.03E-04	9.06E-04	9.03E-04	6.02E-04	2.64E-04
863	561274.2	4192712	1.19E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.72E-04	5.28E-04	8.52E-04	1.17E-03	9.11E-04	9.14E-04	9.11E-04	6.08E-04	2.66E-04
864	561268.5	4192720	1.20E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	8.78E-04	5.32E-04	8.58E-04	1.18E-03	9.18E-04	9.20E-04	9.18E-04	6.12E-04	2.68E-04
865	561262.7	4192728	1.21E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	8.62E-04	1.18E-03	9.23E-04	9.25E-04	9.23E-04	6.15E-04	2.69E-04
866	561257	4192736	1.21E-03	1.52E-03	1.19E-03	1.20E-03	1.19E-03	8.86E-04	5.37E-04	8.66E-04	1.19E-03	9.26E-04	9.29E-04	9.26E-04	6.18E-04	2.70E-04
867	561241.5	4192746	1.27E-03	1.60E-03	1.25E-03	1.26E-03	1.25E-03	9.28E-04	5.63E-04	9.07E-04	1.24E-03	9.71E-04	9.73E-04	9.71E-04	6.47E-04	2.83E-04
868	561231.8	4192747	1.32E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.69E-04	5.87E-04	9.47E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.76E-04	2.96E-04
869	561222.1	4192748	1.38E-03	1.73E-03	1.36E-03	1.37E-03	1.36E-03	1.01E-03	6.12E-04	9.87E-04	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.04E-04	3.08E-04
870	561202.6	4192751	1.49E-03	1.87E-03	1.47E-03	1.47E-03	1.47E-03	1.09E-03	6.60E-04	1.06E-03	1.46E-03	1.14E-03	1.14E-03	1.14E-03	7.58E-04	3.32E-04
871	561192.9	4192752	1.54E-03	1.93E-03	1.52E-03	1.52E-03	1.52E-03	1.12E-03	6.82E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.84E-04	3.43E-04
872	561183.2	4192754	1.58E-03	1.99E-03	1.56E-03	1.57E-03	1.56E-03	1.16E-03	7.02E-04	1.13E-03	1.55E-03	1.21E-03	1.21E-03	1.21E-03	8.07E-04	3.53E-04
873	561173.4	4192755	1.62E-03	2.04E-03	1.60E-03	1.61E-03	1.60E-03	1.19E-03	7.20E-04	1.16E-03	1.59E-03	1.24E-03	1.25E-03	1.24E-03	8.28E-04	3.63E-04
874	561163.7	4192757	1.66E-03	2.09E-03	1.64E-03	1.64E-03	1.64E-03	1.21E-03	7.36E-04	1.19E-03	1.63E-03	1.27E-03	1.27E-03	1.27E-03	8.47E-04	3.71E-04
875	561154	4192758	1.69E-03	2.12E-03	1.67E-03	1.67E-03	1.67E-03	1.24E-03	7.50E-04	1.21E-03	1.66E-03	1.29E-03	1.30E-03	1.29E-03	8.62E-04	3.77E-04
876	561144.2	4192759	1.71E-03	2.16E-03	1.69E-03	1.70E-03	1.69E-03	1.26E-03	7.61E-04	1.23E-03	1.68E-03	1.31E-03	1.32E-03	1.31E-03	8.75E-04	3.83E-04
877	561134.5	4192761	1.73E-03	2.18E-03	1.71E-03	1.72E-03	1.71E-03	1.27E-03	7.70E-04	1.24E-03	1.70E-03	1.33E-03	1.33E-03	1.33E-03	8.85E-04	3.87E-04
878	561124.8	4192762	1.75E-03	2.20E-03	1.73E-03	1.73E-03	1.73E-03	1.28E-03	7.76E-04	1.25E-03	1.71E-03	1.34E-03	1.34E-03	1.34E-03	8.93E-04	3.91E-04
879	561324.4	4192658	1.02E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.49E-04	4.54E-04	7.32E-04	1.00E-03	7.83E-04	7.85E-04	7.83E-04	5.22E-04	2.28E-04
880	561318.7	4192666	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.62E-04	4.62E-04	7.44E-04	1.02E-03	7.96E-04	7.99E-04	7.96E-04	5.31E-04	2.33E-04
881	561313.1	4192674	1.06E-03	1.33E-03	1.04E-03	1.05E-03	1.04E-03	7.74E-04	4.69E-04	7.56E-04	1.04E-03	8.09E-04	8.11E-04	8.09E-04	5.39E-04	2.36E-04
882	561307.4	4192682	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.84E-04	4.75E-04	7.66E-04	1.05E-03	8.20E-04	8.22E-04	8.20E-04	5.47E-04	2.39E-04
883	561301.7	4192690	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.94E-04	4.81E-04	7.76E-04	1.06E-03	8.30E-04	8.32E-04	8.30E-04	5.53E-04	2.42E-04
884	561296.1	4192697	1.10E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	8.02E-04	4.86E-04	7.84E-04	1.07E-03	8.39E-04	8.41E-04	8.39E-04	5.59E-04	2.45E-04
885	561290.4	4192705	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.11E-04	4.92E-04	7.92E-04	1.09E-03	8.48E-04	8.50E-04	8.48E-04	5.65E-04	2.47E-04
886	561284.8	4192713	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.19E-04	4.96E-04	8.00E-04	1.10E-03	8.56E-04	8.59E-04	8.56E-04	5.71E-04	2.50E-04
887	561279.1	4192721	1.13E-03	1.42E-03	1.11E-03	1.12E-03	1.11E-03	8.26E-04	5.00E-04	8.07E-04	1.11E-03	8.63E-04	8.66E-04	8.63E-04	5.76E-04	2.52E-04

888	561273.4	4192729	1.14E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	8.12E-04	1.11E-03	8.69E-04	8.71E-04	8.69E-04	5.79E-04	2.54E-04
889	561267.8	4192737	1.14E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.35E-04	5.06E-04	8.16E-04	1.12E-03	8.73E-04	8.76E-04	8.73E-04	5.82E-04	2.55E-04
890	561262.1	4192745	1.15E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.39E-04	5.08E-04	8.20E-04	1.12E-03	8.77E-04	8.79E-04	8.77E-04	5.85E-04	2.56E-04
891	561246.8	4192754	1.20E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	8.78E-04	5.32E-04	8.58E-04	1.18E-03	9.18E-04	9.20E-04	9.18E-04	6.12E-04	2.68E-04
892	561237.2	4192755	1.25E-03	1.57E-03	1.23E-03	1.24E-03	1.23E-03	9.15E-04	5.55E-04	8.94E-04	1.22E-03	9.57E-04	9.59E-04	9.57E-04	6.38E-04	2.79E-04
893	561227.6	4192757	1.30E-03	1.64E-03	1.28E-03	1.29E-03	1.28E-03	9.52E-04	5.77E-04	9.30E-04	1.27E-03	9.95E-04	9.98E-04	9.95E-04	6.64E-04	2.91E-04
894	561218	4192758	1.35E-03	1.70E-03	1.33E-03	1.34E-03	1.33E-03	9.88E-04	5.99E-04	9.66E-04	1.32E-03	1.03E-03	1.04E-03	1.03E-03	6.89E-04	3.02E-04
895	561198.8	4192761	1.45E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.41E-04	1.03E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.37E-04	3.23E-04
896	561189.1	4192762	1.49E-03	1.87E-03	1.47E-03	1.47E-03	1.47E-03	1.09E-03	6.61E-04	1.06E-03	1.46E-03	1.14E-03	1.14E-03	1.14E-03	7.60E-04	3.33E-04
897	561179.5	4192764	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.78E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.80E-04	3.41E-04
898	561169.9	4192765	1.56E-03	1.96E-03	1.54E-03	1.55E-03	1.54E-03	1.14E-03	6.93E-04	1.12E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	7.97E-04	3.49E-04
899	561160.3	4192766	1.59E-03	2.00E-03	1.57E-03	1.58E-03	1.57E-03	1.17E-03	7.06E-04	1.14E-03	1.56E-03	1.22E-03	1.22E-03	1.22E-03	8.12E-04	3.56E-04
900	561150.7	4192768	1.62E-03	2.03E-03	1.60E-03	1.60E-03	1.60E-03	1.18E-03	7.18E-04	1.16E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	8.25E-04	3.61E-04
901	561141	4192769	1.64E-03	2.06E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.27E-04	1.17E-03	1.60E-03	1.25E-03	1.26E-03	1.25E-03	8.36E-04	3.66E-04
902	561131.4	4192770	1.65E-03	2.08E-03	1.63E-03	1.64E-03	1.63E-03	1.21E-03	7.34E-04	1.18E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	8.44E-04	3.69E-04
903	561121.8	4192772	1.66E-03	2.09E-03	1.64E-03	1.65E-03	1.64E-03	1.22E-03	7.38E-04	1.19E-03	1.63E-03	1.27E-03	1.28E-03	1.27E-03	8.49E-04	3.72E-04
904	561356.9	4192629	8.87E-04	1.12E-03	8.76E-04	8.78E-04	8.76E-04	6.49E-04	3.94E-04	6.35E-04	8.69E-04	6.79E-04	6.81E-04	6.79E-04	4.53E-04	1.98E-04
905	561317.6	4192683	1.01E-03	1.27E-03	9.93E-04	9.96E-04	9.93E-04	7.36E-04	4.46E-04	7.20E-04	9.86E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
906	561312	4192691	1.02E-03	1.28E-03	1.01E-03	1.01E-03	1.01E-03	7.46E-04	4.52E-04	7.29E-04	9.98E-04	7.80E-04	7.82E-04	7.80E-04	5.20E-04	2.28E-04
907	561306.4	4192699	1.03E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.54E-04	4.57E-04	7.37E-04	1.01E-03	7.89E-04	7.91E-04	7.89E-04	5.26E-04	2.30E-04
908	561300.8	4192707	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.62E-04	4.62E-04	7.45E-04	1.02E-03	7.97E-04	7.99E-04	7.97E-04	5.32E-04	2.33E-04
909	561295.2	4192714	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.53E-04	1.03E-03	8.05E-04	8.08E-04	8.05E-04	5.37E-04	2.35E-04
910	561289.6	4192722	1.06E-03	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.77E-04	4.71E-04	7.60E-04	1.04E-03	8.13E-04	8.15E-04	8.13E-04	5.42E-04	2.37E-04
911	561284	4192730	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.83E-04	4.75E-04	7.65E-04	1.05E-03	8.19E-04	8.21E-04	8.19E-04	5.46E-04	2.39E-04
912	561278.4	4192738	1.08E-03	1.35E-03	1.06E-03	1.07E-03	1.06E-03	7.88E-04	4.78E-04	7.70E-04	1.06E-03	8.24E-04	8.26E-04	8.24E-04	5.49E-04	2.41E-04
913	561272.8	4192746	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.92E-04	4.80E-04	7.74E-04	1.06E-03	8.28E-04	8.31E-04	8.28E-04	5.52E-04	2.42E-04
914	561267.2	4192753	1.09E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.95E-04	4.82E-04	7.77E-04	1.06E-03	8.32E-04	8.34E-04	8.32E-04	5.54E-04	2.43E-04
915	561252.1	4192763	1.14E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.31E-04	5.04E-04	8.12E-04	1.11E-03	8.69E-04	8.72E-04	8.69E-04	5.80E-04	2.54E-04
916	561242.6	4192764	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.65E-04	5.25E-04	8.46E-04	1.16E-03	9.05E-04	9.07E-04	9.05E-04	6.03E-04	2.64E-04
917	561233.1	4192765	1.23E-03	1.55E-03	1.21E-03	1.22E-03	1.21E-03	9.00E-04	5.45E-04	8.79E-04	1.20E-03	9.41E-04	9.43E-04	9.41E-04	6.27E-04	2.75E-04
918	561223.6	4192767	1.28E-03	1.60E-03	1.26E-03	1.26E-03	1.26E-03	9.33E-04	5.66E-04	9.12E-04	1.25E-03	9.76E-04	9.79E-04	9.76E-04	6.51E-04	2.85E-04
919	561195	4192771	1.40E-03	1.76E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.23E-04	1.00E-03	1.38E-03	1.07E-03	1.08E-03	1.07E-03	7.16E-04	3.14E-04
920	561185.5	4192772	1.44E-03	1.81E-03	1.42E-03	1.43E-03	1.42E-03	1.05E-03	6.39E-04	1.03E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	7.35E-04	3.22E-04
921	561176	4192773	1.47E-03	1.85E-03	1.45E-03	1.46E-03	1.45E-03	1.08E-03	6.54E-04	1.05E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	7.52E-04	3.29E-04
922	561166.5	4192775	1.50E-03	1.89E-03	1.48E-03	1.49E-03	1.48E-03	1.10E-03	6.67E-04	1.07E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	7.67E-04	3.36E-04
923	561157	4192776	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.78E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.80E-04	3.41E-04
924	561147.4	4192777	1.55E-03	1.95E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.87E-04	1.11E-03	1.52E-03	1.18E-03	1.19E-03	1.18E-03	7.90E-04	3.46E-04
925	561137.9	4192779	1.56E-03	1.97E-03	1.54E-03	1.55E-03	1.54E-03	1.15E-03	6.94E-04	1.12E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	7.98E-04	3.50E-04
926	561128.4	4192780	1.58E-03	1.98E-03	1.56E-03	1.56E-03	1.56E-03	1.15E-03	7.00E-04	1.13E-03	1.55E-03	1.21E-03	1.21E-03	1.21E-03	8.05E-04	3.52E-04
927	561362.5	4192621	8.68E-04	1.09E-03	8.56E-04	8.59E-04	8.56E-04	6.35E-04	3.85E-04	6.21E-04	8.50E-04	6.64E-04	6.66E-04	6.64E-04	4.43E-04	1.94E-04
928	561364.6	4192611	8.67E-04	1.09E-03	8.56E-04	8.58E-04	8.56E-04	6.35E-04	3.85E-04	6.20E-04	8.50E-04	6.64E-04	6.66E-04	6.64E-04	4.43E-04	1.94E-04
929	561366.7	4192601	8.67E-04	1.09E-03	8.55E-04	8.58E-04	8.55E-04	6.34E-04	3.85E-04	6.20E-04	8.49E-04	6.63E-04	6.65E-04	6.63E-04	4.42E-04	1.94E-04
930	561368.8	4192592	8.66E-04	1.09E-03	8.54E-04	8.57E-04	8.54E-04	6.34E-04	3.84E-04	6.19E-04	8.48E-04	6.63E-04	6.64E-04	6.63E-04	4.42E-04	1.93E-04
931	561371	4192582	8.65E-04	1.09E-03	8.53E-04	8.56E-04	8.53E-04	6.33E-04	3.84E-04	6.18E-04	8.47E-04	6.62E-04	6.63E-04	6.62E-04	4.41E-04	1.93E-04
932	561373.1	4192573	8.63E-04	1.09E-03	8.52E-04	8.55E-04	8.52E-04	6.32E-04	3.83E-04	6.18E-04	8.46E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
933	561375.2	4192563	8.63E-04	1.08E-03	8.51E-04	8.54E-04	8.51E-04	6.31E-04	3.83E-04	6.17E-04	8.45E-04	6.60E-04	6.62E-04	6.60E-04	4.40E-04	1.93E-04
934	561377.4	4192553	8.62E-04	1.08E-03	8.51E-04	8.53E-04	8.51E-04	6.31E-04	3.82E-04	6.16E-04	8.45E-04	6.60E-04	6.62E-04	6.60E-04	4.40E-04	1.93E-04
935	561379.5	4192544	8.62E-04	1.08E-03	8.50E-04	8.53E-04	8.50E-04	6.31E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.40E-04	1.92E-04
936	561381.6	4192534	8.62E-04	1.08E-03	8.50E-04	8.53E-04	8.50E-04	6.31E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.40E-04	1.92E-04
937	561383.8	4192525	8.62E-04	1.08E-03	8.50E-04	8.53E-04	8.50E-04	6.31E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.40E-04	1.92E-04
938	561385.9	4192515	8.62E-04	1.08E-03	8.50E-04	8.53E-04	8.50E-04	6.31E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.40E-04	1.92E-04
939	561388	4192505	8.61E-04	1.08E-03	8.50E-04	8.52E-04	8.50E-04	6.30E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.40E-04	1.92E-04
940	561390.2	4192496	8.61E-04	1.08E-03	8.50E-04	8.52E-04	8.50E-04	6.30E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.39E-04	1.92E-04
941	561392.3	4192486	8.61E-04	1.08E-03	8.49E-04	8.52E-04	8.49E-04	6.30E-04	3.82E-04	6.15E-04	8.43E-04	6.59E-04	6.60E-04	6.59E-04	4.39E-04	1.92E-04
942	561394.4	4192476	8.59E-04	1.08E-03	8.48E-04	8.50E-04	8.48E-04	6.29E-04	3.81E-04	6.14E-04	8.42E-04	6.57E-04	6.59E-04	6.57E-04	4.38E-04	1.92E-04
943	561396.6	4192467	8.57E-04	1.08E-03	8.45E-04	8.48E-04	8.45E-04	6.27E-04	3.80E-04	6.13E-04	8.39E-04	6.56E-04	6.57E-04	6.56E-04	4.37E-04	1.91E-04
944	561398.7	4192457	8.53E-04	1.07E-03	8.42E-04	8.44E-04	8.42E-04	6.24E-04	3.79E-04	6.10E-04	8.36E-04	6.53E-04	6.55E-04	6.53E-04	4.35E-04	1.91E-04
945	561366.7	4192631	8.36E-04	1.05E-03	8.25E-04	8.27E-04	8.25E-04	6.12E-04	3.71E-04	5.98E-04	8.19E-04	6.40E-04	6.42E-04	6.40E-04	4.27E-04	1.87E-04
946	561350	4192654	8.88E-04	1.12E-03	8.76E-04	8.79E-04	8.76E-04	6.50E-04	3.94E-04	6.35E-04	8.70E-04	6.80E-04	6.81E-04	6.80E-04	4.53E-04	1.98E-04
947	561344.5	4192662	9.04E-04	1.14E-03	8.92E-04	8.95E-04	8.92E-04	6.62E-04	4.01E-04	6.47E-04	8.86E-04	6.92E-04	6.94E-04	6.92E-04	4.61E-04	2.02E-04
948	561338.9	4192669	9.19E-04	1.16E-03	9.07E-04	9.10E-04	9.07E-04	6.73E-04	4.08E-04	6.57E-04	9.01E-04	7.03E-04	7.05E-04	7.03E-04	4.69E-04	2.05E-04
949	561311.2	4192708	9.81E-04	1.23E-03	9.68E-04	9.71E-04	9.68E-04	7.18E-04	4.35E-04	7.02E-04	9.61E-04	7.51E-04	7.53E-04	7.51E-04	5.01E-04	2.19E-04
950	561305.6	4192716	9.91E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	7.25E-04	4.40E-04	7.09E-04	9.71E-04	7.59E-04	7.61E-04	7.59E-04	5.06E-04	2.21E-04
951	561300.1	4192723	1.00E-03	1.26E-03	9.88E-04	9.90E-04	9.88E-04	7.32E-04	4.44E-04	7.16E-04	9.81E-04	7.66E-04	7.68E-04	7.66E-04	5.11E-04	2.24E-04
952	561294.6	4192731	1.01E-03	1.27E-03	9.96E-04	9.99E-04	9.96E-04	7.39E-04	4.48E-04	7.22E-04	9.89E-04	7.72E-04	7.75E-04	7.72E-04	5.15E-04	2.25E-04
953	561289	4192739	1.02E-03	1.28E-03	1.00E-03	1.01E-03	1.00E-03	7.44E-04	4.51E-04	7.27E-04	9.96E-04	7.78E-04	7.80E-04	7.78E-04	5.19E-04	2.27E-04
954	561283.5	4192747	1.02E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.48E-04	4.54E-04	7.31E-04	1.00E-03	7.83E-04	7.85E-04	7.83E-04	5.22E-04	2.28E-04
955	561277.9	4192754	1.03E-03	1.29E-03	1.01E-03	1.02E-03	1.01E-03	7.52E-04	4.56E-04	7.35E-04	1.01E-03	7.87E-04	7.89E-04	7.87E-04	5.24E-04	2.30E-04
956	561272.4	4192762	1.03E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.55E-04	4.58E-04	7.38E-04	1.01E-03	7.90E-04	7.92E-04	7.90E-04	5.27E-04	2.31E-04
957	561257.4	4192771	1.08E-03	1.36E-03	1.06E-03	1.07E-03	1.06E-03	7.89E-04	4.78E-04	7.71E-04	1.06E-03	8.25E-04	8.27E-04	8.25E-04	5.50E-04	2.41E-04
958	561248	4192773	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.20E-04	4.97E-04	8.01E-04	1.10E-03	8.57E-04	8.60E-04	8.57E-04	5.72E-04	2.50E-04
959	561238.5	4192774	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.52E-04	5.16E-04	8.32E-04	1.14E-03	8.90E-04	8.93E-04	8.90E-04	5.94E-04	2.60E-04
960	561229.1	4192775	1.21E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	8.83E-04	5.35E-04	8.63E-04	1.18E-03	9.23E-04	9.26E-04	9.23E-04	6.15E-04	2.69E-04
961	561219.7	4192777	1.25E-03	1.57E-03	1.23E-03	1.23E-03	1.23E-03	9.13E-04	5.54E-04	8.92E-04	1.22E-03	9.55E-04	9.57E-04	9.55E-04	6.37E-04	2.79E-04
962	561191.4	4192781	1.36E-03	1.71E-03	1.34E-03	1.35E-03	1.34E-03	9.96E-04	6.04E-04	9.73E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.95E-04	3.04E-04
963	561182	4192782	1.39E-03	1.75E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.18E-04	9.96E-04	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.11E-04	3.11E-04
964	561172.6	4192783	1.42E-03	1.79E-03	1.40E-03	1.41E-03	1.40E-03	1.04E-03	6.31E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.25E-04	3.18E-04
965	561163.1	4192785	1.45E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.41E-04	1.03E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.38E-04	3.23E-04
966	561153.7	4192786	1.47E-03	1.84E-03	1.45E-03	1.45E-03	1.45E-03	1.07E-03	6.50E-04	1.05E-03	1.44E-03	1.12E-03	1.13E-03	1.12E-03	7.48E-04	3.28E-04
967	561372.2	4192623	8.18E-04	1.03E-03	8.07E-04	8.10E-04	8.07E-04	5.99E-04	3.63E-04	5.85E-04	8.02E-04	6.26E-04	6.28E-04	6.26E-04	4.17E-04	1.83E-04
968	561374.3	4192613	8.18E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.98E-04	3.63E-04	5.85E-04	8.01E-04	6.26E-04	6.27E-04	6.26E-04	4.17E-04	1.83E-04

969	561376.5	4192604	8.17E-04	1.03E-03	8.06E-04	8.08E-04	8.06E-04	5.98E-04	3.62E-04	5.84E-04	8.00E-04	6.25E-04	6.27E-04	6.25E-04	4.17E-04	1.82E-04
970	561378.6	4192594	8.15E-04	1.03E-03	8.05E-04	8.07E-04	8.05E-04	5.97E-04	3.62E-04	5.83E-04	7.99E-04	6.24E-04	6.26E-04	6.24E-04	4.16E-04	1.82E-04
971	561380.7	4192584	8.14E-04	1.02E-03	8.03E-04	8.05E-04	8.03E-04	5.96E-04	3.61E-04	5.82E-04	7.98E-04	6.23E-04	6.25E-04	6.23E-04	4.15E-04	1.82E-04
972	561382.9	4192575	8.13E-04	1.02E-03	8.02E-04	8.04E-04	8.02E-04	5.95E-04	3.61E-04	5.81E-04	7.96E-04	6.22E-04	6.24E-04	6.22E-04	4.15E-04	1.82E-04
973	561385	4192565	8.11E-04	1.02E-03	8.01E-04	8.03E-04	8.01E-04	5.94E-04	3.60E-04	5.80E-04	7.95E-04	6.21E-04	6.23E-04	6.21E-04	4.14E-04	1.81E-04
974	561387.1	4192556	8.10E-04	1.02E-03	8.00E-04	8.02E-04	8.00E-04	5.93E-04	3.60E-04	5.80E-04	7.94E-04	6.20E-04	6.22E-04	6.20E-04	4.13E-04	1.81E-04
975	561389.3	4192546	8.09E-04	1.02E-03	7.99E-04	8.01E-04	7.99E-04	5.92E-04	3.59E-04	5.79E-04	7.93E-04	6.19E-04	6.21E-04	6.19E-04	4.13E-04	1.81E-04
976	561391.4	4192536	8.09E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.92E-04	3.59E-04	5.78E-04	7.93E-04	6.19E-04	6.21E-04	6.19E-04	4.13E-04	1.81E-04
977	561393.5	4192527	8.08E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.92E-04	3.59E-04	5.78E-04	7.92E-04	6.19E-04	6.20E-04	6.19E-04	4.12E-04	1.81E-04
978	561395.7	4192517	8.08E-04	1.02E-03	7.97E-04	8.00E-04	7.97E-04	5.91E-04	3.59E-04	5.78E-04	7.92E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.81E-04
979	561397.8	4192507	8.08E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.91E-04	3.59E-04	5.78E-04	7.92E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.81E-04
980	561399.9	4192498	8.08E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.91E-04	3.59E-04	5.78E-04	7.92E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.81E-04
981	561402.1	4192488	8.08E-04	1.02E-03	7.97E-04	8.00E-04	7.97E-04	5.91E-04	3.58E-04	5.78E-04	7.92E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.80E-04
982	561404.2	4192479	8.07E-04	1.01E-03	7.96E-04	7.98E-04	7.96E-04	5.90E-04	3.58E-04	5.77E-04	7.90E-04	6.17E-04	6.19E-04	6.17E-04	4.12E-04	1.80E-04
983	561406.3	4192469	8.05E-04	1.01E-03	7.94E-04	7.96E-04	7.94E-04	5.89E-04	3.57E-04	5.75E-04	7.88E-04	6.16E-04	6.17E-04	6.16E-04	4.11E-04	1.80E-04
984	561408.5	4192459	8.02E-04	1.01E-03	7.91E-04	7.93E-04	7.91E-04	5.87E-04	3.56E-04	5.73E-04	7.86E-04	6.13E-04	6.15E-04	6.13E-04	4.09E-04	1.79E-04
985	561376.5	4192633	7.89E-04	9.93E-04	7.79E-04	7.81E-04	7.79E-04	5.78E-04	3.50E-04	5.65E-04	7.74E-04	6.04E-04	6.06E-04	6.04E-04	4.03E-04	1.76E-04
986	561360	4192656	8.37E-04	1.05E-03	8.26E-04	8.29E-04	8.26E-04	6.13E-04	3.72E-04	5.99E-04	8.20E-04	6.41E-04	6.43E-04	6.41E-04	4.27E-04	1.87E-04
987	561354.5	4192663	8.52E-04	1.07E-03	8.41E-04	8.43E-04	8.41E-04	6.24E-04	3.78E-04	6.10E-04	8.35E-04	6.52E-04	6.54E-04	6.52E-04	4.35E-04	1.90E-04
988	561349	4192671	8.67E-04	1.09E-03	8.55E-04	8.58E-04	8.55E-04	6.34E-04	3.84E-04	6.20E-04	8.49E-04	6.63E-04	6.65E-04	6.63E-04	4.42E-04	1.94E-04
989	561343.5	4192679	8.80E-04	1.11E-03	8.68E-04	8.71E-04	8.68E-04	6.44E-04	3.90E-04	6.29E-04	8.62E-04	6.73E-04	6.75E-04	6.73E-04	4.49E-04	1.97E-04
990	561338	4192686	8.93E-04	1.12E-03	8.81E-04	8.83E-04	8.81E-04	6.53E-04	3.96E-04	6.38E-04	8.75E-04	6.83E-04	6.85E-04	6.83E-04	4.55E-04	1.99E-04
991	561332.5	4192694	9.04E-04	1.14E-03	8.92E-04	8.95E-04	8.92E-04	6.62E-04	4.01E-04	6.47E-04	8.86E-04	6.92E-04	6.94E-04	6.92E-04	4.61E-04	2.02E-04
992	561305	4192732	9.52E-04	1.20E-03	9.40E-04	9.43E-04	9.40E-04	6.97E-04	4.23E-04	6.81E-04	9.33E-04	7.29E-04	7.31E-04	7.29E-04	4.86E-04	2.13E-04
993	561299.5	4192740	9.60E-04	1.21E-03	9.48E-04	9.50E-04	9.48E-04	7.03E-04	4.26E-04	6.87E-04	9.41E-04	7.35E-04	7.37E-04	7.35E-04	4.90E-04	2.14E-04
994	561294	4192748	9.67E-04	1.22E-03	9.54E-04	9.57E-04	9.54E-04	7.08E-04	4.29E-04	6.91E-04	9.47E-04	7.40E-04	7.42E-04	7.40E-04	4.93E-04	2.16E-04
995	561288.5	4192755	9.73E-04	1.22E-03	9.60E-04	9.62E-04	9.60E-04	7.12E-04	4.32E-04	6.96E-04	9.53E-04	7.44E-04	7.46E-04	7.44E-04	4.96E-04	2.17E-04
996	561283	4192763	9.78E-04	1.23E-03	9.65E-04	9.67E-04	9.65E-04	7.15E-04	4.34E-04	6.99E-04	9.58E-04	7.48E-04	7.50E-04	7.48E-04	4.99E-04	2.18E-04
997	561277.5	4192771	9.82E-04	1.23E-03	9.69E-04	9.71E-04	9.69E-04	7.18E-04	4.36E-04	7.02E-04	9.62E-04	7.51E-04	7.53E-04	7.51E-04	5.01E-04	2.19E-04
998	561262.7	4192780	1.02E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.49E-04	4.54E-04	7.32E-04	1.00E-03	7.84E-04	7.86E-04	7.84E-04	5.22E-04	2.29E-04
999	561253.3	4192781	1.06E-03	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.78E-04	4.72E-04	7.61E-04	1.04E-03	8.14E-04	8.16E-04	8.14E-04	5.43E-04	2.38E-04
1000	561244	4192782	1.10E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	8.08E-04	4.90E-04	7.89E-04	1.08E-03	8.44E-04	8.47E-04	8.44E-04	5.63E-04	2.46E-04
1001	561234.6	4192784	1.14E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.36E-04	5.07E-04	8.17E-04	1.12E-03	8.75E-04	8.77E-04	8.75E-04	5.83E-04	2.55E-04
1002	561225.3	4192785	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.65E-04	5.24E-04	8.45E-04	1.16E-03	9.04E-04	9.07E-04	9.04E-04	6.03E-04	2.64E-04
1003	561215.9	4192786	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.92E-04	5.41E-04	8.72E-04	1.19E-03	9.33E-04	9.35E-04	9.33E-04	6.22E-04	2.72E-04
1004	561187.9	4192790	1.32E-03	1.66E-03	1.30E-03	1.31E-03	1.30E-03	9.65E-04	5.85E-04	9.43E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.73E-04	2.95E-04
1005	561178.6	4192792	1.35E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.85E-04	5.97E-04	9.63E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.87E-04	3.01E-04
1006	561382	4192625	7.73E-04	9.72E-04	7.63E-04	7.65E-04	7.63E-04	5.66E-04	3.43E-04	5.53E-04	7.57E-04	5.91E-04	5.93E-04	5.91E-04	3.94E-04	1.73E-04
1007	561384.1	4192615	7.72E-04	9.71E-04	7.62E-04	7.64E-04	7.62E-04	5.65E-04	3.43E-04	5.52E-04	7.56E-04	5.91E-04	5.92E-04	5.91E-04	3.94E-04	1.72E-04
1008	561386.2	4192606	7.71E-04	9.69E-04	7.61E-04	7.63E-04	7.61E-04	5.64E-04	3.42E-04	5.51E-04	7.55E-04	5.90E-04	5.92E-04	5.90E-04	3.93E-04	1.72E-04
1009	561388.4	4192596	7.69E-04	9.68E-04	7.59E-04	7.61E-04	7.59E-04	5.63E-04	3.41E-04	5.50E-04	7.54E-04	5.89E-04	5.90E-04	5.89E-04	3.93E-04	1.72E-04
1010	561390.5	4192587	7.68E-04	9.66E-04	7.58E-04	7.60E-04	7.58E-04	5.62E-04	3.41E-04	5.49E-04	7.52E-04	5.88E-04	5.89E-04	5.88E-04	3.92E-04	1.72E-04
1011	561392.6	4192577	7.66E-04	9.64E-04	7.56E-04	7.58E-04	7.56E-04	5.61E-04	3.40E-04	5.48E-04	7.51E-04	5.86E-04	5.88E-04	5.86E-04	3.91E-04	1.71E-04
1012	561394.8	4192567	7.65E-04	9.62E-04	7.55E-04	7.57E-04	7.55E-04	5.60E-04	3.39E-04	5.47E-04	7.49E-04	5.85E-04	5.87E-04	5.85E-04	3.90E-04	1.71E-04
1013	561396.9	4192558	7.63E-04	9.60E-04	7.53E-04	7.55E-04	7.53E-04	5.58E-04	3.39E-04	5.46E-04	7.48E-04	5.84E-04	5.86E-04	5.84E-04	3.89E-04	1.70E-04
1014	561399	4192548	7.62E-04	9.58E-04	7.52E-04	7.54E-04	7.52E-04	5.57E-04	3.38E-04	5.45E-04	7.46E-04	5.83E-04	5.84E-04	5.83E-04	3.89E-04	1.70E-04
1015	561401.2	4192538	7.61E-04	9.57E-04	7.51E-04	7.53E-04	7.51E-04	5.57E-04	3.37E-04	5.44E-04	7.45E-04	5.82E-04	5.84E-04	5.82E-04	3.88E-04	1.70E-04
1016	561403.3	4192529	7.60E-04	9.56E-04	7.50E-04	7.52E-04	7.50E-04	5.56E-04	3.37E-04	5.44E-04	7.45E-04	5.82E-04	5.83E-04	5.82E-04	3.88E-04	1.70E-04
1017	561405.4	4192519	7.59E-04	9.55E-04	7.49E-04	7.52E-04	7.49E-04	5.56E-04	3.37E-04	5.43E-04	7.44E-04	5.81E-04	5.83E-04	5.81E-04	3.87E-04	1.70E-04
1018	561407.6	4192510	7.60E-04	9.55E-04	7.50E-04	7.52E-04	7.50E-04	5.56E-04	3.37E-04	5.43E-04	7.44E-04	5.81E-04	5.83E-04	5.81E-04	3.88E-04	1.70E-04
1019	561409.7	4192500	7.60E-04	9.55E-04	7.50E-04	7.52E-04	7.50E-04	5.56E-04	3.37E-04	5.43E-04	7.44E-04	5.81E-04	5.83E-04	5.81E-04	3.88E-04	1.70E-04
1020	561411.8	4192490	7.60E-04	9.56E-04	7.50E-04	7.52E-04	7.50E-04	5.56E-04	3.37E-04	5.43E-04	7.45E-04	5.81E-04	5.83E-04	5.81E-04	3.88E-04	1.70E-04
1021	561414	4192481	7.59E-04	9.54E-04	7.49E-04	7.51E-04	7.49E-04	5.55E-04	3.37E-04	5.43E-04	7.44E-04	5.81E-04	5.82E-04	5.81E-04	3.87E-04	1.70E-04
1022	561416.1	4192471	7.57E-04	9.52E-04	7.47E-04	7.49E-04	7.47E-04	5.54E-04	3.36E-04	5.41E-04	7.42E-04	5.79E-04	5.81E-04	5.79E-04	3.86E-04	1.69E-04
1023	561418.2	4192462	7.54E-04	9.48E-04	7.44E-04	7.46E-04	7.44E-04	5.52E-04	3.35E-04	5.39E-04	7.39E-04	5.77E-04	5.79E-04	5.77E-04	3.85E-04	1.68E-04
1024	561386	4192635	7.47E-04	9.40E-04	7.37E-04	7.39E-04	7.37E-04	5.47E-04	3.32E-04	5.34E-04	7.32E-04	5.72E-04	5.73E-04	5.72E-04	3.81E-04	1.67E-04
1025	561368.8	4192659	7.94E-04	9.98E-04	7.84E-04	7.86E-04	7.84E-04	5.81E-04	3.52E-04	5.68E-04	7.78E-04	6.08E-04	6.09E-04	6.08E-04	4.05E-04	1.77E-04
1026	561363.1	4192667	8.08E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.92E-04	3.59E-04	5.78E-04	7.92E-04	6.19E-04	6.20E-04	6.19E-04	4.12E-04	1.81E-04
1027	561357.4	4192675	8.22E-04	1.03E-03	8.11E-04	8.14E-04	8.11E-04	6.02E-04	3.65E-04	5.88E-04	8.06E-04	6.29E-04	6.31E-04	6.29E-04	4.20E-04	1.84E-04
1028	561351.6	4192683	8.35E-04	1.05E-03	8.24E-04	8.27E-04	8.24E-04	6.11E-04	3.71E-04	5.97E-04	8.18E-04	6.39E-04	6.41E-04	6.39E-04	4.26E-04	1.87E-04
1029	561345.9	4192691	8.47E-04	1.07E-03	8.36E-04	8.39E-04	8.36E-04	6.20E-04	3.76E-04	6.06E-04	8.30E-04	6.49E-04	6.50E-04	6.49E-04	4.32E-04	1.89E-04
1030	561340.2	4192699	8.59E-04	1.08E-03	8.48E-04	8.50E-04	8.48E-04	6.29E-04	3.81E-04	6.14E-04	8.41E-04	6.57E-04	6.59E-04	6.57E-04	4.38E-04	1.92E-04
1031	561334.5	4192707	8.69E-04	1.09E-03	8.58E-04	8.60E-04	8.58E-04	6.36E-04	3.86E-04	6.22E-04	8.52E-04	6.65E-04	6.67E-04	6.65E-04	4.43E-04	1.94E-04
1032	561328.7	4192715	8.79E-04	1.11E-03	8.67E-04	8.70E-04	8.67E-04	6.43E-04	3.90E-04	6.28E-04	8.61E-04	6.73E-04	6.74E-04	6.73E-04	4.48E-04	1.96E-04
1033	561300.1	4192755	9.20E-04	1.16E-03	9.08E-04	9.10E-04	9.08E-04	6.73E-04	4.08E-04	6.58E-04	9.01E-04	7.04E-04	7.06E-04	7.04E-04	4.69E-04	2.05E-04
1034	561294.4	4192763	9.25E-04	1.16E-03	9.13E-04	9.16E-04	9.13E-04	6.77E-04	4.11E-04	6.62E-04	9.07E-04	7.08E-04	7.10E-04	7.08E-04	4.72E-04	2.07E-04
1035	561288.6	4192771	9.30E-04	1.17E-03	9.18E-04	9.21E-04	9.18E-04	6.81E-04	4.13E-04	6.65E-04	9.12E-04	7.12E-04	7.14E-04	7.12E-04	4.75E-04	2.08E-04
1036	561282.9	4192779	9.35E-04	1.18E-03	9.22E-04	9.25E-04	9.22E-04	6.84E-04	4.15E-04	6.68E-04	9.16E-04	7.15E-04	7.17E-04	7.15E-04	4.77E-04	2.09E-04
1037	561267.4	4192788	9.76E-04	1.23E-03	9.63E-04	9.66E-04	9.63E-04	7.14E-04	4.33E-04	6.98E-04	9.56E-04	7.47E-04	7.49E-04	7.47E-04	4.98E-04	2.18E-04
1038	561257.7	4192790	1.01E-03	1.28E-03	1.00E-03	1.00E-03	1.00E-03	7.43E-04	4.50E-04	7.26E-04	9.94E-04	7.77E-04	7.79E-04	7.77E-04	5.18E-04	2.27E-04
1039	561248	4192791	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.67E-04	7.53E-04	1.03E-03	8.06E-04	8.08E-04	8.06E-04	5.38E-04	2.35E-04
1040	561238.2	4192792	1.09E-03	1.37E-03	1.08E-03	1.08E-03	1.08E-03	7.99E-04	4.85E-04	7.81E-04	1.07E-03	8.36E-04	8.38E-04	8.36E-04	5.57E-04	2.44E-04
1041	561228.5	4192794	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.27E-04	5.01E-04	8.08E-04	1.11E-03	8.65E-04	8.67E-04	8.65E-04	5.76E-04	2.52E-04
1042	561218.8	4192795	1.17E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	8.53E-04	5.17E-04	8.34E-04	1.14E-03	8.92E-04	8.95E-04	8.92E-04	5.95E-04	2.60E-04
1043	561209.1	4192797	1.20E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	8.79E-04	5.33E-04	8.59E-04	1.18E-03	9.19E-04	9.21E-04	9.19E-04	6.13E-04	2.68E-04
1044	561391.7	4192627	7.31E-04	9.19E-04	7.21E-04	7.23E-04	7.21E-04	5.35E-04	3.24E-04	5.23E-04	7.16E-04	5.59E-04	5.61E-04	5.59E-04	3.73E-04	1.63E-04
1045	561393.9	4192618	7.30E-04	9.18E-04	7.20E-04	7.22E-04	7.20E-04	5.34E-04	3.24E-04	5.22E-04	7.15E-04	5.59E-04	5.60E-04	5.59E-04	3.72E-04	1.63E-04
1046	561396	4192608	7.29E-04	9.17E-04	7.19E-04	7.21E-04	7.19E-04	5.34E-04	3.23E-04	5.21E-04	7.14E-04	5.58E-04	5.59E-04	5.58E-04	3.72E-04	1.63E-04
1047	561398.1	4192598	7.27E-04	9.15E-04	7.18E-04	7.20E-04	7.18E-04	5.32E-04	3.23E-04	5.20E-04	7.13E-04	5.57E-04	5.58E-04	5.57E-04	3.71E-04	1.63E-04
1048	561400.3	4192589	7.26E-04	9.13E-04	7.16E-04	7.18E-04	7.16E-04	5.31E-04	3.22E-04	5.19E-04	7.11E-04	5.55E-04	5.57E-04	5.55E-04	3.70E-04	1.62E-04
1049	561402.4	4192579	7.24E-04	9.11E-04	7.15E-04	7.17E-04	7.15E-04	5.30E-04	3.21E-04	5.18E-04	7.10E-04	5.54E-04	5.56E-04	5.54E-04	3.69E-04	1.62E-04

1050	561404.5	4192570	7.22E-04	9.08E-04	7.13E-04	7.15E-04	7.13E-04	5.29E-04	3.20E-04	5.16E-04	7.08E-04	5.53E-04	5.54E-04	5.53E-04	3.68E-04	1.61E-04
1051	561406.7	4192560	7.20E-04	9.06E-04	7.11E-04	7.13E-04	7.11E-04	5.27E-04	3.20E-04	5.15E-04	7.06E-04	5.51E-04	5.53E-04	5.51E-04	3.67E-04	1.61E-04
1052	561408.8	4192550	7.18E-04	9.03E-04	7.09E-04	7.11E-04	7.09E-04	5.26E-04	3.19E-04	5.14E-04	7.04E-04	5.50E-04	5.51E-04	5.50E-04	3.66E-04	1.60E-04
1053	561410.9	4192541	7.17E-04	9.01E-04	7.07E-04	7.09E-04	7.07E-04	5.25E-04	3.18E-04	5.13E-04	7.02E-04	5.48E-04	5.50E-04	5.48E-04	3.66E-04	1.60E-04
1054	561413.1	4192531	7.16E-04	9.00E-04	7.07E-04	7.08E-04	7.07E-04	5.24E-04	3.18E-04	5.12E-04	7.01E-04	5.48E-04	5.49E-04	5.48E-04	3.65E-04	1.60E-04
1055	561415.2	4192521	7.15E-04	9.00E-04	7.06E-04	7.08E-04	7.06E-04	5.24E-04	3.17E-04	5.12E-04	7.01E-04	5.47E-04	5.49E-04	5.47E-04	3.65E-04	1.60E-04
1056	561417.3	4192512	7.15E-04	9.00E-04	7.06E-04	7.08E-04	7.06E-04	5.24E-04	3.17E-04	5.12E-04	7.01E-04	5.47E-04	5.49E-04	5.47E-04	3.65E-04	1.60E-04
1057	561419.5	4192502	7.16E-04	9.00E-04	7.06E-04	7.08E-04	7.06E-04	5.24E-04	3.17E-04	5.12E-04	7.01E-04	5.48E-04	5.49E-04	5.48E-04	3.65E-04	1.60E-04
1058	561421.6	4192493	7.15E-04	8.99E-04	7.06E-04	7.08E-04	7.06E-04	5.23E-04	3.17E-04	5.12E-04	7.01E-04	5.47E-04	5.49E-04	5.47E-04	3.65E-04	1.60E-04
1059	561423.7	4192483	7.14E-04	8.98E-04	7.05E-04	7.07E-04	7.05E-04	5.23E-04	3.17E-04	5.11E-04	7.00E-04	5.47E-04	5.48E-04	5.47E-04	3.64E-04	1.60E-04
1060	561425.9	4192473	7.13E-04	8.96E-04	7.03E-04	7.05E-04	7.03E-04	5.21E-04	3.16E-04	5.10E-04	6.98E-04	5.45E-04	5.47E-04	5.45E-04	3.64E-04	1.59E-04
1061	561428	4192464	7.10E-04	8.93E-04	7.01E-04	7.03E-04	7.01E-04	5.20E-04	3.15E-04	5.08E-04	6.96E-04	5.43E-04	5.45E-04	5.43E-04	3.62E-04	1.59E-04
1062	561395.8	4192637	7.07E-04	8.89E-04	6.98E-04	7.00E-04	6.98E-04	5.18E-04	3.14E-04	5.06E-04	6.93E-04	5.41E-04	5.43E-04	5.41E-04	3.61E-04	1.58E-04
1063	561378.8	4192661	7.51E-04	9.45E-04	7.41E-04	7.43E-04	7.41E-04	5.50E-04	3.33E-04	5.37E-04	7.36E-04	5.75E-04	5.77E-04	5.75E-04	3.83E-04	1.68E-04
1064	561373.1	4192669	7.65E-04	9.62E-04	7.55E-04	7.57E-04	7.55E-04	5.60E-04	3.39E-04	5.47E-04	7.49E-04	5.85E-04	5.87E-04	5.85E-04	3.90E-04	1.71E-04
1065	561367.5	4192677	7.78E-04	9.78E-04	7.67E-04	7.70E-04	7.67E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
1066	561361.8	4192685	7.90E-04	9.93E-04	7.80E-04	7.82E-04	7.80E-04	5.78E-04	3.50E-04	5.65E-04	7.74E-04	6.05E-04	6.06E-04	6.05E-04	4.03E-04	1.76E-04
1067	561356.1	4192693	8.01E-04	1.01E-03	7.91E-04	7.93E-04	7.91E-04	5.87E-04	3.56E-04	5.73E-04	7.85E-04	6.13E-04	6.15E-04	6.13E-04	4.09E-04	1.79E-04
1068	561350.4	4192701	8.12E-04	1.02E-03	8.02E-04	8.04E-04	8.02E-04	5.94E-04	3.60E-04	5.81E-04	7.96E-04	6.21E-04	6.23E-04	6.21E-04	4.14E-04	1.81E-04
1069	561344.8	4192708	8.22E-04	1.03E-03	8.11E-04	8.14E-04	8.11E-04	6.02E-04	3.65E-04	5.88E-04	8.06E-04	6.29E-04	6.31E-04	6.29E-04	4.19E-04	1.84E-04
1070	561339.1	4192716	8.31E-04	1.05E-03	8.21E-04	8.23E-04	8.21E-04	6.08E-04	3.69E-04	5.95E-04	8.15E-04	6.36E-04	6.38E-04	6.36E-04	4.24E-04	1.86E-04
1071	561333.4	4192724	8.40E-04	1.06E-03	8.29E-04	8.31E-04	8.29E-04	6.15E-04	3.73E-04	6.01E-04	8.23E-04	6.43E-04	6.45E-04	6.43E-04	4.29E-04	1.88E-04
1072	561327.7	4192732	8.48E-04	1.07E-03	8.37E-04	8.40E-04	8.37E-04	6.21E-04	3.76E-04	6.07E-04	8.31E-04	6.49E-04	6.51E-04	6.49E-04	4.33E-04	1.90E-04
1073	561322.1	4192740	8.57E-04	1.08E-03	8.46E-04	8.48E-04	8.46E-04	6.27E-04	3.80E-04	6.13E-04	8.39E-04	6.56E-04	6.57E-04	6.56E-04	4.37E-04	1.91E-04
1074	561293.7	4192780	8.87E-04	1.12E-03	8.76E-04	8.78E-04	8.76E-04	6.49E-04	3.94E-04	6.35E-04	8.69E-04	6.79E-04	6.81E-04	6.79E-04	4.53E-04	1.98E-04
1075	561288	4192788	8.91E-04	1.12E-03	8.80E-04	8.82E-04	8.80E-04	6.52E-04	3.95E-04	6.37E-04	8.73E-04	6.82E-04	6.84E-04	6.82E-04	4.55E-04	1.99E-04
1076	561272.7	4192797	9.30E-04	1.17E-03	9.18E-04	9.20E-04	9.18E-04	6.81E-04	4.13E-04	6.65E-04	9.11E-04	7.12E-04	7.14E-04	7.12E-04	4.75E-04	2.08E-04
1077	561263.1	4192798	9.66E-04	1.21E-03	9.53E-04	9.56E-04	9.53E-04	7.07E-04	4.29E-04	6.91E-04	9.46E-04	7.39E-04	7.41E-04	7.39E-04	4.93E-04	2.16E-04
1078	561253.4	4192800	1.00E-03	1.26E-03	9.89E-04	9.91E-04	9.89E-04	7.33E-04	4.44E-04	7.16E-04	9.82E-04	7.67E-04	7.69E-04	7.67E-04	5.11E-04	2.24E-04
1079	561243.8	4192801	1.04E-03	1.30E-03	1.02E-03	1.03E-03	1.02E-03	7.59E-04	4.60E-04	7.42E-04	1.02E-03	7.94E-04	7.96E-04	7.94E-04	5.29E-04	2.32E-04
1080	561234.2	4192802	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.85E-04	4.76E-04	7.67E-04	1.05E-03	8.21E-04	8.23E-04	8.21E-04	5.47E-04	2.40E-04
1081	561224.5	4192804	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.10E-04	4.91E-04	7.92E-04	1.08E-03	8.47E-04	8.49E-04	8.47E-04	5.65E-04	2.47E-04
1082	561401.5	4192629	6.92E-04	8.71E-04	6.83E-04	6.85E-04	6.83E-04	5.07E-04	3.07E-04	4.95E-04	6.78E-04	5.30E-04	5.31E-04	5.30E-04	3.53E-04	1.55E-04
1083	561403.6	4192620	6.91E-04	8.70E-04	6.82E-04	6.84E-04	6.82E-04	5.06E-04	3.07E-04	4.94E-04	6.78E-04	5.29E-04	5.31E-04	5.29E-04	3.53E-04	1.54E-04
1084	561405.8	4192610	6.91E-04	8.68E-04	6.81E-04	6.83E-04	6.81E-04	5.05E-04	3.06E-04	4.94E-04	6.77E-04	5.28E-04	5.30E-04	5.28E-04	3.52E-04	1.54E-04
1085	561407.9	4192601	6.89E-04	8.66E-04	6.80E-04	6.82E-04	6.80E-04	5.04E-04	3.06E-04	4.93E-04	6.75E-04	5.27E-04	5.29E-04	5.27E-04	3.52E-04	1.54E-04
1086	561410	4192591	6.87E-04	8.64E-04	6.78E-04	6.80E-04	6.78E-04	5.03E-04	3.05E-04	4.91E-04	6.73E-04	5.26E-04	5.27E-04	5.26E-04	3.51E-04	1.54E-04
1087	561412.2	4192581	6.85E-04	8.62E-04	6.76E-04	6.78E-04	6.76E-04	5.02E-04	3.04E-04	4.90E-04	6.72E-04	5.25E-04	5.26E-04	5.25E-04	3.50E-04	1.53E-04
1088	561414.3	4192572	6.83E-04	8.59E-04	6.74E-04	6.76E-04	6.74E-04	5.00E-04	3.03E-04	4.89E-04	6.70E-04	5.23E-04	5.24E-04	5.23E-04	3.49E-04	1.53E-04
1089	561416.4	4192562	6.81E-04	8.56E-04	6.72E-04	6.74E-04	6.72E-04	4.98E-04	3.02E-04	4.87E-04	6.67E-04	5.21E-04	5.23E-04	5.21E-04	3.47E-04	1.52E-04
1090	561418.6	4192552	6.79E-04	8.54E-04	6.70E-04	6.72E-04	6.70E-04	4.97E-04	3.01E-04	4.85E-04	6.65E-04	5.19E-04	5.21E-04	5.19E-04	3.46E-04	1.52E-04
1091	561420.7	4192543	6.77E-04	8.52E-04	6.68E-04	6.70E-04	6.68E-04	4.96E-04	3.01E-04	4.84E-04	6.64E-04	5.18E-04	5.20E-04	5.18E-04	3.46E-04	1.51E-04
1092	561422.8	4192533	6.76E-04	8.51E-04	6.68E-04	6.69E-04	6.68E-04	4.95E-04	3.00E-04	4.84E-04	6.63E-04	5.18E-04	5.19E-04	5.18E-04	3.45E-04	1.51E-04
1093	561425	4192524	6.76E-04	8.50E-04	6.67E-04	6.69E-04	6.67E-04	4.95E-04	3.00E-04	4.83E-04	6.62E-04	5.17E-04	5.19E-04	5.17E-04	3.45E-04	1.51E-04
1094	561427.1	4192514	6.75E-04	8.49E-04	6.66E-04	6.68E-04	6.66E-04	4.94E-04	3.00E-04	4.83E-04	6.62E-04	5.17E-04	5.18E-04	5.17E-04	3.45E-04	1.51E-04
1095	561429.2	4192504	6.75E-04	8.49E-04	6.66E-04	6.68E-04	6.66E-04	4.94E-04	2.99E-04	4.83E-04	6.61E-04	5.17E-04	5.18E-04	5.17E-04	3.44E-04	1.51E-04
1096	561431.4	4192495	6.75E-04	8.48E-04	6.66E-04	6.68E-04	6.66E-04	4.94E-04	2.99E-04	4.82E-04	6.61E-04	5.16E-04	5.18E-04	5.16E-04	3.44E-04	1.51E-04
1097	561433.5	4192485	6.74E-04	8.47E-04	6.65E-04	6.67E-04	6.65E-04	4.93E-04	2.99E-04	4.82E-04	6.60E-04	5.15E-04	5.17E-04	5.15E-04	3.44E-04	1.50E-04
1098	561435.6	4192475	6.72E-04	8.45E-04	6.63E-04	6.65E-04	6.63E-04	4.92E-04	2.98E-04	4.80E-04	6.58E-04	5.14E-04	5.16E-04	5.14E-04	3.43E-04	1.50E-04
1099	561437.7	4192466	6.70E-04	8.42E-04	6.61E-04	6.63E-04	6.61E-04	4.90E-04	2.97E-04	4.79E-04	6.56E-04	5.13E-04	5.14E-04	5.13E-04	3.42E-04	1.50E-04
1100	561405.6	4192639	6.70E-04	8.43E-04	6.62E-04	6.63E-04	6.62E-04	4.91E-04	2.97E-04	4.79E-04	6.57E-04	5.13E-04	5.14E-04	5.13E-04	3.42E-04	1.50E-04
1101	561388.8	4192663	7.12E-04	8.95E-04	7.02E-04	7.04E-04	7.02E-04	5.21E-04	3.16E-04	5.09E-04	6.97E-04	5.45E-04	5.46E-04	5.45E-04	3.63E-04	1.59E-04
1102	561383.1	4192671	7.25E-04	9.11E-04	7.15E-04	7.17E-04	7.15E-04	5.30E-04	3.22E-04	5.18E-04	7.10E-04	5.55E-04	5.56E-04	5.55E-04	3.70E-04	1.62E-04
1103	561377.5	4192679	7.37E-04	9.27E-04	7.27E-04	7.29E-04	7.27E-04	5.39E-04	3.27E-04	5.27E-04	7.22E-04	5.64E-04	5.65E-04	5.64E-04	3.76E-04	1.65E-04
1104	561371.9	4192686	7.48E-04	9.41E-04	7.38E-04	7.41E-04	7.38E-04	5.48E-04	3.32E-04	5.35E-04	7.33E-04	5.73E-04	5.74E-04	5.73E-04	3.82E-04	1.67E-04
1105	561366.3	4192694	7.59E-04	9.55E-04	7.49E-04	7.51E-04	7.49E-04	5.56E-04	3.37E-04	5.43E-04	7.44E-04	5.81E-04	5.83E-04	5.81E-04	3.87E-04	1.70E-04
1106	561360.7	4192702	7.69E-04	9.67E-04	7.59E-04	7.61E-04	7.59E-04	5.63E-04	3.41E-04	5.50E-04	7.54E-04	5.89E-04	5.90E-04	5.89E-04	3.93E-04	1.72E-04
1107	561355	4192710	7.79E-04	9.79E-04	7.69E-04	7.71E-04	7.69E-04	5.70E-04	3.46E-04	5.57E-04	7.63E-04	5.96E-04	5.98E-04	5.96E-04	3.97E-04	1.74E-04
1108	561349.4	4192718	7.88E-04	9.90E-04	7.77E-04	7.79E-04	7.77E-04	5.76E-04	3.49E-04	5.63E-04	7.72E-04	6.03E-04	6.04E-04	6.03E-04	4.02E-04	1.76E-04
1109	561343.8	4192726	7.96E-04	1.00E-03	7.85E-04	7.88E-04	7.85E-04	5.83E-04	3.53E-04	5.69E-04	7.80E-04	6.09E-04	6.11E-04	6.09E-04	4.06E-04	1.78E-04
1110	561338.2	4192733	8.04E-04	1.01E-03	7.93E-04	7.96E-04	7.93E-04	5.88E-04	3.57E-04	5.75E-04	7.88E-04	6.15E-04	6.17E-04	6.15E-04	4.10E-04	1.80E-04
1111	561332.5	4192741	8.12E-04	1.02E-03	8.01E-04	8.03E-04	8.01E-04	5.94E-04	3.60E-04	5.80E-04	7.95E-04	6.21E-04	6.23E-04	6.21E-04	4.14E-04	1.81E-04
1112	561326.9	4192749	8.19E-04	1.03E-03	8.09E-04	8.11E-04	8.09E-04	6.00E-04	3.63E-04	5.86E-04	8.03E-04	6.27E-04	6.29E-04	6.27E-04	4.18E-04	1.83E-04
1113	561321.3	4192757	8.26E-04	1.04E-03	8.16E-04	8.18E-04	8.16E-04	6.05E-04	3.67E-04	5.91E-04	8.10E-04	6.32E-04	6.34E-04	6.32E-04	4.22E-04	1.85E-04
1114	561315.7	4192765	8.32E-04	1.05E-03	8.21E-04	8.23E-04	8.21E-04	6.09E-04	3.69E-04	5.95E-04	8.15E-04	6.36E-04	6.38E-04	6.36E-04	4.24E-04	1.86E-04
1115	561278	4192805	8.87E-04	1.12E-03	8.76E-04	8.78E-04	8.76E-04	6.49E-04	3.94E-04	6.34E-04	8.69E-04	6.79E-04	6.81E-04	6.79E-04	4.53E-04	1.98E-04
1116	561268.4	4192807	9.20E-04	1.16E-03	9.08E-04	9.11E-04	9.08E-04	6.74E-04	4.08E-04	6.58E-04	9.02E-04	7.04E-04	7.06E-04	7.04E-04	4.70E-04	2.06E-04
1117	561258.9	4192808	9.54E-04	1.20E-03	9.42E-04	9.44E-04	9.42E-04	6.98E-04	4.23E-04	6.82E-04	9.35E-04	7.30E-04	7.32E-04	7.30E-04	4.87E-04	2.13E-04
1118	561249.3	4192809	9.87E-04	1.24E-03	9.75E-04	9.77E-04	9.75E-04	7.23E-04	4.38E-04	7.06E-04	9.68E-04	7.56E-04	7.58E-04	7.56E-04	5.04E-04	2.21E-04
1119	561239.8	4192811	1.02E-03	1.28E-03	1.01E-03	1.01E-03	1.01E-03	7.47E-04	4.53E-04	7.30E-04	1.00E-03	7.81E-04	7.83E-04	7.81E-04	5.21E-04	2.28E-04
1120	561411.3	4192632	6.57E-04	8.26E-04	6.48E-04	6.50E-04	6.48E-04	4.81E-04	2.91E-04	4.70E-04	6.43E-04	5.02E-04	5.04E-04	5.02E-04	3.35E-04	1.47E-04
1121	561413.4	4192622	6.56E-04	8.25E-04	6.47E-04	6.49E-04	6.47E-04	4.80E-04	2.91E-04	4.69E-04	6.43E-04	5.02E-04	5.03E-04	5.02E-04	3.35E-04	1.47E-04
1122	561415.5	4192612	6.55E-04	8.24E-04	6.46E-04	6.48E-04	6.46E-04	4.79E-04	2.91E-04	4.68E-04	6.42E-04	5.01E-04	5.03E-04	5.01E-04	3.34E-04	1.46E-04
1123	561417.7	4192603	6.53E-04	8.22E-04	6.45E-04	6.47E-04	6.45E-04	4.78E-04	2.90E-04	4.67E-04	6.40E-04	5.00E-04	5.01E-04	5.00E-04	3.33E-04	1.46E-04
1124	561419.8	4192593	6.51E-04	8.19E-04	6.43E-04	6.45E-04	6.43E-04	4.77E-04	2.89E-04	4.66E-04	6.38E-04	4.98E-04	5.00E-04	4.98E-04	3.32E-04	1.45E-04
1125	561421.9	4192583	6.49E-04	8.17E-04	6.41E-04	6.43E-04	6.41E-04	4.75E-04	2.88E-04	4.64E-04	6.36E-04	4.97E-04	4.98E-04	4.97E-04	3.31E-04	1.45E-04
1126	561424.1	4192574	6.47E-04	8.14E-04	6.39E-04	6.40E-04	6.39E-04	4.74E-04	2.87E-04	4.63E-04	6.34E-04	4.95E-04	4.97E-04	4.95E-04	3.30E-04	1.45E-04
1127	561426.2	4192564	6.45E-04	8.11E-04	6.36E-04	6.38E-04	6.36E-04	4.72E-04	2.86E-04	4.61E-04	6.32E-04	4.94E-04	4.95E-04	4.94E-04	3.29E-04	1.44E-04
1128	561428.3	4192555	6.43E-04	8.09E-04	6.35E-04	6.36E-04	6.35E-04	4.71E-04	2.85E-04	4.60E-04	6.30E-04	4.92E-04	4.93E-04	4.92E-04	3.28E-04	1.44E-04
1129	561430.5	4192545	6.41E-04	8.07E-04	6.33E-04	6.35E-04	6.33E-04	4.69E-04	2.85E-04	4.59E-04	6.28E-04	4.91E-04	4.92E-04	4.91E-04	3.27E-04	1.43E-04
1130	561432.6	4192535	6.40E-04	8.05E-04	6.32E-04	6.34E-04	6.32E-04	4.69E-04	2.84E-04	4.58E-04	6.27E-04	4.90E-04	4.91E-04	4.90E-04	3.27E-04	1.43E-04

1131	561434.7	4192526	6.39E-04	8.04E-04	6.31E-04	6.33E-04	6.31E-04	4.68E-04	2.84E-04	4.57E-04	6.27E-04	4.89E-04	4.91E-04	4.89E-04	3.26E-04	1.43E-04
1132	561436.9	4192516	6.39E-04	8.03E-04	6.30E-04	6.32E-04	6.30E-04	4.67E-04	2.83E-04	4.57E-04	6.26E-04	4.89E-04	4.90E-04	4.89E-04	3.26E-04	1.43E-04
1133	561439	4192506	6.38E-04	8.02E-04	6.30E-04	6.31E-04	6.30E-04	4.67E-04	2.83E-04	4.56E-04	6.25E-04	4.88E-04	4.90E-04	4.88E-04	3.26E-04	1.43E-04
1134	561441.1	4192497	6.37E-04	8.01E-04	6.29E-04	6.31E-04	6.29E-04	4.66E-04	2.83E-04	4.56E-04	6.24E-04	4.88E-04	4.89E-04	4.88E-04	3.25E-04	1.42E-04
1135	561443.2	4192487	6.36E-04	8.00E-04	6.28E-04	6.29E-04	6.28E-04	4.65E-04	2.82E-04	4.55E-04	6.23E-04	4.87E-04	4.88E-04	4.87E-04	3.25E-04	1.42E-04
1136	561445.4	4192478	6.35E-04	7.98E-04	6.26E-04	6.28E-04	6.26E-04	4.64E-04	2.82E-04	4.54E-04	6.22E-04	4.86E-04	4.87E-04	4.86E-04	3.24E-04	1.42E-04
1137	561447.5	4192468	6.33E-04	7.96E-04	6.25E-04	6.26E-04	6.25E-04	4.63E-04	2.81E-04	4.53E-04	6.20E-04	4.84E-04	4.86E-04	4.84E-04	3.23E-04	1.41E-04
1138	561415.5	4192641	6.37E-04	8.01E-04	6.28E-04	6.30E-04	6.28E-04	4.66E-04	2.82E-04	4.55E-04	6.24E-04	4.87E-04	4.88E-04	4.87E-04	3.25E-04	1.42E-04
1139	561398.7	4192665	6.75E-04	8.49E-04	6.66E-04	6.68E-04	6.66E-04	4.94E-04	2.99E-04	4.83E-04	6.61E-04	5.16E-04	5.18E-04	5.16E-04	3.44E-04	1.51E-04
1140	561393.1	4192673	6.87E-04	8.64E-04	6.78E-04	6.80E-04	6.78E-04	5.03E-04	3.05E-04	4.91E-04	6.73E-04	5.26E-04	5.27E-04	5.26E-04	3.51E-04	1.53E-04
1141	561387.6	4192680	6.99E-04	8.79E-04	6.90E-04	6.92E-04	6.90E-04	5.11E-04	3.10E-04	5.00E-04	6.85E-04	5.35E-04	5.36E-04	5.35E-04	3.57E-04	1.56E-04
1142	561382	4192688	7.10E-04	8.93E-04	7.01E-04	7.03E-04	7.01E-04	5.20E-04	3.15E-04	5.08E-04	6.96E-04	5.43E-04	5.45E-04	5.43E-04	3.62E-04	1.59E-04
1143	561376.4	4192696	7.20E-04	9.06E-04	7.11E-04	7.13E-04	7.11E-04	5.27E-04	3.19E-04	5.15E-04	7.06E-04	5.51E-04	5.53E-04	5.51E-04	3.67E-04	1.61E-04
1144	561370.8	4192704	7.30E-04	9.18E-04	7.20E-04	7.22E-04	7.20E-04	5.34E-04	3.24E-04	5.22E-04	7.15E-04	5.58E-04	5.60E-04	5.58E-04	3.72E-04	1.63E-04
1145	561365.2	4192711	7.39E-04	9.29E-04	7.29E-04	7.31E-04	7.29E-04	5.41E-04	3.28E-04	5.28E-04	7.24E-04	5.65E-04	5.67E-04	5.65E-04	3.77E-04	1.65E-04
1146	561359.7	4192719	7.47E-04	9.40E-04	7.37E-04	7.40E-04	7.37E-04	5.47E-04	3.32E-04	5.34E-04	7.32E-04	5.72E-04	5.73E-04	5.72E-04	3.81E-04	1.67E-04
1147	561354.1	4192727	7.55E-04	9.50E-04	7.45E-04	7.47E-04	7.45E-04	5.53E-04	3.35E-04	5.40E-04	7.40E-04	5.78E-04	5.80E-04	5.78E-04	3.85E-04	1.69E-04
1148	561348.5	4192735	7.63E-04	9.59E-04	7.53E-04	7.55E-04	7.53E-04	5.58E-04	3.38E-04	5.45E-04	7.47E-04	5.84E-04	5.85E-04	5.84E-04	3.89E-04	1.70E-04
1149	561342.9	4192743	7.70E-04	9.68E-04	7.60E-04	7.62E-04	7.60E-04	5.63E-04	3.42E-04	5.51E-04	7.54E-04	5.89E-04	5.91E-04	5.89E-04	3.93E-04	1.72E-04
1150	561337.3	4192750	7.77E-04	9.77E-04	7.67E-04	7.69E-04	7.67E-04	5.69E-04	3.45E-04	5.56E-04	7.61E-04	5.95E-04	5.96E-04	5.95E-04	3.96E-04	1.74E-04
1151	561331.8	4192758	7.84E-04	9.86E-04	7.73E-04	7.76E-04	7.73E-04	5.74E-04	3.48E-04	5.60E-04	7.68E-04	6.00E-04	6.01E-04	6.00E-04	4.00E-04	1.75E-04
1152	561326.2	4192766	7.89E-04	9.93E-04	7.79E-04	7.81E-04	7.79E-04	5.78E-04	3.50E-04	5.64E-04	7.73E-04	6.04E-04	6.06E-04	6.04E-04	4.03E-04	1.76E-04
1153	561320.6	4192774	7.94E-04	9.99E-04	7.84E-04	7.86E-04	7.84E-04	5.81E-04	3.52E-04	5.68E-04	7.78E-04	6.08E-04	6.10E-04	6.08E-04	4.05E-04	1.77E-04
1154	561315	4192782	7.99E-04	1.01E-03	7.89E-04	7.91E-04	7.89E-04	5.85E-04	3.55E-04	5.72E-04	7.83E-04	6.12E-04	6.13E-04	6.12E-04	4.08E-04	1.79E-04
1155	561309.5	4192789	8.04E-04	1.01E-03	7.94E-04	7.96E-04	7.94E-04	5.89E-04	3.57E-04	5.75E-04	7.88E-04	6.15E-04	6.17E-04	6.15E-04	4.10E-04	1.80E-04
1156	561283.2	4192814	8.47E-04	1.07E-03	8.36E-04	8.39E-04	8.36E-04	6.20E-04	3.76E-04	6.06E-04	8.30E-04	6.48E-04	6.50E-04	6.48E-04	4.32E-04	1.89E-04
1157	561273.8	4192815	8.78E-04	1.10E-03	8.67E-04	8.69E-04	8.67E-04	6.43E-04	3.90E-04	6.28E-04	8.61E-04	6.72E-04	6.74E-04	6.72E-04	4.48E-04	1.96E-04
1158	561264.3	4192817	9.10E-04	1.14E-03	8.98E-04	9.00E-04	8.98E-04	6.66E-04	4.04E-04	6.51E-04	8.91E-04	6.96E-04	6.98E-04	6.96E-04	4.64E-04	2.03E-04
1159	561421	4192634	6.24E-04	7.85E-04	6.16E-04	6.18E-04	6.16E-04	4.57E-04	2.77E-04	4.46E-04	6.11E-04	4.78E-04	4.79E-04	4.78E-04	3.18E-04	1.39E-04
1160	561423.2	4192624	6.23E-04	7.84E-04	6.15E-04	6.17E-04	6.15E-04	4.56E-04	2.76E-04	4.46E-04	6.11E-04	4.77E-04	4.78E-04	4.77E-04	3.18E-04	1.39E-04
1161	561425.3	4192614	6.22E-04	7.82E-04	6.14E-04	6.15E-04	6.14E-04	4.55E-04	2.76E-04	4.45E-04	6.09E-04	4.76E-04	4.77E-04	4.76E-04	3.17E-04	1.39E-04
1162	561427.4	4192605	6.20E-04	7.80E-04	6.12E-04	6.14E-04	6.12E-04	4.54E-04	2.75E-04	4.43E-04	6.08E-04	4.75E-04	4.76E-04	4.75E-04	3.16E-04	1.39E-04
1163	561429.6	4192595	6.18E-04	7.77E-04	6.10E-04	6.12E-04	6.10E-04	4.52E-04	2.74E-04	4.42E-04	6.06E-04	4.73E-04	4.74E-04	4.73E-04	3.15E-04	1.38E-04
1164	561431.7	4192586	6.16E-04	7.74E-04	6.08E-04	6.09E-04	6.08E-04	4.51E-04	2.73E-04	4.40E-04	6.03E-04	4.71E-04	4.73E-04	4.71E-04	3.14E-04	1.38E-04
1165	561433.8	4192576	6.14E-04	7.72E-04	6.06E-04	6.07E-04	6.06E-04	4.49E-04	2.72E-04	4.39E-04	6.01E-04	4.70E-04	4.71E-04	4.70E-04	3.13E-04	1.37E-04
1166	561436	4192566	6.12E-04	7.69E-04	6.04E-04	6.05E-04	6.04E-04	4.48E-04	2.71E-04	4.37E-04	5.99E-04	4.68E-04	4.69E-04	4.68E-04	3.12E-04	1.37E-04
1167	561438.1	4192557	6.10E-04	7.67E-04	6.02E-04	6.04E-04	6.02E-04	4.46E-04	2.71E-04	4.36E-04	5.98E-04	4.67E-04	4.68E-04	4.67E-04	3.11E-04	1.36E-04
1168	561440.2	4192547	6.08E-04	7.65E-04	6.00E-04	6.02E-04	6.00E-04	4.45E-04	2.70E-04	4.35E-04	5.96E-04	4.66E-04	4.67E-04	4.66E-04	3.10E-04	1.36E-04
1169	561442.4	4192538	6.07E-04	7.63E-04	5.99E-04	6.01E-04	5.99E-04	4.44E-04	2.69E-04	4.34E-04	5.95E-04	4.65E-04	4.66E-04	4.65E-04	3.10E-04	1.36E-04
1170	561444.5	4192528	6.06E-04	7.62E-04	5.98E-04	6.00E-04	5.98E-04	4.44E-04	2.69E-04	4.33E-04	5.94E-04	4.64E-04	4.65E-04	4.64E-04	3.09E-04	1.35E-04
1171	561446.6	4192518	6.05E-04	7.61E-04	5.97E-04	5.99E-04	5.97E-04	4.43E-04	2.68E-04	4.33E-04	5.93E-04	4.63E-04	4.64E-04	4.63E-04	3.09E-04	1.35E-04
1172	561448.7	4192509	6.04E-04	7.60E-04	5.96E-04	5.98E-04	5.96E-04	4.42E-04	2.68E-04	4.32E-04	5.92E-04	4.62E-04	4.64E-04	4.62E-04	3.08E-04	1.35E-04
1173	561450.9	4192499	6.03E-04	7.59E-04	5.95E-04	5.97E-04	5.95E-04	4.42E-04	2.68E-04	4.31E-04	5.91E-04	4.62E-04	4.63E-04	4.62E-04	3.08E-04	1.35E-04
1174	561453	4192489	6.02E-04	7.57E-04	5.94E-04	5.96E-04	5.94E-04	4.41E-04	2.67E-04	4.31E-04	5.90E-04	4.61E-04	4.62E-04	4.61E-04	3.07E-04	1.35E-04
1175	561455.1	4192480	6.01E-04	7.56E-04	5.93E-04	5.95E-04	5.93E-04	4.40E-04	2.67E-04	4.30E-04	5.89E-04	4.60E-04	4.61E-04	4.60E-04	3.07E-04	1.34E-04
1176	561457.3	4192470	5.99E-04	7.54E-04	5.92E-04	5.93E-04	5.92E-04	4.39E-04	2.66E-04	4.29E-04	5.87E-04	4.59E-04	4.60E-04	4.59E-04	3.06E-04	1.34E-04
1177	561425.3	4192644	6.06E-04	7.62E-04	5.98E-04	6.00E-04	5.98E-04	4.44E-04	2.69E-04	4.33E-04	5.94E-04	4.64E-04	4.65E-04	4.64E-04	3.09E-04	1.35E-04
1178	561408.6	4192667	6.41E-04	8.06E-04	6.33E-04	6.34E-04	6.33E-04	4.69E-04	2.84E-04	4.58E-04	6.28E-04	4.91E-04	4.92E-04	4.91E-04	3.27E-04	1.43E-04
1179	561403.1	4192674	6.52E-04	8.20E-04	6.44E-04	6.46E-04	6.44E-04	4.77E-04	2.89E-04	4.67E-04	6.39E-04	4.99E-04	5.01E-04	4.99E-04	3.33E-04	1.46E-04
1180	561397.6	4192682	6.63E-04	8.34E-04	6.55E-04	6.57E-04	6.55E-04	4.86E-04	2.94E-04	4.74E-04	6.50E-04	5.08E-04	5.09E-04	5.08E-04	3.38E-04	1.48E-04
1181	561392	4192690	6.74E-04	8.48E-04	6.65E-04	6.67E-04	6.65E-04	4.93E-04	2.99E-04	4.82E-04	6.60E-04	5.16E-04	5.17E-04	5.16E-04	3.44E-04	1.51E-04
1182	561386.5	4192698	6.84E-04	8.60E-04	6.75E-04	6.77E-04	6.75E-04	5.01E-04	3.03E-04	4.89E-04	6.70E-04	5.23E-04	5.25E-04	5.23E-04	3.49E-04	1.53E-04
1183	561381	4192705	6.93E-04	8.72E-04	6.84E-04	6.86E-04	6.84E-04	5.07E-04	3.08E-04	4.96E-04	6.79E-04	5.31E-04	5.32E-04	5.31E-04	3.54E-04	1.55E-04
1184	561375.4	4192713	7.02E-04	8.83E-04	6.93E-04	6.95E-04	6.93E-04	5.14E-04	3.11E-04	5.02E-04	6.88E-04	5.37E-04	5.39E-04	5.37E-04	3.58E-04	1.57E-04
1185	561369.9	4192721	7.10E-04	8.93E-04	7.01E-04	7.03E-04	7.01E-04	5.20E-04	3.15E-04	5.08E-04	6.96E-04	5.43E-04	5.45E-04	5.43E-04	3.62E-04	1.59E-04
1186	561364.3	4192729	7.17E-04	9.02E-04	7.08E-04	7.10E-04	7.08E-04	5.25E-04	3.18E-04	5.13E-04	7.03E-04	5.49E-04	5.51E-04	5.49E-04	3.66E-04	1.60E-04
1187	561358.8	4192736	7.25E-04	9.11E-04	7.15E-04	7.17E-04	7.15E-04	5.30E-04	3.21E-04	5.18E-04	7.10E-04	5.54E-04	5.56E-04	5.54E-04	3.70E-04	1.62E-04
1188	561353.3	4192744	7.31E-04	9.19E-04	7.22E-04	7.24E-04	7.22E-04	5.35E-04	3.24E-04	5.23E-04	7.16E-04	5.60E-04	5.61E-04	5.60E-04	3.73E-04	1.63E-04
1189	561347.7	4192752	7.38E-04	9.28E-04	7.28E-04	7.30E-04	7.28E-04	5.40E-04	3.27E-04	5.28E-04	7.23E-04	5.65E-04	5.66E-04	5.65E-04	3.76E-04	1.65E-04
1190	561342.2	4192759	7.44E-04	9.36E-04	7.34E-04	7.36E-04	7.34E-04	5.45E-04	3.30E-04	5.32E-04	7.29E-04	5.69E-04	5.71E-04	5.69E-04	3.80E-04	1.66E-04
1191	561336.7	4192767	7.50E-04	9.43E-04	7.40E-04	7.42E-04	7.40E-04	5.49E-04	3.33E-04	5.36E-04	7.35E-04	5.74E-04	5.75E-04	5.74E-04	3.83E-04	1.67E-04
1192	561331.1	4192775	7.55E-04	9.49E-04	7.45E-04	7.47E-04	7.45E-04	5.52E-04	3.35E-04	5.40E-04	7.40E-04	5.78E-04	5.79E-04	5.78E-04	3.85E-04	1.69E-04
1193	561325.6	4192783	7.59E-04	9.55E-04	7.50E-04	7.52E-04	7.50E-04	5.56E-04	3.37E-04	5.43E-04	7.44E-04	5.81E-04	5.83E-04	5.81E-04	3.88E-04	1.70E-04
1194	561320	4192790	7.64E-04	9.61E-04	7.54E-04	7.56E-04	7.54E-04	5.59E-04	3.39E-04	5.47E-04	7.49E-04	5.85E-04	5.86E-04	5.85E-04	3.90E-04	1.71E-04
1195	561314.5	4192798	7.69E-04	9.67E-04	7.59E-04	7.61E-04	7.59E-04	5.63E-04	3.41E-04	5.50E-04	7.54E-04	5.89E-04	5.90E-04	5.89E-04	3.92E-04	1.72E-04
1196	561309	4192806	7.74E-04	9.73E-04	7.64E-04	7.66E-04	7.64E-04	5.66E-04	3.43E-04	5.53E-04	7.58E-04	5.92E-04	5.94E-04	5.92E-04	3.95E-04	1.73E-04
1197	561303.4	4192813	7.78E-04	9.78E-04	7.68E-04	7.70E-04	7.68E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
1198	561430.8	4192636	5.94E-04	7.47E-04	5.86E-04	5.88E-04	5.86E-04	4.35E-04	2.64E-04	4.25E-04	5.82E-04	4.55E-04	4.56E-04	4.55E-04	3.03E-04	1.33E-04
1199	561432.9	4192626	5.93E-04	7.46E-04	5.85E-04	5.87E-04	5.85E-04	4.34E-04	2.63E-04	4.24E-04	5.81E-04	4.54E-04	4.55E-04	4.54E-04	3.03E-04	1.32E-04
1200	561435.1	4192617	5.91E-04	7.44E-04	5.84E-04	5.85E-04	5.84E-04	4.33E-04	2.62E-04	4.23E-04	5.79E-04	4.53E-04	4.54E-04	4.53E-04	3.02E-04	1.32E-04
1201	561437.2	4192607	5.89E-04	7.41E-04	5.82E-04	5.83E-04	5.82E-04	4.31E-04	2.62E-04	4.22E-04	5.78E-04	4.51E-04	4.52E-04	4.51E-04	3.01E-04	1.32E-04
1202	561439.3	4192597	5.87E-04	7.38E-04	5.80E-04	5.81E-04	5.80E-04	4.30E-04	2.61E-04	4.20E-04	5.75E-04	4.49E-04	4.51E-04	4.49E-04	3.00E-04	1.31E-04
1203	561441.5	4192588	5.85E-04	7.36E-04	5.77E-04	5.79E-04	5.77E-04	4.28E-04	2.60E-04	4.18E-04	5.73E-04	4.48E-04	4.49E-04	4.48E-04	2.99E-04	1.31E-04
1204	561443.6	4192578	5.83E-04	7.33E-04	5.75E-04	5.77E-04	5.75E-04	4.27E-04	2.59E-04	4.17E-04	5.71E-04	4.46E-04	4.47E-04	4.46E-04	2.97E-04	1.30E-04
1205	561445.7	4192569	5.81E-04	7.31E-04	5.73E-04	5.75E-04	5.73E-04	4.25E-04	2.58E-04	4.16E-04	5.69E-04	4.45E-04	4.46E-04	4.45E-04	2.96E-04	1.30E-04
1206	561447.9	4192559	5.79E-04	7.28E-04	5.72E-04	5.73E-04	5.72E-04	4.24E-04	2.57E-04	4.14E-04	5.68E-04	4.43E-04	4.45E-04	4.43E-04	2.96E-04	1.29E-04
1207	561450	4192549	5.78E-04	7.27E-04	5.70E-04	5.72E-04	5.70E-04	4.23E-04	2.56E-04	4.13E-04	5.66E-04	4.42E-04	4.43E-04	4.42E-04	2.95E-04	1.29E-04
1208	561452.1	4192540	5.76E-04	7.25E-04	5.69E-04	5.70E-04	5.69E-04	4.22E-04	2.56E-04	4.12E-04	5.65E-04	4.41E-04	4.42E-04	4.41E-04	2.94E-04	1.29E-04
1209	561454.2	4192530	5.75E-04	7.23E-04	5.68E-04	5.69E-04	5.68E-04	4.21E-04	2.55E-04	4.11E-04	5.64E-04	4.40E-04	4.41E-04	4.40E-04	2.93E-04	1.28E-04
1210	561456.4	4192520	5.74E-04	7.22E-04	5.67E-04	5.68E-04	5.67E-04	4.20E-04	2.55E-04	4.11E-04	5.63E-04	4.39E-04	4.41E-04	4.39E-04	2.93E-04	1.28E-04
1211	561458.5	4192511	5.73E-04	7.21E-04	5.66E-04	5.67E-04	5.66E-04	4.19E-04	2.54E-04	4.10E-04	5.62E-04	4.39E-04	4.40E-04	4.39E-04	2.92E-04	1.28E-04

1212	561460.6	4192501	5.72E-04	7.19E-04	5.65E-04	5.66E-04	5.65E-04	4.19E-04	2.54E-04	4.09E-04	5.61E-04	4.38E-04	4.39E-04	4.38E-04	2.92E-04	1.28E-04
1213	561462.8	4192492	5.71E-04	7.18E-04	5.64E-04	5.65E-04	5.64E-04	4.18E-04	2.53E-04	4.08E-04	5.60E-04	4.37E-04	4.38E-04	4.37E-04	2.91E-04	1.28E-04
1214	561464.9	4192482	5.70E-04	7.17E-04	5.62E-04	5.64E-04	5.62E-04	4.17E-04	2.53E-04	4.08E-04	5.58E-04	4.36E-04	4.37E-04	4.36E-04	2.91E-04	1.27E-04
1215	561467	4192472	5.69E-04	7.15E-04	5.61E-04	5.63E-04	5.61E-04	4.16E-04	2.52E-04	4.07E-04	5.57E-04	4.35E-04	4.36E-04	4.35E-04	2.90E-04	1.27E-04
1216	561417.6	4192670	6.12E-04	7.69E-04	6.04E-04	6.05E-04	6.04E-04	4.48E-04	2.71E-04	4.38E-04	6.00E-04	4.68E-04	4.70E-04	4.68E-04	3.12E-04	1.37E-04
1217	561411.9	4192678	6.23E-04	7.83E-04	6.14E-04	6.16E-04	6.14E-04	4.56E-04	2.76E-04	4.45E-04	6.10E-04	4.76E-04	4.78E-04	4.76E-04	3.18E-04	1.39E-04
1218	561406.2	4192686	6.33E-04	7.96E-04	6.25E-04	6.27E-04	6.25E-04	4.63E-04	2.81E-04	4.53E-04	6.21E-04	4.85E-04	4.86E-04	4.85E-04	3.23E-04	1.41E-04
1219	561400.5	4192694	6.43E-04	8.09E-04	6.35E-04	6.37E-04	6.35E-04	4.71E-04	2.85E-04	4.60E-04	6.30E-04	4.92E-04	4.94E-04	4.92E-04	3.28E-04	1.44E-04
1220	561394.7	4192702	6.53E-04	8.21E-04	6.45E-04	6.46E-04	6.45E-04	4.78E-04	2.90E-04	4.67E-04	6.40E-04	5.00E-04	5.01E-04	5.00E-04	3.33E-04	1.46E-04
1221	561389	4192710	6.62E-04	8.33E-04	6.54E-04	6.55E-04	6.54E-04	4.85E-04	2.94E-04	4.74E-04	6.49E-04	5.07E-04	5.08E-04	5.07E-04	3.38E-04	1.48E-04
1222	561383.3	4192718	6.71E-04	8.44E-04	6.62E-04	6.64E-04	6.62E-04	4.91E-04	2.98E-04	4.80E-04	6.57E-04	5.13E-04	5.15E-04	5.13E-04	3.42E-04	1.50E-04
1223	561377.5	4192726	6.79E-04	8.54E-04	6.70E-04	6.72E-04	6.70E-04	4.97E-04	3.01E-04	4.85E-04	6.65E-04	5.19E-04	5.21E-04	5.19E-04	3.46E-04	1.52E-04
1224	561371.8	4192734	6.86E-04	8.63E-04	6.77E-04	6.79E-04	6.77E-04	5.02E-04	3.04E-04	4.91E-04	6.72E-04	5.25E-04	5.26E-04	5.25E-04	3.50E-04	1.53E-04
1225	561366.1	4192742	6.93E-04	8.71E-04	6.84E-04	6.86E-04	6.84E-04	5.07E-04	3.07E-04	4.95E-04	6.79E-04	5.30E-04	5.32E-04	5.30E-04	3.53E-04	1.55E-04
1226	561360.4	4192750	6.99E-04	8.79E-04	6.90E-04	6.92E-04	6.90E-04	5.12E-04	3.10E-04	5.00E-04	6.85E-04	5.35E-04	5.37E-04	5.35E-04	3.57E-04	1.56E-04
1227	561354.6	4192758	7.05E-04	8.87E-04	6.96E-04	6.98E-04	6.96E-04	5.16E-04	3.13E-04	5.04E-04	6.91E-04	5.40E-04	5.41E-04	5.40E-04	3.60E-04	1.58E-04
1228	561348.9	4192766	7.11E-04	8.94E-04	7.02E-04	7.04E-04	7.02E-04	5.20E-04	3.16E-04	5.09E-04	6.97E-04	5.44E-04	5.46E-04	5.44E-04	3.63E-04	1.59E-04
1229	561343.2	4192774	7.17E-04	9.01E-04	7.07E-04	7.09E-04	7.07E-04	5.25E-04	3.18E-04	5.12E-04	7.02E-04	5.48E-04	5.50E-04	5.48E-04	3.66E-04	1.60E-04
1230	561337.4	4192782	7.22E-04	9.08E-04	7.12E-04	7.14E-04	7.12E-04	5.28E-04	3.20E-04	5.16E-04	7.07E-04	5.52E-04	5.54E-04	5.52E-04	3.68E-04	1.61E-04
1231	561331.7	4192790	7.26E-04	9.14E-04	7.17E-04	7.19E-04	7.17E-04	5.32E-04	3.22E-04	5.19E-04	7.12E-04	5.56E-04	5.57E-04	5.56E-04	3.71E-04	1.62E-04
1232	561326	4192798	7.31E-04	9.19E-04	7.22E-04	7.24E-04	7.22E-04	5.35E-04	3.24E-04	5.23E-04	7.16E-04	5.60E-04	5.61E-04	5.60E-04	3.73E-04	1.63E-04
1233	561320.3	4192806	7.36E-04	9.25E-04	7.26E-04	7.28E-04	7.26E-04	5.39E-04	3.26E-04	5.26E-04	7.21E-04	5.63E-04	5.65E-04	5.63E-04	3.75E-04	1.64E-04
1234	561314.5	4192814	7.40E-04	9.31E-04	7.31E-04	7.33E-04	7.31E-04	5.42E-04	3.29E-04	5.30E-04	7.26E-04	5.67E-04	5.68E-04	5.67E-04	3.78E-04	1.65E-04
1235	561308.8	4192822	7.45E-04	9.36E-04	7.35E-04	7.37E-04	7.35E-04	5.45E-04	3.30E-04	5.32E-04	7.30E-04	5.70E-04	5.71E-04	5.70E-04	3.80E-04	1.66E-04
1236	561459.7	4192551	5.49E-04	6.91E-04	5.42E-04	5.44E-04	5.42E-04	4.02E-04	2.44E-04	3.93E-04	5.38E-04	4.21E-04	4.22E-04	4.21E-04	2.80E-04	1.23E-04
1237	561461.9	4192542	5.48E-04	6.89E-04	5.41E-04	5.42E-04	5.41E-04	4.01E-04	2.43E-04	3.92E-04	5.37E-04	4.19E-04	4.21E-04	4.19E-04	2.80E-04	1.22E-04
1238	561464	4192532	5.47E-04	6.87E-04	5.40E-04	5.41E-04	5.40E-04	4.00E-04	2.43E-04	3.91E-04	5.36E-04	4.18E-04	4.20E-04	4.18E-04	2.79E-04	1.22E-04
1239	561466.1	4192523	5.45E-04	6.86E-04	5.38E-04	5.40E-04	5.38E-04	3.99E-04	2.42E-04	3.90E-04	5.34E-04	4.17E-04	4.19E-04	4.17E-04	2.78E-04	1.22E-04
1240	561468.3	4192513	5.44E-04	6.85E-04	5.37E-04	5.39E-04	5.37E-04	3.98E-04	2.42E-04	3.89E-04	5.33E-04	4.17E-04	4.18E-04	4.17E-04	2.78E-04	1.22E-04
1241	561470.4	4192503	5.43E-04	6.83E-04	5.36E-04	5.38E-04	5.36E-04	3.98E-04	2.41E-04	3.89E-04	5.32E-04	4.16E-04	4.17E-04	4.16E-04	2.77E-04	1.21E-04
1242	561472.5	4192494	5.42E-04	6.82E-04	5.35E-04	5.37E-04	5.35E-04	3.97E-04	2.41E-04	3.88E-04	5.31E-04	4.15E-04	4.16E-04	4.15E-04	2.77E-04	1.21E-04
1243	561474.7	4192484	5.41E-04	6.80E-04	5.34E-04	5.35E-04	5.34E-04	3.96E-04	2.40E-04	3.87E-04	5.30E-04	4.14E-04	4.15E-04	4.14E-04	2.76E-04	1.21E-04
1244	561476.8	4192475	5.40E-04	6.79E-04	5.33E-04	5.34E-04	5.33E-04	3.95E-04	2.39E-04	3.86E-04	5.29E-04	4.13E-04	4.14E-04	4.13E-04	2.75E-04	1.21E-04
1245	561421.9	4192680	5.93E-04	7.46E-04	5.86E-04	5.87E-04	5.86E-04	4.34E-04	2.63E-04	4.24E-04	5.81E-04	4.54E-04	4.55E-04	4.54E-04	3.03E-04	1.33E-04
1246	561416.2	4192688	6.03E-04	7.58E-04	5.95E-04	5.97E-04	5.95E-04	4.41E-04	2.68E-04	4.31E-04	5.91E-04	4.61E-04	4.63E-04	4.61E-04	3.08E-04	1.35E-04
1247	561410.5	4192696	6.12E-04	7.70E-04	6.04E-04	6.06E-04	6.04E-04	4.48E-04	2.72E-04	4.38E-04	6.00E-04	4.69E-04	4.70E-04	4.69E-04	3.12E-04	1.37E-04
1248	561404.9	4192704	6.22E-04	7.82E-04	6.13E-04	6.15E-04	6.13E-04	4.55E-04	2.76E-04	4.44E-04	6.09E-04	4.76E-04	4.77E-04	4.76E-04	3.17E-04	1.39E-04
1249	561399.2	4192712	6.30E-04	7.93E-04	6.22E-04	6.24E-04	6.22E-04	4.61E-04	2.80E-04	4.51E-04	6.18E-04	4.82E-04	4.84E-04	4.82E-04	3.22E-04	1.41E-04
1250	561393.5	4192719	6.38E-04	8.03E-04	6.30E-04	6.32E-04	6.30E-04	4.67E-04	2.83E-04	4.57E-04	6.26E-04	4.89E-04	4.90E-04	4.89E-04	3.26E-04	1.43E-04
1251	561387.8	4192727	6.46E-04	8.13E-04	6.38E-04	6.39E-04	6.38E-04	4.73E-04	2.87E-04	4.62E-04	6.33E-04	4.94E-04	4.96E-04	4.94E-04	3.30E-04	1.44E-04
1252	561382.1	4192735	6.53E-04	8.22E-04	6.45E-04	6.47E-04	6.45E-04	4.78E-04	2.90E-04	4.67E-04	6.40E-04	5.00E-04	5.01E-04	5.00E-04	3.33E-04	1.46E-04
1253	561376.4	4192743	6.60E-04	8.30E-04	6.51E-04	6.53E-04	6.51E-04	4.83E-04	2.93E-04	4.72E-04	6.47E-04	5.05E-04	5.06E-04	5.05E-04	3.37E-04	1.47E-04
1254	561370.8	4192751	6.66E-04	8.37E-04	6.57E-04	6.59E-04	6.57E-04	4.87E-04	2.95E-04	4.76E-04	6.52E-04	5.10E-04	5.11E-04	5.10E-04	3.40E-04	1.49E-04
1255	561365.1	4192759	6.72E-04	8.45E-04	6.63E-04	6.65E-04	6.63E-04	4.92E-04	2.98E-04	4.80E-04	6.58E-04	5.14E-04	5.15E-04	5.14E-04	3.43E-04	1.50E-04
1256	561359.4	4192767	6.77E-04	8.51E-04	6.68E-04	6.70E-04	6.68E-04	4.96E-04	3.00E-04	4.84E-04	6.63E-04	5.18E-04	5.20E-04	5.18E-04	3.45E-04	1.51E-04
1257	561353.7	4192775	6.82E-04	8.58E-04	6.73E-04	6.75E-04	6.73E-04	4.99E-04	3.03E-04	4.88E-04	6.69E-04	5.22E-04	5.24E-04	5.22E-04	3.48E-04	1.52E-04
1258	561348	4192783	6.87E-04	8.64E-04	6.78E-04	6.80E-04	6.78E-04	5.03E-04	3.05E-04	4.92E-04	6.74E-04	5.26E-04	5.27E-04	5.26E-04	3.51E-04	1.54E-04
1259	561342.4	4192791	6.92E-04	8.70E-04	6.83E-04	6.85E-04	6.83E-04	5.07E-04	3.07E-04	4.95E-04	6.78E-04	5.30E-04	5.31E-04	5.30E-04	3.53E-04	1.55E-04
1260	561336.7	4192799	6.97E-04	8.76E-04	6.88E-04	6.90E-04	6.88E-04	5.10E-04	3.09E-04	4.98E-04	6.83E-04	5.33E-04	5.35E-04	5.33E-04	3.56E-04	1.56E-04
1261	561331	4192807	7.01E-04	8.82E-04	6.92E-04	6.94E-04	6.92E-04	5.13E-04	3.11E-04	5.01E-04	6.87E-04	5.37E-04	5.38E-04	5.37E-04	3.58E-04	1.57E-04
1262	561325.3	4192815	7.05E-04	8.87E-04	6.96E-04	6.98E-04	6.96E-04	5.16E-04	3.13E-04	5.04E-04	6.91E-04	5.40E-04	5.41E-04	5.40E-04	3.60E-04	1.58E-04
1263	561319.6	4192822	7.10E-04	8.92E-04	7.00E-04	7.02E-04	7.00E-04	5.19E-04	3.15E-04	5.07E-04	6.95E-04	5.43E-04	5.45E-04	5.43E-04	3.62E-04	1.59E-04
1264	561313.9	4192830	7.14E-04	8.97E-04	7.04E-04	7.06E-04	7.04E-04	5.22E-04	3.17E-04	5.10E-04	6.99E-04	5.46E-04	5.48E-04	5.46E-04	3.64E-04	1.59E-04
1265	561233.8	4192334	4.59E-03	5.77E-03	4.53E-03	4.54E-03	4.53E-03	3.36E-03	2.04E-03	3.28E-03	4.50E-03	3.51E-03	3.52E-03	3.51E-03	2.34E-03	1.03E-03
1266	561236.2	4192325	4.37E-03	5.49E-03	4.31E-03	4.32E-03	4.31E-03	3.20E-03	1.94E-03	3.12E-03	4.28E-03	3.34E-03	3.35E-03	3.34E-03	2.23E-03	9.75E-04
1267	561238.7	4192316	4.12E-03	5.19E-03	4.07E-03	4.08E-03	4.07E-03	3.02E-03	1.83E-03	2.95E-03	4.04E-03	3.16E-03	3.16E-03	3.16E-03	2.10E-03	9.21E-04
1268	561241.1	4192307	3.87E-03	4.87E-03	3.82E-03	3.83E-03	3.82E-03	2.83E-03	1.72E-03	2.77E-03	3.79E-03	2.96E-03	2.97E-03	2.96E-03	1.97E-03	8.64E-04
1269	561243.5	4192297	3.61E-03	4.54E-03	3.56E-03	3.57E-03	3.56E-03	2.64E-03	1.60E-03	2.58E-03	3.54E-03	2.76E-03	2.77E-03	2.76E-03	1.84E-03	8.07E-04
1270	561245.9	4192288	3.36E-03	4.23E-03	3.32E-03	3.33E-03	3.32E-03	2.46E-03	1.49E-03	2.40E-03	3.29E-03	2.57E-03	2.58E-03	2.57E-03	1.72E-03	7.51E-04
1271	561248.3	4192279	3.13E-03	3.93E-03	3.09E-03	3.09E-03	3.09E-03	2.29E-03	1.39E-03	2.24E-03	3.06E-03	2.39E-03	2.40E-03	2.39E-03	1.60E-03	6.98E-04
1272	561233.8	4192373	4.39E-03	5.52E-03	4.33E-03	4.34E-03	4.33E-03	3.21E-03	1.95E-03	3.14E-03	4.30E-03	3.36E-03	3.37E-03	3.36E-03	2.24E-03	9.81E-04
1273	561236.2	4192364	4.26E-03	5.35E-03	4.20E-03	4.21E-03	4.20E-03	3.11E-03	1.89E-03	3.04E-03	4.17E-03	3.26E-03	3.27E-03	3.26E-03	2.17E-03	9.51E-04
1274	561238.6	4192355	4.12E-03	5.18E-03	4.06E-03	4.07E-03	4.06E-03	3.01E-03	1.83E-03	2.94E-03	4.03E-03	3.15E-03	3.16E-03	3.15E-03	2.10E-03	9.19E-04
1275	561241.1	4192346	3.96E-03	4.99E-03	3.91E-03	3.92E-03	3.91E-03	2.90E-03	1.76E-03	2.84E-03	3.88E-03	3.03E-03	3.04E-03	3.03E-03	2.02E-03	8.86E-04
1276	561243.5	4192336	3.80E-03	4.78E-03	3.75E-03	3.76E-03	3.75E-03	2.78E-03	1.69E-03	2.72E-03	3.72E-03	2.91E-03	2.92E-03	2.91E-03	1.94E-03	8.49E-04
1277	561245.9	4192327	3.63E-03	4.56E-03	3.58E-03	3.59E-03	3.58E-03	2.65E-03	1.61E-03	2.59E-03	3.55E-03	2.77E-03	2.78E-03	2.77E-03	1.85E-03	8.10E-04
1278	561248.3	4192318	3.44E-03	4.33E-03	3.40E-03	3.40E-03	3.40E-03	2.52E-03	1.53E-03	2.46E-03	3.37E-03	2.63E-03	2.64E-03	2.63E-03	1.76E-03	7.69E-04
1279	561250.7	4192309	3.25E-03	4.09E-03	3.21E-03	3.22E-03	3.21E-03	2.38E-03	1.44E-03	2.32E-03	3.18E-03	2.49E-03	2.49E-03	2.49E-03	1.66E-03	7.26E-04
1280	561253.2	4192300	3.06E-03	3.85E-03	3.02E-03	3.03E-03	3.02E-03	2.24E-03	1.36E-03	2.19E-03	3.00E-03	2.34E-03	2.35E-03	2.34E-03	1.56E-03	6.84E-04
1281	561255.6	4192291	2.88E-03	3.62E-03	2.84E-03	2.85E-03	2.84E-03	2.10E-03	1.28E-03	2.06E-03	2.82E-03	2.20E-03	2.21E-03	2.20E-03	1.47E-03	6.42E-04
1282	561258	4192282	2.70E-03	3.39E-03	2.66E-03	2.67E-03	2.66E-03	1.98E-03	1.20E-03	1.93E-03	2.64E-03	2.07E-03	2.07E-03	2.07E-03	1.38E-03	6.03E-04
1283	561243.5	4192375	3.74E-03	4.70E-03	3.69E-03	3.70E-03	3.69E-03	2.74E-03	1.66E-03	2.67E-03	3.66E-03	2.86E-03	2.87E-03	2.86E-03	1.91E-03	8.35E-04
1284	561245.9	4192366	3.61E-03	4.55E-03	3.57E-03	3.58E-03	3.57E-03	2.65E-03	1.60E-03	2.58E-03	3.54E-03	2.77E-03	2.77E-03	2.77E-03	1.84E-03	8.07E-04
1285	561248.3	4192357	3.49E-03	4.39E-03	3.44E-03	3.45E-03	3.44E-03	2.55E-03	1.55E-03	2.50E-03	3.42E-03	2.67E-03	2.68E-03	2.67E-03	1.78E-03	7.79E-04
1286	561250.7	4192348	3.36E-03	4.22E-03	3.32E-03	3.32E-03	3.32E-03	2.46E-03	1.49E-03	2.40E-03	3.29E-03	2.57E-03	2.58E-03	2.57E-03	1.71E-03	7.50E-04
1287	561253.1	4192339	3.22E-03	4.05E-03	3.18E-03	3.19E-03	3.18E-03	2.36E-03	1.43E-03	2.31E-03	3.16E-03	2.47E-03	2.47E-03	2.47E-03	1.65E-03	7.20E-04
1288	561255.6	4192330	3.08E-03	3.88E-03	3.04E-03	3.05E-03	3.04E-03	2.26E-03	1.37E-03	2.21E-03	3.02E-03	2.36E-03	2.37E-03	2.36E-03	1.57E-03	6.89E-04
1289	561258	4192321	2.94E-03	3.70E-03	2.90E-03	2.91E-03	2.90E-03	2.15E-03	1.30E-03	2.10E-03	2.88E-03	2.25E-03	2.26E-03	2.25E-03	1.50E-03	6.57E-04
1290	561260.4	4192312	2.79E-03	3.51E-03	2.76E-03	2.76E-03	2.76E-03	2.04E-03	1.24E-03	2.00E-03	2.74E-03	2.14E-03	2.14E-03	2.14E-03	1.43E-03	6.24E-04
1291	561262.8	4192303	2.65E-03	3.33E-03	2.61E-03	2.62E-03	2.61E-03	1.94E-03	1.17E-03	1.89E-03	2.59E-03	2.03E-03	2.03E-03	2.03E-03	1.35E-03	5.92E-04
1292	561265.3	4192294	2.51E-03	3.15E-03	2.47E-03	2.48E-03	2.47E-03	1.83E-03	1.11E-03	1.79E-03	2.46E-03	1.92E-03	1.92E-03	1.92E-03	1.28E-03	5.60E-04

1293	561267.7	4192284	2.37E-03	2.98E-03	2.34E-03	2.35E-03	2.34E-03	1.74E-03	1.05E-03	1.70E-03	2.32E-03	1.81E-03	1.82E-03	1.81E-03	1.21E-03	5.30E-04
1294	561253.1	4192378	3.23E-03	4.07E-03	3.19E-03	3.20E-03	3.19E-03	2.37E-03	1.43E-03	2.31E-03	3.17E-03	2.47E-03	2.48E-03	2.47E-03	1.65E-03	7.22E-04
1295	561255.6	4192369	3.12E-03	3.93E-03	3.08E-03	3.09E-03	3.08E-03	2.29E-03	1.39E-03	2.23E-03	3.06E-03	2.39E-03	2.40E-03	2.39E-03	1.59E-03	6.97E-04
1296	561258	4192360	3.01E-03	3.79E-03	2.97E-03	2.98E-03	2.97E-03	2.20E-03	1.34E-03	2.15E-03	2.95E-03	2.30E-03	2.31E-03	2.30E-03	1.54E-03	6.73E-04
1297	561260.4	4192351	2.90E-03	3.65E-03	2.86E-03	2.87E-03	2.86E-03	2.12E-03	1.29E-03	2.07E-03	2.84E-03	2.22E-03	2.23E-03	2.22E-03	1.48E-03	6.48E-04
1298	561262.8	4192342	2.79E-03	3.51E-03	2.75E-03	2.76E-03	2.75E-03	2.04E-03	1.24E-03	1.99E-03	2.73E-03	2.13E-03	2.14E-03	2.13E-03	1.42E-03	6.23E-04
1299	561265.2	4192332	2.68E-03	3.36E-03	2.64E-03	2.65E-03	2.64E-03	1.96E-03	1.19E-03	1.91E-03	2.62E-03	2.05E-03	2.05E-03	2.05E-03	1.37E-03	5.98E-04
1300	561267.7	4192323	2.56E-03	3.22E-03	2.53E-03	2.53E-03	2.53E-03	1.87E-03	1.14E-03	1.83E-03	2.51E-03	1.96E-03	1.97E-03	1.96E-03	1.31E-03	5.72E-04
1301	561270.1	4192314	2.45E-03	3.08E-03	2.41E-03	2.42E-03	2.41E-03	1.79E-03	1.09E-03	1.75E-03	2.40E-03	1.87E-03	1.88E-03	1.87E-03	1.25E-03	5.46E-04
1302	561272.5	4192305	2.33E-03	2.93E-03	2.30E-03	2.31E-03	2.30E-03	1.71E-03	1.03E-03	1.67E-03	2.28E-03	1.78E-03	1.79E-03	1.78E-03	1.19E-03	5.21E-04
1303	561274.9	4192296	2.22E-03	2.79E-03	2.19E-03	2.20E-03	2.19E-03	1.63E-03	9.85E-04	1.59E-03	2.18E-03	1.70E-03	1.70E-03	1.70E-03	1.13E-03	4.96E-04
1304	561277.3	4192287	2.11E-03	2.66E-03	2.09E-03	2.09E-03	2.09E-03	1.55E-03	9.38E-04	1.51E-03	2.07E-03	1.62E-03	1.62E-03	1.62E-03	1.08E-03	4.72E-04
1305	561262.8	4192381	2.83E-03	3.56E-03	2.79E-03	2.80E-03	2.79E-03	2.07E-03	1.26E-03	2.03E-03	2.77E-03	2.17E-03	2.17E-03	2.17E-03	1.44E-03	6.33E-04
1306	561265.2	4192371	2.74E-03	3.44E-03	2.70E-03	2.71E-03	2.70E-03	2.00E-03	1.21E-03	1.96E-03	2.68E-03	2.09E-03	2.10E-03	2.09E-03	1.40E-03	6.11E-04
1307	561267.6	4192362	2.64E-03	3.32E-03	2.61E-03	2.61E-03	2.61E-03	1.93E-03	1.17E-03	1.89E-03	2.59E-03	2.02E-03	2.03E-03	2.02E-03	1.35E-03	5.90E-04
1308	561270.1	4192353	2.55E-03	3.20E-03	2.51E-03	2.52E-03	2.51E-03	1.86E-03	1.13E-03	1.82E-03	2.50E-03	1.95E-03	1.96E-03	1.95E-03	1.30E-03	5.69E-04
1309	561272.5	4192344	2.45E-03	3.09E-03	2.42E-03	2.43E-03	2.42E-03	1.80E-03	1.09E-03	1.76E-03	2.40E-03	1.88E-03	1.88E-03	1.88E-03	1.25E-03	5.48E-04
1310	561274.9	4192335	2.36E-03	2.97E-03	2.33E-03	2.34E-03	2.33E-03	1.73E-03	1.05E-03	1.69E-03	2.31E-03	1.81E-03	1.81E-03	1.81E-03	1.20E-03	5.27E-04
1311	561277.3	4192326	2.27E-03	2.85E-03	2.24E-03	2.24E-03	2.24E-03	1.66E-03	1.01E-03	1.62E-03	2.22E-03	1.73E-03	1.74E-03	1.73E-03	1.16E-03	5.06E-04
1312	561279.7	4192317	2.17E-03	2.73E-03	2.14E-03	2.15E-03	2.14E-03	1.59E-03	9.64E-04	1.55E-03	2.13E-03	1.66E-03	1.67E-03	1.66E-03	1.11E-03	4.85E-04
1313	561282.2	4192308	2.08E-03	2.62E-03	2.05E-03	2.06E-03	2.05E-03	1.52E-03	9.23E-04	1.49E-03	2.04E-03	1.59E-03	1.60E-03	1.59E-03	1.06E-03	4.65E-04
1314	561284.6	4192299	1.99E-03	2.50E-03	1.96E-03	1.97E-03	1.96E-03	1.46E-03	8.83E-04	1.42E-03	1.95E-03	1.52E-03	1.53E-03	1.52E-03	1.02E-03	4.44E-04
1315	561287	4192290	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.71E-04	4.25E-04
1316	561272.5	4192383	2.51E-03	3.16E-03	2.48E-03	2.49E-03	2.48E-03	1.84E-03	1.11E-03	1.80E-03	2.46E-03	1.92E-03	1.93E-03	1.92E-03	1.28E-03	5.61E-04
1317	561274.9	4192374	2.43E-03	3.06E-03	2.40E-03	2.41E-03	2.40E-03	1.78E-03	1.08E-03	1.74E-03	2.38E-03	1.86E-03	1.87E-03	1.86E-03	1.24E-03	5.43E-04
1318	561277.3	4192365	2.35E-03	2.95E-03	2.32E-03	2.32E-03	2.32E-03	1.72E-03	1.04E-03	1.68E-03	2.30E-03	1.80E-03	1.80E-03	1.80E-03	1.20E-03	5.25E-04
1319	561279.7	4192356	2.27E-03	2.85E-03	2.24E-03	2.24E-03	2.24E-03	1.66E-03	1.01E-03	1.62E-03	2.22E-03	1.74E-03	1.74E-03	1.74E-03	1.16E-03	5.07E-04
1320	561282.1	4192347	2.19E-03	2.75E-03	2.16E-03	2.17E-03	2.16E-03	1.60E-03	9.71E-04	1.56E-03	2.14E-03	1.67E-03	1.68E-03	1.67E-03	1.12E-03	4.89E-04
1321	561284.6	4192338	2.11E-03	2.65E-03	2.08E-03	2.09E-03	2.08E-03	1.54E-03	9.35E-04	1.51E-03	2.07E-03	1.61E-03	1.62E-03	1.61E-03	1.08E-03	4.71E-04
1322	561287	4192329	2.03E-03	2.55E-03	2.00E-03	2.01E-03	2.00E-03	1.49E-03	9.00E-04	1.45E-03	1.99E-03	1.55E-03	1.56E-03	1.55E-03	1.04E-03	4.53E-04
1323	561289.4	4192319	1.95E-03	2.45E-03	1.93E-03	1.93E-03	1.93E-03	1.43E-03	8.66E-04	1.40E-03	1.91E-03	1.49E-03	1.50E-03	1.49E-03	9.95E-04	4.36E-04
1324	561291.8	4192310	1.87E-03	2.36E-03	1.85E-03	1.85E-03	1.85E-03	1.37E-03	8.32E-04	1.34E-03	1.84E-03	1.43E-03	1.44E-03	1.43E-03	9.56E-04	4.19E-04
1325	561294.2	4192301	1.80E-03	2.26E-03	1.78E-03	1.78E-03	1.78E-03	1.32E-03	7.99E-04	1.29E-03	1.76E-03	1.38E-03	1.38E-03	1.38E-03	9.18E-04	4.02E-04
1326	561296.7	4192292	1.73E-03	2.17E-03	1.71E-03	1.71E-03	1.71E-03	1.27E-03	7.67E-04	1.24E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	8.82E-04	3.86E-04
1327	561282.1	4192386	2.25E-03	2.83E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	9.98E-04	1.61E-03	2.20E-03	1.72E-03	1.73E-03	1.72E-03	1.15E-03	5.02E-04
1328	561284.5	4192377	2.18E-03	2.74E-03	2.15E-03	2.16E-03	2.15E-03	1.60E-03	9.67E-04	1.56E-03	2.14E-03	1.67E-03	1.67E-03	1.67E-03	1.11E-03	4.87E-04
1329	561287	4192367	2.11E-03	2.65E-03	2.08E-03	2.09E-03	2.08E-03	1.54E-03	9.36E-04	1.51E-03	2.07E-03	1.61E-03	1.62E-03	1.61E-03	1.08E-03	4.71E-04
1330	561289.4	4192358	2.04E-03	2.57E-03	2.01E-03	2.02E-03	2.01E-03	1.49E-03	9.05E-04	1.46E-03	2.00E-03	1.56E-03	1.57E-03	1.56E-03	1.04E-03	4.56E-04
1331	561291.8	4192349	1.97E-03	2.48E-03	1.94E-03	1.95E-03	1.94E-03	1.44E-03	8.74E-04	1.41E-03	1.93E-03	1.51E-03	1.51E-03	1.51E-03	1.01E-03	4.40E-04
1332	561294.2	4192340	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.71E-04	4.25E-04
1333	561296.6	4192331	1.83E-03	2.31E-03	1.81E-03	1.82E-03	1.81E-03	1.34E-03	8.14E-04	1.31E-03	1.80E-03	1.40E-03	1.41E-03	1.40E-03	9.36E-04	4.10E-04
1334	561299.1	4192322	1.77E-03	2.22E-03	1.75E-03	1.75E-03	1.75E-03	1.29E-03	7.85E-04	1.26E-03	1.73E-03	1.35E-03	1.36E-03	1.35E-03	9.02E-04	3.95E-04
1335	561301.5	4192313	1.70E-03	2.14E-03	1.68E-03	1.69E-03	1.68E-03	1.25E-03	7.56E-04	1.22E-03	1.67E-03	1.30E-03	1.31E-03	1.30E-03	8.69E-04	3.81E-04
1336	561303.9	4192304	1.64E-03	2.06E-03	1.62E-03	1.62E-03	1.62E-03	1.20E-03	7.28E-04	1.17E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.38E-04	3.67E-04
1337	561306.3	4192295	1.58E-03	1.99E-03	1.56E-03	1.57E-03	1.56E-03	1.16E-03	7.02E-04	1.13E-03	1.55E-03	1.21E-03	1.21E-03	1.21E-03	8.07E-04	3.53E-04
1338	561291.8	4192388	2.03E-03	2.55E-03	2.00E-03	2.01E-03	2.00E-03	1.49E-03	9.01E-04	1.45E-03	1.99E-03	1.55E-03	1.56E-03	1.55E-03	1.04E-03	4.54E-04
1339	561294.2	4192379	1.97E-03	2.48E-03	1.95E-03	1.95E-03	1.95E-03	1.44E-03	8.75E-04	1.41E-03	1.93E-03	1.51E-03	1.51E-03	1.51E-03	1.01E-03	4.40E-04
1340	561296.6	4192370	1.91E-03	2.40E-03	1.89E-03	1.89E-03	1.89E-03	1.40E-03	8.48E-04	1.37E-03	1.87E-03	1.46E-03	1.47E-03	1.46E-03	9.75E-04	4.27E-04
1341	561299	4192361	1.85E-03	2.33E-03	1.83E-03	1.83E-03	1.83E-03	1.35E-03	8.21E-04	1.32E-03	1.81E-03	1.42E-03	1.42E-03	1.42E-03	9.44E-04	4.13E-04
1342	561301.5	4192352	1.79E-03	2.25E-03	1.77E-03	1.77E-03	1.77E-03	1.31E-03	7.94E-04	1.28E-03	1.75E-03	1.37E-03	1.37E-03	1.37E-03	9.13E-04	4.00E-04
1343	561303.9	4192343	1.73E-03	2.18E-03	1.71E-03	1.71E-03	1.71E-03	1.27E-03	7.68E-04	1.24E-03	1.70E-03	1.32E-03	1.33E-03	1.32E-03	8.83E-04	3.87E-04
1344	561306.3	4192334	1.67E-03	2.10E-03	1.65E-03	1.65E-03	1.65E-03	1.22E-03	7.42E-04	1.20E-03	1.64E-03	1.28E-03	1.28E-03	1.28E-03	8.53E-04	3.74E-04
1345	561308.7	4192325	1.62E-03	2.03E-03	1.59E-03	1.60E-03	1.59E-03	1.18E-03	7.17E-04	1.16E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	8.24E-04	3.61E-04
1346	561311.2	4192315	1.56E-03	1.96E-03	1.54E-03	1.54E-03	1.54E-03	1.14E-03	6.92E-04	1.12E-03	1.53E-03	1.19E-03	1.20E-03	1.19E-03	7.96E-04	3.49E-04
1347	561313.6	4192306	1.51E-03	1.90E-03	1.49E-03	1.49E-03	1.49E-03	1.10E-03	6.69E-04	1.08E-03	1.48E-03	1.15E-03	1.16E-03	1.15E-03	7.69E-04	3.37E-04
1348	561316	4192297	1.46E-03	1.83E-03	1.44E-03	1.44E-03	1.44E-03	1.07E-03	6.46E-04	1.04E-03	1.43E-03	1.11E-03	1.12E-03	1.11E-03	7.43E-04	3.25E-04
1349	561320.8	4192396	1.55E-03	1.94E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.86E-04	1.11E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	7.89E-04	3.45E-04
1350	561323.2	4192387	1.51E-03	1.90E-03	1.49E-03	1.49E-03	1.49E-03	1.10E-03	6.69E-04	1.08E-03	1.48E-03	1.15E-03	1.16E-03	1.15E-03	7.69E-04	3.37E-04
1351	561332.9	4192350	1.35E-03	1.70E-03	1.33E-03	1.34E-03	1.33E-03	9.88E-04	5.99E-04	9.65E-04	1.32E-03	1.03E-03	1.04E-03	1.03E-03	6.89E-04	3.02E-04
1352	561335.3	4192341	1.31E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	9.60E-04	5.82E-04	9.38E-04	1.28E-03	1.00E-03	1.01E-03	1.00E-03	6.69E-04	2.93E-04
1353	561337.7	4192332	1.27E-03	1.60E-03	1.26E-03	1.26E-03	1.26E-03	9.32E-04	5.65E-04	9.11E-04	1.25E-03	9.75E-04	9.77E-04	9.75E-04	6.50E-04	2.85E-04
1354	561340.1	4192323	1.24E-03	1.56E-03	1.22E-03	1.22E-03	1.22E-03	9.06E-04	5.49E-04	8.85E-04	1.21E-03	9.47E-04	9.50E-04	9.47E-04	6.32E-04	2.77E-04
1355	561342.6	4192314	1.20E-03	1.51E-03	1.19E-03	1.19E-03	1.19E-03	8.81E-04	5.34E-04	8.61E-04	1.18E-03	9.21E-04	9.24E-04	9.21E-04	6.14E-04	2.69E-04
1356	561345	4192305	1.17E-03	1.47E-03	1.16E-03	1.16E-03	1.16E-03	8.57E-04	5.19E-04	8.37E-04	1.15E-03	8.96E-04	8.98E-04	8.96E-04	5.97E-04	2.61E-04
1357	561330.4	4192399	1.43E-03	1.79E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.02E-03	1.40E-03	1.09E-03	1.09E-03	1.09E-03	7.28E-04	3.19E-04
1358	561332.9	4192389	1.39E-03	1.75E-03	1.37E-03	1.38E-03	1.37E-03	1.02E-03	6.18E-04	9.96E-04	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.11E-04	3.11E-04
1359	561342.5	4192353	1.25E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	9.18E-04	5.56E-04	8.97E-04	1.23E-03	9.59E-04	9.62E-04	9.59E-04	6.40E-04	2.80E-04
1360	561345	4192344	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.93E-04	5.41E-04	8.72E-04	1.20E-03	9.33E-04	9.36E-04	9.33E-04	6.22E-04	2.72E-04
1361	561347.4	4192335	1.19E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.68E-04	5.26E-04	8.49E-04	1.16E-03	9.08E-04	9.11E-04	9.08E-04	6.05E-04	2.65E-04
1362	561349.8	4192326	1.16E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.46E-04	5.13E-04	8.26E-04	1.13E-03	8.84E-04	8.87E-04	8.84E-04	5.90E-04	2.58E-04
1363	561352.2	4192317	1.13E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	4.99E-04	8.05E-04	1.10E-03	8.61E-04	8.64E-04	8.61E-04	5.74E-04	2.51E-04
1364	561354.6	4192308	1.10E-03	1.38E-03	1.08E-03	1.09E-03	1.08E-03	8.03E-04	4.87E-04	7.84E-04	1.07E-03	8.39E-04	8.42E-04	8.39E-04	5.60E-04	2.45E-04
1365	561340.1	4192401	1.32E-03	1.66E-03	1.30E-03	1.31E-03	1.30E-03	9.66E-04	5.86E-04	9.44E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.74E-04	2.95E-04
1366	561342.5	4192392	1.29E-03	1.62E-03	1.28E-03	1.28E-03	1.28E-03	9.46E-04	5.73E-04	9.24E-04	1.27E-03	9.89E-04	9.92E-04	9.89E-04	6.59E-04	2.89E-04
1367	561352.2	4192356	1.17E-03	1.47E-03	1.15E-03	1.16E-03	1.15E-03	8.56E-04	5.19E-04	8.36E-04	1.15E-03	8.95E-04	8.97E-04	8.95E-04	5.97E-04	2.61E-04
1368	561354.6	4192347	1.14E-03	1.43E-03	1.12E-03	1.13E-03	1.12E-03	8.33E-04	5.05E-04	8.14E-04	1.12E-03	8.72E-04	8.74E-04	8.72E-04	5.81E-04	2.54E-04
1369	561357	4192337	1.11E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	8.12E-04	4.92E-04	7.93E-04	1.09E-03	8.49E-04	8.51E-04	8.49E-04	5.66E-04	2.48E-04
1370	561359.5	4192328	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.92E-04	4.80E-04	7.74E-04	1.06E-03	8.28E-04	8.30E-04	8.28E-04	5.52E-04	2.42E-04
1371	561361.9	4192319	1.06E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.73E-04	4.68E-04	7.55E-04	1.03E-03	8.08E-04	8.10E-04	8.08E-04	5.39E-04	2.36E-04
1372	561364.3	4192310	1.03E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.54E-04	4.57E-04	7.37E-04	1.01E-03	7.89E-04	7.91E-04	7.89E-04	5.26E-04	2.30E-04
1373	561349.8	4192404	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.98E-04	5.44E-04	8.77E-04	1.20E-03	9.39E-04	9.41E-04	9.39E-04	6.26E-04	2.74E-04

1374	561352.2	4192395	1.20E-03	1.51E-03	1.19E-03	1.19E-03	1.19E-03	8.80E-04	5.33E-04	8.60E-04	1.18E-03	9.20E-04	9.22E-04	9.20E-04	6.13E-04	2.69E-04
1375	561364.3	4192349	1.07E-03	1.34E-03	1.05E-03	1.06E-03	1.05E-03	7.81E-04	4.74E-04	7.63E-04	1.05E-03	8.17E-04	8.19E-04	8.17E-04	5.45E-04	2.38E-04
1376	561366.7	4192340	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.62E-04	4.62E-04	7.45E-04	1.02E-03	7.97E-04	7.99E-04	7.97E-04	5.31E-04	2.33E-04
1377	561369.1	4192331	1.02E-03	1.28E-03	1.00E-03	1.01E-03	1.00E-03	7.44E-04	4.51E-04	7.27E-04	9.96E-04	7.78E-04	7.80E-04	7.78E-04	5.19E-04	2.27E-04
1378	561371.6	4192322	9.93E-04	1.25E-03	9.80E-04	9.83E-04	9.80E-04	7.27E-04	4.41E-04	7.10E-04	9.73E-04	7.60E-04	7.62E-04	7.60E-04	5.07E-04	2.22E-04
1379	561374	4192313	9.71E-04	1.22E-03	9.58E-04	9.60E-04	9.58E-04	7.10E-04	4.31E-04	6.94E-04	9.51E-04	7.43E-04	7.45E-04	7.43E-04	4.95E-04	2.17E-04
1380	561217	4192241	4.26E-03	5.35E-03	4.20E-03	4.21E-03	4.20E-03	3.12E-03	1.89E-03	3.04E-03	4.17E-03	3.26E-03	3.27E-03	3.26E-03	2.17E-03	9.51E-04
1381	561207.5	4192238	4.86E-03	6.11E-03	4.80E-03	4.81E-03	4.80E-03	3.56E-03	2.16E-03	3.48E-03	4.76E-03	3.72E-03	3.73E-03	3.72E-03	2.48E-03	1.09E-03
1382	561197.9	4192236	5.41E-03	6.80E-03	5.33E-03	5.35E-03	5.33E-03	3.96E-03	2.40E-03	3.87E-03	5.30E-03	4.14E-03	4.15E-03	4.14E-03	2.76E-03	1.21E-03
1383	561188.4	4192234	5.86E-03	7.37E-03	5.79E-03	5.80E-03	5.79E-03	4.29E-03	2.60E-03	4.19E-03	5.75E-03	4.49E-03	4.50E-03	4.49E-03	2.99E-03	1.31E-03
1384	561178.9	4192231	6.23E-03	7.84E-03	6.15E-03	6.17E-03	6.15E-03	4.56E-03	2.77E-03	4.46E-03	6.11E-03	4.77E-03	4.78E-03	4.77E-03	3.18E-03	1.39E-03
1385	561169.4	4192229	6.51E-03	8.18E-03	6.42E-03	6.44E-03	6.42E-03	4.76E-03	2.89E-03	4.65E-03	6.38E-03	4.98E-03	4.99E-03	4.98E-03	3.32E-03	1.45E-03
1386	561159.8	4192227	6.69E-03	8.41E-03	6.60E-03	6.62E-03	6.60E-03	4.89E-03	2.97E-03	4.78E-03	6.55E-03	5.12E-03	5.13E-03	5.12E-03	3.41E-03	1.49E-03
1387	561150.3	4192224	6.75E-03	8.49E-03	6.66E-03	6.68E-03	6.66E-03	4.94E-03	3.00E-03	4.83E-03	6.62E-03	5.17E-03	5.18E-03	5.17E-03	3.45E-03	1.51E-03
1388	561121.7	4192217	6.98E-03	8.77E-03	6.88E-03	6.90E-03	6.88E-03	5.11E-03	3.10E-03	4.99E-03	6.84E-03	5.34E-03	5.35E-03	5.34E-03	3.56E-03	1.56E-03
1389	561112.2	4192215	7.17E-03	9.02E-03	7.08E-03	7.10E-03	7.08E-03	5.25E-03	3.18E-03	5.13E-03	7.03E-03	5.49E-03	5.50E-03	5.49E-03	3.66E-03	1.60E-03
1390	561102.6	4192213	7.33E-03	9.22E-03	7.24E-03	7.26E-03	7.24E-03	5.37E-03	3.25E-03	5.24E-03	7.19E-03	5.61E-03	5.63E-03	5.61E-03	3.74E-03	1.64E-03
1391	561093.1	4192210	7.42E-03	9.33E-03	7.33E-03	7.35E-03	7.33E-03	5.43E-03	3.29E-03	5.31E-03	7.27E-03	5.68E-03	5.70E-03	5.68E-03	3.79E-03	1.66E-03
1392	561083.6	4192208	7.42E-03	9.33E-03	7.32E-03	7.34E-03	7.32E-03	5.43E-03	3.29E-03	5.31E-03	7.27E-03	5.68E-03	5.69E-03	5.68E-03	3.79E-03	1.66E-03
1393	561074	4192206	7.31E-03	9.19E-03	7.21E-03	7.23E-03	7.21E-03	5.35E-03	3.24E-03	5.23E-03	7.16E-03	5.59E-03	5.61E-03	5.59E-03	3.73E-03	1.63E-03
1394	561064.5	4192203	7.07E-03	8.89E-03	6.98E-03	7.00E-03	6.98E-03	5.17E-03	3.14E-03	5.06E-03	6.93E-03	5.41E-03	5.43E-03	5.41E-03	3.61E-03	1.58E-03
1395	561055	4192201	6.67E-03	8.38E-03	6.58E-03	6.60E-03	6.58E-03	4.88E-03	2.96E-03	4.77E-03	6.53E-03	5.10E-03	5.12E-03	5.10E-03	3.40E-03	1.49E-03
1396	561219.4	4192231	3.61E-03	4.54E-03	3.56E-03	3.57E-03	3.56E-03	2.64E-03	1.60E-03	2.58E-03	3.54E-03	2.76E-03	2.77E-03	2.76E-03	1.84E-03	8.06E-04
1397	561209.9	4192229	4.05E-03	5.09E-03	4.00E-03	4.01E-03	4.00E-03	2.96E-03	1.80E-03	2.90E-03	3.97E-03	3.10E-03	3.11E-03	3.10E-03	2.07E-03	9.05E-04
1398	561200.3	4192226	4.47E-03	5.62E-03	4.41E-03	4.42E-03	4.41E-03	3.27E-03	1.98E-03	3.19E-03	4.38E-03	3.42E-03	3.43E-03	3.42E-03	2.28E-03	9.98E-04
1399	561190.8	4192224	4.84E-03	6.08E-03	4.77E-03	4.79E-03	4.77E-03	3.54E-03	2.15E-03	3.46E-03	4.74E-03	3.70E-03	3.71E-03	3.70E-03	2.47E-03	1.08E-03
1400	561181.3	4192222	5.15E-03	6.47E-03	5.08E-03	5.10E-03	5.08E-03	3.77E-03	2.28E-03	3.68E-03	5.05E-03	3.94E-03	3.95E-03	3.94E-03	2.63E-03	1.15E-03
1401	561171.7	4192219	5.39E-03	6.78E-03	5.32E-03	5.34E-03	5.32E-03	3.95E-03	2.39E-03	3.86E-03	5.29E-03	4.13E-03	4.14E-03	4.13E-03	2.75E-03	1.20E-03
1402	561162.2	4192217	5.56E-03	7.00E-03	5.49E-03	5.51E-03	5.49E-03	4.07E-03	2.47E-03	3.98E-03	5.45E-03	4.26E-03	4.27E-03	4.26E-03	2.84E-03	1.24E-03
1403	561152.7	4192215	5.67E-03	7.13E-03	5.59E-03	5.61E-03	5.59E-03	4.15E-03	2.51E-03	4.05E-03	5.55E-03	4.34E-03	4.35E-03	4.34E-03	2.89E-03	1.27E-03
1404	561124.1	4192208	5.93E-03	7.45E-03	5.85E-03	5.87E-03	5.85E-03	4.34E-03	2.63E-03	4.24E-03	5.81E-03	4.54E-03	4.55E-03	4.54E-03	3.02E-03	1.32E-03
1405	561114.5	4192205	6.05E-03	7.61E-03	5.97E-03	5.99E-03	5.97E-03	4.43E-03	2.69E-03	4.33E-03	5.93E-03	4.63E-03	4.65E-03	4.63E-03	3.09E-03	1.35E-03
1406	561105	4192203	6.16E-03	7.75E-03	6.08E-03	6.10E-03	6.08E-03	4.51E-03	2.73E-03	4.41E-03	6.04E-03	4.72E-03	4.73E-03	4.72E-03	3.14E-03	1.38E-03
1407	561095.5	4192201	6.23E-03	7.83E-03	6.14E-03	6.16E-03	6.14E-03	4.56E-03	2.76E-03	4.45E-03	6.10E-03	4.76E-03	4.78E-03	4.76E-03	3.18E-03	1.39E-03
1408	561086	4192198	6.23E-03	7.83E-03	6.15E-03	6.16E-03	6.15E-03	4.56E-03	2.76E-03	4.45E-03	6.10E-03	4.77E-03	4.78E-03	4.77E-03	3.18E-03	1.39E-03
1409	561076.4	4192196	6.15E-03	7.73E-03	6.07E-03	6.09E-03	6.07E-03	4.50E-03	2.73E-03	4.40E-03	6.03E-03	4.71E-03	4.72E-03	4.71E-03	3.14E-03	1.37E-03
1410	561066.9	4192194	5.98E-03	7.52E-03	5.90E-03	5.92E-03	5.90E-03	4.38E-03	2.65E-03	4.28E-03	5.86E-03	4.58E-03	4.59E-03	4.58E-03	3.05E-03	1.34E-03
1411	561057.4	4192191	5.71E-03	7.18E-03	5.63E-03	5.65E-03	5.63E-03	4.18E-03	2.53E-03	4.08E-03	5.59E-03	4.37E-03	4.38E-03	4.37E-03	2.91E-03	1.28E-03
1412	561257.2	4192250	2.37E-03	2.99E-03	2.34E-03	2.35E-03	2.34E-03	1.74E-03	1.05E-03	1.70E-03	2.33E-03	1.82E-03	1.82E-03	1.82E-03	1.21E-03	5.30E-04
1413	561221.8	4192221	3.12E-03	3.93E-03	3.08E-03	3.09E-03	3.08E-03	2.29E-03	1.39E-03	2.23E-03	3.06E-03	2.39E-03	2.40E-03	2.39E-03	1.59E-03	6.98E-04
1414	561212.3	4192219	3.46E-03	4.35E-03	3.42E-03	3.42E-03	3.42E-03	2.53E-03	1.54E-03	2.47E-03	3.39E-03	2.65E-03	2.66E-03	2.65E-03	1.77E-03	7.73E-04
1415	561202.7	4192217	3.79E-03	4.77E-03	3.74E-03	3.75E-03	3.74E-03	2.77E-03	1.68E-03	2.71E-03	3.71E-03	2.90E-03	2.91E-03	2.90E-03	1.93E-03	8.47E-04
1416	561193.2	4192214	4.09E-03	5.15E-03	4.04E-03	4.05E-03	4.04E-03	2.99E-03	1.82E-03	2.93E-03	4.01E-03	3.13E-03	3.14E-03	3.13E-03	2.09E-03	9.14E-04
1417	561183.7	4192212	4.35E-03	5.48E-03	4.30E-03	4.31E-03	4.30E-03	3.19E-03	1.93E-03	3.11E-03	4.27E-03	3.33E-03	3.34E-03	3.33E-03	2.22E-03	9.73E-04
1418	561174.1	4192210	4.57E-03	5.75E-03	4.51E-03	4.52E-03	4.51E-03	3.34E-03	2.03E-03	3.27E-03	4.48E-03	3.50E-03	3.51E-03	3.50E-03	2.33E-03	1.02E-03
1419	561164.6	4192207	4.73E-03	5.95E-03	4.67E-03	4.68E-03	4.67E-03	3.46E-03	2.10E-03	3.38E-03	4.64E-03	3.62E-03	3.63E-03	3.62E-03	2.41E-03	1.06E-03
1420	561155.1	4192205	4.85E-03	6.10E-03	4.79E-03	4.80E-03	4.79E-03	3.55E-03	2.15E-03	3.47E-03	4.75E-03	3.71E-03	3.72E-03	3.71E-03	2.47E-03	1.08E-03
1421	561126.5	4192198	5.12E-03	6.44E-03	5.06E-03	5.07E-03	5.06E-03	3.75E-03	2.27E-03	3.66E-03	5.02E-03	3.92E-03	3.93E-03	3.92E-03	2.61E-03	1.14E-03
1422	561116.9	4192196	5.22E-03	6.56E-03	5.15E-03	5.16E-03	5.15E-03	3.82E-03	2.31E-03	3.73E-03	5.11E-03	3.99E-03	4.00E-03	3.99E-03	2.66E-03	1.17E-03
1423	561107.4	4192193	5.30E-03	6.66E-03	5.23E-03	5.24E-03	5.23E-03	3.88E-03	2.35E-03	3.79E-03	5.19E-03	4.05E-03	4.06E-03	4.05E-03	2.70E-03	1.18E-03
1424	561097.9	4192191	5.35E-03	6.72E-03	5.28E-03	5.29E-03	5.28E-03	3.91E-03	2.37E-03	3.82E-03	5.24E-03	4.09E-03	4.10E-03	4.09E-03	2.73E-03	1.19E-03
1425	561088.3	4192189	5.35E-03	6.73E-03	5.28E-03	5.29E-03	5.28E-03	3.92E-03	2.37E-03	3.83E-03	5.24E-03	4.09E-03	4.11E-03	4.09E-03	2.73E-03	1.20E-03
1426	561078.8	4192186	5.30E-03	6.66E-03	5.23E-03	5.24E-03	5.23E-03	3.88E-03	2.35E-03	3.79E-03	5.19E-03	4.05E-03	4.06E-03	4.05E-03	2.70E-03	1.18E-03
1427	561069.3	4192184	5.17E-03	6.50E-03	5.10E-03	5.12E-03	5.10E-03	3.79E-03	2.29E-03	3.70E-03	5.07E-03	3.96E-03	3.97E-03	3.96E-03	2.64E-03	1.16E-03
1428	561059.7	4192181	4.98E-03	6.26E-03	4.91E-03	4.93E-03	4.91E-03	3.64E-03	2.21E-03	3.56E-03	4.88E-03	3.81E-03	3.82E-03	3.81E-03	2.54E-03	1.11E-03
1429	561266.1	4192247	2.09E-03	2.62E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.26E-04	1.49E-03	2.05E-03	1.60E-03	1.60E-03	1.60E-03	1.07E-03	4.66E-04
1430	561267.4	4192256	2.16E-03	2.72E-03	2.13E-03	2.14E-03	2.13E-03	1.58E-03	9.58E-04	1.54E-03	2.12E-03	1.65E-03	1.66E-03	1.65E-03	1.10E-03	4.82E-04
1431	561224.2	4192212	2.75E-03	3.46E-03	2.71E-03	2.72E-03	2.71E-03	2.01E-03	1.22E-03	1.97E-03	2.69E-03	2.10E-03	2.11E-03	2.10E-03	1.40E-03	6.14E-04
1432	561214.6	4192209	3.02E-03	3.80E-03	2.98E-03	2.99E-03	2.98E-03	2.21E-03	1.34E-03	2.16E-03	2.96E-03	2.31E-03	2.32E-03	2.31E-03	1.54E-03	6.74E-04
1433	561205.1	4192207	3.28E-03	4.13E-03	3.24E-03	3.25E-03	3.24E-03	2.40E-03	1.46E-03	2.35E-03	3.22E-03	2.51E-03	2.52E-03	2.51E-03	1.68E-03	7.34E-04
1434	561195.6	4192205	3.53E-03	4.44E-03	3.49E-03	3.50E-03	3.49E-03	2.59E-03	1.57E-03	2.53E-03	3.46E-03	2.70E-03	2.71E-03	2.70E-03	1.80E-03	7.89E-04
1435	561186	4192202	3.76E-03	4.72E-03	3.71E-03	3.72E-03	3.71E-03	2.75E-03	1.67E-03	2.69E-03	3.68E-03	2.87E-03	2.88E-03	2.87E-03	1.92E-03	8.39E-04
1436	561176.5	4192200	3.94E-03	4.96E-03	3.89E-03	3.90E-03	3.89E-03	2.89E-03	1.75E-03	2.82E-03	3.86E-03	3.02E-03	3.03E-03	3.02E-03	2.01E-03	8.81E-04
1437	561167	4192198	4.09E-03	5.15E-03	4.04E-03	4.05E-03	4.04E-03	3.00E-03	1.82E-03	2.93E-03	4.01E-03	3.13E-03	3.14E-03	3.13E-03	2.09E-03	9.14E-04
1438	561157.4	4192195	4.21E-03	5.30E-03	4.16E-03	4.17E-03	4.16E-03	3.08E-03	1.87E-03	3.01E-03	4.13E-03	3.22E-03	3.23E-03	3.22E-03	2.15E-03	9.41E-04
1439	561128.9	4192188	4.49E-03	5.65E-03	4.43E-03	4.45E-03	4.43E-03	3.29E-03	1.99E-03	3.21E-03	4.40E-03	3.44E-03	3.45E-03	3.44E-03	2.29E-03	1.00E-03
1440	561119.3	4192186	4.57E-03	5.75E-03	4.51E-03	4.52E-03	4.51E-03	3.35E-03	2.03E-03	3.27E-03	4.48E-03	3.50E-03	3.51E-03	3.50E-03	2.33E-03	1.02E-03
1441	561109.8	4192183	4.63E-03	5.83E-03	4.57E-03	4.59E-03	4.57E-03	3.39E-03	2.06E-03	3.31E-03	4.54E-03	3.55E-03	3.56E-03	3.55E-03	2.36E-03	1.04E-03
1442	561100.3	4192181	4.67E-03	5.88E-03	4.61E-03	4.63E-03	4.61E-03	3.42E-03	2.07E-03	3.34E-03	4.58E-03	3.58E-03	3.59E-03	3.58E-03	2.38E-03	1.04E-03
1443	561090.7	4192179	4.68E-03	5.88E-03	4.62E-03	4.63E-03	4.62E-03	3.42E-03	2.08E-03	3.35E-03	4.58E-03	3.58E-03	3.59E-03	3.58E-03	2.39E-03	1.05E-03
1444	561081.2	4192176	4.64E-03	5.83E-03	4.58E-03	4.59E-03	4.58E-03	3.40E-03	2.06E-03	3.32E-03	4.55E-03	3.55E-03	3.56E-03	3.55E-03	2.37E-03	1.04E-03
1445	561071.7	4192174	4.55E-03	5.72E-03	4.49E-03	4.50E-03	4.49E-03	3.33E-03	2.02E-03	3.25E-03	4.46E-03	3.48E-03	3.49E-03	3.48E-03	2.32E-03	1.02E-03
1446	561062.1	4192172	4.41E-03	5.55E-03	4.35E-03	4.36E-03	4.35E-03	3.23E-03	1.96E-03	3.15E-03	4.32E-03	3.37E-03	3.38E-03	3.37E-03	2.25E-03	9.85E-04
1447	561265.9	4192226	1.86E-03	2.33E-03	1.83E-03	1.84E-03	1.83E-03	1.36E-03	8.23E-04	1.33E-03	1.82E-03	1.42E-03	1.42E-03	1.42E-03	9.47E-04	4.15E-04
1448	561274.7	4192241	1.84E-03	2.32E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.18E-04	1.32E-03	1.81E-03	1.41E-03	1.42E-03	1.41E-03	9.41E-04	4.12E-04
1449	561275.9	4192250	1.91E-03	2.40E-03	1.88E-03	1.89E-03	1.88E-03	1.39E-03	8.46E-04	1.36E-03	1.87E-03	1.46E-03	1.46E-03	1.46E-03	9.72E-04	4.26E-04
1450	561277.2	4192259	1.95E-03	2.46E-03	1.93E-03	1.93E-03	1.93E-03	1.43E-03	8.67E-04	1.40E-03	1.91E-03	1.50E-03	1.50E-03	1.50E-03	9.97E-04	4.37E-04
1451	561236.1	4192204	2.24E-03	2.82E-03	2.21E-03	2.22E-03	2.21E-03	1.64E-03	9.94E-04	1.60E-03	2.20E-03	1.71E-03	1.72E-03	1.71E-03	1.14E-03	5.01E-04
1452	561226.6	4192202	2.45E-03	3.09E-03	2.42E-03	2.43E-03	2.42E-03	1.80E-03	1.09E-03	1.75E-03	2.40E-03	1.88E-03	1.88E-03	1.88E-03	1.25E-03	5.48E-04
1453	561217	4192200	2.67E-03	3.36E-03	2.64E-03	2.65E-03	2.64E-03	1.96E-03	1.19E-03	1.91E-03	2.62E-03	2.05E-03	2.05E-03	2.05E-03	1.36E-03	5.97E-04
1454	561207.5	4192197	2.89E-03	3.64E-03	2.85E-03	2.86E-03	2.85E-03	2.12E-03	1.28E-03	2.07E-03	2.83E-03	2.21E-03	2.22E-03	2.21E-03	1.48E-03	6.46E-04

1455	561198	4192195	3.10E-03	3.90E-03	3.06E-03	3.07E-03	3.06E-03	2.27E-03	1.37E-03	2.22E-03	3.04E-03	2.37E-03	2.38E-03	2.37E-03	1.58E-03	6.92E-04
1456	561188.4	4192192	3.29E-03	4.13E-03	3.24E-03	3.25E-03	3.24E-03	2.41E-03	1.46E-03	2.35E-03	3.22E-03	2.52E-03	2.52E-03	2.52E-03	1.68E-03	7.34E-04
1457	561178.9	4192190	3.45E-03	4.34E-03	3.41E-03	3.42E-03	3.41E-03	2.53E-03	1.53E-03	2.47E-03	3.38E-03	2.64E-03	2.65E-03	2.64E-03	1.76E-03	7.71E-04
1458	561169.4	4192188	3.59E-03	4.52E-03	3.54E-03	3.55E-03	3.54E-03	2.63E-03	1.59E-03	2.57E-03	3.52E-03	2.75E-03	2.76E-03	2.75E-03	1.83E-03	8.02E-04
1459	561159.8	4192185	3.71E-03	4.66E-03	3.66E-03	3.67E-03	3.66E-03	2.71E-03	1.65E-03	2.65E-03	3.63E-03	2.84E-03	2.85E-03	2.84E-03	1.89E-03	8.29E-04
1460	561131.2	4192178	3.98E-03	5.01E-03	3.93E-03	3.94E-03	3.93E-03	2.91E-03	1.77E-03	2.85E-03	3.90E-03	3.05E-03	3.06E-03	3.05E-03	2.03E-03	8.90E-04
1461	561121.7	4192176	4.05E-03	5.10E-03	4.00E-03	4.01E-03	4.00E-03	2.97E-03	1.80E-03	2.90E-03	3.97E-03	3.10E-03	3.11E-03	3.10E-03	2.07E-03	9.05E-04
1462	561112.2	4192174	4.11E-03	5.17E-03	4.05E-03	4.07E-03	4.05E-03	3.01E-03	1.82E-03	2.94E-03	4.03E-03	3.14E-03	3.15E-03	3.14E-03	2.10E-03	9.18E-04
1463	561102.6	4192171	4.14E-03	5.21E-03	4.09E-03	4.10E-03	4.09E-03	3.03E-03	1.84E-03	2.96E-03	4.06E-03	3.17E-03	3.18E-03	3.17E-03	2.11E-03	9.26E-04
1464	561093.1	4192169	4.15E-03	5.22E-03	4.10E-03	4.11E-03	4.10E-03	3.04E-03	1.84E-03	2.97E-03	4.07E-03	3.18E-03	3.18E-03	3.18E-03	2.12E-03	9.27E-04
1465	561083.6	4192167	4.12E-03	5.18E-03	4.07E-03	4.08E-03	4.07E-03	3.02E-03	1.83E-03	2.95E-03	4.04E-03	3.15E-03	3.16E-03	3.15E-03	2.10E-03	9.21E-04
1466	561074	4192164	4.05E-03	5.10E-03	4.00E-03	4.01E-03	4.00E-03	2.97E-03	1.80E-03	2.90E-03	3.97E-03	3.10E-03	3.11E-03	3.10E-03	2.07E-03	9.06E-04
1467	561064.5	4192162	3.95E-03	4.97E-03	3.90E-03	3.91E-03	3.90E-03	2.89E-03	1.75E-03	2.83E-03	3.87E-03	3.02E-03	3.03E-03	3.02E-03	2.02E-03	8.83E-04
1468	561267.5	4192216	1.72E-03	2.16E-03	1.69E-03	1.70E-03	1.69E-03	1.26E-03	7.61E-04	1.23E-03	1.68E-03	1.31E-03	1.32E-03	1.31E-03	8.75E-04	3.83E-04
1469	561274.7	4192221	1.65E-03	2.07E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.32E-04	1.18E-03	1.62E-03	1.26E-03	1.27E-03	1.26E-03	8.42E-04	3.69E-04
1470	561283.2	4192236	1.65E-03	2.07E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.31E-04	1.18E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.40E-04	3.68E-04
1471	561284.5	4192245	1.70E-03	2.14E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.54E-04	1.22E-03	1.67E-03	1.30E-03	1.30E-03	1.30E-03	8.67E-04	3.80E-04
1472	561286.9	4192263	1.78E-03	2.24E-03	1.76E-03	1.76E-03	1.76E-03	1.30E-03	7.89E-04	1.27E-03	1.74E-03	1.36E-03	1.37E-03	1.36E-03	9.08E-04	3.97E-04
1473	561228.9	4192192	2.21E-03	2.78E-03	2.18E-03	2.19E-03	2.18E-03	1.62E-03	9.81E-04	1.58E-03	2.17E-03	1.69E-03	1.70E-03	1.69E-03	1.13E-03	4.94E-04
1474	561219.4	4192190	2.39E-03	3.01E-03	2.36E-03	2.37E-03	2.36E-03	1.75E-03	1.06E-03	1.71E-03	2.35E-03	1.83E-03	1.84E-03	1.83E-03	1.22E-03	5.35E-04
1475	561209.9	4192187	2.58E-03	3.24E-03	2.54E-03	2.55E-03	2.54E-03	1.89E-03	1.14E-03	1.84E-03	2.52E-03	1.97E-03	1.98E-03	1.97E-03	1.31E-03	5.76E-04
1476	561200.3	4192185	2.75E-03	3.46E-03	2.72E-03	2.72E-03	2.72E-03	2.01E-03	1.22E-03	1.97E-03	2.70E-03	2.11E-03	2.11E-03	2.11E-03	1.40E-03	6.15E-04
1477	561190.8	4192183	2.91E-03	3.66E-03	2.88E-03	2.88E-03	2.88E-03	2.13E-03	1.29E-03	2.08E-03	2.85E-03	2.23E-03	2.24E-03	2.23E-03	1.49E-03	6.51E-04
1478	561181.3	4192180	3.06E-03	3.85E-03	3.02E-03	3.03E-03	3.02E-03	2.24E-03	1.36E-03	2.19E-03	3.00E-03	2.34E-03	2.35E-03	2.34E-03	1.56E-03	6.83E-04
1479	561171.7	4192178	3.19E-03	4.01E-03	3.15E-03	3.15E-03	3.15E-03	2.33E-03	1.41E-03	2.28E-03	3.12E-03	2.44E-03	2.45E-03	2.44E-03	1.63E-03	7.12E-04
1480	561162.2	4192176	3.30E-03	4.15E-03	3.26E-03	3.27E-03	3.26E-03	2.41E-03	1.46E-03	2.36E-03	3.23E-03	2.52E-03	2.53E-03	2.52E-03	1.68E-03	7.37E-04
1481	561133.6	4192169	3.56E-03	4.48E-03	3.52E-03	3.53E-03	3.52E-03	2.61E-03	1.58E-03	2.55E-03	3.49E-03	2.73E-03	2.74E-03	2.73E-03	1.82E-03	7.96E-04
1482	561124.1	4192166	3.63E-03	4.56E-03	3.58E-03	3.59E-03	3.58E-03	2.66E-03	1.61E-03	2.60E-03	3.56E-03	2.78E-03	2.79E-03	2.78E-03	1.85E-03	8.11E-04
1483	561114.6	4192164	3.68E-03	4.63E-03	3.63E-03	3.64E-03	3.63E-03	2.69E-03	1.63E-03	2.63E-03	3.61E-03	2.82E-03	2.82E-03	2.82E-03	1.88E-03	8.22E-04
1484	561105	4192162	3.71E-03	4.67E-03	3.66E-03	3.67E-03	3.66E-03	2.72E-03	1.65E-03	2.65E-03	3.64E-03	2.84E-03	2.85E-03	2.84E-03	1.89E-03	8.29E-04
1485	561095.5	4192159	3.72E-03	4.68E-03	3.67E-03	3.68E-03	3.67E-03	2.72E-03	1.65E-03	2.66E-03	3.64E-03	2.85E-03	2.85E-03	2.85E-03	1.90E-03	8.31E-04
1486	561086	4192157	3.70E-03	4.65E-03	3.65E-03	3.66E-03	3.65E-03	2.71E-03	1.64E-03	2.65E-03	3.62E-03	2.83E-03	2.84E-03	2.83E-03	1.89E-03	8.26E-04
1487	561076.4	4192155	3.65E-03	4.59E-03	3.60E-03	3.61E-03	3.60E-03	2.67E-03	1.62E-03	2.61E-03	3.58E-03	2.79E-03	2.80E-03	2.79E-03	1.86E-03	8.15E-04
1488	561066.9	4192152	3.57E-03	4.49E-03	3.52E-03	3.53E-03	3.52E-03	2.61E-03	1.58E-03	2.55E-03	3.50E-03	2.73E-03	2.74E-03	2.73E-03	1.82E-03	7.98E-04
1489	561276.4	4192211	1.53E-03	1.93E-03	1.51E-03	1.52E-03	1.51E-03	1.12E-03	6.80E-04	1.10E-03	1.50E-03	1.17E-03	1.18E-03	1.17E-03	7.82E-04	3.43E-04
1490	561283.5	4192216	1.48E-03	1.86E-03	1.46E-03	1.47E-03	1.46E-03	1.08E-03	6.57E-04	1.06E-03	1.45E-03	1.13E-03	1.14E-03	1.13E-03	7.56E-04	3.31E-04
1491	561291.8	4192230	1.48E-03	1.87E-03	1.46E-03	1.47E-03	1.46E-03	1.09E-03	6.58E-04	1.06E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	7.57E-04	3.31E-04
1492	561294.2	4192248	1.57E-03	1.98E-03	1.55E-03	1.56E-03	1.55E-03	1.15E-03	6.97E-04	1.12E-03	1.54E-03	1.20E-03	1.21E-03	1.20E-03	8.02E-04	3.51E-04
1493	561296.7	4192265	1.63E-03	2.05E-03	1.61E-03	1.61E-03	1.61E-03	1.19E-03	7.23E-04	1.17E-03	1.60E-03	1.25E-03	1.25E-03	1.25E-03	8.32E-04	3.64E-04
1494	561231.3	4192182	2.01E-03	2.53E-03	1.98E-03	1.99E-03	1.98E-03	1.47E-03	8.91E-04	1.44E-03	1.97E-03	1.54E-03	1.54E-03	1.54E-03	1.02E-03	4.49E-04
1495	561221.8	4192180	2.16E-03	2.72E-03	2.14E-03	2.14E-03	2.14E-03	1.58E-03	9.60E-04	1.55E-03	2.12E-03	1.66E-03	1.66E-03	1.66E-03	1.10E-03	4.83E-04
1496	561212.3	4192178	2.32E-03	2.92E-03	2.29E-03	2.29E-03	2.29E-03	1.70E-03	1.03E-03	1.66E-03	2.27E-03	1.77E-03	1.78E-03	1.77E-03	1.18E-03	5.18E-04
1497	561202.7	4192175	2.47E-03	3.10E-03	2.44E-03	2.44E-03	2.44E-03	1.81E-03	1.10E-03	1.77E-03	2.42E-03	1.89E-03	1.89E-03	1.89E-03	1.26E-03	5.51E-04
1498	561193.2	4192173	2.61E-03	3.28E-03	2.58E-03	2.58E-03	2.58E-03	1.91E-03	1.16E-03	1.87E-03	2.56E-03	2.00E-03	2.00E-03	2.00E-03	1.33E-03	5.83E-04
1499	561183.7	4192171	2.74E-03	3.44E-03	2.70E-03	2.71E-03	2.70E-03	2.00E-03	1.22E-03	1.96E-03	2.68E-03	2.10E-03	2.10E-03	2.10E-03	1.40E-03	6.12E-04
1500	561174.1	4192168	2.86E-03	3.59E-03	2.82E-03	2.83E-03	2.82E-03	2.09E-03	1.27E-03	2.04E-03	2.80E-03	2.19E-03	2.19E-03	2.19E-03	1.46E-03	6.38E-04
1501	561164.6	4192166	2.96E-03	3.72E-03	2.92E-03	2.93E-03	2.92E-03	2.17E-03	1.31E-03	2.12E-03	2.90E-03	2.27E-03	2.27E-03	2.27E-03	1.51E-03	6.62E-04
1502	561136	4192159	3.22E-03	4.04E-03	3.17E-03	3.18E-03	3.17E-03	2.35E-03	1.43E-03	2.30E-03	3.15E-03	2.46E-03	2.47E-03	2.46E-03	1.64E-03	7.18E-04
1503	561126.5	4192157	3.28E-03	4.12E-03	3.23E-03	3.24E-03	3.23E-03	2.40E-03	1.45E-03	2.34E-03	3.21E-03	2.51E-03	2.51E-03	2.51E-03	1.67E-03	7.32E-04
1504	561116.9	4192154	3.32E-03	4.18E-03	3.28E-03	3.29E-03	3.28E-03	2.43E-03	1.47E-03	2.38E-03	3.26E-03	2.54E-03	2.55E-03	2.54E-03	1.70E-03	7.43E-04
1505	561107.4	4192152	3.35E-03	4.22E-03	3.31E-03	3.32E-03	3.31E-03	2.45E-03	1.49E-03	2.40E-03	3.29E-03	2.57E-03	2.57E-03	2.57E-03	1.71E-03	7.49E-04
1506	561097.9	4192150	3.36E-03	4.23E-03	3.32E-03	3.33E-03	3.32E-03	2.46E-03	1.49E-03	2.40E-03	3.29E-03	2.57E-03	2.58E-03	2.57E-03	1.72E-03	7.51E-04
1507	561088.3	4192147	3.35E-03	4.21E-03	3.31E-03	3.31E-03	3.31E-03	2.45E-03	1.49E-03	2.40E-03	3.28E-03	2.56E-03	2.57E-03	2.56E-03	1.71E-03	7.48E-04
1508	561078.8	4192145	3.31E-03	4.16E-03	3.27E-03	3.28E-03	3.27E-03	2.42E-03	1.47E-03	2.37E-03	3.25E-03	2.53E-03	2.54E-03	2.53E-03	1.69E-03	7.40E-04
1509	561069.3	4192143	3.25E-03	4.09E-03	3.21E-03	3.22E-03	3.21E-03	2.38E-03	1.44E-03	2.33E-03	3.19E-03	2.49E-03	2.50E-03	2.49E-03	1.66E-03	7.27E-04
1510	561278.2	4192201	1.43E-03	1.80E-03	1.41E-03	1.41E-03	1.41E-03	1.05E-03	6.34E-04	1.02E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	7.29E-04	3.19E-04
1511	561292.2	4192211	1.34E-03	1.69E-03	1.32E-03	1.33E-03	1.32E-03	9.82E-04	5.95E-04	9.59E-04	1.31E-03	1.03E-03	1.03E-03	1.03E-03	6.84E-04	3.00E-04
1512	561300.4	4192225	1.35E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.86E-04	5.97E-04	9.63E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.87E-04	3.01E-04
1513	561302.8	4192242	1.43E-03	1.79E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.02E-03	1.40E-03	1.09E-03	1.09E-03	1.09E-03	7.28E-04	3.19E-04
1514	561305.2	4192260	1.48E-03	1.87E-03	1.46E-03	1.47E-03	1.46E-03	1.09E-03	6.58E-04	1.06E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	7.57E-04	3.31E-04
1515	561233.7	4192173	1.84E-03	2.31E-03	1.81E-03	1.82E-03	1.81E-03	1.34E-03	8.15E-04	1.31E-03	1.80E-03	1.41E-03	1.41E-03	1.41E-03	9.37E-04	4.10E-04
1516	561224.2	4192170	1.97E-03	2.48E-03	1.94E-03	1.95E-03	1.94E-03	1.44E-03	8.74E-04	1.41E-03	1.93E-03	1.51E-03	1.51E-03	1.51E-03	1.01E-03	4.40E-04
1517	561214.6	4192168	2.10E-03	2.65E-03	2.08E-03	2.08E-03	2.08E-03	1.54E-03	9.33E-04	1.50E-03	2.06E-03	1.61E-03	1.61E-03	1.61E-03	1.07E-03	4.70E-04
1518	561205.1	4192166	2.23E-03	2.81E-03	2.20E-03	2.21E-03	2.20E-03	1.63E-03	9.91E-04	1.60E-03	2.19E-03	1.71E-03	1.71E-03	1.71E-03	1.14E-03	4.99E-04
1519	561195.6	4192163	2.36E-03	2.97E-03	2.33E-03	2.33E-03	2.33E-03	1.73E-03	1.05E-03	1.69E-03	2.31E-03	1.80E-03	1.81E-03	1.80E-03	1.20E-03	5.27E-04
1520	561186	4192161	2.47E-03	3.11E-03	2.44E-03	2.45E-03	2.44E-03	1.81E-03	1.10E-03	1.77E-03	2.42E-03	1.89E-03	1.90E-03	1.89E-03	1.26E-03	5.53E-04
1521	561176.5	4192159	2.58E-03	3.25E-03	2.55E-03	2.55E-03	2.55E-03	1.89E-03	1.15E-03	1.85E-03	2.53E-03	1.98E-03	1.98E-03	1.98E-03	1.32E-03	5.77E-04
1522	561167	4192156	2.68E-03	3.37E-03	2.65E-03	2.65E-03	2.65E-03	1.96E-03	1.19E-03	1.92E-03	2.63E-03	2.05E-03	2.06E-03	2.05E-03	1.37E-03	5.99E-04
1523	561138.4	4192149	2.92E-03	3.67E-03	2.88E-03	2.89E-03	2.88E-03	2.14E-03	1.30E-03	2.09E-03	2.86E-03	2.23E-03	2.24E-03	2.23E-03	1.49E-03	6.52E-04
1524	561128.9	4192147	2.98E-03	3.74E-03	2.94E-03	2.95E-03	2.94E-03	2.18E-03	1.32E-03	2.13E-03	2.92E-03	2.28E-03	2.29E-03	2.28E-03	1.52E-03	6.65E-04
1525	561119.3	4192145	3.02E-03	3.80E-03	2.98E-03	2.99E-03	2.98E-03	2.21E-03	1.34E-03	2.16E-03	2.96E-03	2.31E-03	2.32E-03	2.31E-03	1.54E-03	6.75E-04
1526	561109.8	4192142	3.05E-03	3.84E-03	3.01E-03	3.02E-03	3.01E-03	2.23E-03	1.35E-03	2.18E-03	2.99E-03	2.33E-03	2.34E-03	2.33E-03	1.56E-03	6.81E-04
1527	561100.3	4192140	3.06E-03	3.85E-03	3.02E-03	3.03E-03	3.02E-03	2.24E-03	1.36E-03	2.19E-03	3.00E-03	2.34E-03	2.35E-03	2.34E-03	1.56E-03	6.84E-04
1528	561090.7	4192138	3.05E-03	3.84E-03	3.01E-03	3.02E-03	3.01E-03	2.23E-03	1.35E-03	2.18E-03	2.99E-03	2.34E-03	2.34E-03	2.34E-03	1.56E-03	6.82E-04
1529	561081.2	4192135	3.03E-03	3.80E-03	2.99E-03	2.99E-03	2.99E-03	2.21E-03	1.34E-03	2.16E-03	2.96E-03	2.32E-03	2.32E-03	2.32E-03	1.54E-03	6.76E-04
1530	561071.7	4192133	2.98E-03	3.75E-03	2.94E-03	2.95E-03	2.94E-03	2.18E-03	1.32E-03	2.13E-03	2.92E-03	2.28E-03	2.29E-03	2.28E-03	1.52E-03	6.66E-04
1531	561276.7	4192188	1.35E-03	1.70E-03	1.34E-03	1.34E-03	1.34E-03	9.91E-04	6.01E-04	9.69E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.91E-04	3.03E-04
1532	561284.5	4192194	1.31E-03	1.64E-03	1.29E-03	1.29E-03	1.29E-03	9.57E-04	5.80E-04	9.35E-04	1.28E-03	1.00E-03	1.00E-03	1.00E-03	6.67E-04	2.92E-04
1533	561292.3	4192200	1.26E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.26E-04	5.61E-04	9.04E-04	1.24E-03	9.68E-04	9.70E-04	9.68E-04	6.45E-04	2.83E-04
1534	561300	4192206	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.98E-04	5.44E-04	8.77E-04	1.20E-03	9.39E-04	9.41E-04	9.39E-04	6.26E-04	2.74E-04
1535	561309.1	4192221	1.24E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.04E-04	5.48E-04	8.83E-04	1.21E-03	9.45E-04	9.48E-04	9.45E-04	6.30E-04	2.76E-04

1536	561310.5	4192231	1.28E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	9.34E-04	5.66E-04	9.13E-04	1.25E-03	9.77E-04	9.80E-04	9.77E-04	6.51E-04	2.85E-04
1537	561311.8	4192240	1.31E-03	1.65E-03	1.30E-03	1.30E-03	1.30E-03	9.62E-04	5.83E-04	9.40E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.70E-04	2.94E-04
1538	561313.1	4192250	1.35E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.85E-04	5.97E-04	9.62E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.87E-04	3.01E-04
1539	561314.4	4192259	1.37E-03	1.72E-03	1.35E-03	1.36E-03	1.35E-03	1.00E-03	6.08E-04	9.80E-04	1.34E-03	1.05E-03	1.05E-03	1.05E-03	6.99E-04	3.06E-04
1540	561315.8	4192269	1.39E-03	1.74E-03	1.37E-03	1.37E-03	1.37E-03	1.02E-03	6.16E-04	9.92E-04	1.36E-03	1.06E-03	1.06E-03	1.06E-03	7.08E-04	3.10E-04
1541	561245.6	4192165	1.58E-03	1.98E-03	1.56E-03	1.56E-03	1.56E-03	1.15E-03	6.99E-04	1.13E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.04E-04	3.52E-04
1542	561236.1	4192163	1.69E-03	2.12E-03	1.67E-03	1.67E-03	1.67E-03	1.24E-03	7.50E-04	1.21E-03	1.66E-03	1.29E-03	1.30E-03	1.29E-03	8.62E-04	3.77E-04
1543	561226.6	4192161	1.81E-03	2.27E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.01E-04	1.29E-03	1.77E-03	1.38E-03	1.39E-03	1.38E-03	9.21E-04	4.03E-04
1544	561217	4192158	1.92E-03	2.42E-03	1.90E-03	1.90E-03	1.90E-03	1.41E-03	8.53E-04	1.37E-03	1.88E-03	1.47E-03	1.48E-03	1.47E-03	9.81E-04	4.29E-04
1545	561207.5	4192156	2.04E-03	2.56E-03	2.01E-03	2.02E-03	2.01E-03	1.49E-03	9.04E-04	1.46E-03	2.00E-03	1.56E-03	1.56E-03	1.56E-03	1.04E-03	4.55E-04
1546	561198	4192154	2.15E-03	2.70E-03	2.12E-03	2.12E-03	2.12E-03	1.57E-03	9.53E-04	1.54E-03	2.10E-03	1.64E-03	1.65E-03	1.64E-03	1.10E-03	4.80E-04
1547	561188.4	4192151	2.25E-03	2.83E-03	2.22E-03	2.23E-03	2.22E-03	1.65E-03	9.99E-04	1.61E-03	2.21E-03	1.72E-03	1.73E-03	1.72E-03	1.15E-03	5.03E-04
1548	561178.9	4192149	2.35E-03	2.96E-03	2.32E-03	2.33E-03	2.32E-03	1.72E-03	1.04E-03	1.68E-03	2.30E-03	1.80E-03	1.80E-03	1.80E-03	1.20E-03	5.25E-04
1549	561169.4	4192147	2.44E-03	3.07E-03	2.41E-03	2.42E-03	2.41E-03	1.79E-03	1.08E-03	1.75E-03	2.39E-03	1.87E-03	1.87E-03	1.87E-03	1.25E-03	5.45E-04
1550	561150.3	4192142	2.60E-03	3.27E-03	2.57E-03	2.57E-03	2.57E-03	1.90E-03	1.15E-03	1.86E-03	2.55E-03	1.99E-03	2.00E-03	1.99E-03	1.33E-03	5.81E-04
1551	561140.8	4192140	2.67E-03	3.35E-03	2.63E-03	2.64E-03	2.63E-03	1.95E-03	1.18E-03	1.91E-03	2.61E-03	2.04E-03	2.05E-03	2.04E-03	1.36E-03	5.96E-04
1552	561131.2	4192137	2.72E-03	3.42E-03	2.69E-03	2.69E-03	2.69E-03	1.99E-03	1.21E-03	1.95E-03	2.67E-03	2.08E-03	2.09E-03	2.08E-03	1.39E-03	6.08E-04
1553	561121.7	4192135	2.76E-03	3.47E-03	2.73E-03	2.73E-03	2.73E-03	2.02E-03	1.23E-03	1.98E-03	2.71E-03	2.11E-03	2.12E-03	2.11E-03	1.41E-03	6.17E-04
1554	561112.2	4192133	2.79E-03	3.51E-03	2.75E-03	2.76E-03	2.75E-03	2.04E-03	1.24E-03	2.00E-03	2.73E-03	2.14E-03	2.14E-03	2.14E-03	1.42E-03	6.23E-04
1555	561102.6	4192130	2.80E-03	3.52E-03	2.77E-03	2.77E-03	2.77E-03	2.05E-03	1.24E-03	2.00E-03	2.75E-03	2.15E-03	2.15E-03	2.15E-03	1.43E-03	6.26E-04
1556	561093.1	4192128	2.80E-03	3.52E-03	2.76E-03	2.77E-03	2.76E-03	2.05E-03	1.24E-03	2.00E-03	2.74E-03	2.14E-03	2.15E-03	2.14E-03	1.43E-03	6.25E-04
1557	561083.6	4192126	2.78E-03	3.50E-03	2.74E-03	2.75E-03	2.74E-03	2.03E-03	1.23E-03	1.99E-03	2.72E-03	2.13E-03	2.13E-03	2.13E-03	1.42E-03	6.21E-04
1558	561074.1	4192123	2.74E-03	3.45E-03	2.71E-03	2.72E-03	2.71E-03	2.01E-03	1.22E-03	1.96E-03	2.69E-03	2.10E-03	2.11E-03	2.10E-03	1.40E-03	6.13E-04
1559	561278.4	4192178	1.27E-03	1.60E-03	1.25E-03	1.26E-03	1.25E-03	9.29E-04	5.63E-04	9.08E-04	1.24E-03	9.71E-04	9.74E-04	9.71E-04	6.48E-04	2.83E-04
1560	561286	4192184	1.23E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.98E-04	5.44E-04	8.77E-04	1.20E-03	9.39E-04	9.41E-04	9.39E-04	6.26E-04	2.74E-04
1561	561293.6	4192189	1.19E-03	1.49E-03	1.17E-03	1.18E-03	1.17E-03	8.70E-04	5.27E-04	8.50E-04	1.16E-03	9.09E-04	9.12E-04	9.09E-04	6.06E-04	2.65E-04
1562	561301.2	4192195	1.15E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.45E-04	5.12E-04	8.25E-04	1.13E-03	8.83E-04	8.86E-04	8.83E-04	5.89E-04	2.58E-04
1563	561308.8	4192201	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.22E-04	4.99E-04	8.04E-04	1.10E-03	8.60E-04	8.62E-04	8.60E-04	5.73E-04	2.51E-04
1564	561317.7	4192216	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	8.11E-04	1.11E-03	8.68E-04	8.70E-04	8.68E-04	5.78E-04	2.53E-04
1565	561319	4192225	1.17E-03	1.47E-03	1.16E-03	1.16E-03	1.16E-03	8.57E-04	5.20E-04	8.37E-04	1.15E-03	8.96E-04	8.99E-04	8.96E-04	5.97E-04	2.62E-04
1566	561320.3	4192234	1.21E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	8.82E-04	5.35E-04	8.62E-04	1.18E-03	9.22E-04	9.25E-04	9.22E-04	6.15E-04	2.69E-04
1567	561321.6	4192244	1.24E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.04E-04	5.48E-04	8.83E-04	1.21E-03	9.45E-04	9.48E-04	9.45E-04	6.30E-04	2.76E-04
1568	561322.9	4192253	1.26E-03	1.58E-03	1.24E-03	1.25E-03	1.24E-03	9.22E-04	5.59E-04	9.01E-04	1.23E-03	9.64E-04	9.66E-04	9.64E-04	6.43E-04	2.81E-04
1569	561324.2	4192263	1.28E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	9.35E-04	5.67E-04	9.14E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	6.52E-04	2.85E-04
1570	561325.5	4192272	1.29E-03	1.62E-03	1.27E-03	1.28E-03	1.27E-03	9.45E-04	5.73E-04	9.23E-04	1.27E-03	9.88E-04	9.91E-04	9.88E-04	6.59E-04	2.88E-04
1571	561248	4192156	1.46E-03	1.84E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.49E-04	1.05E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	7.46E-04	3.27E-04
1572	561238.5	4192153	1.56E-03	1.96E-03	1.54E-03	1.55E-03	1.54E-03	1.14E-03	6.93E-04	1.12E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	7.97E-04	3.49E-04
1573	561228.9	4192151	1.66E-03	2.09E-03	1.64E-03	1.65E-03	1.64E-03	1.22E-03	7.39E-04	1.19E-03	1.63E-03	1.27E-03	1.28E-03	1.27E-03	8.50E-04	3.72E-04
1574	561219.4	4192149	1.77E-03	2.22E-03	1.74E-03	1.75E-03	1.74E-03	1.29E-03	7.84E-04	1.26E-03	1.73E-03	1.35E-03	1.36E-03	1.35E-03	9.02E-04	3.95E-04
1575	561209.9	4192146	1.87E-03	2.35E-03	1.84E-03	1.85E-03	1.84E-03	1.37E-03	8.29E-04	1.34E-03	1.83E-03	1.43E-03	1.43E-03	1.43E-03	9.54E-04	4.18E-04
1576	561200.3	4192144	1.97E-03	2.48E-03	1.94E-03	1.95E-03	1.94E-03	1.44E-03	8.73E-04	1.41E-03	1.93E-03	1.51E-03	1.51E-03	1.51E-03	1.00E-03	4.40E-04
1577	561190.8	4192142	2.06E-03	2.59E-03	2.04E-03	2.04E-03	2.04E-03	1.51E-03	9.15E-04	1.48E-03	2.02E-03	1.58E-03	1.58E-03	1.58E-03	1.05E-03	4.61E-04
1578	561181.3	4192139	2.15E-03	2.71E-03	2.12E-03	2.13E-03	2.12E-03	1.58E-03	9.55E-04	1.54E-03	2.11E-03	1.65E-03	1.65E-03	1.65E-03	1.10E-03	4.81E-04
1579	561171.8	4192137	2.24E-03	2.81E-03	2.21E-03	2.21E-03	2.21E-03	1.64E-03	9.93E-04	1.60E-03	2.19E-03	1.71E-03	1.72E-03	1.71E-03	1.14E-03	5.00E-04
1580	561152.7	4192132	2.39E-03	3.00E-03	2.35E-03	2.36E-03	2.35E-03	1.75E-03	1.06E-03	1.71E-03	2.34E-03	1.83E-03	1.83E-03	1.83E-03	1.22E-03	5.33E-04
1581	561143.2	4192130	2.45E-03	3.08E-03	2.41E-03	2.42E-03	2.41E-03	1.79E-03	1.09E-03	1.75E-03	2.40E-03	1.87E-03	1.88E-03	1.87E-03	1.25E-03	5.47E-04
1582	561133.6	4192128	2.50E-03	3.14E-03	2.47E-03	2.47E-03	2.47E-03	1.83E-03	1.11E-03	1.79E-03	2.45E-03	1.91E-03	1.92E-03	1.91E-03	1.27E-03	5.58E-04
1583	561124.1	4192125	2.54E-03	3.19E-03	2.50E-03	2.51E-03	2.50E-03	1.86E-03	1.13E-03	1.82E-03	2.49E-03	1.94E-03	1.95E-03	1.94E-03	1.30E-03	5.67E-04
1584	561114.6	4192123	2.57E-03	3.23E-03	2.53E-03	2.54E-03	2.53E-03	1.88E-03	1.14E-03	1.83E-03	2.51E-03	1.96E-03	1.97E-03	1.96E-03	1.31E-03	5.73E-04
1585	561105	4192121	2.58E-03	3.24E-03	2.55E-03	2.55E-03	2.55E-03	1.89E-03	1.14E-03	1.84E-03	2.53E-03	1.97E-03	1.98E-03	1.97E-03	1.32E-03	5.76E-04
1586	561095.5	4192118	2.58E-03	3.24E-03	2.55E-03	2.55E-03	2.55E-03	1.89E-03	1.14E-03	1.84E-03	2.53E-03	1.97E-03	1.98E-03	1.97E-03	1.32E-03	5.76E-04
1587	561086	4192116	2.57E-03	3.23E-03	2.53E-03	2.54E-03	2.53E-03	1.88E-03	1.14E-03	1.83E-03	2.51E-03	1.96E-03	1.97E-03	1.96E-03	1.31E-03	5.73E-04
1588	561076.4	4192113	2.54E-03	3.19E-03	2.50E-03	2.51E-03	2.50E-03	1.86E-03	1.13E-03	1.82E-03	2.49E-03	1.94E-03	1.95E-03	1.94E-03	1.30E-03	5.67E-04
1589	561280.2	4192168	1.19E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.72E-04	5.29E-04	8.52E-04	1.17E-03	9.12E-04	9.14E-04	9.12E-04	6.08E-04	2.66E-04
1590	561287.7	4192174	1.15E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.44E-04	5.12E-04	8.24E-04	1.13E-03	8.82E-04	8.85E-04	8.82E-04	5.88E-04	2.58E-04
1591	561295.2	4192179	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.18E-04	4.96E-04	8.00E-04	1.10E-03	8.56E-04	8.58E-04	8.56E-04	5.70E-04	2.50E-04
1592	561302.6	4192185	1.09E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.96E-04	4.82E-04	7.77E-04	1.07E-03	8.32E-04	8.34E-04	8.32E-04	5.55E-04	2.43E-04
1593	561310.1	4192190	1.06E-03	1.33E-03	1.05E-03	1.05E-03	1.05E-03	7.75E-04	4.70E-04	7.58E-04	1.04E-03	8.11E-04	8.13E-04	8.11E-04	5.41E-04	2.37E-04
1594	561317.5	4192196	1.03E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.57E-04	4.59E-04	7.40E-04	1.01E-03	7.92E-04	7.94E-04	7.92E-04	5.28E-04	2.31E-04
1595	561326.3	4192210	1.05E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.65E-04	4.64E-04	7.48E-04	1.02E-03	8.00E-04	8.02E-04	8.00E-04	5.34E-04	2.34E-04
1596	561327.6	4192220	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.90E-04	4.79E-04	7.72E-04	1.06E-03	8.26E-04	8.28E-04	8.26E-04	5.51E-04	2.41E-04
1597	561328.8	4192229	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.13E-04	4.93E-04	7.94E-04	1.09E-03	8.50E-04	8.52E-04	8.50E-04	5.67E-04	2.48E-04
1598	561330.1	4192238	1.14E-03	1.43E-03	1.12E-03	1.13E-03	1.12E-03	8.33E-04	5.05E-04	8.14E-04	1.12E-03	8.71E-04	8.74E-04	8.71E-04	5.81E-04	2.54E-04
1599	561331.4	4192247	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.51E-04	5.16E-04	8.31E-04	1.14E-03	8.90E-04	8.92E-04	8.90E-04	5.93E-04	2.60E-04
1600	561332.6	4192256	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.65E-04	5.24E-04	8.45E-04	1.16E-03	9.04E-04	9.07E-04	9.04E-04	6.03E-04	2.64E-04
1601	561250.4	4192146	1.36E-03	1.71E-03	1.34E-03	1.35E-03	1.34E-03	9.97E-04	6.05E-04	9.74E-04	1.34E-03	1.04E-03	1.05E-03	1.04E-03	6.95E-04	3.04E-04
1602	561240.9	4192144	1.45E-03	1.83E-03	1.43E-03	1.44E-03	1.43E-03	1.06E-03	6.44E-04	1.04E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.41E-04	3.24E-04
1603	561231.3	4192141	1.54E-03	1.94E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.84E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.87E-04	3.45E-04
1604	561221.8	4192139	1.63E-03	2.06E-03	1.61E-03	1.62E-03	1.61E-03	1.20E-03	7.25E-04	1.17E-03	1.60E-03	1.25E-03	1.25E-03	1.25E-03	8.34E-04	3.65E-04
1605	561212.3	4192137	1.73E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.66E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.80E-04	3.85E-04
1606	561202.7	4192134	1.81E-03	2.28E-03	1.79E-03	1.80E-03	1.79E-03	1.33E-03	8.05E-04	1.30E-03	1.78E-03	1.39E-03	1.39E-03	1.39E-03	9.26E-04	4.05E-04
1607	561193.2	4192132	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.43E-04	1.36E-03	1.86E-03	1.45E-03	1.46E-03	1.45E-03	9.70E-04	4.25E-04
1608	561183.7	4192130	1.98E-03	2.49E-03	1.96E-03	1.96E-03	1.96E-03	1.45E-03	8.80E-04	1.42E-03	1.94E-03	1.52E-03	1.52E-03	1.52E-03	1.01E-03	4.43E-04
1609	561174.1	4192127	2.06E-03	2.59E-03	2.03E-03	2.04E-03	2.03E-03	1.51E-03	9.14E-04	1.47E-03	2.02E-03	1.58E-03	1.58E-03	1.58E-03	1.05E-03	4.60E-04
1610	561155.1	4192123	2.20E-03	2.76E-03	2.17E-03	2.18E-03	2.17E-03	1.61E-03	9.75E-04	1.57E-03	2.15E-03	1.68E-03	1.69E-03	1.68E-03	1.12E-03	4.91E-04
1611	561145.5	4192120	2.26E-03	2.84E-03	2.23E-03	2.23E-03	2.23E-03	1.65E-03	1.00E-03	1.61E-03	2.21E-03	1.73E-03	1.73E-03	1.73E-03	1.15E-03	5.04E-04
1612	561136	4192118	2.30E-03	2.90E-03	2.27E-03	2.28E-03	2.27E-03	1.69E-03	1.02E-03	1.65E-03	2.26E-03	1.76E-03	1.77E-03	1.76E-03	1.18E-03	5.15E-04
1613	561126.5	4192115	2.34E-03	2.94E-03	2.31E-03	2.32E-03	2.31E-03	1.71E-03	1.04E-03	1.67E-03	2.29E-03	1.79E-03	1.80E-03	1.79E-03	1.19E-03	5.23E-04
1614	561116.9	4192113	2.37E-03	2.98E-03	2.34E-03	2.34E-03	2.34E-03	1.73E-03	1.05E-03	1.69E-03	2.32E-03	1.81E-03	1.82E-03	1.81E-03	1.21E-03	5.29E-04
1615	561107.4	4192111	2.38E-03	3.00E-03	2.35E-03	2.36E-03	2.35E-03	1.74E-03	1.06E-03	1.70E-03	2.34E-03	1.82E-03	1.83E-03	1.82E-03	1.22E-03	5.32E-04
1616	561097.9	4192108	2.39E-03	3.00E-03	2.35E-03	2.36E-03	2.35E-03	1.75E-03	1.06E-03	1.71E-03	2.34E-03	1.83E-03	1.83E-03	1.83E-03	1.22E-03	5.33E-04

1617	561088.4	4192106	2.38E-03	2.99E-03	2.35E-03	2.35E-03	2.35E-03	1.74E-03	1.05E-03	1.70E-03	2.33E-03	1.82E-03	1.82E-03	1.82E-03	1.21E-03	5.31E-04
1618	561078.8	4192104	2.36E-03	2.96E-03	2.33E-03	2.33E-03	2.33E-03	1.72E-03	1.05E-03	1.69E-03	2.31E-03	1.80E-03	1.81E-03	1.80E-03	1.20E-03	5.26E-04
1619	561282.2	4192158	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.20E-04	4.97E-04	8.01E-04	1.10E-03	8.58E-04	8.60E-04	8.58E-04	5.72E-04	2.50E-04
1620	561289.5	4192163	1.09E-03	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.95E-04	4.82E-04	7.77E-04	1.06E-03	8.31E-04	8.33E-04	8.31E-04	5.54E-04	2.43E-04
1621	561296.9	4192169	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.71E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.35E-04
1622	561304.2	4192174	1.03E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.50E-04	4.55E-04	7.33E-04	1.00E-03	7.85E-04	7.87E-04	7.85E-04	5.23E-04	2.29E-04
1623	561311.6	4192180	1.00E-03	1.26E-03	9.87E-04	9.89E-04	9.87E-04	7.32E-04	4.44E-04	7.15E-04	9.80E-04	7.65E-04	7.67E-04	7.65E-04	5.10E-04	2.23E-04
1624	561318.9	4192185	9.77E-04	1.23E-03	9.64E-04	9.67E-04	9.64E-04	7.15E-04	4.33E-04	6.99E-04	9.57E-04	7.48E-04	7.50E-04	7.48E-04	4.99E-04	2.18E-04
1625	561326.3	4192191	9.57E-04	1.20E-03	9.44E-04	9.47E-04	9.44E-04	7.00E-04	4.24E-04	6.84E-04	9.37E-04	7.32E-04	7.34E-04	7.32E-04	4.88E-04	2.14E-04
1626	561334.9	4192205	9.69E-04	1.22E-03	9.56E-04	9.59E-04	9.56E-04	7.09E-04	4.30E-04	6.93E-04	9.49E-04	7.41E-04	7.43E-04	7.41E-04	4.94E-04	2.16E-04
1627	561336.1	4192214	9.99E-04	1.26E-03	9.86E-04	9.89E-04	9.86E-04	7.31E-04	4.43E-04	7.14E-04	9.79E-04	7.64E-04	7.67E-04	7.64E-04	5.10E-04	2.23E-04
1628	561337.4	4192223	1.03E-03	1.29E-03	1.01E-03	1.02E-03	1.01E-03	7.52E-04	4.56E-04	7.35E-04	1.01E-03	7.87E-04	7.89E-04	7.87E-04	5.24E-04	2.30E-04
1629	561338.6	4192232	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
1630	561344.9	4192278	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.27E-04	5.01E-04	8.08E-04	1.11E-03	8.65E-04	8.67E-04	8.65E-04	5.77E-04	2.52E-04
1631	561233.7	4192132	1.44E-03	1.81E-03	1.42E-03	1.42E-03	1.42E-03	1.05E-03	6.37E-04	1.03E-03	1.41E-03	1.10E-03	1.10E-03	1.10E-03	7.33E-04	3.21E-04
1632	561224.2	4192129	1.52E-03	1.91E-03	1.50E-03	1.50E-03	1.50E-03	1.11E-03	6.74E-04	1.09E-03	1.49E-03	1.16E-03	1.17E-03	1.16E-03	7.75E-04	3.39E-04
1633	561214.6	4192127	1.60E-03	2.01E-03	1.58E-03	1.58E-03	1.58E-03	1.17E-03	7.10E-04	1.14E-03	1.57E-03	1.23E-03	1.23E-03	1.23E-03	8.17E-04	3.58E-04
1634	561205.1	4192125	1.68E-03	2.11E-03	1.66E-03	1.66E-03	1.66E-03	1.23E-03	7.46E-04	1.20E-03	1.65E-03	1.29E-03	1.29E-03	1.29E-03	8.58E-04	3.76E-04
1635	561195.6	4192122	1.76E-03	2.21E-03	1.74E-03	1.74E-03	1.74E-03	1.29E-03	7.81E-04	1.26E-03	1.72E-03	1.35E-03	1.35E-03	1.35E-03	8.98E-04	3.93E-04
1636	561186.1	4192120	1.84E-03	2.31E-03	1.81E-03	1.82E-03	1.81E-03	1.34E-03	8.14E-04	1.31E-03	1.80E-03	1.40E-03	1.41E-03	1.40E-03	9.36E-04	4.10E-04
1637	561176.5	4192117	1.91E-03	2.40E-03	1.88E-03	1.89E-03	1.88E-03	1.40E-03	8.46E-04	1.36E-03	1.87E-03	1.46E-03	1.46E-03	1.46E-03	9.73E-04	4.26E-04
1638	561157.5	4192113	2.03E-03	2.56E-03	2.01E-03	2.01E-03	2.01E-03	1.49E-03	9.02E-04	1.45E-03	1.99E-03	1.56E-03	1.56E-03	1.56E-03	1.04E-03	4.54E-04
1639	561147.9	4192110	2.09E-03	2.62E-03	2.06E-03	2.07E-03	2.06E-03	1.53E-03	9.26E-04	1.49E-03	2.05E-03	1.60E-03	1.60E-03	1.60E-03	1.06E-03	4.66E-04
1640	561138.4	4192108	2.13E-03	2.68E-03	2.10E-03	2.11E-03	2.10E-03	1.56E-03	9.46E-04	1.52E-03	2.09E-03	1.63E-03	1.64E-03	1.63E-03	1.09E-03	4.76E-04
1641	561128.9	4192106	2.17E-03	2.73E-03	2.14E-03	2.15E-03	2.14E-03	1.59E-03	9.62E-04	1.55E-03	2.12E-03	1.66E-03	1.66E-03	1.66E-03	1.11E-03	4.84E-04
1642	561119.3	4192103	2.19E-03	2.76E-03	2.17E-03	2.17E-03	2.17E-03	1.61E-03	9.74E-04	1.57E-03	2.15E-03	1.68E-03	1.68E-03	1.68E-03	1.12E-03	4.90E-04
1643	561109.8	4192101	2.21E-03	2.78E-03	2.18E-03	2.19E-03	2.18E-03	1.62E-03	9.81E-04	1.58E-03	2.17E-03	1.69E-03	1.70E-03	1.69E-03	1.13E-03	4.94E-04
1644	561100.3	4192099	2.22E-03	2.79E-03	2.19E-03	2.19E-03	2.19E-03	1.62E-03	9.83E-04	1.58E-03	2.17E-03	1.70E-03	1.70E-03	1.70E-03	1.13E-03	4.95E-04
1645	561090.7	4192096	2.21E-03	2.78E-03	2.18E-03	2.19E-03	2.18E-03	1.62E-03	9.81E-04	1.58E-03	2.17E-03	1.69E-03	1.70E-03	1.69E-03	1.13E-03	4.94E-04
1646	561081.2	4192094	2.20E-03	2.76E-03	2.17E-03	2.17E-03	2.17E-03	1.61E-03	9.74E-04	1.57E-03	2.15E-03	1.68E-03	1.68E-03	1.68E-03	1.12E-03	4.90E-04
1647	561291.4	4192153	1.02E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.50E-04	4.55E-04	7.33E-04	1.00E-03	7.84E-04	7.86E-04	7.84E-04	5.23E-04	2.29E-04
1648	561305.9	4192164	9.69E-04	1.22E-03	9.56E-04	9.59E-04	9.56E-04	7.09E-04	4.30E-04	6.93E-04	9.49E-04	7.41E-04	7.43E-04	7.41E-04	4.94E-04	2.16E-04
1649	561320.5	4192175	9.24E-04	1.16E-03	9.12E-04	9.14E-04	9.12E-04	6.76E-04	4.10E-04	6.61E-04	9.05E-04	7.07E-04	7.09E-04	7.07E-04	4.71E-04	2.06E-04
1650	561335	4192186	8.88E-04	1.12E-03	8.77E-04	8.79E-04	8.77E-04	6.50E-04	3.94E-04	6.35E-04	8.70E-04	6.80E-04	6.82E-04	6.80E-04	4.53E-04	1.98E-04
1651	561343.5	4192200	9.00E-04	1.13E-03	8.89E-04	8.91E-04	8.89E-04	6.59E-04	3.99E-04	6.44E-04	8.82E-04	6.89E-04	6.91E-04	6.89E-04	4.59E-04	2.01E-04
1652	561344.7	4192209	9.28E-04	1.17E-03	9.16E-04	9.19E-04	9.16E-04	6.79E-04	4.12E-04	6.64E-04	9.09E-04	7.10E-04	7.12E-04	7.10E-04	4.74E-04	2.07E-04
1653	561350.9	4192254	1.04E-03	1.30E-03	1.02E-03	1.03E-03	1.02E-03	7.58E-04	4.60E-04	7.41E-04	1.01E-03	7.93E-04	7.95E-04	7.93E-04	5.29E-04	2.31E-04
1654	561352.1	4192263	1.05E-03	1.32E-03	1.03E-03	1.04E-03	1.03E-03	7.67E-04	4.65E-04	7.49E-04	1.03E-03	8.02E-04	8.04E-04	8.02E-04	5.35E-04	2.34E-04
1655	561354.6	4192281	1.06E-03	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.77E-04	4.71E-04	7.60E-04	1.04E-03	8.13E-04	8.15E-04	8.13E-04	5.42E-04	2.37E-04
1656	561296.4	4192146	9.58E-04	1.20E-03	9.45E-04	9.48E-04	9.45E-04	7.01E-04	4.25E-04	6.85E-04	9.38E-04	7.33E-04	7.35E-04	7.33E-04	4.89E-04	2.14E-04
1657	561304.2	4192151	9.29E-04	1.17E-03	9.17E-04	9.19E-04	9.17E-04	6.80E-04	4.12E-04	6.64E-04	9.10E-04	7.11E-04	7.13E-04	7.11E-04	4.74E-04	2.08E-04
1658	561312	4192157	9.03E-04	1.14E-03	8.92E-04	8.94E-04	8.92E-04	6.61E-04	4.01E-04	6.46E-04	8.85E-04	6.91E-04	6.93E-04	6.91E-04	4.61E-04	2.02E-04
1659	561319.7	4192163	8.81E-04	1.11E-03	8.69E-04	8.72E-04	8.69E-04	6.45E-04	3.91E-04	6.30E-04	8.63E-04	6.74E-04	6.76E-04	6.74E-04	4.49E-04	1.97E-04
1660	561327.5	4192169	8.61E-04	1.08E-03	8.50E-04	8.52E-04	8.50E-04	6.30E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.39E-04	1.92E-04
1661	561335.3	4192174	8.44E-04	1.06E-03	8.33E-04	8.35E-04	8.33E-04	6.18E-04	3.74E-04	6.04E-04	8.27E-04	6.46E-04	6.48E-04	6.46E-04	4.31E-04	1.89E-04
1662	561343	4192180	8.29E-04	1.04E-03	8.18E-04	8.20E-04	8.18E-04	6.06E-04	3.68E-04	5.92E-04	8.12E-04	6.34E-04	6.36E-04	6.34E-04	4.23E-04	1.85E-04
1663	561357.4	4192234	9.42E-04	1.18E-03	9.30E-04	9.32E-04	9.30E-04	6.90E-04	4.18E-04	6.74E-04	9.23E-04	7.21E-04	7.23E-04	7.21E-04	4.81E-04	2.10E-04
1664	561358.8	4192244	9.61E-04	1.21E-03	9.48E-04	9.51E-04	9.48E-04	7.03E-04	4.26E-04	6.87E-04	9.41E-04	7.35E-04	7.37E-04	7.35E-04	4.90E-04	2.15E-04
1665	561360.1	4192253	9.76E-04	1.23E-03	9.63E-04	9.65E-04	9.63E-04	7.14E-04	4.33E-04	6.98E-04	9.56E-04	7.47E-04	7.49E-04	7.47E-04	4.98E-04	2.18E-04
1666	561361.4	4192263	9.87E-04	1.24E-03	9.74E-04	9.77E-04	9.74E-04	7.22E-04	4.38E-04	7.06E-04	9.67E-04	7.55E-04	7.57E-04	7.55E-04	5.04E-04	2.20E-04
1667	561362.8	4192272	9.95E-04	1.25E-03	9.82E-04	9.85E-04	9.82E-04	7.28E-04	4.42E-04	7.12E-04	9.75E-04	7.62E-04	7.64E-04	7.62E-04	5.08E-04	2.22E-04
1668	561364.1	4192282	1.00E-03	1.26E-03	9.87E-04	9.90E-04	9.87E-04	7.32E-04	4.44E-04	7.16E-04	9.80E-04	7.66E-04	7.68E-04	7.66E-04	5.11E-04	2.24E-04
1669	561257.5	4192117	1.13E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	4.99E-04	8.05E-04	1.10E-03	8.61E-04	8.64E-04	8.61E-04	5.74E-04	2.51E-04
1670	561248	4192114	1.19E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.72E-04	5.29E-04	8.52E-04	1.17E-03	9.12E-04	9.14E-04	9.12E-04	6.08E-04	2.66E-04
1671	561238.5	4192112	1.26E-03	1.58E-03	1.24E-03	1.25E-03	1.24E-03	9.21E-04	5.59E-04	9.00E-04	1.23E-03	9.63E-04	9.66E-04	9.63E-04	6.42E-04	2.81E-04
1672	561229	4192110	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.71E-04	5.89E-04	9.49E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.77E-04	2.96E-04
1673	561219.4	4192107	1.40E-03	1.75E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.19E-04	9.98E-04	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.12E-04	3.12E-04
1674	561209.9	4192105	1.46E-03	1.84E-03	1.44E-03	1.45E-03	1.44E-03	1.07E-03	6.49E-04	1.05E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	7.46E-04	3.27E-04
1675	561200.4	4192103	1.53E-03	1.92E-03	1.51E-03	1.51E-03	1.51E-03	1.12E-03	6.78E-04	1.09E-03	1.50E-03	1.17E-03	1.17E-03	1.17E-03	7.80E-04	3.41E-04
1676	561190.8	4192100	1.59E-03	2.00E-03	1.57E-03	1.57E-03	1.57E-03	1.16E-03	7.06E-04	1.14E-03	1.56E-03	1.22E-03	1.22E-03	1.22E-03	8.12E-04	3.55E-04
1677	561181.3	4192098	1.65E-03	2.08E-03	1.63E-03	1.63E-03	1.63E-03	1.21E-03	7.33E-04	1.18E-03	1.62E-03	1.26E-03	1.27E-03	1.26E-03	8.43E-04	3.69E-04
1678	561162.2	4192093	1.76E-03	2.21E-03	1.74E-03	1.74E-03	1.74E-03	1.29E-03	7.81E-04	1.26E-03	1.72E-03	1.35E-03	1.35E-03	1.35E-03	8.98E-04	3.93E-04
1679	561152.7	4192091	1.81E-03	2.27E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.01E-04	1.29E-03	1.77E-03	1.38E-03	1.39E-03	1.38E-03	9.22E-04	4.03E-04
1680	561143.2	4192089	1.85E-03	2.32E-03	1.82E-03	1.83E-03	1.82E-03	1.35E-03	8.19E-04	1.32E-03	1.81E-03	1.41E-03	1.42E-03	1.41E-03	9.42E-04	4.12E-04
1681	561133.6	4192086	1.88E-03	2.36E-03	1.85E-03	1.86E-03	1.85E-03	1.37E-03	8.33E-04	1.34E-03	1.84E-03	1.44E-03	1.44E-03	1.44E-03	9.58E-04	4.20E-04
1682	561124.1	4192084	1.90E-03	2.39E-03	1.88E-03	1.88E-03	1.88E-03	1.39E-03	8.44E-04	1.36E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	9.71E-04	4.25E-04
1683	561114.6	4192082	1.92E-03	2.41E-03	1.89E-03	1.90E-03	1.89E-03	1.40E-03	8.52E-04	1.37E-03	1.88E-03	1.47E-03	1.47E-03	1.47E-03	9.79E-04	4.29E-04
1684	561105	4192079	1.93E-03	2.42E-03	1.90E-03	1.91E-03	1.90E-03	1.41E-03	8.55E-04	1.38E-03	1.89E-03	1.48E-03	1.48E-03	1.48E-03	9.84E-04	4.31E-04
1685	561095.5	4192077	1.93E-03	2.43E-03	1.90E-03	1.91E-03	1.90E-03	1.41E-03	8.56E-04	1.38E-03	1.89E-03	1.48E-03	1.48E-03	1.48E-03	9.84E-04	4.31E-04
1686	561086	4192075	1.92E-03	2.42E-03	1.90E-03	1.90E-03	1.90E-03	1.41E-03	8.52E-04	1.37E-03	1.88E-03	1.47E-03	1.47E-03	1.47E-03	9.80E-04	4.29E-04
1687	561321.2	4192152	8.36E-04	1.05E-03	8.25E-04	8.28E-04	8.25E-04	6.12E-04	3.71E-04	5.98E-04	8.20E-04	6.40E-04	6.42E-04	6.40E-04	4.27E-04	1.87E-04
1688	561328.8	4192158	8.18E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.98E-04	3.63E-04	5.85E-04	8.01E-04	6.26E-04	6.27E-04	6.26E-04	4.17E-04	1.83E-04
1689	561336.5	4192164	8.01E-04	1.01E-03	7.91E-04	7.93E-04	7.91E-04	5.86E-04	3.55E-04	5.73E-04	7.85E-04	6.13E-04	6.15E-04	6.13E-04	4.09E-04	1.79E-04
1690	561344.1	4192170	7.87E-04	9.90E-04	7.77E-04	7.79E-04	7.77E-04	5.76E-04	3.49E-04	5.63E-04	7.71E-04	6.02E-04	6.04E-04	6.02E-04	4.01E-04	1.76E-04
1691	561351.8	4192175	7.74E-04	9.73E-04	7.64E-04	7.66E-04	7.64E-04	5.67E-04	3.43E-04	5.54E-04	7.59E-04	5.92E-04	5.94E-04	5.92E-04	3.95E-04	1.73E-04
1692	561363.3	4192209	8.37E-04	1.05E-03	8.26E-04	8.28E-04	8.26E-04	6.13E-04	3.71E-04	5.99E-04	8.20E-04	6.41E-04	6.42E-04	6.41E-04	4.27E-04	1.87E-04
1693	561364.6	4192219	8.60E-04	1.08E-03	8.49E-04	8.51E-04	8.49E-04	6.29E-04	3.82E-04	6.15E-04	8.43E-04	6.58E-04	6.60E-04	6.58E-04	4.39E-04	1.92E-04
1694	561365.9	4192228	8.81E-04	1.11E-03	8.69E-04	8.72E-04	8.69E-04	6.45E-04	3.91E-04	6.30E-04	8.63E-04	6.74E-04	6.76E-04	6.74E-04	4.50E-04	1.97E-04
1695	561367.3	4192238	8.99E-04	1.13E-03	8.87E-04	8.90E-04	8.87E-04	6.58E-04	3.99E-04	6.43E-04	8.81E-04	6.88E-04	6.90E-04	6.88E-04	4.59E-04	2.01E-04
1696	561368.6	4192247	9.14E-04	1.15E-03	9.02E-04	9.05E-04	9.02E-04	6.69E-04	4.06E-04	6.54E-04	8.96E-04	7.00E-04	7.02E-04	7.00E-04	4.66E-04	2.04E-04
1697	561369.9	4192256	9.26E-04	1.16E-03	9.14E-04	9.17E-04	9.14E-04	6.78E-04	4.11E-04	6.62E-04	9.08E-04	7.09E-04	7.11E-04	7.09E-04	4.73E-04	2.07E-04

1698	561371.2	4192266	9.35E-04	1.18E-03	9.23E-04	9.26E-04	9.23E-04	6.84E-04	4.15E-04	6.69E-04	9.16E-04	7.16E-04	7.18E-04	7.16E-04	4.77E-04	2.09E-04
1699	561372.5	4192275	9.42E-04	1.18E-03	9.29E-04	9.32E-04	9.29E-04	6.89E-04	4.18E-04	6.73E-04	9.23E-04	7.21E-04	7.23E-04	7.21E-04	4.80E-04	2.10E-04
1700	561373.8	4192285	9.46E-04	1.19E-03	9.33E-04	9.36E-04	9.33E-04	6.92E-04	4.20E-04	6.76E-04	9.27E-04	7.24E-04	7.26E-04	7.24E-04	4.82E-04	2.11E-04
1701	561259.9	4192107	1.06E-03	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.78E-04	4.71E-04	7.60E-04	1.04E-03	8.13E-04	8.15E-04	8.13E-04	5.42E-04	2.37E-04
1702	561250.4	4192105	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.22E-04	4.98E-04	8.03E-04	1.10E-03	8.59E-04	8.62E-04	8.59E-04	5.73E-04	2.51E-04
1703	561240.9	4192102	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.67E-04	5.26E-04	8.47E-04	1.16E-03	9.06E-04	9.09E-04	9.06E-04	6.04E-04	2.65E-04
1704	561231.3	4192100	1.25E-03	1.57E-03	1.23E-03	1.23E-03	1.23E-03	9.13E-04	5.53E-04	8.92E-04	1.22E-03	9.54E-04	9.57E-04	9.54E-04	6.36E-04	2.79E-04
1705	561221.8	4192098	1.31E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	9.58E-04	5.81E-04	9.36E-04	1.28E-03	1.00E-03	1.00E-03	1.00E-03	6.68E-04	2.92E-04
1706	561212.3	4192095	1.37E-03	1.72E-03	1.35E-03	1.36E-03	1.35E-03	1.00E-03	6.08E-04	9.80E-04	1.34E-03	1.05E-03	1.05E-03	1.05E-03	6.99E-04	3.06E-04
1707	561202.7	4192093	1.43E-03	1.80E-03	1.41E-03	1.42E-03	1.41E-03	1.05E-03	6.35E-04	1.02E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	7.30E-04	3.20E-04
1708	561193.2	4192091	1.49E-03	1.87E-03	1.47E-03	1.47E-03	1.47E-03	1.09E-03	6.61E-04	1.06E-03	1.46E-03	1.14E-03	1.14E-03	1.14E-03	7.60E-04	3.33E-04
1709	561183.7	4192088	1.54E-03	1.94E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.85E-04	1.10E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	7.88E-04	3.45E-04
1710	561164.6	4192084	1.64E-03	2.07E-03	1.62E-03	1.63E-03	1.62E-03	1.20E-03	7.30E-04	1.18E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.39E-04	3.67E-04
1711	561155.1	4192081	1.69E-03	2.12E-03	1.67E-03	1.67E-03	1.67E-03	1.24E-03	7.49E-04	1.21E-03	1.65E-03	1.29E-03	1.30E-03	1.29E-03	8.61E-04	3.77E-04
1712	561145.6	4192079	1.72E-03	2.17E-03	1.70E-03	1.71E-03	1.70E-03	1.26E-03	7.65E-04	1.23E-03	1.69E-03	1.32E-03	1.32E-03	1.32E-03	8.80E-04	3.85E-04
1713	561136	4192077	1.76E-03	2.21E-03	1.73E-03	1.74E-03	1.73E-03	1.28E-03	7.79E-04	1.26E-03	1.72E-03	1.34E-03	1.35E-03	1.34E-03	8.96E-04	3.92E-04
1714	561126.5	4192074	1.78E-03	2.24E-03	1.76E-03	1.76E-03	1.76E-03	1.30E-03	7.90E-04	1.27E-03	1.74E-03	1.36E-03	1.37E-03	1.36E-03	9.08E-04	3.98E-04
1715	561117	4192072	1.80E-03	2.26E-03	1.77E-03	1.78E-03	1.77E-03	1.31E-03	7.97E-04	1.28E-03	1.76E-03	1.37E-03	1.38E-03	1.37E-03	9.17E-04	4.01E-04
1716	561107.4	4192070	1.81E-03	2.27E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.01E-04	1.29E-03	1.77E-03	1.38E-03	1.39E-03	1.38E-03	9.21E-04	4.03E-04
1717	561097.9	4192067	1.81E-03	2.27E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.02E-04	1.29E-03	1.77E-03	1.38E-03	1.39E-03	1.38E-03	9.23E-04	4.04E-04
1718	561088.4	4192065	1.80E-03	2.27E-03	1.78E-03	1.79E-03	1.78E-03	1.32E-03	8.00E-04	1.29E-03	1.77E-03	1.38E-03	1.38E-03	1.38E-03	9.21E-04	4.03E-04
1719	561292.5	4192120	8.91E-04	1.12E-03	8.79E-04	8.81E-04	8.79E-04	6.52E-04	3.95E-04	6.37E-04	8.73E-04	6.82E-04	6.84E-04	6.82E-04	4.54E-04	1.99E-04
1720	561300.1	4192125	8.64E-04	1.09E-03	8.53E-04	8.55E-04	8.53E-04	6.32E-04	3.83E-04	6.18E-04	8.46E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
1721	561307.6	4192131	8.39E-04	1.05E-03	8.28E-04	8.30E-04	8.28E-04	6.14E-04	3.72E-04	6.00E-04	8.22E-04	6.42E-04	6.44E-04	6.42E-04	4.28E-04	1.87E-04
1722	561345.4	4192159	7.48E-04	9.41E-04	7.38E-04	7.40E-04	7.38E-04	5.47E-04	3.32E-04	5.35E-04	7.33E-04	5.72E-04	5.74E-04	5.72E-04	3.82E-04	1.67E-04
1723	561352.9	4192165	7.36E-04	9.26E-04	7.26E-04	7.28E-04	7.26E-04	5.39E-04	3.27E-04	5.26E-04	7.21E-04	5.63E-04	5.65E-04	5.63E-04	3.76E-04	1.64E-04
1724	561369.3	4192185	7.39E-04	9.29E-04	7.29E-04	7.31E-04	7.29E-04	5.41E-04	3.28E-04	5.28E-04	7.24E-04	5.65E-04	5.67E-04	5.65E-04	3.77E-04	1.65E-04
1725	561370.6	4192194	7.62E-04	9.58E-04	7.52E-04	7.54E-04	7.52E-04	5.58E-04	3.38E-04	5.45E-04	7.46E-04	5.83E-04	5.85E-04	5.83E-04	3.89E-04	1.70E-04
1726	561371.9	4192204	7.84E-04	9.86E-04	7.74E-04	7.76E-04	7.74E-04	5.74E-04	3.48E-04	5.61E-04	7.69E-04	6.00E-04	6.02E-04	6.00E-04	4.00E-04	1.75E-04
1727	561373.2	4192213	8.06E-04	1.01E-03	7.95E-04	7.98E-04	7.95E-04	5.90E-04	3.58E-04	5.76E-04	7.90E-04	6.17E-04	6.18E-04	6.17E-04	4.11E-04	1.80E-04
1728	561374.5	4192222	8.26E-04	1.04E-03	8.15E-04	8.17E-04	8.15E-04	6.04E-04	3.66E-04	5.91E-04	8.09E-04	6.32E-04	6.34E-04	6.32E-04	4.21E-04	1.84E-04
1729	561375.8	4192232	8.43E-04	1.06E-03	8.32E-04	8.35E-04	8.32E-04	6.17E-04	3.74E-04	6.03E-04	8.27E-04	6.46E-04	6.47E-04	6.46E-04	4.30E-04	1.88E-04
1730	561377	4192241	8.59E-04	1.08E-03	8.47E-04	8.50E-04	8.47E-04	6.28E-04	3.81E-04	6.14E-04	8.41E-04	6.57E-04	6.59E-04	6.57E-04	4.38E-04	1.92E-04
1731	561378.3	4192250	8.71E-04	1.10E-03	8.60E-04	8.62E-04	8.60E-04	6.37E-04	3.86E-04	6.23E-04	8.53E-04	6.67E-04	6.68E-04	6.67E-04	4.44E-04	1.95E-04
1732	561379.6	4192260	8.81E-04	1.11E-03	8.69E-04	8.72E-04	8.69E-04	6.45E-04	3.91E-04	6.30E-04	8.63E-04	6.74E-04	6.76E-04	6.74E-04	4.49E-04	1.97E-04
1733	561380.9	4192269	8.88E-04	1.12E-03	8.76E-04	8.79E-04	8.76E-04	6.50E-04	3.94E-04	6.35E-04	8.70E-04	6.79E-04	6.81E-04	6.79E-04	4.53E-04	1.98E-04
1734	561382.2	4192278	8.93E-04	1.12E-03	8.81E-04	8.83E-04	8.81E-04	6.53E-04	3.96E-04	6.38E-04	8.75E-04	6.83E-04	6.85E-04	6.83E-04	4.55E-04	1.99E-04
1735	561383.5	4192288	8.96E-04	1.13E-03	8.84E-04	8.86E-04	8.84E-04	6.55E-04	3.97E-04	6.40E-04	8.77E-04	6.85E-04	6.87E-04	6.85E-04	4.57E-04	2.00E-04
1736	561262.3	4192097	1.01E-03	1.26E-03	9.93E-04	9.95E-04	9.93E-04	7.36E-04	4.46E-04	7.19E-04	9.86E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
1737	561252.8	4192095	1.06E-03	1.33E-03	1.05E-03	1.05E-03	1.05E-03	7.77E-04	4.71E-04	7.59E-04	1.04E-03	8.12E-04	8.14E-04	8.12E-04	5.41E-04	2.37E-04
1738	561243.3	4192093	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.18E-04	4.96E-04	7.99E-04	1.10E-03	8.55E-04	8.58E-04	8.55E-04	5.70E-04	2.50E-04
1739	561233.7	4192090	1.18E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.60E-04	5.21E-04	8.40E-04	1.15E-03	8.99E-04	9.02E-04	8.99E-04	6.00E-04	2.62E-04
1740	561224.2	4192088	1.23E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.02E-04	5.47E-04	8.81E-04	1.21E-03	9.43E-04	9.46E-04	9.43E-04	6.29E-04	2.75E-04
1741	561214.7	4192086	1.29E-03	1.62E-03	1.27E-03	1.28E-03	1.27E-03	9.43E-04	5.72E-04	9.22E-04	1.26E-03	9.86E-04	9.89E-04	9.86E-04	6.58E-04	2.88E-04
1742	561205.1	4192083	1.34E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.84E-04	5.96E-04	9.61E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.86E-04	3.00E-04
1743	561195.6	4192081	1.40E-03	1.76E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.20E-04	1.00E-03	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.13E-04	3.12E-04
1744	561186.1	4192079	1.45E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.43E-04	1.04E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.39E-04	3.24E-04
1745	561167	4192074	1.54E-03	1.94E-03	1.52E-03	1.53E-03	1.52E-03	1.13E-03	6.84E-04	1.10E-03	1.51E-03	1.18E-03	1.18E-03	1.18E-03	7.87E-04	3.44E-04
1746	561157.5	4192072	1.58E-03	1.99E-03	1.56E-03	1.57E-03	1.56E-03	1.16E-03	7.02E-04	1.13E-03	1.55E-03	1.21E-03	1.21E-03	1.21E-03	8.07E-04	3.53E-04
1747	561147.9	4192069	1.62E-03	2.03E-03	1.60E-03	1.60E-03	1.60E-03	1.18E-03	7.17E-04	1.16E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	8.25E-04	3.61E-04
1748	561138.4	4192067	1.65E-03	2.07E-03	1.62E-03	1.63E-03	1.62E-03	1.20E-03	7.30E-04	1.18E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	8.40E-04	3.68E-04
1749	561128.9	4192065	1.67E-03	2.10E-03	1.65E-03	1.65E-03	1.65E-03	1.22E-03	7.40E-04	1.19E-03	1.63E-03	1.28E-03	1.28E-03	1.28E-03	8.51E-04	3.73E-04
1750	561119.3	4192062	1.69E-03	2.12E-03	1.66E-03	1.67E-03	1.66E-03	1.23E-03	7.48E-04	1.21E-03	1.65E-03	1.29E-03	1.29E-03	1.29E-03	8.60E-04	3.76E-04
1751	561109.8	4192060	1.70E-03	2.13E-03	1.67E-03	1.68E-03	1.67E-03	1.24E-03	7.52E-04	1.21E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.65E-04	3.79E-04
1752	561100.3	4192058	1.70E-03	2.14E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.54E-04	1.22E-03	1.67E-03	1.30E-03	1.30E-03	1.30E-03	8.67E-04	3.80E-04
1753	561090.7	4192055	1.70E-03	2.13E-03	1.68E-03	1.68E-03	1.68E-03	1.24E-03	7.53E-04	1.21E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	8.66E-04	3.79E-04
1754	561294.5	4192110	8.48E-04	1.07E-03	8.37E-04	8.39E-04	8.37E-04	6.21E-04	3.76E-04	6.06E-04	8.31E-04	6.49E-04	6.51E-04	6.49E-04	4.33E-04	1.89E-04
1755	561302	4192115	8.23E-04	1.03E-03	8.12E-04	8.14E-04	8.12E-04	6.02E-04	3.65E-04	5.88E-04	8.06E-04	6.30E-04	6.31E-04	6.30E-04	4.20E-04	1.84E-04
1756	561309.5	4192121	7.99E-04	1.01E-03	7.89E-04	7.91E-04	7.89E-04	5.85E-04	3.55E-04	5.72E-04	7.83E-04	6.12E-04	6.13E-04	6.12E-04	4.08E-04	1.79E-04
1757	561316.9	4192126	7.78E-04	9.78E-04	7.67E-04	7.69E-04	7.67E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
1758	561324.4	4192132	7.58E-04	9.53E-04	7.48E-04	7.50E-04	7.48E-04	5.55E-04	3.36E-04	5.42E-04	7.43E-04	5.80E-04	5.82E-04	5.80E-04	3.87E-04	1.69E-04
1759	561331.9	4192137	7.41E-04	9.31E-04	7.31E-04	7.33E-04	7.31E-04	5.42E-04	3.29E-04	5.30E-04	7.26E-04	5.67E-04	5.68E-04	5.67E-04	3.78E-04	1.65E-04
1760	561377.9	4192180	6.94E-04	8.73E-04	6.85E-04	6.87E-04	6.85E-04	5.08E-04	3.08E-04	4.97E-04	6.80E-04	5.31E-04	5.33E-04	5.31E-04	3.54E-04	1.55E-04
1761	561379.2	4192189	7.16E-04	9.00E-04	7.06E-04	7.08E-04	7.06E-04	5.24E-04	3.18E-04	5.12E-04	7.01E-04	5.48E-04	5.49E-04	5.48E-04	3.65E-04	1.60E-04
1762	561380.4	4192198	7.37E-04	9.27E-04	7.27E-04	7.29E-04	7.27E-04	5.39E-04	3.27E-04	5.27E-04	7.22E-04	5.64E-04	5.65E-04	5.64E-04	3.76E-04	1.65E-04
1763	561381.7	4192207	7.57E-04	9.52E-04	7.47E-04	7.49E-04	7.47E-04	5.54E-04	3.36E-04	5.41E-04	7.42E-04	5.79E-04	5.81E-04	5.79E-04	3.86E-04	1.69E-04
1764	561383	4192217	7.76E-04	9.76E-04	7.66E-04	7.68E-04	7.66E-04	5.68E-04	3.44E-04	5.55E-04	7.60E-04	5.94E-04	5.96E-04	5.94E-04	3.96E-04	1.73E-04
1765	561384.3	4192226	7.93E-04	9.97E-04	7.83E-04	7.85E-04	7.83E-04	5.80E-04	3.52E-04	5.67E-04	7.77E-04	6.07E-04	6.09E-04	6.07E-04	4.05E-04	1.77E-04
1766	561385.5	4192235	8.08E-04	1.02E-03	7.97E-04	8.00E-04	7.97E-04	5.91E-04	3.59E-04	5.78E-04	7.92E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.81E-04
1767	561386.8	4192244	8.21E-04	1.03E-03	8.10E-04	8.12E-04	8.10E-04	6.01E-04	3.64E-04	5.87E-04	8.04E-04	6.28E-04	6.30E-04	6.28E-04	4.19E-04	1.83E-04
1768	561388.1	4192254	8.31E-04	1.04E-03	8.20E-04	8.22E-04	8.20E-04	6.08E-04	3.69E-04	5.94E-04	8.14E-04	6.36E-04	6.37E-04	6.36E-04	4.24E-04	1.86E-04
1769	561389.4	4192263	8.38E-04	1.05E-03	8.28E-04	8.30E-04	8.28E-04	6.14E-04	3.72E-04	6.00E-04	8.22E-04	6.42E-04	6.43E-04	6.42E-04	4.28E-04	1.87E-04
1770	561390.6	4192272	8.44E-04	1.06E-03	8.33E-04	8.35E-04	8.33E-04	6.18E-04	3.74E-04	6.04E-04	8.27E-04	6.46E-04	6.48E-04	6.46E-04	4.31E-04	1.89E-04
1771	561391.9	4192281	8.48E-04	1.07E-03	8.37E-04	8.39E-04	8.37E-04	6.20E-04	3.76E-04	6.06E-04	8.31E-04	6.49E-04	6.51E-04	6.49E-04	4.33E-04	1.89E-04
1772	561393.2	4192290	8.50E-04	1.07E-03	8.38E-04	8.41E-04	8.38E-04	6.22E-04	3.77E-04	6.08E-04	8.32E-04	6.50E-04	6.52E-04	6.50E-04	4.34E-04	1.90E-04
1773	561264.7	4192088	9.54E-04	1.20E-03	9.42E-04	9.44E-04	9.42E-04	6.98E-04	4.23E-04	6.83E-04	9.35E-04	7.30E-04	7.32E-04	7.30E-04	4.87E-04	2.13E-04
1774	561255.2	4192085	1.01E-03	1.26E-03	9.92E-04	9.95E-04	9.92E-04	7.36E-04	4.46E-04	7.19E-04	9.85E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
1775	561245.6	4192083	1.06E-03	1.33E-03	1.04E-03	1.05E-03	1.04E-03	7.74E-04	4.69E-04	7.56E-04	1.04E-03	8.09E-04	8.12E-04	8.09E-04	5.40E-04	2.36E-04
1776	561236.1	4192081	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.13E-04	4.93E-04	7.94E-04	1.09E-03	8.50E-04	8.52E-04	8.50E-04	5.67E-04	2.48E-04
1777	561226.6	4192078	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.51E-04	5.16E-04	8.32E-04	1.14E-03	8.90E-04	8.93E-04	8.90E-04	5.93E-04	2.60E-04
1778	561217	4192076	1.22E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.89E-04	5.39E-04	8.69E-04	1.19E-03	9.30E-04	9.33E-04	9.30E-04	6.20E-04	2.71E-04

1779	561207.5	4192074	1.27E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.27E-04	5.62E-04	9.06E-04	1.24E-03	9.69E-04	9.72E-04	9.69E-04	6.46E-04	2.83E-04
1780	561198	4192071	1.32E-03	1.65E-03	1.30E-03	1.30E-03	1.30E-03	9.63E-04	5.84E-04	9.41E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.71E-04	2.94E-04
1781	561188.4	4192069	1.36E-03	1.71E-03	1.35E-03	1.35E-03	1.35E-03	9.98E-04	6.05E-04	9.75E-04	1.34E-03	1.04E-03	1.05E-03	1.04E-03	6.95E-04	3.04E-04
1782	561169.4	4192064	1.45E-03	1.82E-03	1.43E-03	1.43E-03	1.43E-03	1.06E-03	6.43E-04	1.04E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	7.39E-04	3.24E-04
1783	561159.9	4192062	1.49E-03	1.87E-03	1.47E-03	1.47E-03	1.47E-03	1.09E-03	6.59E-04	1.06E-03	1.46E-03	1.14E-03	1.14E-03	1.14E-03	7.58E-04	3.32E-04
1784	561150.3	4192060	1.52E-03	1.91E-03	1.50E-03	1.50E-03	1.50E-03	1.11E-03	6.74E-04	1.09E-03	1.49E-03	1.16E-03	1.17E-03	1.16E-03	7.75E-04	3.39E-04
1785	561140.8	4192057	1.55E-03	1.94E-03	1.53E-03	1.53E-03	1.53E-03	1.13E-03	6.86E-04	1.11E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	7.89E-04	3.45E-04
1786	561131.3	4192055	1.57E-03	1.97E-03	1.55E-03	1.55E-03	1.55E-03	1.15E-03	6.95E-04	1.12E-03	1.54E-03	1.20E-03	1.20E-03	1.20E-03	8.00E-04	3.50E-04
1787	561121.7	4192053	1.58E-03	1.99E-03	1.56E-03	1.57E-03	1.56E-03	1.16E-03	7.03E-04	1.13E-03	1.55E-03	1.21E-03	1.22E-03	1.21E-03	8.08E-04	3.54E-04
1788	561112.2	4192050	1.59E-03	2.01E-03	1.57E-03	1.58E-03	1.57E-03	1.17E-03	7.07E-04	1.14E-03	1.56E-03	1.22E-03	1.22E-03	1.22E-03	8.14E-04	3.56E-04
1789	561102.7	4192048	1.60E-03	2.01E-03	1.58E-03	1.58E-03	1.58E-03	1.17E-03	7.10E-04	1.14E-03	1.57E-03	1.22E-03	1.23E-03	1.22E-03	8.16E-04	3.57E-04
1790	561093.1	4192046	1.60E-03	2.01E-03	1.58E-03	1.58E-03	1.58E-03	1.17E-03	7.10E-04	1.14E-03	1.57E-03	1.22E-03	1.23E-03	1.22E-03	8.17E-04	3.58E-04
1791	561298.6	4192101	8.02E-04	1.01E-03	7.92E-04	7.94E-04	7.92E-04	5.87E-04	3.56E-04	5.74E-04	7.86E-04	6.14E-04	6.16E-04	6.14E-04	4.09E-04	1.79E-04
1792	561306.5	4192107	7.77E-04	9.78E-04	7.67E-04	7.69E-04	7.67E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
1793	561314.3	4192113	7.54E-04	9.49E-04	7.44E-04	7.47E-04	7.44E-04	5.52E-04	3.35E-04	5.39E-04	7.39E-04	5.77E-04	5.79E-04	5.77E-04	3.85E-04	1.69E-04
1794	561322.2	4192119	7.33E-04	9.22E-04	7.24E-04	7.26E-04	7.24E-04	5.37E-04	3.25E-04	5.24E-04	7.18E-04	5.61E-04	5.63E-04	5.61E-04	3.74E-04	1.64E-04
1795	561330.1	4192125	7.14E-04	8.98E-04	7.05E-04	7.07E-04	7.05E-04	5.23E-04	3.17E-04	5.11E-04	7.00E-04	5.47E-04	5.48E-04	5.47E-04	3.64E-04	1.60E-04
1796	561338	4192131	6.97E-04	8.77E-04	6.88E-04	6.90E-04	6.88E-04	5.10E-04	3.09E-04	4.99E-04	6.83E-04	5.34E-04	5.35E-04	5.34E-04	3.56E-04	1.56E-04
1797	561345.8	4192136	6.83E-04	8.59E-04	6.74E-04	6.76E-04	6.74E-04	5.00E-04	3.03E-04	4.88E-04	6.69E-04	5.23E-04	5.24E-04	5.23E-04	3.48E-04	1.53E-04
1798	561353.7	4192142	6.70E-04	8.43E-04	6.61E-04	6.63E-04	6.61E-04	4.91E-04	2.97E-04	4.79E-04	6.57E-04	5.13E-04	5.14E-04	5.13E-04	3.42E-04	1.50E-04
1799	561386.6	4192175	6.56E-04	8.25E-04	6.47E-04	6.49E-04	6.47E-04	4.80E-04	2.91E-04	4.69E-04	6.43E-04	5.02E-04	5.03E-04	5.02E-04	3.35E-04	1.46E-04
1800	561387.9	4192185	6.77E-04	8.51E-04	6.68E-04	6.70E-04	6.68E-04	4.95E-04	3.00E-04	4.84E-04	6.63E-04	5.18E-04	5.19E-04	5.18E-04	3.45E-04	1.51E-04
1801	561389.3	4192195	6.98E-04	8.77E-04	6.89E-04	6.90E-04	6.89E-04	5.11E-04	3.10E-04	4.99E-04	6.84E-04	5.34E-04	5.35E-04	5.34E-04	3.56E-04	1.56E-04
1802	561390.6	4192204	7.18E-04	9.02E-04	7.08E-04	7.10E-04	7.08E-04	5.25E-04	3.18E-04	5.13E-04	7.03E-04	5.49E-04	5.51E-04	5.49E-04	3.66E-04	1.60E-04
1803	561391.9	4192214	7.36E-04	9.26E-04	7.27E-04	7.29E-04	7.27E-04	5.39E-04	3.27E-04	5.27E-04	7.22E-04	5.64E-04	5.65E-04	5.64E-04	3.76E-04	1.64E-04
1804	561393.3	4192224	7.53E-04	9.47E-04	7.43E-04	7.45E-04	7.43E-04	5.51E-04	3.34E-04	5.39E-04	7.38E-04	5.76E-04	5.78E-04	5.76E-04	3.84E-04	1.68E-04
1805	561394.6	4192234	7.68E-04	9.66E-04	7.58E-04	7.60E-04	7.58E-04	5.62E-04	3.41E-04	5.49E-04	7.52E-04	5.88E-04	5.89E-04	5.88E-04	3.92E-04	1.72E-04
1806	561396	4192243	7.80E-04	9.81E-04	7.70E-04	7.72E-04	7.70E-04	5.71E-04	3.46E-04	5.58E-04	7.65E-04	5.97E-04	5.99E-04	5.97E-04	3.98E-04	1.74E-04
1807	561397.3	4192253	7.90E-04	9.93E-04	7.80E-04	7.82E-04	7.80E-04	5.78E-04	3.51E-04	5.65E-04	7.74E-04	6.05E-04	6.06E-04	6.05E-04	4.03E-04	1.76E-04
1808	561398.7	4192263	7.97E-04	1.00E-03	7.87E-04	7.89E-04	7.87E-04	5.84E-04	3.54E-04	5.70E-04	7.81E-04	6.10E-04	6.12E-04	6.10E-04	4.07E-04	1.78E-04
1809	561400	4192272	8.03E-04	1.01E-03	7.92E-04	7.94E-04	7.92E-04	5.87E-04	3.56E-04	5.74E-04	7.86E-04	6.14E-04	6.16E-04	6.14E-04	4.10E-04	1.79E-04
1810	561401.4	4192282	8.06E-04	1.01E-03	7.95E-04	7.97E-04	7.95E-04	5.90E-04	3.58E-04	5.76E-04	7.90E-04	6.17E-04	6.18E-04	6.17E-04	4.11E-04	1.80E-04
1811	561402.7	4192292	8.07E-04	1.02E-03	7.97E-04	7.99E-04	7.97E-04	5.91E-04	3.58E-04	5.77E-04	7.91E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.80E-04
1812	561267.1	4192078	9.07E-04	1.14E-03	8.96E-04	8.98E-04	8.96E-04	6.64E-04	4.03E-04	6.49E-04	8.89E-04	6.94E-04	6.96E-04	6.94E-04	4.63E-04	2.03E-04
1813	561257.6	4192076	9.55E-04	1.20E-03	9.42E-04	9.45E-04	9.42E-04	6.99E-04	4.24E-04	6.83E-04	9.36E-04	7.31E-04	7.33E-04	7.31E-04	4.87E-04	2.13E-04
1814	561248	4192073	1.00E-03	1.26E-03	9.90E-04	9.93E-04	9.90E-04	7.34E-04	4.45E-04	7.17E-04	9.83E-04	7.68E-04	7.70E-04	7.68E-04	5.12E-04	2.24E-04
1815	561238.5	4192071	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.52E-04	1.03E-03	8.05E-04	8.07E-04	8.05E-04	5.37E-04	2.35E-04
1816	561229	4192069	1.10E-03	1.38E-03	1.09E-03	1.09E-03	1.09E-03	8.05E-04	4.88E-04	7.87E-04	1.08E-03	8.42E-04	8.45E-04	8.42E-04	5.62E-04	2.46E-04
1817	561219.4	4192066	1.15E-03	1.44E-03	1.13E-03	1.14E-03	1.13E-03	8.41E-04	5.10E-04	8.21E-04	1.13E-03	8.79E-04	8.81E-04	8.79E-04	5.86E-04	2.57E-04
1818	561209.9	4192064	1.20E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.75E-04	5.31E-04	8.55E-04	1.17E-03	9.15E-04	9.18E-04	9.15E-04	6.10E-04	2.67E-04
1819	561200.4	4192062	1.24E-03	1.56E-03	1.23E-03	1.23E-03	1.23E-03	9.09E-04	5.51E-04	8.88E-04	1.22E-03	9.50E-04	9.53E-04	9.50E-04	6.33E-04	2.77E-04
1820	561190.8	4192059	1.29E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	9.41E-04	5.70E-04	9.19E-04	1.26E-03	9.83E-04	9.86E-04	9.83E-04	6.56E-04	2.87E-04
1821	561171.8	4192055	1.36E-03	1.72E-03	1.35E-03	1.35E-03	1.35E-03	9.99E-04	6.05E-04	9.76E-04	1.34E-03	1.04E-03	1.05E-03	1.04E-03	6.96E-04	3.05E-04
1822	561162.2	4192052	1.40E-03	1.76E-03	1.38E-03	1.38E-03	1.38E-03	1.02E-03	6.21E-04	1.00E-03	1.37E-03	1.07E-03	1.07E-03	1.07E-03	7.14E-04	3.13E-04
1823	561152.7	4192050	1.43E-03	1.80E-03	1.41E-03	1.41E-03	1.41E-03	1.05E-03	6.34E-04	1.02E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	7.29E-04	3.19E-04
1824	561143.2	4192048	1.45E-03	1.83E-03	1.44E-03	1.44E-03	1.44E-03	1.06E-03	6.45E-04	1.04E-03	1.43E-03	1.11E-03	1.12E-03	1.11E-03	7.42E-04	3.25E-04
1825	561133.6	4192045	1.48E-03	1.86E-03	1.46E-03	1.46E-03	1.46E-03	1.08E-03	6.55E-04	1.06E-03	1.45E-03	1.13E-03	1.13E-03	1.13E-03	7.53E-04	3.30E-04
1826	561124.1	4192043	1.49E-03	1.88E-03	1.47E-03	1.48E-03	1.47E-03	1.09E-03	6.62E-04	1.07E-03	1.46E-03	1.14E-03	1.14E-03	1.14E-03	7.61E-04	3.33E-04
1827	561114.6	4192040	1.50E-03	1.89E-03	1.48E-03	1.49E-03	1.48E-03	1.10E-03	6.67E-04	1.07E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	7.67E-04	3.36E-04
1828	561105	4192038	1.51E-03	1.90E-03	1.49E-03	1.49E-03	1.49E-03	1.10E-03	6.70E-04	1.08E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	7.70E-04	3.37E-04
1829	561095.5	4192036	1.51E-03	1.90E-03	1.49E-03	1.50E-03	1.49E-03	1.11E-03	6.71E-04	1.08E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	7.71E-04	3.38E-04
1830	561300.6	4192091	7.67E-04	9.64E-04	7.57E-04	7.59E-04	7.57E-04	5.61E-04	3.40E-04	5.48E-04	7.51E-04	5.87E-04	5.88E-04	5.87E-04	3.91E-04	1.71E-04
1831	561308.3	4192097	7.44E-04	9.35E-04	7.34E-04	7.36E-04	7.34E-04	5.44E-04	3.30E-04	5.32E-04	7.29E-04	5.69E-04	5.71E-04	5.69E-04	3.79E-04	1.66E-04
1832	561316.1	4192103	7.22E-04	9.08E-04	7.12E-04	7.14E-04	7.12E-04	5.28E-04	3.20E-04	5.16E-04	7.07E-04	5.52E-04	5.54E-04	5.52E-04	3.68E-04	1.61E-04
1833	561323.9	4192109	7.02E-04	8.82E-04	6.92E-04	6.94E-04	6.92E-04	5.13E-04	3.11E-04	5.02E-04	6.87E-04	5.37E-04	5.38E-04	5.37E-04	3.58E-04	1.57E-04
1834	561331.6	4192114	6.83E-04	8.59E-04	6.74E-04	6.76E-04	6.74E-04	5.00E-04	3.03E-04	4.89E-04	6.69E-04	5.23E-04	5.24E-04	5.23E-04	3.49E-04	1.53E-04
1835	561339.4	4192120	6.67E-04	8.39E-04	6.58E-04	6.60E-04	6.58E-04	4.88E-04	2.96E-04	4.77E-04	6.53E-04	5.10E-04	5.12E-04	5.10E-04	3.40E-04	1.49E-04
1836	561347.2	4192126	6.53E-04	8.21E-04	6.44E-04	6.46E-04	6.44E-04	4.78E-04	2.90E-04	4.67E-04	6.39E-04	4.99E-04	5.01E-04	4.99E-04	3.33E-04	1.46E-04
1837	561355	4192132	6.40E-04	8.05E-04	6.32E-04	6.34E-04	6.32E-04	4.69E-04	2.84E-04	4.58E-04	6.27E-04	4.90E-04	4.91E-04	4.90E-04	3.27E-04	1.43E-04
1838	561362.7	4192137	6.30E-04	7.92E-04	6.21E-04	6.23E-04	6.21E-04	4.61E-04	2.79E-04	4.50E-04	6.17E-04	4.82E-04	4.83E-04	4.82E-04	3.21E-04	1.41E-04
1839	561378.3	4192149	6.13E-04	7.71E-04	6.05E-04	6.07E-04	6.05E-04	4.49E-04	2.72E-04	4.38E-04	6.01E-04	4.69E-04	4.70E-04	4.69E-04	3.13E-04	1.37E-04
1840	561396.5	4192180	6.38E-04	8.03E-04	6.30E-04	6.32E-04	6.30E-04	4.67E-04	2.83E-04	4.57E-04	6.26E-04	4.89E-04	4.90E-04	4.89E-04	3.26E-04	1.43E-04
1841	561397.8	4192189	6.58E-04	8.27E-04	6.49E-04	6.51E-04	6.49E-04	4.82E-04	2.92E-04	4.70E-04	6.45E-04	5.03E-04	5.05E-04	5.03E-04	3.36E-04	1.47E-04
1842	561399.1	4192199	6.77E-04	8.51E-04	6.68E-04	6.70E-04	6.68E-04	4.95E-04	3.00E-04	4.84E-04	6.63E-04	5.18E-04	5.19E-04	5.18E-04	3.45E-04	1.51E-04
1843	561400.5	4192208	6.94E-04	8.73E-04	6.85E-04	6.87E-04	6.85E-04	5.08E-04	3.08E-04	4.97E-04	6.80E-04	5.31E-04	5.33E-04	5.31E-04	3.54E-04	1.55E-04
1844	561401.8	4192218	7.11E-04	8.94E-04	7.01E-04	7.03E-04	7.01E-04	5.20E-04	3.15E-04	5.08E-04	6.96E-04	5.44E-04	5.45E-04	5.44E-04	3.63E-04	1.59E-04
1845	561404.4	4192237	7.37E-04	9.27E-04	7.28E-04	7.30E-04	7.28E-04	5.40E-04	3.27E-04	5.27E-04	7.23E-04	5.64E-04	5.66E-04	5.64E-04	3.76E-04	1.65E-04
1846	561405.8	4192247	7.48E-04	9.40E-04	7.38E-04	7.40E-04	7.38E-04	5.47E-04	3.32E-04	5.35E-04	7.32E-04	5.72E-04	5.74E-04	5.72E-04	3.81E-04	1.67E-04
1847	561407.1	4192256	7.55E-04	9.50E-04	7.46E-04	7.48E-04	7.46E-04	5.53E-04	3.35E-04	5.40E-04	7.40E-04	5.78E-04	5.80E-04	5.78E-04	3.85E-04	1.69E-04
1848	561408.4	4192266	7.61E-04	9.57E-04	7.51E-04	7.53E-04	7.51E-04	5.57E-04	3.38E-04	5.44E-04	7.46E-04	5.83E-04	5.84E-04	5.83E-04	3.88E-04	1.70E-04
1849	561409.7	4192276	7.65E-04	9.62E-04	7.55E-04	7.57E-04	7.55E-04	5.60E-04	3.40E-04	5.47E-04	7.50E-04	5.86E-04	5.87E-04	5.86E-04	3.91E-04	1.71E-04
1850	561411.1	4192285	7.68E-04	9.65E-04	7.58E-04	7.60E-04	7.58E-04	5.62E-04	3.41E-04	5.49E-04	7.52E-04	5.87E-04	5.89E-04	5.87E-04	3.92E-04	1.71E-04
1851	561412.4	4192295	7.69E-04	9.67E-04	7.59E-04	7.61E-04	7.59E-04	5.63E-04	3.41E-04	5.50E-04	7.53E-04	5.88E-04	5.90E-04	5.88E-04	3.92E-04	1.72E-04
1852	561269.5	4192068	8.65E-04	1.09E-03	8.53E-04	8.56E-04	8.53E-04	6.33E-04	3.84E-04	6.18E-04	8.47E-04	6.62E-04	6.64E-04	6.62E-04	4.41E-04	1.93E-04
1853	561259.9	4192066	9.09E-04	1.14E-03	8.97E-04	8.99E-04	8.97E-04	6.65E-04	4.03E-04	6.50E-04	8.90E-04	6.95E-04	6.97E-04	6.95E-04	4.64E-04	2.03E-04
1854	561250.4	4192064	9.53E-04	1.20E-03	9.41E-04	9.43E-04	9.41E-04	6.98E-04	4.23E-04	6.82E-04	9.34E-04	7.30E-04	7.32E-04	7.30E-04	4.86E-04	2.13E-04
1855	561240.9	4192061	9.98E-04	1.26E-03	9.85E-04	9.88E-04	9.85E-04	7.31E-04	4.43E-04	7.14E-04	9.78E-04	7.64E-04	7.66E-04	7.64E-04	5.09E-04	2.23E-04
1856	561231.3	4192059	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.64E-04	4.63E-04	7.46E-04	1.02E-03	7.99E-04	8.01E-04	7.99E-04	5.32E-04	2.33E-04
1857	561221.8	4192057	1.09E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.96E-04	4.83E-04	7.78E-04	1.07E-03	8.33E-04	8.35E-04	8.33E-04	5.55E-04	2.43E-04
1858	561212.3	4192054	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.28E-04	5.02E-04	8.09E-04	1.11E-03	8.66E-04	8.68E-04	8.66E-04	5.77E-04	2.53E-04
1859	561202.7	4192052	1.17E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.59E-04	5.21E-04	8.40E-04	1.15E-03	8.98E-04	9.01E-04	8.98E-04	5.99E-04	2.62E-04

1860	561193.2	4192050	1.21E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.89E-04	5.39E-04	8.68E-04	1.19E-03	9.29E-04	9.32E-04	9.29E-04	6.20E-04	2.71E-04
1861	561174.2	4192045	1.29E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	9.43E-04	5.71E-04	9.21E-04	1.26E-03	9.86E-04	9.88E-04	9.86E-04	6.57E-04	2.88E-04
1862	561164.6	4192042	1.32E-03	1.66E-03	1.30E-03	1.31E-03	1.30E-03	9.66E-04	5.86E-04	9.44E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.74E-04	2.95E-04
1863	561155.1	4192040	1.35E-03	1.70E-03	1.33E-03	1.33E-03	1.33E-03	9.87E-04	5.98E-04	9.64E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.88E-04	3.01E-04
1864	561145.6	4192038	1.37E-03	1.73E-03	1.35E-03	1.36E-03	1.35E-03	1.00E-03	6.09E-04	9.81E-04	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.00E-04	3.06E-04
1865	561136	4192035	1.39E-03	1.75E-03	1.37E-03	1.38E-03	1.37E-03	1.02E-03	6.18E-04	9.95E-04	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.10E-04	3.11E-04
1866	561126.5	4192033	1.41E-03	1.77E-03	1.39E-03	1.39E-03	1.39E-03	1.03E-03	6.25E-04	1.01E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	7.18E-04	3.15E-04
1867	561117	4192031	1.42E-03	1.78E-03	1.40E-03	1.40E-03	1.40E-03	1.04E-03	6.30E-04	1.02E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	7.24E-04	3.17E-04
1868	561107.4	4192028	1.43E-03	1.79E-03	1.41E-03	1.41E-03	1.41E-03	1.04E-03	6.33E-04	1.02E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	7.28E-04	3.19E-04
1869	561097.9	4192026	1.43E-03	1.80E-03	1.41E-03	1.42E-03	1.41E-03	1.05E-03	6.35E-04	1.02E-03	1.40E-03	1.09E-03	1.10E-03	1.09E-03	7.30E-04	3.20E-04
1870	561302.6	4192081	7.34E-04	9.23E-04	7.25E-04	7.27E-04	7.25E-04	5.37E-04	3.26E-04	5.25E-04	7.19E-04	5.62E-04	5.63E-04	5.62E-04	3.75E-04	1.64E-04
1871	561310.3	4192087	7.12E-04	8.96E-04	7.03E-04	7.05E-04	7.03E-04	5.21E-04	3.16E-04	5.09E-04	6.98E-04	5.45E-04	5.47E-04	5.45E-04	3.63E-04	1.59E-04
1872	561317.9	4192093	6.92E-04	8.70E-04	6.83E-04	6.84E-04	6.83E-04	5.06E-04	3.07E-04	4.95E-04	6.78E-04	5.29E-04	5.31E-04	5.29E-04	3.53E-04	1.55E-04
1873	561325.6	4192098	6.72E-04	8.45E-04	6.64E-04	6.65E-04	6.64E-04	4.92E-04	2.98E-04	4.81E-04	6.59E-04	5.15E-04	5.16E-04	5.15E-04	3.43E-04	1.50E-04
1874	561333.3	4192104	6.55E-04	8.23E-04	6.46E-04	6.48E-04	6.46E-04	4.79E-04	2.90E-04	4.68E-04	6.41E-04	5.01E-04	5.02E-04	5.01E-04	3.34E-04	1.46E-04
1875	561341	4192110	6.39E-04	8.03E-04	6.30E-04	6.32E-04	6.30E-04	4.68E-04	2.83E-04	4.57E-04	6.26E-04	4.89E-04	4.90E-04	4.89E-04	3.26E-04	1.43E-04
1876	561348.7	4192116	6.25E-04	7.86E-04	6.17E-04	6.18E-04	6.17E-04	4.57E-04	2.77E-04	4.47E-04	6.12E-04	4.78E-04	4.79E-04	4.78E-04	3.19E-04	1.40E-04
1877	561356.3	4192121	6.12E-04	7.70E-04	6.04E-04	6.06E-04	6.04E-04	4.48E-04	2.72E-04	4.38E-04	6.00E-04	4.69E-04	4.70E-04	4.69E-04	3.12E-04	1.37E-04
1878	561364	4192127	6.02E-04	7.57E-04	5.94E-04	5.96E-04	5.94E-04	4.41E-04	2.67E-04	4.30E-04	5.90E-04	4.61E-04	4.62E-04	4.61E-04	3.07E-04	1.34E-04
1879	561387.1	4192144	5.79E-04	7.28E-04	5.71E-04	5.73E-04	5.71E-04	4.24E-04	2.57E-04	4.14E-04	5.67E-04	4.43E-04	4.44E-04	4.43E-04	2.95E-04	1.29E-04
1880	561394.8	4192150	5.73E-04	7.20E-04	5.65E-04	5.67E-04	5.65E-04	4.19E-04	2.54E-04	4.10E-04	5.61E-04	4.38E-04	4.40E-04	4.38E-04	2.92E-04	1.28E-04
1881	561406.4	4192184	6.22E-04	7.82E-04	6.13E-04	6.15E-04	6.13E-04	4.55E-04	2.76E-04	4.44E-04	6.09E-04	4.76E-04	4.77E-04	4.76E-04	3.17E-04	1.39E-04
1882	561407.7	4192193	6.39E-04	8.04E-04	6.31E-04	6.33E-04	6.31E-04	4.68E-04	2.84E-04	4.57E-04	6.26E-04	4.89E-04	4.90E-04	4.89E-04	3.26E-04	1.43E-04
1883	561409	4192203	6.56E-04	8.25E-04	6.47E-04	6.49E-04	6.47E-04	4.80E-04	2.91E-04	4.69E-04	6.43E-04	5.02E-04	5.03E-04	5.02E-04	3.35E-04	1.47E-04
1884	561414.2	4192241	7.08E-04	8.91E-04	6.99E-04	7.01E-04	6.99E-04	5.18E-04	3.14E-04	5.07E-04	6.94E-04	5.42E-04	5.44E-04	5.42E-04	3.61E-04	1.58E-04
1885	561415.5	4192250	7.17E-04	9.01E-04	7.07E-04	7.09E-04	7.07E-04	5.25E-04	3.18E-04	5.13E-04	7.02E-04	5.49E-04	5.50E-04	5.49E-04	3.66E-04	1.60E-04
1886	561416.9	4192260	7.23E-04	9.10E-04	7.14E-04	7.16E-04	7.14E-04	5.29E-04	3.21E-04	5.17E-04	7.09E-04	5.53E-04	5.55E-04	5.53E-04	3.69E-04	1.62E-04
1887	561418.2	4192269	7.28E-04	9.15E-04	7.18E-04	7.20E-04	7.18E-04	5.33E-04	3.23E-04	5.21E-04	7.13E-04	5.57E-04	5.59E-04	5.57E-04	3.71E-04	1.63E-04
1888	561419.5	4192279	7.31E-04	9.19E-04	7.21E-04	7.23E-04	7.21E-04	5.35E-04	3.24E-04	5.23E-04	7.16E-04	5.59E-04	5.61E-04	5.59E-04	3.73E-04	1.63E-04
1889	561420.8	4192288	7.33E-04	9.22E-04	7.23E-04	7.25E-04	7.23E-04	5.36E-04	3.25E-04	5.24E-04	7.18E-04	5.61E-04	5.62E-04	5.61E-04	3.74E-04	1.64E-04
1890	561271.9	4192059	8.25E-04	1.04E-03	8.14E-04	8.17E-04	8.14E-04	6.04E-04	3.66E-04	5.90E-04	8.09E-04	6.32E-04	6.33E-04	6.32E-04	4.21E-04	1.84E-04
1891	561262.3	4192056	8.66E-04	1.09E-03	8.55E-04	8.57E-04	8.55E-04	6.34E-04	3.84E-04	6.19E-04	8.49E-04	6.63E-04	6.65E-04	6.63E-04	4.42E-04	1.94E-04
1892	561252.8	4192054	9.08E-04	1.14E-03	8.96E-04	8.98E-04	8.96E-04	6.64E-04	4.03E-04	6.49E-04	8.90E-04	6.95E-04	6.97E-04	6.95E-04	4.63E-04	2.03E-04
1893	561243.3	4192051	9.50E-04	1.19E-03	9.37E-04	9.40E-04	9.37E-04	6.95E-04	4.21E-04	6.79E-04	9.31E-04	7.27E-04	7.29E-04	7.27E-04	4.85E-04	2.12E-04
1894	561233.7	4192049	9.92E-04	1.25E-03	9.79E-04	9.81E-04	9.79E-04	7.26E-04	4.40E-04	7.09E-04	9.72E-04	7.59E-04	7.61E-04	7.59E-04	5.06E-04	2.21E-04
1895	561224.2	4192047	1.03E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.56E-04	4.58E-04	7.39E-04	1.01E-03	7.90E-04	7.93E-04	7.90E-04	5.27E-04	2.31E-04
1896	561214.7	4192044	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.86E-04	4.76E-04	7.68E-04	1.05E-03	8.21E-04	8.24E-04	8.21E-04	5.48E-04	2.40E-04
1897	561205.1	4192042	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.14E-04	4.94E-04	7.96E-04	1.09E-03	8.51E-04	8.54E-04	8.51E-04	5.68E-04	2.48E-04
1898	561195.6	4192040	1.15E-03	1.45E-03	1.13E-03	1.14E-03	1.13E-03	8.42E-04	5.10E-04	8.22E-04	1.13E-03	8.80E-04	8.82E-04	8.80E-04	5.87E-04	2.57E-04
1899	561176.5	4192035	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.92E-04	5.41E-04	8.71E-04	1.19E-03	9.32E-04	9.35E-04	9.32E-04	6.22E-04	2.72E-04
1900	561167	4192033	1.25E-03	1.57E-03	1.23E-03	1.24E-03	1.23E-03	9.14E-04	5.54E-04	8.93E-04	1.22E-03	9.55E-04	9.58E-04	9.55E-04	6.37E-04	2.79E-04
1901	561157.5	4192030	1.27E-03	1.60E-03	1.26E-03	1.26E-03	1.26E-03	9.33E-04	5.65E-04	9.11E-04	1.25E-03	9.75E-04	9.78E-04	9.75E-04	6.50E-04	2.85E-04
1902	561147.9	4192028	1.30E-03	1.63E-03	1.28E-03	1.28E-03	1.28E-03	9.49E-04	5.75E-04	9.28E-04	1.27E-03	9.93E-04	9.95E-04	9.93E-04	6.62E-04	2.90E-04
1903	561138.4	4192026	1.32E-03	1.66E-03	1.30E-03	1.30E-03	1.30E-03	9.63E-04	5.84E-04	9.41E-04	1.29E-03	1.01E-03	1.01E-03	1.01E-03	6.72E-04	2.94E-04
1904	561128.9	4192023	1.33E-03	1.67E-03	1.31E-03	1.32E-03	1.31E-03	9.75E-04	5.91E-04	9.52E-04	1.30E-03	1.02E-03	1.02E-03	1.02E-03	6.80E-04	2.98E-04
1905	561119.3	4192021	1.34E-03	1.69E-03	1.33E-03	1.33E-03	1.33E-03	9.83E-04	5.96E-04	9.61E-04	1.32E-03	1.03E-03	1.03E-03	1.03E-03	6.85E-04	3.00E-04
1906	561109.8	4192019	1.35E-03	1.70E-03	1.33E-03	1.34E-03	1.33E-03	9.89E-04	5.99E-04	9.66E-04	1.32E-03	1.03E-03	1.04E-03	1.03E-03	6.89E-04	3.02E-04
1907	561100.3	4192016	1.36E-03	1.70E-03	1.34E-03	1.34E-03	1.34E-03	9.92E-04	6.01E-04	9.69E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
1908	561304.6	4192071	7.04E-04	8.85E-04	6.95E-04	6.97E-04	6.95E-04	5.15E-04	3.12E-04	5.03E-04	6.90E-04	5.39E-04	5.40E-04	5.39E-04	3.59E-04	1.57E-04
1909	561312.2	4192077	6.83E-04	8.59E-04	6.74E-04	6.76E-04	6.74E-04	5.00E-04	3.03E-04	4.89E-04	6.70E-04	5.23E-04	5.24E-04	5.23E-04	3.49E-04	1.53E-04
1910	561319.8	4192083	6.64E-04	8.35E-04	6.55E-04	6.57E-04	6.55E-04	4.86E-04	2.95E-04	4.75E-04	6.50E-04	5.08E-04	5.09E-04	5.08E-04	3.39E-04	1.48E-04
1911	561327.4	4192088	6.45E-04	8.12E-04	6.37E-04	6.39E-04	6.37E-04	4.72E-04	2.86E-04	4.62E-04	6.32E-04	4.94E-04	4.95E-04	4.94E-04	3.29E-04	1.44E-04
1912	561335	4192094	6.28E-04	7.90E-04	6.20E-04	6.22E-04	6.20E-04	4.60E-04	2.79E-04	4.49E-04	6.16E-04	4.81E-04	4.82E-04	4.81E-04	3.21E-04	1.40E-04
1913	561342.6	4192100	6.13E-04	7.71E-04	6.05E-04	6.06E-04	6.05E-04	4.49E-04	2.72E-04	4.38E-04	6.01E-04	4.69E-04	4.70E-04	4.69E-04	3.13E-04	1.37E-04
1914	561350.2	4192105	5.99E-04	7.53E-04	5.91E-04	5.93E-04	5.91E-04	4.38E-04	2.66E-04	4.28E-04	5.87E-04	4.58E-04	4.60E-04	4.58E-04	3.06E-04	1.34E-04
1915	561357.8	4192111	5.87E-04	7.38E-04	5.79E-04	5.81E-04	5.79E-04	4.29E-04	2.60E-04	4.20E-04	5.75E-04	4.49E-04	4.50E-04	4.49E-04	2.99E-04	1.31E-04
1916	561365.4	4192116	5.76E-04	7.25E-04	5.69E-04	5.70E-04	5.69E-04	4.22E-04	2.56E-04	4.12E-04	5.65E-04	4.41E-04	4.42E-04	4.41E-04	2.94E-04	1.29E-04
1917	561388.2	4192133	5.53E-04	6.96E-04	5.46E-04	5.47E-04	5.46E-04	4.05E-04	2.45E-04	3.96E-04	5.42E-04	4.23E-04	4.25E-04	4.23E-04	2.82E-04	1.24E-04
1918	561395.8	4192139	5.47E-04	6.88E-04	5.40E-04	5.42E-04	5.40E-04	4.01E-04	2.43E-04	3.92E-04	5.36E-04	4.19E-04	4.20E-04	4.19E-04	2.79E-04	1.22E-04
1919	561403.4	4192145	5.42E-04	6.82E-04	5.35E-04	5.37E-04	5.35E-04	3.97E-04	2.41E-04	3.88E-04	5.31E-04	4.15E-04	4.16E-04	4.15E-04	2.77E-04	1.21E-04
1920	561412.3	4192160	5.54E-04	6.97E-04	5.47E-04	5.49E-04	5.47E-04	4.06E-04	2.46E-04	3.96E-04	5.43E-04	4.24E-04	4.25E-04	4.24E-04	2.83E-04	1.24E-04
1921	561414.9	4192178	5.88E-04	7.40E-04	5.81E-04	5.82E-04	5.81E-04	4.31E-04	2.61E-04	4.21E-04	5.76E-04	4.50E-04	4.51E-04	4.50E-04	3.00E-04	1.31E-04
1922	561416.2	4192188	6.05E-04	7.61E-04	5.97E-04	5.99E-04	5.97E-04	4.43E-04	2.68E-04	4.33E-04	5.93E-04	4.63E-04	4.64E-04	4.63E-04	3.09E-04	1.35E-04
1923	561424	4192244	6.81E-04	8.57E-04	6.72E-04	6.74E-04	6.72E-04	4.99E-04	3.02E-04	4.87E-04	6.68E-04	5.21E-04	5.23E-04	5.21E-04	3.48E-04	1.52E-04
1924	561425.3	4192253	6.88E-04	8.65E-04	6.79E-04	6.81E-04	6.79E-04	5.04E-04	3.05E-04	4.92E-04	6.74E-04	5.27E-04	5.28E-04	5.27E-04	3.51E-04	1.54E-04
1925	561426.6	4192263	6.93E-04	8.72E-04	6.84E-04	6.86E-04	6.84E-04	5.07E-04	3.08E-04	4.96E-04	6.79E-04	5.31E-04	5.32E-04	5.31E-04	3.54E-04	1.55E-04
1926	561274.2	4192049	7.89E-04	9.92E-04	7.79E-04	7.81E-04	7.79E-04	5.78E-04	3.50E-04	5.64E-04	7.73E-04	6.04E-04	6.06E-04	6.04E-04	4.03E-04	1.76E-04
1927	561264.7	4192046	8.27E-04	1.04E-03	8.16E-04	8.19E-04	8.16E-04	6.05E-04	3.67E-04	5.92E-04	8.11E-04	6.33E-04	6.35E-04	6.33E-04	4.22E-04	1.85E-04
1928	561255.2	4192044	8.66E-04	1.09E-03	8.55E-04	8.57E-04	8.55E-04	6.34E-04	3.84E-04	6.19E-04	8.49E-04	6.63E-04	6.65E-04	6.63E-04	4.42E-04	1.93E-04
1929	561245.6	4192042	9.05E-04	1.14E-03	8.93E-04	8.96E-04	8.93E-04	6.62E-04	4.02E-04	6.47E-04	8.87E-04	6.93E-04	6.94E-04	6.93E-04	4.62E-04	2.02E-04
1930	561236.1	4192039	9.44E-04	1.19E-03	9.31E-04	9.34E-04	9.31E-04	6.91E-04	4.19E-04	6.75E-04	9.25E-04	7.22E-04	7.24E-04	7.22E-04	4.82E-04	2.11E-04
1931	561226.6	4192037	9.82E-04	1.24E-03	9.69E-04	9.72E-04	9.69E-04	7.19E-04	4.36E-04	7.02E-04	9.62E-04	7.52E-04	7.54E-04	7.52E-04	5.01E-04	2.19E-04
1932	561217	4192035	1.02E-03	1.28E-03	1.01E-03	1.01E-03	1.01E-03	7.46E-04	4.52E-04	7.29E-04	9.99E-04	7.80E-04	7.83E-04	7.80E-04	5.20E-04	2.28E-04
1933	561207.5	4192032	1.06E-03	1.33E-03	1.04E-03	1.05E-03	1.04E-03	7.73E-04	4.69E-04	7.55E-04	1.03E-03	8.08E-04	8.10E-04	8.08E-04	5.39E-04	2.36E-04
1934	561198	4192030	1.09E-03	1.37E-03	1.08E-03	1.08E-03	1.08E-03	7.98E-04	4.84E-04	7.80E-04	1.07E-03	8.35E-04	8.37E-04	8.35E-04	5.57E-04	2.44E-04
1935	561178.9	4192025	1.15E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.45E-04	5.12E-04	8.26E-04	1.13E-03	8.84E-04	8.86E-04	8.84E-04	5.89E-04	2.58E-04
1936	561169.4	4192023	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.66E-04	5.25E-04	8.46E-04	1.16E-03	9.05E-04	9.08E-04	9.05E-04	6.03E-04	2.64E-04
1937	561159.9	4192021	1.21E-03	1.52E-03	1.19E-03	1.19E-03	1.19E-03	8.84E-04	5.36E-04	8.63E-04	1.18E-03	9.24E-04	9.27E-04	9.24E-04	6.16E-04	2.70E-04
1938	561150.3	4192018	1.23E-03	1.55E-03	1.21E-03	1.22E-03	1.21E-03	8.99E-04	5.45E-04	8.79E-04	1.20E-03	9.40E-04	9.43E-04	9.40E-04	6.27E-04	2.74E-04
1939	561140.8	4192016	1.25E-03	1.57E-03	1.23E-03	1.23E-03	1.23E-03	9.13E-04	5.53E-04	8.92E-04	1.22E-03	9.54E-04	9.57E-04	9.54E-04	6.36E-04	2.79E-04
1940	561131.3	4192014	1.26E-03	1.59E-03	1.25E-03	1.25E-03	1.25E-03	9.24E-04	5.60E-04	9.02E-04	1.24E-03	9.66E-04	9.68E-04	9.66E-04	6.44E-04	2.82E-04

1941	561121.7	4192011	1.27E-03	1.60E-03	1.26E-03	1.26E-03	1.26E-03	9.32E-04	5.65E-04	9.11E-04	1.25E-03	9.75E-04	9.77E-04	9.75E-04	6.50E-04	2.84E-04
1942	561112.2	4192009	1.28E-03	1.61E-03	1.26E-03	1.27E-03	1.26E-03	9.38E-04	5.69E-04	9.16E-04	1.26E-03	9.81E-04	9.83E-04	9.81E-04	6.54E-04	2.86E-04
1943	561102.7	4192007	1.29E-03	1.62E-03	1.27E-03	1.27E-03	1.27E-03	9.42E-04	5.71E-04	9.20E-04	1.26E-03	9.85E-04	9.87E-04	9.85E-04	6.56E-04	2.87E-04
1944	561306.7	4192061	6.76E-04	8.50E-04	6.67E-04	6.69E-04	6.67E-04	4.95E-04	3.00E-04	4.83E-04	6.62E-04	5.17E-04	5.19E-04	5.17E-04	3.45E-04	1.51E-04
1945	561314.3	4192067	6.57E-04	8.26E-04	6.48E-04	6.50E-04	6.48E-04	4.80E-04	2.91E-04	4.70E-04	6.43E-04	5.02E-04	5.04E-04	5.02E-04	3.35E-04	1.47E-04
1946	561321.8	4192073	6.38E-04	8.02E-04	6.30E-04	6.31E-04	6.30E-04	4.67E-04	2.83E-04	4.56E-04	6.25E-04	4.88E-04	4.90E-04	4.88E-04	3.25E-04	1.42E-04
1947	561329.3	4192078	6.20E-04	7.80E-04	6.12E-04	6.14E-04	6.12E-04	4.54E-04	2.75E-04	4.44E-04	6.08E-04	4.75E-04	4.76E-04	4.75E-04	3.16E-04	1.39E-04
1948	561336.8	4192084	6.04E-04	7.59E-04	5.96E-04	5.98E-04	5.96E-04	4.42E-04	2.68E-04	4.32E-04	5.92E-04	4.62E-04	4.63E-04	4.62E-04	3.08E-04	1.35E-04
1949	561344.4	4192089	5.89E-04	7.41E-04	5.81E-04	5.83E-04	5.81E-04	4.31E-04	2.61E-04	4.21E-04	5.77E-04	4.51E-04	4.52E-04	4.51E-04	3.00E-04	1.32E-04
1950	561351.9	4192095	5.75E-04	7.23E-04	5.68E-04	5.69E-04	5.68E-04	4.21E-04	2.55E-04	4.11E-04	5.64E-04	4.40E-04	4.41E-04	4.40E-04	2.94E-04	1.29E-04
1951	561359.4	4192101	5.63E-04	7.08E-04	5.56E-04	5.57E-04	5.56E-04	4.12E-04	2.50E-04	4.03E-04	5.52E-04	4.31E-04	4.32E-04	4.31E-04	2.87E-04	1.26E-04
1952	561366.9	4192106	5.53E-04	6.95E-04	5.45E-04	5.47E-04	5.45E-04	4.04E-04	2.45E-04	3.95E-04	5.41E-04	4.23E-04	4.24E-04	4.23E-04	2.82E-04	1.23E-04
1953	561389.5	4192123	5.29E-04	6.66E-04	5.22E-04	5.24E-04	5.22E-04	3.87E-04	2.35E-04	3.79E-04	5.19E-04	4.05E-04	4.06E-04	4.05E-04	2.70E-04	1.18E-04
1954	561397.1	4192128	5.24E-04	6.59E-04	5.17E-04	5.18E-04	5.17E-04	3.83E-04	2.32E-04	3.75E-04	5.13E-04	4.01E-04	4.02E-04	4.01E-04	2.67E-04	1.17E-04
1955	561404.6	4192134	5.19E-04	6.52E-04	5.12E-04	5.13E-04	5.12E-04	3.80E-04	2.30E-04	3.71E-04	5.08E-04	3.97E-04	3.98E-04	3.97E-04	2.65E-04	1.16E-04
1956	561412.1	4192140	5.14E-04	6.47E-04	5.08E-04	5.09E-04	5.08E-04	3.77E-04	2.28E-04	3.68E-04	5.04E-04	3.94E-04	3.95E-04	3.94E-04	2.62E-04	1.15E-04
1957	561420.9	4192154	5.26E-04	6.62E-04	5.20E-04	5.21E-04	5.20E-04	3.85E-04	2.34E-04	3.76E-04	5.16E-04	4.03E-04	4.04E-04	4.03E-04	2.69E-04	1.18E-04
1958	561422.2	4192164	5.42E-04	6.82E-04	5.35E-04	5.37E-04	5.35E-04	3.97E-04	2.41E-04	3.88E-04	5.31E-04	4.15E-04	4.16E-04	4.15E-04	2.77E-04	1.21E-04
1959	561440.2	4192294	6.70E-04	8.43E-04	6.62E-04	6.63E-04	6.62E-04	4.91E-04	2.97E-04	4.79E-04	6.57E-04	5.13E-04	5.14E-04	5.13E-04	3.42E-04	1.50E-04
1960	561441.5	4192303	6.70E-04	8.43E-04	6.61E-04	6.63E-04	6.61E-04	4.90E-04	2.97E-04	4.79E-04	6.56E-04	5.13E-04	5.14E-04	5.13E-04	3.42E-04	1.50E-04
1961	561276.6	4192039	7.56E-04	9.50E-04	7.46E-04	7.48E-04	7.46E-04	5.53E-04	3.35E-04	5.40E-04	7.40E-04	5.78E-04	5.80E-04	5.78E-04	3.86E-04	1.69E-04
1962	561267.1	4192037	7.91E-04	9.95E-04	7.81E-04	7.83E-04	7.81E-04	5.79E-04	3.51E-04	5.66E-04	7.75E-04	6.06E-04	6.07E-04	6.06E-04	4.04E-04	1.77E-04
1963	561257.6	4192034	8.27E-04	1.04E-03	8.17E-04	8.19E-04	8.17E-04	6.06E-04	3.67E-04	5.92E-04	8.11E-04	6.33E-04	6.35E-04	6.33E-04	4.22E-04	1.85E-04
1964	561248	4192032	8.64E-04	1.09E-03	8.52E-04	8.55E-04	8.52E-04	6.32E-04	3.83E-04	6.18E-04	8.46E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
1965	561238.5	4192030	9.00E-04	1.13E-03	8.88E-04	8.91E-04	8.88E-04	6.59E-04	3.99E-04	6.44E-04	8.82E-04	6.89E-04	6.91E-04	6.89E-04	4.59E-04	2.01E-04
1966	561229	4192027	9.36E-04	1.18E-03	9.23E-04	9.26E-04	9.23E-04	6.85E-04	4.15E-04	6.69E-04	9.17E-04	7.16E-04	7.18E-04	7.16E-04	4.77E-04	2.09E-04
1967	561219.4	4192025	9.71E-04	1.22E-03	9.58E-04	9.60E-04	9.58E-04	7.10E-04	4.31E-04	6.94E-04	9.51E-04	7.43E-04	7.45E-04	7.43E-04	4.95E-04	2.17E-04
1968	561209.9	4192023	1.00E-03	1.26E-03	9.91E-04	9.94E-04	9.91E-04	7.35E-04	4.46E-04	7.18E-04	9.84E-04	7.69E-04	7.71E-04	7.69E-04	5.12E-04	2.24E-04
1969	561200.4	4192020	1.04E-03	1.30E-03	1.02E-03	1.03E-03	1.02E-03	7.59E-04	4.60E-04	7.41E-04	1.02E-03	7.93E-04	7.96E-04	7.93E-04	5.29E-04	2.32E-04
1970	561181.3	4192016	1.10E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	8.02E-04	4.86E-04	7.84E-04	1.07E-03	8.39E-04	8.41E-04	8.39E-04	5.59E-04	2.45E-04
1971	561171.8	4192013	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.21E-04	4.98E-04	8.03E-04	1.10E-03	8.59E-04	8.61E-04	8.59E-04	5.73E-04	2.51E-04
1972	561162.2	4192011	1.15E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.39E-04	5.08E-04	8.19E-04	1.12E-03	8.77E-04	8.79E-04	8.77E-04	5.85E-04	2.56E-04
1973	561152.7	4192009	1.17E-03	1.47E-03	1.15E-03	1.15E-03	1.15E-03	8.53E-04	5.17E-04	8.34E-04	1.14E-03	8.92E-04	8.95E-04	8.92E-04	5.95E-04	2.60E-04
1974	561143.2	4192006	1.18E-03	1.49E-03	1.17E-03	1.17E-03	1.17E-03	8.66E-04	5.25E-04	8.46E-04	1.16E-03	9.05E-04	9.08E-04	9.05E-04	6.04E-04	2.64E-04
1975	561133.6	4192004	1.20E-03	1.51E-03	1.18E-03	1.19E-03	1.18E-03	8.77E-04	5.31E-04	8.57E-04	1.17E-03	9.17E-04	9.19E-04	9.17E-04	6.11E-04	2.68E-04
1976	561124.1	4192002	1.21E-03	1.52E-03	1.19E-03	1.20E-03	1.19E-03	8.85E-04	5.36E-04	8.65E-04	1.18E-03	9.25E-04	9.28E-04	9.25E-04	6.17E-04	2.70E-04
1977	561114.6	4191999	1.22E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.91E-04	5.40E-04	8.71E-04	1.19E-03	9.32E-04	9.34E-04	9.32E-04	6.21E-04	2.72E-04
1978	561105.1	4191997	1.22E-03	1.54E-03	1.21E-03	1.21E-03	1.21E-03	8.95E-04	5.43E-04	8.75E-04	1.20E-03	9.36E-04	9.38E-04	9.36E-04	6.24E-04	2.73E-04
1979	561310.4	4192053	6.46E-04	8.12E-04	6.37E-04	6.39E-04	6.37E-04	4.73E-04	2.87E-04	4.62E-04	6.33E-04	4.94E-04	4.96E-04	4.94E-04	3.30E-04	1.44E-04
1980	561318.3	4192059	6.27E-04	7.88E-04	6.19E-04	6.20E-04	6.19E-04	4.59E-04	2.78E-04	4.48E-04	6.14E-04	4.80E-04	4.81E-04	4.80E-04	3.20E-04	1.40E-04
1981	561326.1	4192064	6.08E-04	7.65E-04	6.00E-04	6.02E-04	6.00E-04	4.45E-04	2.70E-04	4.35E-04	5.96E-04	4.66E-04	4.67E-04	4.66E-04	3.10E-04	1.36E-04
1982	561334	4192070	5.91E-04	7.43E-04	5.83E-04	5.85E-04	5.83E-04	4.33E-04	2.62E-04	4.23E-04	5.79E-04	4.52E-04	4.54E-04	4.52E-04	3.02E-04	1.32E-04
1983	561341.8	4192076	5.75E-04	7.23E-04	5.67E-04	5.69E-04	5.67E-04	4.21E-04	2.55E-04	4.11E-04	5.63E-04	4.40E-04	4.41E-04	4.40E-04	2.93E-04	1.28E-04
1984	561349.7	4192082	5.60E-04	7.04E-04	5.53E-04	5.54E-04	5.53E-04	4.10E-04	2.49E-04	4.01E-04	5.49E-04	4.29E-04	4.30E-04	4.29E-04	2.86E-04	1.25E-04
1985	561357.6	4192088	5.47E-04	6.88E-04	5.40E-04	5.41E-04	5.40E-04	4.00E-04	2.43E-04	3.91E-04	5.36E-04	4.18E-04	4.20E-04	4.18E-04	2.79E-04	1.22E-04
1986	561365.4	4192093	5.35E-04	6.73E-04	5.28E-04	5.29E-04	5.28E-04	3.92E-04	2.37E-04	3.83E-04	5.24E-04	4.09E-04	4.11E-04	4.09E-04	2.73E-04	1.19E-04
1987	561373.3	4192099	5.24E-04	6.60E-04	5.18E-04	5.19E-04	5.18E-04	3.84E-04	2.33E-04	3.75E-04	5.14E-04	4.01E-04	4.02E-04	4.01E-04	2.68E-04	1.17E-04
1988	561389	4192111	5.09E-04	6.40E-04	5.02E-04	5.03E-04	5.02E-04	3.72E-04	2.26E-04	3.64E-04	4.98E-04	3.89E-04	3.90E-04	3.89E-04	2.59E-04	1.14E-04
1989	561396.8	4192117	5.02E-04	6.32E-04	4.96E-04	4.97E-04	4.96E-04	3.68E-04	2.23E-04	3.59E-04	4.92E-04	3.85E-04	3.86E-04	3.85E-04	2.56E-04	1.12E-04
1990	561404.7	4192123	4.97E-04	6.25E-04	4.91E-04	4.92E-04	4.91E-04	3.64E-04	2.21E-04	3.56E-04	4.87E-04	3.81E-04	3.82E-04	3.81E-04	2.54E-04	1.11E-04
1991	561412.5	4192128	4.93E-04	6.20E-04	4.86E-04	4.88E-04	4.86E-04	3.61E-04	2.19E-04	3.52E-04	4.83E-04	3.77E-04	3.78E-04	3.77E-04	2.51E-04	1.10E-04
1992	561420.4	4192134	4.89E-04	6.15E-04	4.83E-04	4.84E-04	4.83E-04	3.58E-04	2.17E-04	3.50E-04	4.79E-04	3.74E-04	3.75E-04	3.74E-04	2.50E-04	1.09E-04
1993	561429.6	4192150	5.02E-04	6.31E-04	4.95E-04	4.96E-04	4.95E-04	3.67E-04	2.22E-04	3.59E-04	4.91E-04	3.84E-04	3.85E-04	3.84E-04	2.56E-04	1.12E-04
1994	561430.9	4192159	5.17E-04	6.50E-04	5.10E-04	5.12E-04	5.10E-04	3.78E-04	2.29E-04	3.70E-04	5.07E-04	3.96E-04	3.97E-04	3.96E-04	2.64E-04	1.16E-04
1995	561447	4192276	6.40E-04	8.05E-04	6.32E-04	6.34E-04	6.32E-04	4.69E-04	2.84E-04	4.58E-04	6.28E-04	4.90E-04	4.91E-04	4.90E-04	3.27E-04	1.43E-04
1996	561448.3	4192285	6.42E-04	8.07E-04	6.33E-04	6.35E-04	6.33E-04	4.70E-04	2.85E-04	4.59E-04	6.29E-04	4.91E-04	4.92E-04	4.91E-04	3.27E-04	1.43E-04
1997	561449.7	4192295	6.42E-04	8.07E-04	6.33E-04	6.35E-04	6.33E-04	4.70E-04	2.85E-04	4.59E-04	6.29E-04	4.91E-04	4.93E-04	4.91E-04	3.28E-04	1.43E-04
1998	561451	4192305	6.41E-04	8.06E-04	6.33E-04	6.34E-04	6.33E-04	4.69E-04	2.84E-04	4.59E-04	6.28E-04	4.91E-04	4.92E-04	4.91E-04	3.27E-04	1.43E-04
1999	561279	4192029	7.24E-04	9.11E-04	7.15E-04	7.17E-04	7.15E-04	5.30E-04	3.21E-04	5.18E-04	7.10E-04	5.54E-04	5.56E-04	5.54E-04	3.70E-04	1.62E-04
2000	561269.5	4192027	7.58E-04	9.53E-04	7.48E-04	7.50E-04	7.48E-04	5.55E-04	3.36E-04	5.42E-04	7.43E-04	5.80E-04	5.82E-04	5.80E-04	3.87E-04	1.69E-04
2001	561259.9	4192025	7.92E-04	9.96E-04	7.81E-04	7.83E-04	7.81E-04	5.79E-04	3.51E-04	5.66E-04	7.76E-04	6.06E-04	6.08E-04	6.06E-04	4.04E-04	1.77E-04
2002	561250.4	4192022	8.26E-04	1.04E-03	8.15E-04	8.17E-04	8.15E-04	6.04E-04	3.66E-04	5.90E-04	8.09E-04	6.32E-04	6.34E-04	6.32E-04	4.21E-04	1.84E-04
2003	561240.9	4192020	8.59E-04	1.08E-03	8.48E-04	8.50E-04	8.48E-04	6.29E-04	3.81E-04	6.15E-04	8.42E-04	6.58E-04	6.59E-04	6.58E-04	4.38E-04	1.92E-04
2004	561231.3	4192018	8.93E-04	1.12E-03	8.81E-04	8.83E-04	8.81E-04	6.53E-04	3.96E-04	6.38E-04	8.75E-04	6.83E-04	6.85E-04	6.83E-04	4.56E-04	1.99E-04
2005	561221.8	4192015	9.25E-04	1.16E-03	9.13E-04	9.16E-04	9.13E-04	6.77E-04	4.11E-04	6.62E-04	9.07E-04	7.08E-04	7.10E-04	7.08E-04	4.72E-04	2.07E-04
2006	561212.3	4192013	9.57E-04	1.20E-03	9.44E-04	9.47E-04	9.44E-04	7.00E-04	4.25E-04	6.84E-04	9.38E-04	7.32E-04	7.34E-04	7.32E-04	4.88E-04	2.14E-04
2007	561202.8	4192011	9.87E-04	1.24E-03	9.74E-04	9.77E-04	9.74E-04	7.22E-04	4.38E-04	7.06E-04	9.67E-04	7.55E-04	7.57E-04	7.55E-04	5.04E-04	2.20E-04
2008	561183.7	4192006	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.63E-04	4.62E-04	7.45E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.32E-04	2.33E-04
2009	561174.2	4192004	1.07E-03	1.34E-03	1.05E-03	1.06E-03	1.05E-03	7.81E-04	4.73E-04	7.63E-04	1.05E-03	8.17E-04	8.19E-04	8.17E-04	5.44E-04	2.38E-04
2010	561164.6	4192001	1.09E-03	1.37E-03	1.07E-03	1.08E-03	1.07E-03	7.97E-04	4.83E-04	7.79E-04	1.07E-03	8.33E-04	8.36E-04	8.33E-04	5.56E-04	2.43E-04
2011	561155.1	4191999	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.11E-04	4.92E-04	7.93E-04	1.09E-03	8.48E-04	8.50E-04	8.48E-04	5.65E-04	2.48E-04
2012	561145.6	4191997	1.12E-03	1.41E-03	1.11E-03	1.11E-03	1.11E-03	8.23E-04	4.99E-04	8.04E-04	1.10E-03	8.61E-04	8.63E-04	8.61E-04	5.74E-04	2.51E-04
2013	561136	4191994	1.14E-03	1.43E-03	1.12E-03	1.13E-03	1.12E-03	8.33E-04	5.05E-04	8.14E-04	1.12E-03	8.71E-04	8.74E-04	8.71E-04	5.81E-04	2.54E-04
2014	561126.5	4191992	1.15E-03	1.45E-03	1.13E-03	1.14E-03	1.13E-03	8.42E-04	5.10E-04	8.22E-04	1.13E-03	8.80E-04	8.82E-04	8.80E-04	5.87E-04	2.57E-04
2015	561117	4191990	1.16E-03	1.46E-03	1.14E-03	1.15E-03	1.14E-03	8.48E-04	5.14E-04	8.28E-04	1.13E-03	8.86E-04	8.89E-04	8.86E-04	5.91E-04	2.59E-04
2016	561107.4	4191987	1.16E-03	1.46E-03	1.15E-03	1.15E-03	1.15E-03	8.52E-04	5.16E-04	8.32E-04	1.14E-03	8.91E-04	8.93E-04	8.91E-04	5.94E-04	2.60E-04
2017	561312.5	4192043	6.22E-04	7.82E-04	6.14E-04	6.16E-04	6.14E-04	4.55E-04	2.76E-04	4.45E-04	6.09E-04	4.76E-04	4.77E-04	4.76E-04	3.17E-04	1.39E-04
2018	561320.3	4192049	6.04E-04	7.59E-04	5.96E-04	5.98E-04	5.96E-04	4.42E-04	2.68E-04	4.32E-04	5.92E-04	4.62E-04	4.63E-04	4.62E-04	3.08E-04	1.35E-04
2019	561328	4192054	5.87E-04	7.38E-04	5.79E-04	5.80E-04	5.79E-04	4.29E-04	2.60E-04	4.19E-04	5.75E-04	4.49E-04	4.50E-04	4.49E-04	2.99E-04	1.31E-04
2020	561335.8	4192060	5.70E-04	7.17E-04	5.62E-04	5.64E-04	5.62E-04	4.17E-04	2.53E-04	4.08E-04	5.58E-04	4.36E-04	4.37E-04	4.36E-04	2.91E-04	1.27E-04
2021	561343.6	4192066	5.54E-04	6.97E-04	5.47E-04	5.49E-04	5.47E-04	4.06E-04	2.46E-04	3.96E-04	5.43E-04	4.24E-04	4.25E-04	4.24E-04	2.83E-04	1.24E-04

2022	561351.3	4192072	5.40E-04	6.79E-04	5.33E-04	5.34E-04	5.33E-04	3.95E-04	2.40E-04	3.86E-04	5.29E-04	4.13E-04	4.14E-04	4.13E-04	2.76E-04	1.21E-04
2023	561359.1	4192077	5.27E-04	6.63E-04	5.20E-04	5.21E-04	5.20E-04	3.86E-04	2.34E-04	3.77E-04	5.16E-04	4.03E-04	4.04E-04	4.03E-04	2.69E-04	1.18E-04
2024	561366.9	4192083	5.15E-04	6.48E-04	5.08E-04	5.10E-04	5.08E-04	3.77E-04	2.29E-04	3.68E-04	5.05E-04	3.94E-04	3.95E-04	3.94E-04	2.63E-04	1.15E-04
2025	561374.7	4192089	5.05E-04	6.34E-04	4.98E-04	4.99E-04	4.98E-04	3.69E-04	2.24E-04	3.61E-04	4.94E-04	3.86E-04	3.87E-04	3.86E-04	2.57E-04	1.13E-04
2026	561390.2	4192100	4.88E-04	6.14E-04	4.82E-04	4.83E-04	4.82E-04	3.57E-04	2.17E-04	3.49E-04	4.78E-04	3.73E-04	3.75E-04	3.73E-04	2.49E-04	1.09E-04
2027	561398	4192106	4.82E-04	6.06E-04	4.76E-04	4.77E-04	4.76E-04	3.53E-04	2.14E-04	3.45E-04	4.72E-04	3.69E-04	3.70E-04	3.69E-04	2.46E-04	1.08E-04
2028	561405.8	4192112	4.77E-04	5.99E-04	4.70E-04	4.72E-04	4.70E-04	3.49E-04	2.12E-04	3.41E-04	4.67E-04	3.65E-04	3.66E-04	3.65E-04	2.43E-04	1.06E-04
2029	561413.5	4192118	4.72E-04	5.94E-04	4.66E-04	4.67E-04	4.66E-04	3.46E-04	2.10E-04	3.38E-04	4.63E-04	3.61E-04	3.62E-04	3.61E-04	2.41E-04	1.06E-04
2030	561421.3	4192123	4.69E-04	5.90E-04	4.63E-04	4.64E-04	4.63E-04	3.43E-04	2.08E-04	3.35E-04	4.59E-04	3.59E-04	3.60E-04	3.59E-04	2.39E-04	1.05E-04
2031	561451.4	4192240	6.00E-04	7.55E-04	5.92E-04	5.94E-04	5.92E-04	4.39E-04	2.66E-04	4.29E-04	5.88E-04	4.59E-04	4.60E-04	4.59E-04	3.06E-04	1.34E-04
2032	561456.7	4192279	6.15E-04	7.73E-04	6.07E-04	6.08E-04	6.07E-04	4.50E-04	2.73E-04	4.40E-04	6.02E-04	4.70E-04	4.72E-04	4.70E-04	3.14E-04	1.37E-04
2033	561458.1	4192288	6.15E-04	7.74E-04	6.07E-04	6.09E-04	6.07E-04	4.50E-04	2.73E-04	4.40E-04	6.03E-04	4.71E-04	4.72E-04	4.71E-04	3.14E-04	1.37E-04
2034	561281.4	4192020	6.96E-04	8.75E-04	6.86E-04	6.88E-04	6.86E-04	5.09E-04	3.09E-04	4.97E-04	6.82E-04	5.32E-04	5.34E-04	5.32E-04	3.55E-04	1.55E-04
2035	561271.9	4192017	7.27E-04	9.14E-04	7.17E-04	7.19E-04	7.17E-04	5.32E-04	3.23E-04	5.20E-04	7.12E-04	5.56E-04	5.58E-04	5.56E-04	3.71E-04	1.62E-04
2036	561262.3	4192015	7.59E-04	9.54E-04	7.49E-04	7.51E-04	7.49E-04	5.55E-04	3.37E-04	5.43E-04	7.43E-04	5.81E-04	5.82E-04	5.81E-04	3.87E-04	1.69E-04
2037	561252.8	4192013	7.90E-04	9.94E-04	7.80E-04	7.82E-04	7.80E-04	5.78E-04	3.51E-04	5.65E-04	7.74E-04	6.05E-04	6.07E-04	6.05E-04	4.03E-04	1.77E-04
2038	561243.3	4192010	8.22E-04	1.03E-03	8.11E-04	8.13E-04	8.11E-04	6.02E-04	3.65E-04	5.88E-04	8.05E-04	6.29E-04	6.31E-04	6.29E-04	4.19E-04	1.84E-04
2039	561233.7	4192008	8.53E-04	1.07E-03	8.42E-04	8.44E-04	8.42E-04	6.24E-04	3.78E-04	6.10E-04	8.36E-04	6.53E-04	6.55E-04	6.53E-04	4.35E-04	1.91E-04
2040	561224.2	4192006	8.83E-04	1.11E-03	8.72E-04	8.74E-04	8.72E-04	6.47E-04	3.92E-04	6.32E-04	8.66E-04	6.76E-04	6.78E-04	6.76E-04	4.51E-04	1.97E-04
2041	561214.7	4192003	9.13E-04	1.15E-03	9.01E-04	9.03E-04	9.01E-04	6.68E-04	4.05E-04	6.53E-04	8.94E-04	6.99E-04	7.00E-04	6.99E-04	4.66E-04	2.04E-04
2042	561205.1	4192001	9.41E-04	1.18E-03	9.29E-04	9.31E-04	9.29E-04	6.89E-04	4.18E-04	6.73E-04	9.22E-04	7.20E-04	7.22E-04	7.20E-04	4.80E-04	2.10E-04
2043	561186.1	4191996	9.93E-04	1.25E-03	9.80E-04	9.82E-04	9.80E-04	7.27E-04	4.40E-04	7.10E-04	9.73E-04	7.60E-04	7.62E-04	7.60E-04	5.07E-04	2.22E-04
2044	561176.5	4191994	1.02E-03	1.28E-03	1.00E-03	1.01E-03	1.00E-03	7.43E-04	4.51E-04	7.26E-04	9.95E-04	7.77E-04	7.80E-04	7.77E-04	5.18E-04	2.27E-04
2045	561167	4191992	1.04E-03	1.30E-03	1.02E-03	1.03E-03	1.02E-03	7.59E-04	4.60E-04	7.41E-04	1.02E-03	7.93E-04	7.95E-04	7.93E-04	5.29E-04	2.32E-04
2046	561157.5	4191989	1.05E-03	1.33E-03	1.04E-03	1.04E-03	1.04E-03	7.72E-04	4.68E-04	7.54E-04	1.03E-03	8.07E-04	8.09E-04	8.07E-04	5.38E-04	2.36E-04
2047	561147.9	4191987	1.07E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.83E-04	4.75E-04	7.66E-04	1.05E-03	8.19E-04	8.21E-04	8.19E-04	5.46E-04	2.39E-04
2048	561138.4	4191985	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.93E-04	4.81E-04	7.75E-04	1.06E-03	8.29E-04	8.32E-04	8.29E-04	5.53E-04	2.42E-04
2049	561128.9	4191982	1.09E-03	1.38E-03	1.08E-03	1.08E-03	1.08E-03	8.01E-04	4.86E-04	7.83E-04	1.07E-03	8.38E-04	8.40E-04	8.38E-04	5.59E-04	2.45E-04
2050	561119.4	4191980	1.10E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	8.07E-04	4.89E-04	7.89E-04	1.08E-03	8.44E-04	8.47E-04	8.44E-04	5.63E-04	2.46E-04
2051	561109.8	4191978	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.12E-04	4.92E-04	7.93E-04	1.09E-03	8.49E-04	8.51E-04	8.49E-04	5.66E-04	2.48E-04
2052	561314.6	4192033	6.00E-04	7.54E-04	5.92E-04	5.93E-04	5.92E-04	4.39E-04	2.66E-04	4.29E-04	5.88E-04	4.59E-04	4.60E-04	4.59E-04	3.06E-04	1.34E-04
2053	561322.3	4192039	5.83E-04	7.33E-04	5.75E-04	5.77E-04	5.75E-04	4.26E-04	2.58E-04	4.17E-04	5.71E-04	4.46E-04	4.47E-04	4.46E-04	2.97E-04	1.30E-04
2054	561330	4192044	5.66E-04	7.12E-04	5.59E-04	5.60E-04	5.59E-04	4.14E-04	2.51E-04	4.05E-04	5.55E-04	4.33E-04	4.34E-04	4.33E-04	2.89E-04	1.26E-04
2055	561337.7	4192050	5.50E-04	6.92E-04	5.43E-04	5.44E-04	5.43E-04	4.03E-04	2.44E-04	3.93E-04	5.39E-04	4.21E-04	4.22E-04	4.21E-04	2.81E-04	1.23E-04
2056	561345.4	4192056	5.35E-04	6.73E-04	5.28E-04	5.30E-04	5.28E-04	3.92E-04	2.37E-04	3.83E-04	5.24E-04	4.10E-04	4.11E-04	4.10E-04	2.73E-04	1.20E-04
2057	561353.1	4192061	5.21E-04	6.56E-04	5.14E-04	5.16E-04	5.14E-04	3.82E-04	2.31E-04	3.73E-04	5.11E-04	3.99E-04	4.00E-04	3.99E-04	2.66E-04	1.16E-04
2058	561360.8	4192067	5.08E-04	6.39E-04	5.02E-04	5.03E-04	5.02E-04	3.72E-04	2.26E-04	3.64E-04	4.98E-04	3.89E-04	3.90E-04	3.89E-04	2.59E-04	1.14E-04
2059	561368.5	4192073	4.97E-04	6.25E-04	4.90E-04	4.92E-04	4.90E-04	3.64E-04	2.20E-04	3.55E-04	4.87E-04	3.80E-04	3.81E-04	3.80E-04	2.53E-04	1.11E-04
2060	561376.2	4192078	4.86E-04	6.11E-04	4.80E-04	4.81E-04	4.80E-04	3.56E-04	2.16E-04	3.48E-04	4.76E-04	3.72E-04	3.73E-04	3.72E-04	2.48E-04	1.09E-04
2061	561399.3	4192096	4.63E-04	5.82E-04	4.57E-04	4.58E-04	4.57E-04	3.39E-04	2.05E-04	3.31E-04	4.54E-04	3.54E-04	3.55E-04	3.54E-04	2.36E-04	1.03E-04
2062	561407	4192101	4.58E-04	5.76E-04	4.52E-04	4.53E-04	4.52E-04	3.35E-04	2.03E-04	3.27E-04	4.48E-04	3.50E-04	3.51E-04	3.50E-04	2.34E-04	1.02E-04
2063	561414.7	4192107	4.53E-04	5.70E-04	4.47E-04	4.49E-04	4.47E-04	3.32E-04	2.01E-04	3.24E-04	4.44E-04	3.47E-04	3.48E-04	3.47E-04	2.31E-04	1.01E-04
2064	561422.4	4192113	4.50E-04	5.65E-04	4.44E-04	4.45E-04	4.44E-04	3.29E-04	1.99E-04	3.22E-04	4.41E-04	3.44E-04	3.45E-04	3.44E-04	2.29E-04	1.00E-04
2065	561458.6	4192225	5.66E-04	7.12E-04	5.58E-04	5.60E-04	5.58E-04	4.14E-04	2.51E-04	4.05E-04	5.54E-04	4.33E-04	4.34E-04	4.33E-04	2.89E-04	1.26E-04
2066	561459.9	4192234	5.73E-04	7.21E-04	5.66E-04	5.67E-04	5.66E-04	4.20E-04	2.54E-04	4.10E-04	5.62E-04	4.39E-04	4.40E-04	4.39E-04	2.92E-04	1.28E-04
2067	561461.2	4192244	5.79E-04	7.28E-04	5.72E-04	5.73E-04	5.72E-04	4.24E-04	2.57E-04	4.14E-04	5.67E-04	4.43E-04	4.44E-04	4.43E-04	2.95E-04	1.29E-04
2068	561283.8	4192010	6.69E-04	8.41E-04	6.60E-04	6.62E-04	6.60E-04	4.89E-04	2.97E-04	4.78E-04	6.55E-04	5.12E-04	5.13E-04	5.12E-04	3.41E-04	1.49E-04
2069	561274.2	4192008	6.98E-04	8.78E-04	6.89E-04	6.91E-04	6.89E-04	5.11E-04	3.10E-04	4.99E-04	6.84E-04	5.34E-04	5.36E-04	5.34E-04	3.56E-04	1.56E-04
2070	561264.7	4192005	7.28E-04	9.15E-04	7.18E-04	7.20E-04	7.18E-04	5.33E-04	3.23E-04	5.20E-04	7.13E-04	5.57E-04	5.59E-04	5.57E-04	3.71E-04	1.63E-04
2071	561255.2	4192003	7.58E-04	9.53E-04	7.48E-04	7.50E-04	7.48E-04	5.54E-04	3.36E-04	5.42E-04	7.42E-04	5.80E-04	5.81E-04	5.80E-04	3.87E-04	1.69E-04
2072	561245.7	4192001	7.87E-04	9.90E-04	7.77E-04	7.79E-04	7.77E-04	5.76E-04	3.49E-04	5.63E-04	7.71E-04	6.02E-04	6.04E-04	6.02E-04	4.02E-04	1.76E-04
2073	561236.1	4191998	8.16E-04	1.03E-03	8.05E-04	8.08E-04	8.05E-04	5.97E-04	3.62E-04	5.84E-04	8.00E-04	6.25E-04	6.26E-04	6.25E-04	4.16E-04	1.82E-04
2074	561226.6	4191996	8.45E-04	1.06E-03	8.34E-04	8.36E-04	8.34E-04	6.18E-04	3.75E-04	6.04E-04	8.28E-04	6.46E-04	6.48E-04	6.46E-04	4.31E-04	1.89E-04
2075	561217.1	4191994	8.72E-04	1.10E-03	8.61E-04	8.63E-04	8.61E-04	6.38E-04	3.87E-04	6.24E-04	8.55E-04	6.67E-04	6.69E-04	6.67E-04	4.45E-04	1.95E-04
2076	561188.5	4191987	9.47E-04	1.19E-03	9.34E-04	9.37E-04	9.34E-04	6.93E-04	4.20E-04	6.77E-04	9.28E-04	7.25E-04	7.27E-04	7.25E-04	4.83E-04	2.12E-04
2077	561178.9	4191984	9.69E-04	1.22E-03	9.56E-04	9.58E-04	9.56E-04	7.09E-04	4.30E-04	6.93E-04	9.49E-04	7.41E-04	7.43E-04	7.41E-04	4.94E-04	2.16E-04
2078	561169.4	4191982	9.88E-04	1.24E-03	9.75E-04	9.78E-04	9.75E-04	7.23E-04	4.38E-04	7.07E-04	9.68E-04	7.56E-04	7.58E-04	7.56E-04	5.04E-04	2.21E-04
2079	561159.9	4191980	1.01E-03	1.26E-03	9.92E-04	9.95E-04	9.92E-04	7.36E-04	4.46E-04	7.19E-04	9.85E-04	7.69E-04	7.72E-04	7.69E-04	5.13E-04	2.25E-04
2080	561150.3	4191977	1.02E-03	1.28E-03	1.01E-03	1.01E-03	1.01E-03	7.47E-04	4.53E-04	7.30E-04	1.00E-03	7.81E-04	7.83E-04	7.81E-04	5.21E-04	2.28E-04
2081	561140.8	4191975	1.03E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.56E-04	4.58E-04	7.39E-04	1.01E-03	7.91E-04	7.93E-04	7.91E-04	5.27E-04	2.31E-04
2082	561131.3	4191973	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.64E-04	4.63E-04	7.47E-04	1.02E-03	7.99E-04	8.01E-04	7.99E-04	5.33E-04	2.33E-04
2083	561121.7	4191970	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.53E-04	1.03E-03	8.05E-04	8.08E-04	8.05E-04	5.37E-04	2.35E-04
2084	561112.2	4191968	1.06E-03	1.33E-03	1.05E-03	1.05E-03	1.05E-03	7.75E-04	4.70E-04	7.57E-04	1.04E-03	8.10E-04	8.13E-04	8.10E-04	5.40E-04	2.37E-04
2085	561316.7	4192023	5.79E-04	7.28E-04	5.71E-04	5.73E-04	5.71E-04	4.24E-04	2.57E-04	4.14E-04	5.67E-04	4.43E-04	4.44E-04	4.43E-04	2.95E-04	1.29E-04
2086	561324.3	4192029	5.63E-04	7.07E-04	5.55E-04	5.57E-04	5.55E-04	4.12E-04	2.50E-04	4.02E-04	5.51E-04	4.30E-04	4.32E-04	4.30E-04	2.87E-04	1.26E-04
2087	561331.9	4192034	5.47E-04	6.88E-04	5.40E-04	5.41E-04	5.40E-04	4.00E-04	2.43E-04	3.91E-04	5.36E-04	4.18E-04	4.20E-04	4.18E-04	2.79E-04	1.22E-04
2088	561339.6	4192040	5.32E-04	6.69E-04	5.25E-04	5.26E-04	5.25E-04	3.89E-04	2.36E-04	3.80E-04	5.21E-04	4.07E-04	4.08E-04	4.07E-04	2.71E-04	1.19E-04
2089	561347.2	4192046	5.17E-04	6.50E-04	5.10E-04	5.12E-04	5.10E-04	3.79E-04	2.29E-04	3.70E-04	5.07E-04	3.96E-04	3.97E-04	3.96E-04	2.64E-04	1.16E-04
2090	561354.8	4192051	5.04E-04	6.34E-04	4.97E-04	4.99E-04	4.97E-04	3.69E-04	2.24E-04	3.60E-04	4.94E-04	3.86E-04	3.87E-04	3.86E-04	2.57E-04	1.13E-04
2091	561362.5	4192057	4.91E-04	6.18E-04	4.85E-04	4.86E-04	4.85E-04	3.60E-04	2.18E-04	3.51E-04	4.81E-04	3.76E-04	3.77E-04	3.76E-04	2.51E-04	1.10E-04
2092	561370.1	4192063	4.80E-04	6.03E-04	4.73E-04	4.75E-04	4.73E-04	3.51E-04	2.13E-04	3.43E-04	4.70E-04	3.67E-04	3.68E-04	3.67E-04	2.45E-04	1.07E-04
2093	561377.7	4192068	4.69E-04	5.90E-04	4.63E-04	4.64E-04	4.63E-04	3.43E-04	2.08E-04	3.36E-04	4.60E-04	3.59E-04	3.60E-04	3.59E-04	2.39E-04	1.05E-04
2094	561400.6	4192085	4.46E-04	5.60E-04	4.40E-04	4.41E-04	4.40E-04	3.26E-04	1.98E-04	3.19E-04	4.37E-04	3.41E-04	3.42E-04	3.41E-04	2.27E-04	9.96E-05
2095	561408.3	4192091	4.40E-04	5.53E-04	4.34E-04	4.36E-04	4.34E-04	3.22E-04	1.95E-04	3.15E-04	4.31E-04	3.37E-04	3.38E-04	3.37E-04	2.25E-04	9.83E-05
2096	561415.9	4192096	4.36E-04	5.48E-04	4.30E-04	4.31E-04	4.30E-04	3.19E-04	1.93E-04	3.11E-04	4.27E-04	3.33E-04	3.34E-04	3.33E-04	2.22E-04	9.73E-05
2097	561423.5	4192102	4.32E-04	5.43E-04	4.26E-04	4.27E-04	4.26E-04	3.16E-04	1.92E-04	3.09E-04	4.23E-04	3.30E-04	3.31E-04	3.30E-04	2.20E-04	9.65E-05
2098	561468.4	4192228	5.48E-04	6.89E-04	5.41E-04	5.43E-04	5.41E-04	4.01E-04	2.43E-04	3.92E-04	5.37E-04	4.20E-04	4.21E-04	4.20E-04	2.80E-04	1.22E-04
2099	561469.7	4192238	5.54E-04	6.97E-04	5.47E-04	5.49E-04	5.47E-04	4.06E-04	2.46E-04	3.96E-04	5.43E-04	4.24E-04	4.25E-04	4.24E-04	2.83E-04	1.24E-04
2100	561471	4192247	5.59E-04	7.03E-04	5.52E-04	5.53E-04	5.52E-04	4.09E-04	2.48E-04	4.00E-04	5.48E-04	4.28E-04	4.29E-04	4.28E-04	2.85E-04	1.25E-04
2101	561326.4	4192019	5.44E-04	6.84E-04	5.37E-04	5.38E-04	5.37E-04	3.98E-04	2.41E-04	3.89E-04	5.33E-04	4.16E-04	4.17E-04	4.16E-04	2.77E-04	1.21E-04
2102	561334	4192024	5.29E-04	6.65E-04	5.22E-04	5.23E-04	5.22E-04	3.87E-04	2.35E-04	3.78E-04	5.18E-04	4.05E-04	4.06E-04	4.05E-04	2.70E-04	1.18E-04

2103	561341.5	4192030	5.14E-04	6.47E-04	5.07E-04	5.09E-04	5.07E-04	3.76E-04	2.28E-04	3.68E-04	5.04E-04	3.94E-04	3.95E-04	3.94E-04	2.62E-04	1.15E-04
2104	561349.1	4192035	5.00E-04	6.29E-04	4.94E-04	4.95E-04	4.94E-04	3.66E-04	2.22E-04	3.58E-04	4.90E-04	3.83E-04	3.84E-04	3.83E-04	2.55E-04	1.12E-04
2105	561356.7	4192041	4.87E-04	6.13E-04	4.81E-04	4.82E-04	4.81E-04	3.57E-04	2.16E-04	3.49E-04	4.78E-04	3.73E-04	3.74E-04	3.73E-04	2.49E-04	1.09E-04
2106	561364.2	4192047	4.75E-04	5.98E-04	4.69E-04	4.70E-04	4.69E-04	3.48E-04	2.11E-04	3.40E-04	4.66E-04	3.64E-04	3.65E-04	3.64E-04	2.42E-04	1.06E-04
2107	561371.8	4192052	4.64E-04	5.84E-04	4.58E-04	4.59E-04	4.58E-04	3.40E-04	2.06E-04	3.32E-04	4.55E-04	3.55E-04	3.56E-04	3.55E-04	2.37E-04	1.04E-04
2108	561379.4	4192058	4.54E-04	5.70E-04	4.48E-04	4.49E-04	4.48E-04	3.32E-04	2.01E-04	3.24E-04	4.45E-04	3.47E-04	3.48E-04	3.47E-04	2.31E-04	1.01E-04
2109	561402.1	4192075	4.30E-04	5.40E-04	4.24E-04	4.25E-04	4.24E-04	3.14E-04	1.91E-04	3.07E-04	4.21E-04	3.29E-04	3.30E-04	3.29E-04	2.19E-04	9.60E-05
2110	561409.7	4192080	4.24E-04	5.33E-04	4.18E-04	4.19E-04	4.18E-04	3.10E-04	1.88E-04	3.03E-04	4.15E-04	3.24E-04	3.25E-04	3.24E-04	2.16E-04	9.47E-05
2111	561417.2	4192086	4.19E-04	5.27E-04	4.14E-04	4.15E-04	4.14E-04	3.07E-04	1.86E-04	3.00E-04	4.11E-04	3.21E-04	3.22E-04	3.21E-04	2.14E-04	9.36E-05
2112	561424.8	4192092	4.15E-04	5.22E-04	4.10E-04	4.11E-04	4.10E-04	3.04E-04	1.84E-04	2.97E-04	4.07E-04	3.18E-04	3.19E-04	3.18E-04	2.12E-04	9.27E-05
2113	561478.2	4192232	5.31E-04	6.68E-04	5.24E-04	5.26E-04	5.24E-04	3.89E-04	2.36E-04	3.80E-04	5.20E-04	4.06E-04	4.08E-04	4.06E-04	2.71E-04	1.19E-04
2114	561479.4	4192241	5.36E-04	6.74E-04	5.29E-04	5.31E-04	5.29E-04	3.92E-04	2.38E-04	3.83E-04	5.25E-04	4.10E-04	4.11E-04	4.10E-04	2.74E-04	1.20E-04
2115	561480.7	4192250	5.40E-04	6.79E-04	5.33E-04	5.35E-04	5.33E-04	3.95E-04	2.40E-04	3.86E-04	5.29E-04	4.13E-04	4.15E-04	4.13E-04	2.76E-04	1.21E-04
2116	561353.7	4192027	4.80E-04	6.04E-04	4.74E-04	4.75E-04	4.74E-04	3.51E-04	2.13E-04	3.43E-04	4.70E-04	3.67E-04	3.68E-04	3.67E-04	2.45E-04	1.07E-04
2117	561361.5	4192033	4.67E-04	5.88E-04	4.61E-04	4.62E-04	4.61E-04	3.42E-04	2.07E-04	3.34E-04	4.58E-04	3.58E-04	3.59E-04	3.58E-04	2.38E-04	1.04E-04
2118	561369.3	4192039	4.55E-04	5.73E-04	4.49E-04	4.51E-04	4.49E-04	3.33E-04	2.02E-04	3.26E-04	4.46E-04	3.49E-04	3.49E-04	3.49E-04	2.32E-04	1.02E-04
2119	561377.2	4192045	4.44E-04	5.59E-04	4.39E-04	4.40E-04	4.39E-04	3.25E-04	1.97E-04	3.18E-04	4.35E-04	3.40E-04	3.41E-04	3.40E-04	2.27E-04	9.93E-05
2120	561385	4192051	4.34E-04	5.46E-04	4.29E-04	4.30E-04	4.29E-04	3.18E-04	1.93E-04	3.11E-04	4.26E-04	3.32E-04	3.33E-04	3.32E-04	2.22E-04	9.70E-05
2121	561400.7	4192062	4.17E-04	5.25E-04	4.12E-04	4.13E-04	4.12E-04	3.06E-04	1.85E-04	2.99E-04	4.09E-04	3.19E-04	3.20E-04	3.19E-04	2.13E-04	9.33E-05
2122	561408.5	4192068	4.11E-04	5.17E-04	4.05E-04	4.07E-04	4.05E-04	3.01E-04	1.82E-04	2.94E-04	4.03E-04	3.14E-04	3.15E-04	3.14E-04	2.10E-04	9.18E-05
2123	561416.4	4192074	4.05E-04	5.10E-04	4.00E-04	4.01E-04	4.00E-04	2.97E-04	1.80E-04	2.90E-04	3.97E-04	3.10E-04	3.11E-04	3.10E-04	2.07E-04	9.05E-05
2124	561424.2	4192080	4.01E-04	5.04E-04	3.95E-04	3.97E-04	3.95E-04	2.93E-04	1.78E-04	2.87E-04	3.93E-04	3.07E-04	3.08E-04	3.07E-04	2.04E-04	8.95E-05
2125	561432.1	4192086	3.97E-04	4.99E-04	3.92E-04	3.93E-04	3.92E-04	2.91E-04	1.76E-04	2.84E-04	3.89E-04	3.04E-04	3.05E-04	3.04E-04	2.03E-04	8.87E-05
2126	561487.3	4192231	5.12E-04	6.44E-04	5.05E-04	5.07E-04	5.05E-04	3.75E-04	2.27E-04	3.66E-04	5.02E-04	3.92E-04	3.93E-04	3.92E-04	2.61E-04	1.14E-04
2127	561488.6	4192240	5.17E-04	6.50E-04	5.10E-04	5.12E-04	5.10E-04	3.79E-04	2.29E-04	3.70E-04	5.07E-04	3.96E-04	3.97E-04	3.96E-04	2.64E-04	1.16E-04
2128	561490	4192250	5.21E-04	6.55E-04	5.14E-04	5.16E-04	5.14E-04	3.81E-04	2.31E-04	3.73E-04	5.11E-04	3.99E-04	4.00E-04	3.99E-04	2.66E-04	1.16E-04
2129	561281.4	4191978	6.22E-04	7.83E-04	6.14E-04	6.16E-04	6.14E-04	4.55E-04	2.76E-04	4.45E-04	6.10E-04	4.76E-04	4.78E-04	4.76E-04	3.18E-04	1.39E-04
2130	561271.9	4191976	6.47E-04	8.14E-04	6.39E-04	6.40E-04	6.39E-04	4.74E-04	2.87E-04	4.63E-04	6.34E-04	4.95E-04	4.97E-04	4.95E-04	3.30E-04	1.45E-04
2131	561262.3	4191974	6.72E-04	8.45E-04	6.63E-04	6.65E-04	6.63E-04	4.92E-04	2.98E-04	4.80E-04	6.58E-04	5.14E-04	5.15E-04	5.14E-04	3.43E-04	1.50E-04
2132	561252.8	4191971	6.96E-04	8.75E-04	6.87E-04	6.89E-04	6.87E-04	5.09E-04	3.09E-04	4.98E-04	6.82E-04	5.33E-04	5.34E-04	5.33E-04	3.55E-04	1.56E-04
2133	561243.3	4191969	7.20E-04	9.06E-04	7.11E-04	7.13E-04	7.11E-04	5.27E-04	3.20E-04	5.15E-04	7.06E-04	5.51E-04	5.53E-04	5.51E-04	3.67E-04	1.61E-04
2134	561233.7	4191967	7.44E-04	9.35E-04	7.34E-04	7.36E-04	7.34E-04	5.44E-04	3.30E-04	5.32E-04	7.29E-04	5.69E-04	5.71E-04	5.69E-04	3.79E-04	1.66E-04
2135	561224.2	4191964	7.66E-04	9.64E-04	7.56E-04	7.58E-04	7.56E-04	5.61E-04	3.40E-04	5.48E-04	7.51E-04	5.86E-04	5.88E-04	5.86E-04	3.91E-04	1.71E-04
2136	561214.7	4191962	7.88E-04	9.91E-04	7.78E-04	7.80E-04	7.78E-04	5.77E-04	3.50E-04	5.64E-04	7.72E-04	6.03E-04	6.05E-04	6.03E-04	4.02E-04	1.76E-04
2137	561205.1	4191960	8.09E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.92E-04	3.59E-04	5.78E-04	7.92E-04	6.19E-04	6.21E-04	6.19E-04	4.13E-04	1.81E-04
2138	561195.6	4191957	8.28E-04	1.04E-03	8.17E-04	8.19E-04	8.17E-04	6.06E-04	3.67E-04	5.92E-04	8.11E-04	6.34E-04	6.35E-04	6.34E-04	4.23E-04	1.85E-04
2139	561186.1	4191955	8.46E-04	1.06E-03	8.35E-04	8.37E-04	8.35E-04	6.19E-04	3.75E-04	6.05E-04	8.29E-04	6.48E-04	6.49E-04	6.48E-04	4.32E-04	1.89E-04
2140	561176.6	4191953	8.63E-04	1.08E-03	8.51E-04	8.54E-04	8.51E-04	6.31E-04	3.83E-04	6.17E-04	8.45E-04	6.60E-04	6.62E-04	6.60E-04	4.40E-04	1.93E-04
2141	561167	4191950	8.78E-04	1.10E-03	8.66E-04	8.68E-04	8.66E-04	6.42E-04	3.89E-04	6.28E-04	8.60E-04	6.72E-04	6.73E-04	6.72E-04	4.48E-04	1.96E-04
2142	561157.5	4191948	8.91E-04	1.12E-03	8.79E-04	8.81E-04	8.79E-04	6.52E-04	3.95E-04	6.37E-04	8.73E-04	6.82E-04	6.84E-04	6.82E-04	4.54E-04	1.99E-04
2143	561148	4191946	9.02E-04	1.13E-03	8.90E-04	8.93E-04	8.90E-04	6.60E-04	4.00E-04	6.45E-04	8.84E-04	6.90E-04	6.92E-04	6.90E-04	4.60E-04	2.01E-04
2144	561138.4	4191943	9.12E-04	1.15E-03	9.00E-04	9.02E-04	9.00E-04	6.67E-04	4.05E-04	6.52E-04	8.93E-04	6.98E-04	7.00E-04	6.98E-04	4.65E-04	2.04E-04
2145	561128.9	4191941	9.20E-04	1.16E-03	9.08E-04	9.11E-04	9.08E-04	6.74E-04	4.08E-04	6.58E-04	9.02E-04	7.04E-04	7.06E-04	7.04E-04	4.70E-04	2.06E-04
2146	561119.4	4191939	9.27E-04	1.17E-03	9.15E-04	9.17E-04	9.15E-04	6.78E-04	4.11E-04	6.63E-04	9.08E-04	7.09E-04	7.11E-04	7.09E-04	4.73E-04	2.07E-04
2147	561324.4	4191994	5.21E-04	6.55E-04	5.14E-04	5.15E-04	5.14E-04	3.81E-04	2.31E-04	3.72E-04	5.10E-04	3.98E-04	3.99E-04	3.98E-04	2.66E-04	1.16E-04
2148	561332.2	4192000	5.06E-04	6.37E-04	5.00E-04	5.01E-04	5.00E-04	3.71E-04	2.25E-04	3.62E-04	4.96E-04	3.87E-04	3.89E-04	3.87E-04	2.58E-04	1.13E-04
2149	561371	4192029	4.42E-04	5.55E-04	4.36E-04	4.37E-04	4.36E-04	3.23E-04	1.96E-04	3.16E-04	4.33E-04	3.38E-04	3.39E-04	3.38E-04	2.25E-04	9.87E-05
2150	561378.8	4192035	4.31E-04	5.42E-04	4.25E-04	4.26E-04	4.25E-04	3.15E-04	1.91E-04	3.08E-04	4.22E-04	3.30E-04	3.31E-04	3.30E-04	2.20E-04	9.63E-05
2151	561386.6	4192040	4.21E-04	5.30E-04	4.16E-04	4.17E-04	4.16E-04	3.08E-04	1.87E-04	3.01E-04	4.13E-04	3.22E-04	3.23E-04	3.22E-04	2.15E-04	9.41E-05
2152	561417.7	4192063	3.91E-04	4.92E-04	3.86E-04	3.87E-04	3.86E-04	2.86E-04	1.74E-04	2.80E-04	3.84E-04	3.00E-04	3.00E-04	3.00E-04	2.00E-04	8.74E-05
2153	561425.5	4192069	3.87E-04	4.86E-04	3.82E-04	3.83E-04	3.82E-04	2.83E-04	1.72E-04	2.76E-04	3.79E-04	2.96E-04	2.97E-04	2.96E-04	1.97E-04	8.64E-05
2154	561433.2	4192075	3.83E-04	4.81E-04	3.78E-04	3.79E-04	3.78E-04	2.80E-04	1.70E-04	2.74E-04	3.75E-04	2.93E-04	2.94E-04	2.93E-04	1.95E-04	8.55E-05
2155	561283.8	4191969	6.00E-04	7.55E-04	5.92E-04	5.94E-04	5.92E-04	4.39E-04	2.66E-04	4.29E-04	5.88E-04	4.59E-04	4.61E-04	4.59E-04	3.06E-04	1.34E-04
2156	561274.3	4191966	6.23E-04	7.84E-04	6.15E-04	6.17E-04	6.15E-04	4.56E-04	2.77E-04	4.46E-04	6.11E-04	4.77E-04	4.78E-04	4.77E-04	3.18E-04	1.39E-04
2157	561264.7	4191964	6.47E-04	8.13E-04	6.38E-04	6.40E-04	6.38E-04	4.73E-04	2.87E-04	4.62E-04	6.34E-04	4.95E-04	4.96E-04	4.95E-04	3.30E-04	1.44E-04
2158	561255.2	4191962	6.70E-04	8.42E-04	6.61E-04	6.63E-04	6.61E-04	4.90E-04	2.97E-04	4.79E-04	6.56E-04	5.12E-04	5.14E-04	5.12E-04	3.42E-04	1.50E-04
2159	561245.7	4191959	6.92E-04	8.71E-04	6.83E-04	6.85E-04	6.83E-04	5.07E-04	3.07E-04	4.95E-04	6.78E-04	5.30E-04	5.31E-04	5.30E-04	3.53E-04	1.55E-04
2160	561236.1	4191957	7.14E-04	8.98E-04	7.05E-04	7.07E-04	7.05E-04	5.23E-04	3.17E-04	5.11E-04	7.00E-04	5.47E-04	5.48E-04	5.47E-04	3.64E-04	1.60E-04
2161	561226.6	4191955	7.36E-04	9.25E-04	7.26E-04	7.28E-04	7.26E-04	5.38E-04	3.26E-04	5.26E-04	7.21E-04	5.63E-04	5.65E-04	5.63E-04	3.75E-04	1.64E-04
2162	561217.1	4191952	7.56E-04	9.51E-04	7.46E-04	7.48E-04	7.46E-04	5.53E-04	3.35E-04	5.41E-04	7.41E-04	5.79E-04	5.80E-04	5.79E-04	3.86E-04	1.69E-04
2163	561207.5	4191950	7.75E-04	9.75E-04	7.65E-04	7.67E-04	7.65E-04	5.68E-04	3.44E-04	5.55E-04	7.60E-04	5.93E-04	5.95E-04	5.93E-04	3.96E-04	1.73E-04
2164	561198	4191948	7.94E-04	9.98E-04	7.83E-04	7.86E-04	7.83E-04	5.81E-04	3.52E-04	5.68E-04	7.78E-04	6.07E-04	6.09E-04	6.07E-04	4.05E-04	1.77E-04
2165	561188.5	4191945	8.11E-04	1.02E-03	8.00E-04	8.02E-04	8.00E-04	5.93E-04	3.60E-04	5.80E-04	7.95E-04	6.21E-04	6.22E-04	6.21E-04	4.14E-04	1.81E-04
2166	561178.9	4191943	8.26E-04	1.04E-03	8.16E-04	8.18E-04	8.16E-04	6.05E-04	3.67E-04	5.91E-04	8.10E-04	6.32E-04	6.34E-04	6.32E-04	4.22E-04	1.85E-04
2167	561169.4	4191941	8.41E-04	1.06E-03	8.30E-04	8.32E-04	8.30E-04	6.15E-04	3.73E-04	6.01E-04	8.24E-04	6.43E-04	6.45E-04	6.43E-04	4.29E-04	1.88E-04
2168	561159.9	4191938	8.53E-04	1.07E-03	8.42E-04	8.44E-04	8.42E-04	6.24E-04	3.79E-04	6.10E-04	8.36E-04	6.53E-04	6.55E-04	6.53E-04	4.35E-04	1.91E-04
2169	561150.3	4191936	8.64E-04	1.09E-03	8.53E-04	8.55E-04	8.53E-04	6.32E-04	3.83E-04	6.18E-04	8.47E-04	6.61E-04	6.63E-04	6.61E-04	4.41E-04	1.93E-04
2170	561140.8	4191934	8.73E-04	1.10E-03	8.62E-04	8.64E-04	8.62E-04	6.39E-04	3.88E-04	6.25E-04	8.56E-04	6.68E-04	6.70E-04	6.68E-04	4.46E-04	1.95E-04
2171	561131.3	4191931	8.82E-04	1.11E-03	8.70E-04	8.73E-04	8.70E-04	6.45E-04	3.91E-04	6.31E-04	8.64E-04	6.75E-04	6.77E-04	6.75E-04	4.50E-04	1.97E-04
2172	561121.7	4191929	8.88E-04	1.12E-03	8.77E-04	8.79E-04	8.77E-04	6.50E-04	3.94E-04	6.35E-04	8.70E-04	6.80E-04	6.82E-04	6.80E-04	4.53E-04	1.98E-04
2173	561326.5	4191984	5.04E-04	6.34E-04	4.98E-04	4.99E-04	4.98E-04	3.69E-04	2.24E-04	3.61E-04	4.94E-04	3.86E-04	3.87E-04	3.86E-04	2.57E-04	1.13E-04
2174	561334.3	4191990	4.91E-04	6.17E-04	4.84E-04	4.86E-04	4.84E-04	3.59E-04	2.18E-04	3.51E-04	4.81E-04	3.75E-04	3.77E-04	3.75E-04	2.50E-04	1.10E-04
2175	561342	4191996	4.77E-04	6.00E-04	4.71E-04	4.72E-04	4.71E-04	3.49E-04	2.12E-04	3.41E-04	4.68E-04	3.65E-04	3.66E-04	3.65E-04	2.44E-04	1.07E-04
2176	561349.7	4192001	4.64E-04	5.84E-04	4.58E-04	4.60E-04	4.58E-04	3.40E-04	2.06E-04	3.32E-04	4.55E-04	3.55E-04	3.56E-04	3.55E-04	2.37E-04	1.04E-04
2177	561357.4	4192007	4.52E-04	5.68E-04	4.46E-04	4.47E-04	4.46E-04	3.31E-04	2.00E-04	3.23E-04	4.43E-04	3.46E-04	3.47E-04	3.46E-04	2.31E-04	1.01E-04
2178	561286.2	4191959	5.79E-04	7.28E-04	5.72E-04	5.73E-04	5.72E-04	4.24E-04	2.57E-04	4.14E-04	5.68E-04	4.43E-04	4.44E-04	4.43E-04	2.96E-04	1.29E-04
2179	561276.6	4191957	6.01E-04	7.56E-04	5.93E-04	5.95E-04	5.93E-04	4.40E-04	2.67E-04	4.30E-04	5.89E-04	4.60E-04	4.61E-04	4.60E-04	3.07E-04	1.34E-04
2180	561267.1	4191954	6.23E-04	7.84E-04	6.15E-04	6.17E-04	6.15E-04	4.56E-04	2.76E-04	4.46E-04	6.11E-04	4.77E-04	4.78E-04	4.77E-04	3.18E-04	1.39E-04
2181	561257.6	4191952	6.45E-04	8.11E-04	6.36E-04	6.38E-04	6.36E-04	4.72E-04	2.86E-04	4.61E-04	6.32E-04	4.93E-04	4.95E-04	4.93E-04	3.29E-04	1.44E-04
2182	561248	4191950	6.66E-04	8.38E-04	6.57E-04	6.59E-04	6.57E-04	4.88E-04	2.96E-04	4.76E-04	6.53E-04	5.10E-04	5.11E-04	5.10E-04	3.40E-04	1.49E-04
2183	561238.5	4191947	6.87E-04	8.64E-04	6.78E-04	6.80E-04	6.78E-04	5.03E-04	3.05E-04	4.91E-04	6.73E-04	5.26E-04	5.27E-04	5.26E-04	3.50E-04	1.53E-04

2184	561229	4191945	7.07E-04	8.89E-04	6.98E-04	7.00E-04	6.98E-04	5.17E-04	3.14E-04	5.06E-04	6.93E-04	5.41E-04	5.43E-04	5.41E-04	3.61E-04	1.58E-04
2185	561219.4	4191943	7.26E-04	9.13E-04	7.17E-04	7.19E-04	7.17E-04	5.31E-04	3.22E-04	5.19E-04	7.12E-04	5.56E-04	5.57E-04	5.56E-04	3.71E-04	1.62E-04
2186	561209.9	4191940	7.45E-04	9.36E-04	7.35E-04	7.37E-04	7.35E-04	5.45E-04	3.30E-04	5.32E-04	7.30E-04	5.70E-04	5.71E-04	5.70E-04	3.80E-04	1.66E-04
2187	561200.4	4191938	7.62E-04	9.58E-04	7.52E-04	7.54E-04	7.52E-04	5.58E-04	3.38E-04	5.45E-04	7.46E-04	5.83E-04	5.85E-04	5.83E-04	3.89E-04	1.70E-04
2188	561190.9	4191936	7.78E-04	9.78E-04	7.68E-04	7.70E-04	7.68E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
2189	561181.3	4191933	7.93E-04	9.97E-04	7.82E-04	7.84E-04	7.82E-04	5.80E-04	3.52E-04	5.67E-04	7.77E-04	6.07E-04	6.08E-04	6.07E-04	4.04E-04	1.77E-04
2190	561171.8	4191931	8.06E-04	1.01E-03	7.96E-04	7.98E-04	7.96E-04	5.90E-04	3.58E-04	5.77E-04	7.90E-04	6.17E-04	6.19E-04	6.17E-04	4.11E-04	1.80E-04
2191	561162.3	4191929	8.18E-04	1.03E-03	8.07E-04	8.10E-04	8.07E-04	5.99E-04	3.63E-04	5.85E-04	8.02E-04	6.26E-04	6.28E-04	6.26E-04	4.17E-04	1.83E-04
2192	561152.7	4191926	8.29E-04	1.04E-03	8.18E-04	8.20E-04	8.18E-04	6.06E-04	3.68E-04	5.93E-04	8.12E-04	6.34E-04	6.36E-04	6.34E-04	4.23E-04	1.85E-04
2193	561143.2	4191924	8.38E-04	1.05E-03	8.27E-04	8.29E-04	8.27E-04	6.13E-04	3.72E-04	5.99E-04	8.21E-04	6.41E-04	6.43E-04	6.41E-04	4.27E-04	1.87E-04
2194	561133.7	4191922	8.46E-04	1.06E-03	8.35E-04	8.37E-04	8.35E-04	6.19E-04	3.75E-04	6.05E-04	8.29E-04	6.47E-04	6.49E-04	6.47E-04	4.31E-04	1.89E-04
2195	561124.1	4191919	8.52E-04	1.07E-03	8.41E-04	8.43E-04	8.41E-04	6.24E-04	3.78E-04	6.09E-04	8.35E-04	6.52E-04	6.54E-04	6.52E-04	4.35E-04	1.90E-04
2196	560814.6	4192518	1.38E-03	1.74E-03	1.37E-03	1.37E-03	1.37E-03	1.01E-03	6.14E-04	9.90E-04	1.36E-03	1.06E-03	1.06E-03	1.06E-03	7.07E-04	3.09E-04
2197	560817.7	4192535	1.36E-03	1.71E-03	1.34E-03	1.35E-03	1.34E-03	9.95E-04	6.03E-04	9.72E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.94E-04	3.04E-04
2198	560820.7	4192553	1.34E-03	1.68E-03	1.32E-03	1.32E-03	1.32E-03	9.80E-04	5.94E-04	9.57E-04	1.31E-03	1.02E-03	1.03E-03	1.02E-03	6.83E-04	2.99E-04
2199	560804.8	4192520	1.30E-03	1.63E-03	1.28E-03	1.28E-03	1.28E-03	9.49E-04	5.76E-04	9.28E-04	1.27E-03	9.93E-04	9.96E-04	9.93E-04	6.62E-04	2.90E-04
2200	560807.8	4192537	1.27E-03	1.60E-03	1.26E-03	1.26E-03	1.26E-03	9.33E-04	5.65E-04	9.11E-04	1.25E-03	9.75E-04	9.78E-04	9.75E-04	6.50E-04	2.85E-04
2201	560810.9	4192554	1.26E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	9.19E-04	5.57E-04	8.98E-04	1.23E-03	9.61E-04	9.63E-04	9.61E-04	6.40E-04	2.80E-04
2202	560792.9	4192506	1.25E-03	1.57E-03	1.23E-03	1.23E-03	1.23E-03	9.13E-04	5.53E-04	8.92E-04	1.22E-03	9.54E-04	9.57E-04	9.54E-04	6.36E-04	2.79E-04
2203	560794.9	4192522	1.22E-03	1.53E-03	1.20E-03	1.21E-03	1.20E-03	8.91E-04	5.40E-04	8.71E-04	1.19E-03	9.32E-04	9.35E-04	9.32E-04	6.21E-04	2.72E-04
2204	560798	4192539	1.20E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.76E-04	5.31E-04	8.56E-04	1.17E-03	9.16E-04	9.18E-04	9.16E-04	6.11E-04	2.67E-04
2205	560801	4192556	1.18E-03	1.48E-03	1.16E-03	1.17E-03	1.16E-03	8.63E-04	5.23E-04	8.43E-04	1.16E-03	9.02E-04	9.05E-04	9.02E-04	6.02E-04	2.63E-04
2206	560783.1	4192507	1.17E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.59E-04	5.21E-04	8.40E-04	1.15E-03	8.99E-04	9.01E-04	8.99E-04	5.99E-04	2.62E-04
2207	560785.1	4192524	1.15E-03	1.44E-03	1.13E-03	1.13E-03	1.13E-03	8.39E-04	5.08E-04	8.19E-04	1.12E-03	8.77E-04	8.79E-04	8.77E-04	5.85E-04	2.56E-04
2208	560788.1	4192541	1.13E-03	1.42E-03	1.11E-03	1.11E-03	1.11E-03	8.24E-04	5.00E-04	8.05E-04	1.10E-03	8.62E-04	8.64E-04	8.62E-04	5.75E-04	2.52E-04
2209	560791.2	4192558	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.12E-04	4.92E-04	7.94E-04	1.09E-03	8.49E-04	8.52E-04	8.49E-04	5.66E-04	2.48E-04
2210	560773.2	4192508	1.11E-03	1.39E-03	1.09E-03	1.10E-03	1.09E-03	8.12E-04	4.92E-04	7.93E-04	1.09E-03	8.49E-04	8.51E-04	8.49E-04	5.66E-04	2.48E-04
2211	560775.2	4192525	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.92E-04	4.80E-04	7.73E-04	1.06E-03	8.28E-04	8.30E-04	8.28E-04	5.52E-04	2.42E-04
2212	560778.3	4192542	1.06E-03	1.34E-03	1.05E-03	1.05E-03	1.05E-03	7.78E-04	4.72E-04	7.60E-04	1.04E-03	8.13E-04	8.16E-04	8.13E-04	5.42E-04	2.37E-04
2213	560781.3	4192560	1.05E-03	1.32E-03	1.03E-03	1.04E-03	1.03E-03	7.67E-04	4.65E-04	7.49E-04	1.03E-03	8.02E-04	8.04E-04	8.02E-04	5.34E-04	2.34E-04
2214	560763.4	4192511	1.05E-03	1.32E-03	1.03E-03	1.04E-03	1.03E-03	7.66E-04	4.65E-04	7.49E-04	1.03E-03	8.01E-04	8.04E-04	8.01E-04	5.34E-04	2.34E-04
2215	560765.4	4192527	1.02E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.49E-04	4.54E-04	7.32E-04	1.00E-03	7.83E-04	7.85E-04	7.83E-04	5.22E-04	2.29E-04
2216	560768.4	4192544	1.01E-03	1.26E-03	9.92E-04	9.95E-04	9.92E-04	7.36E-04	4.46E-04	7.19E-04	9.85E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
2217	560771.5	4192561	9.91E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	7.25E-04	4.40E-04	7.09E-04	9.71E-04	7.58E-04	7.61E-04	7.58E-04	5.06E-04	2.21E-04
2218	560753.6	4192512	9.93E-04	1.25E-03	9.80E-04	9.83E-04	9.80E-04	7.27E-04	4.41E-04	7.10E-04	9.73E-04	7.60E-04	7.62E-04	7.60E-04	5.07E-04	2.22E-04
2219	560752.6	4192497	1.02E-03	1.29E-03	1.01E-03	1.01E-03	1.01E-03	7.48E-04	4.54E-04	7.31E-04	1.00E-03	7.82E-04	7.85E-04	7.82E-04	5.22E-04	2.28E-04
2220	560755.6	4192529	9.70E-04	1.22E-03	9.57E-04	9.60E-04	9.57E-04	7.10E-04	4.30E-04	6.94E-04	9.50E-04	7.42E-04	7.44E-04	7.42E-04	4.95E-04	2.17E-04
2221	560758.6	4192546	9.53E-04	1.20E-03	9.41E-04	9.43E-04	9.41E-04	6.98E-04	4.23E-04	6.82E-04	9.34E-04	7.30E-04	7.32E-04	7.30E-04	4.86E-04	2.13E-04
2222	560761.6	4192563	9.40E-04	1.18E-03	9.27E-04	9.30E-04	9.27E-04	6.88E-04	4.17E-04	6.72E-04	9.21E-04	7.19E-04	7.21E-04	7.19E-04	4.79E-04	2.10E-04
2223	560743.7	4192514	9.43E-04	1.19E-03	9.31E-04	9.34E-04	9.31E-04	6.90E-04	4.19E-04	6.75E-04	9.24E-04	7.22E-04	7.24E-04	7.22E-04	4.81E-04	2.11E-04
2224	560742.7	4192497	9.72E-04	1.22E-03	9.59E-04	9.62E-04	9.59E-04	7.11E-04	4.31E-04	6.95E-04	9.52E-04	7.44E-04	7.46E-04	7.44E-04	4.96E-04	2.17E-04
2225	560745.7	4192531	9.21E-04	1.16E-03	9.09E-04	9.12E-04	9.09E-04	6.74E-04	4.09E-04	6.59E-04	9.03E-04	7.05E-04	7.07E-04	7.05E-04	4.70E-04	2.06E-04
2226	560748.8	4192548	9.05E-04	1.14E-03	8.94E-04	8.96E-04	8.94E-04	6.63E-04	4.02E-04	6.48E-04	8.87E-04	6.93E-04	6.95E-04	6.93E-04	4.62E-04	2.02E-04
2227	560751.8	4192565	8.92E-04	1.12E-03	8.81E-04	8.83E-04	8.81E-04	6.53E-04	3.96E-04	6.38E-04	8.74E-04	6.83E-04	6.85E-04	6.83E-04	4.55E-04	1.99E-04
2228	560733.8	4192515	8.98E-04	1.13E-03	8.86E-04	8.88E-04	8.86E-04	6.57E-04	3.98E-04	6.42E-04	8.80E-04	6.87E-04	6.89E-04	6.87E-04	4.58E-04	2.01E-04
2229	560735.9	4192532	8.76E-04	1.10E-03	8.65E-04	8.67E-04	8.65E-04	6.41E-04	3.89E-04	6.27E-04	8.59E-04	6.71E-04	6.72E-04	6.71E-04	4.47E-04	1.96E-04
2230	560738.9	4192549	8.61E-04	1.08E-03	8.50E-04	8.52E-04	8.50E-04	6.30E-04	3.82E-04	6.16E-04	8.44E-04	6.59E-04	6.61E-04	6.59E-04	4.40E-04	1.92E-04
2231	560742	4192567	8.49E-04	1.07E-03	8.38E-04	8.40E-04	8.38E-04	6.21E-04	3.77E-04	6.07E-04	8.32E-04	6.50E-04	6.51E-04	6.50E-04	4.33E-04	1.90E-04
2232	560724	4192518	8.54E-04	1.07E-03	8.43E-04	8.45E-04	8.43E-04	6.25E-04	3.79E-04	6.11E-04	8.37E-04	6.54E-04	6.55E-04	6.54E-04	4.36E-04	1.91E-04
2233	560726	4192534	8.35E-04	1.05E-03	8.24E-04	8.26E-04	8.24E-04	6.11E-04	3.70E-04	5.97E-04	8.18E-04	6.39E-04	6.41E-04	6.39E-04	4.26E-04	1.87E-04
2234	560729.1	4192551	8.21E-04	1.03E-03	8.10E-04	8.12E-04	8.10E-04	6.01E-04	3.64E-04	5.87E-04	8.04E-04	6.28E-04	6.30E-04	6.28E-04	4.19E-04	1.83E-04
2235	560732.1	4192568	8.09E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.92E-04	3.59E-04	5.78E-04	7.93E-04	6.19E-04	6.21E-04	6.19E-04	4.13E-04	1.81E-04
2236	560716.2	4192536	7.96E-04	1.00E-03	7.86E-04	7.88E-04	7.86E-04	5.83E-04	3.53E-04	5.69E-04	7.80E-04	6.09E-04	6.11E-04	6.09E-04	4.06E-04	1.78E-04
2237	560719.2	4192553	7.83E-04	9.85E-04	7.73E-04	7.75E-04	7.73E-04	5.73E-04	3.48E-04	5.60E-04	7.67E-04	5.99E-04	6.01E-04	5.99E-04	4.00E-04	1.75E-04
2238	560722.3	4192570	7.72E-04	9.71E-04	7.62E-04	7.64E-04	7.62E-04	5.65E-04	3.42E-04	5.52E-04	7.56E-04	5.91E-04	5.92E-04	5.91E-04	3.94E-04	1.72E-04
2239	560706.3	4192538	7.61E-04	9.57E-04	7.51E-04	7.53E-04	7.51E-04	5.57E-04	3.37E-04	5.44E-04	7.45E-04	5.82E-04	5.84E-04	5.82E-04	3.88E-04	1.70E-04
2240	560709.4	4192555	7.48E-04	9.41E-04	7.39E-04	7.41E-04	7.39E-04	5.48E-04	3.32E-04	5.35E-04	7.33E-04	5.73E-04	5.74E-04	5.73E-04	3.82E-04	1.67E-04
2241	560712.4	4192572	7.38E-04	9.27E-04	7.28E-04	7.30E-04	7.28E-04	5.40E-04	3.27E-04	5.27E-04	7.23E-04	5.64E-04	5.66E-04	5.64E-04	3.76E-04	1.65E-04
2242	560699.5	4192556	7.16E-04	9.01E-04	7.07E-04	7.09E-04	7.07E-04	5.24E-04	3.18E-04	5.12E-04	7.02E-04	5.48E-04	5.50E-04	5.48E-04	3.65E-04	1.60E-04
2243	560702.6	4192574	7.06E-04	8.87E-04	6.96E-04	6.98E-04	6.96E-04	5.16E-04	3.13E-04	5.05E-04	6.91E-04	5.40E-04	5.42E-04	5.40E-04	3.60E-04	1.58E-04
2244	560692.7	4192575	6.76E-04	8.50E-04	6.67E-04	6.69E-04	6.67E-04	4.95E-04	3.00E-04	4.84E-04	6.62E-04	5.17E-04	5.19E-04	5.17E-04	3.45E-04	1.51E-04
2245	560834.1	4192584	1.38E-03	1.73E-03	1.36E-03	1.36E-03	1.36E-03	1.01E-03	6.12E-04	9.86E-04	1.35E-03	1.05E-03	1.06E-03	1.05E-03	7.03E-04	3.08E-04
2246	560828.8	4192574	1.36E-03	1.70E-03	1.34E-03	1.34E-03	1.34E-03	9.92E-04	6.01E-04	9.69E-04	1.33E-03	1.04E-03	1.04E-03	1.04E-03	6.92E-04	3.03E-04
2247	560823.6	4192564	1.33E-03	1.68E-03	1.32E-03	1.32E-03	1.32E-03	9.77E-04	5.92E-04	9.55E-04	1.31E-03	1.02E-03	1.02E-03	1.02E-03	6.81E-04	2.98E-04
2248	560842.7	4192621	1.37E-03	1.73E-03	1.36E-03	1.36E-03	1.36E-03	1.01E-03	6.10E-04	9.83E-04	1.35E-03	1.05E-03	1.06E-03	1.05E-03	7.02E-04	3.07E-04
2249	560837.4	4192611	1.35E-03	1.70E-03	1.33E-03	1.34E-03	1.33E-03	9.88E-04	5.99E-04	9.65E-04	1.32E-03	1.03E-03	1.04E-03	1.03E-03	6.89E-04	3.02E-04
2250	560832.2	4192601	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.70E-04	5.88E-04	9.48E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.76E-04	2.96E-04
2251	560826.9	4192591	1.30E-03	1.64E-03	1.29E-03	1.29E-03	1.29E-03	9.53E-04	5.78E-04	9.31E-04	1.28E-03	9.97E-04	9.99E-04	9.97E-04	6.64E-04	2.91E-04
2252	560821.6	4192580	1.28E-03	1.61E-03	1.26E-03	1.27E-03	1.26E-03	9.37E-04	5.68E-04	9.16E-04	1.25E-03	9.80E-04	9.83E-04	9.80E-04	6.53E-04	2.86E-04
2253	560816.3	4192570	1.26E-03	1.59E-03	1.24E-03	1.25E-03	1.24E-03	9.23E-04	5.59E-04	9.02E-04	1.24E-03	9.65E-04	9.68E-04	9.65E-04	6.43E-04	2.82E-04
2254	560840.9	4192638	1.33E-03	1.67E-03	1.31E-03	1.31E-03	1.31E-03	9.70E-04	5.88E-04	9.48E-04	1.30E-03	1.01E-03	1.02E-03	1.01E-03	6.76E-04	2.96E-04
2255	560835.6	4192628	1.30E-03	1.64E-03	1.28E-03	1.29E-03	1.28E-03	9.53E-04	5.77E-04	9.31E-04	1.28E-03	9.96E-04	9.99E-04	9.96E-04	6.64E-04	2.91E-04
2256	560830.3	4192618	1.28E-03	1.61E-03	1.26E-03	1.26E-03	1.26E-03	9.35E-04	5.67E-04	9.14E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	6.52E-04	2.85E-04
2257	560825	4192608	1.25E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	9.18E-04	5.57E-04	8.97E-04	1.23E-03	9.60E-04	9.63E-04	9.60E-04	6.40E-04	2.80E-04
2258	560819.7	4192597	1.23E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.02E-04	5.47E-04	8.82E-04	1.21E-03	9.43E-04	9.46E-04	9.43E-04	6.29E-04	2.75E-04
2259	560814.4	4192587	1.21E-03	1.52E-03	1.20E-03	1.20E-03	1.20E-03	8.87E-04	5.38E-04	8.67E-04	1.19E-03	9.28E-04	9.30E-04	9.28E-04	6.19E-04	2.71E-04
2260	560809.2	4192577	1.19E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.73E-04	5.30E-04	8.54E-04	1.17E-03	9.13E-04	9.16E-04	9.13E-04	6.09E-04	2.67E-04
2261	560803.9	4192567	1.18E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.61E-04	5.22E-04	8.41E-04	1.15E-03	9.00E-04	9.03E-04	9.00E-04	6.00E-04	2.63E-04
2262	560839	4192655	1.28E-03	1.61E-03	1.26E-03	1.27E-03	1.26E-03	9.36E-04	5.67E-04	9.14E-04	1.25E-03	9.78E-04	9.81E-04	9.78E-04	6.52E-04	2.86E-04
2263	560833.7	4192645	1.26E-03	1.58E-03	1.24E-03	1.24E-03	1.24E-03	9.20E-04	5.58E-04	8.99E-04	1.23E-03	9.62E-04	9.65E-04	9.62E-04	6.41E-04	2.81E-04
2264	560828.4	4192635	1.23E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.04E-04	5.48E-04	8.83E-04	1.21E-03	9.45E-04	9.47E-04	9.45E-04	6.30E-04	2.76E-04

2265	560823.2	4192625	1.21E-03	1.52E-03	1.20E-03	1.20E-03	1.20E-03	8.87E-04	5.38E-04	8.67E-04	1.19E-03	9.28E-04	9.30E-04	9.28E-04	6.19E-04	2.71E-04
2266	560817.9	4192615	1.19E-03	1.50E-03	1.17E-03	1.18E-03	1.17E-03	8.71E-04	5.28E-04	8.51E-04	1.17E-03	9.11E-04	9.14E-04	9.11E-04	6.07E-04	2.66E-04
2267	560812.6	4192604	1.17E-03	1.47E-03	1.15E-03	1.16E-03	1.15E-03	8.56E-04	5.19E-04	8.36E-04	1.15E-03	8.95E-04	8.98E-04	8.95E-04	5.97E-04	2.61E-04
2268	560807.3	4192594	1.15E-03	1.45E-03	1.13E-03	1.14E-03	1.13E-03	8.42E-04	5.10E-04	8.22E-04	1.13E-03	8.80E-04	8.82E-04	8.80E-04	5.87E-04	2.57E-04
2269	560802	4192584	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.28E-04	5.02E-04	8.09E-04	1.11E-03	8.66E-04	8.68E-04	8.66E-04	5.77E-04	2.53E-04
2270	560796.7	4192574	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.16E-04	4.95E-04	7.97E-04	1.09E-03	8.53E-04	8.55E-04	8.53E-04	5.69E-04	2.49E-04
2271	560837.2	4192672	1.23E-03	1.55E-03	1.22E-03	1.22E-03	1.22E-03	9.03E-04	5.47E-04	8.82E-04	1.21E-03	9.44E-04	9.47E-04	9.44E-04	6.29E-04	2.76E-04
2272	560831.9	4192662	1.21E-03	1.53E-03	1.20E-03	1.20E-03	1.20E-03	8.89E-04	5.39E-04	8.69E-04	1.19E-03	9.30E-04	9.32E-04	9.30E-04	6.20E-04	2.71E-04
2273	560826.6	4192652	1.19E-03	1.50E-03	1.18E-03	1.18E-03	1.18E-03	8.74E-04	5.30E-04	8.54E-04	1.17E-03	9.14E-04	9.17E-04	9.14E-04	6.09E-04	2.67E-04
2274	560821.3	4192642	1.17E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.59E-04	5.21E-04	8.39E-04	1.15E-03	8.98E-04	9.00E-04	8.98E-04	5.99E-04	2.62E-04
2275	560816	4192632	1.15E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.43E-04	5.11E-04	8.24E-04	1.13E-03	8.82E-04	8.84E-04	8.82E-04	5.88E-04	2.57E-04
2276	560810.7	4192621	1.13E-03	1.42E-03	1.12E-03	1.12E-03	1.12E-03	8.28E-04	5.02E-04	8.09E-04	1.11E-03	8.66E-04	8.68E-04	8.66E-04	5.77E-04	2.53E-04
2277	560805.4	4192611	1.11E-03	1.40E-03	1.10E-03	1.10E-03	1.10E-03	8.13E-04	4.93E-04	7.95E-04	1.09E-03	8.51E-04	8.53E-04	8.51E-04	5.67E-04	2.48E-04
2278	560800.1	4192601	1.09E-03	1.37E-03	1.08E-03	1.08E-03	1.08E-03	8.00E-04	4.85E-04	7.82E-04	1.07E-03	8.36E-04	8.39E-04	8.36E-04	5.58E-04	2.44E-04
2279	560794.8	4192591	1.08E-03	1.35E-03	1.06E-03	1.06E-03	1.06E-03	7.87E-04	4.77E-04	7.69E-04	1.05E-03	8.23E-04	8.25E-04	8.23E-04	5.49E-04	2.40E-04
2280	560789.5	4192581	1.06E-03	1.33E-03	1.05E-03	1.05E-03	1.05E-03	7.75E-04	4.70E-04	7.57E-04	1.04E-03	8.10E-04	8.13E-04	8.10E-04	5.40E-04	2.37E-04
2281	560784.2	4192571	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.64E-04	4.63E-04	7.47E-04	1.02E-03	7.99E-04	8.01E-04	7.99E-04	5.33E-04	2.33E-04
2282	560835.5	4192690	1.19E-03	1.50E-03	1.17E-03	1.18E-03	1.17E-03	8.71E-04	5.28E-04	8.51E-04	1.17E-03	9.11E-04	9.13E-04	9.11E-04	6.07E-04	2.66E-04
2283	560830.3	4192680	1.17E-03	1.48E-03	1.16E-03	1.16E-03	1.16E-03	8.60E-04	5.21E-04	8.40E-04	1.15E-03	8.99E-04	9.01E-04	8.99E-04	5.99E-04	2.62E-04
2284	560825.1	4192670	1.16E-03	1.45E-03	1.14E-03	1.14E-03	1.14E-03	8.47E-04	5.13E-04	8.27E-04	1.13E-03	8.85E-04	8.88E-04	8.85E-04	5.90E-04	2.58E-04
2285	560819.9	4192660	1.14E-03	1.43E-03	1.12E-03	1.13E-03	1.12E-03	8.33E-04	5.05E-04	8.14E-04	1.12E-03	8.71E-04	8.73E-04	8.71E-04	5.81E-04	2.54E-04
2286	560814.7	4192650	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.19E-04	4.96E-04	8.00E-04	1.10E-03	8.56E-04	8.58E-04	8.56E-04	5.71E-04	2.50E-04
2287	560809.5	4192640	1.10E-03	1.38E-03	1.08E-03	1.09E-03	1.08E-03	8.04E-04	4.87E-04	7.86E-04	1.08E-03	8.41E-04	8.43E-04	8.41E-04	5.61E-04	2.45E-04
2288	560804.3	4192630	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.90E-04	4.79E-04	7.72E-04	1.06E-03	8.26E-04	8.28E-04	8.26E-04	5.51E-04	2.41E-04
2289	560799.1	4192620	1.06E-03	1.33E-03	1.05E-03	1.05E-03	1.05E-03	7.76E-04	4.71E-04	7.59E-04	1.04E-03	8.12E-04	8.14E-04	8.12E-04	5.41E-04	2.37E-04
2290	560793.8	4192610	1.04E-03	1.31E-03	1.03E-03	1.03E-03	1.03E-03	7.64E-04	4.63E-04	7.46E-04	1.02E-03	7.98E-04	8.01E-04	7.98E-04	5.32E-04	2.33E-04
2291	560788.6	4192600	1.03E-03	1.29E-03	1.01E-03	1.02E-03	1.01E-03	7.52E-04	4.56E-04	7.34E-04	1.01E-03	7.86E-04	7.88E-04	7.86E-04	5.24E-04	2.29E-04
2292	560783.4	4192590	1.01E-03	1.27E-03	9.98E-04	1.00E-03	9.98E-04	7.40E-04	4.49E-04	7.23E-04	9.91E-04	7.74E-04	7.76E-04	7.74E-04	5.16E-04	2.26E-04
2293	560778.2	4192580	9.97E-04	1.25E-03	9.84E-04	9.87E-04	9.84E-04	7.30E-04	4.42E-04	7.13E-04	9.77E-04	7.63E-04	7.65E-04	7.63E-04	5.09E-04	2.23E-04
2294	560828.4	4192697	1.13E-03	1.43E-03	1.12E-03	1.12E-03	1.12E-03	8.30E-04	5.03E-04	8.11E-04	1.11E-03	8.68E-04	8.71E-04	8.68E-04	5.79E-04	2.53E-04
2295	560823.2	4192687	1.12E-03	1.41E-03	1.10E-03	1.11E-03	1.10E-03	8.19E-04	4.97E-04	8.01E-04	1.10E-03	8.57E-04	8.59E-04	8.57E-04	5.71E-04	2.50E-04
2296	560818	4192677	1.10E-03	1.39E-03	1.09E-03	1.09E-03	1.09E-03	8.07E-04	4.89E-04	7.89E-04	1.08E-03	8.44E-04	8.46E-04	8.44E-04	5.63E-04	2.46E-04
2297	560812.8	4192667	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.94E-04	4.81E-04	7.76E-04	1.06E-03	8.30E-04	8.32E-04	8.30E-04	5.54E-04	2.42E-04
2298	560807.5	4192657	1.07E-03	1.34E-03	1.05E-03	1.06E-03	1.05E-03	7.80E-04	4.73E-04	7.62E-04	1.04E-03	8.16E-04	8.18E-04	8.16E-04	5.44E-04	2.38E-04
2299	560802.3	4192647	1.05E-03	1.32E-03	1.03E-03	1.04E-03	1.03E-03	7.67E-04	4.65E-04	7.49E-04	1.03E-03	8.02E-04	8.04E-04	8.02E-04	5.34E-04	2.34E-04
2300	560797.1	4192637	1.03E-03	1.29E-03	1.02E-03	1.02E-03	1.02E-03	7.53E-04	4.57E-04	7.36E-04	1.01E-03	7.87E-04	7.90E-04	7.87E-04	5.25E-04	2.30E-04
2301	560791.9	4192627	1.01E-03	1.27E-03	9.98E-04	1.00E-03	9.98E-04	7.40E-04	4.49E-04	7.23E-04	9.91E-04	7.74E-04	7.76E-04	7.74E-04	5.16E-04	2.26E-04
2302	560786.7	4192617	9.95E-04	1.25E-03	9.82E-04	9.84E-04	9.82E-04	7.28E-04	4.41E-04	7.11E-04	9.75E-04	7.61E-04	7.63E-04	7.61E-04	5.07E-04	2.22E-04
2303	560781.4	4192607	9.79E-04	1.23E-03	9.66E-04	9.69E-04	9.66E-04	7.17E-04	4.34E-04	7.00E-04	9.59E-04	7.49E-04	7.51E-04	7.49E-04	5.00E-04	2.19E-04
2304	560776.2	4192597	9.64E-04	1.21E-03	9.52E-04	9.54E-04	9.52E-04	7.06E-04	4.28E-04	6.90E-04	9.45E-04	7.38E-04	7.40E-04	7.38E-04	4.92E-04	2.15E-04
2305	560771	4192587	9.51E-04	1.20E-03	9.38E-04	9.41E-04	9.38E-04	6.96E-04	4.22E-04	6.80E-04	9.32E-04	7.28E-04	7.30E-04	7.28E-04	4.85E-04	2.12E-04
2306	560765.8	4192577	9.39E-04	1.18E-03	9.27E-04	9.29E-04	9.27E-04	6.87E-04	4.17E-04	6.71E-04	9.20E-04	7.19E-04	7.21E-04	7.19E-04	4.79E-04	2.10E-04
2307	560821.4	4192704	1.08E-03	1.36E-03	1.07E-03	1.07E-03	1.07E-03	7.93E-04	4.80E-04	7.74E-04	1.06E-03	8.29E-04	8.31E-04	8.29E-04	5.53E-04	2.42E-04
2308	560816.1	4192694	1.07E-03	1.34E-03	1.05E-03	1.06E-03	1.05E-03	7.82E-04	4.74E-04	7.64E-04	1.05E-03	8.18E-04	8.20E-04	8.18E-04	5.45E-04	2.39E-04
2309	560810.9	4192684	1.05E-03	1.32E-03	1.04E-03	1.04E-03	1.04E-03	7.70E-04	4.67E-04	7.53E-04	1.03E-03	8.06E-04	8.08E-04	8.06E-04	5.37E-04	2.35E-04
2310	560805.7	4192674	1.04E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.58E-04	4.59E-04	7.41E-04	1.01E-03	7.92E-04	7.95E-04	7.92E-04	5.28E-04	2.31E-04
2311	560800.4	4192664	1.02E-03	1.28E-03	1.00E-03	1.01E-03	1.00E-03	7.45E-04	4.52E-04	7.28E-04	9.97E-04	7.79E-04	7.81E-04	7.79E-04	5.19E-04	2.27E-04
2312	560795.2	4192654	1.00E-03	1.26E-03	9.87E-04	9.90E-04	9.87E-04	7.32E-04	4.44E-04	7.15E-04	9.80E-04	7.65E-04	7.67E-04	7.65E-04	5.10E-04	2.23E-04
2313	560790	4192644	9.82E-04	1.24E-03	9.70E-04	9.72E-04	9.70E-04	7.19E-04	4.36E-04	7.03E-04	9.63E-04	7.52E-04	7.54E-04	7.52E-04	5.01E-04	2.19E-04
2314	560784.7	4192634	9.66E-04	1.21E-03	9.53E-04	9.56E-04	9.53E-04	7.07E-04	4.28E-04	6.90E-04	9.46E-04	7.39E-04	7.41E-04	7.39E-04	4.93E-04	2.16E-04
2315	560779.5	4192623	9.50E-04	1.19E-03	9.37E-04	9.40E-04	9.37E-04	6.95E-04	4.21E-04	6.79E-04	9.30E-04	7.27E-04	7.29E-04	7.27E-04	4.85E-04	2.12E-04
2316	560774.3	4192613	9.35E-04	1.18E-03	9.22E-04	9.25E-04	9.22E-04	6.84E-04	4.15E-04	6.68E-04	9.16E-04	7.15E-04	7.17E-04	7.15E-04	4.77E-04	2.09E-04
2317	560769	4192603	9.20E-04	1.16E-03	9.08E-04	9.11E-04	9.08E-04	6.74E-04	4.08E-04	6.58E-04	9.02E-04	7.04E-04	7.06E-04	7.04E-04	4.70E-04	2.06E-04
2318	560763.8	4192593	9.08E-04	1.14E-03	8.96E-04	8.98E-04	8.96E-04	6.64E-04	4.03E-04	6.49E-04	8.89E-04	6.95E-04	6.96E-04	6.95E-04	4.63E-04	2.03E-04
2319	560758.6	4192583	8.96E-04	1.13E-03	8.85E-04	8.87E-04	8.85E-04	6.56E-04	3.98E-04	6.41E-04	8.78E-04	6.86E-04	6.88E-04	6.86E-04	4.57E-04	2.00E-04
2320	560814.3	4192711	1.04E-03	1.30E-03	1.02E-03	1.02E-03	1.02E-03	7.58E-04	4.59E-04	7.40E-04	1.01E-03	7.92E-04	7.94E-04	7.92E-04	5.28E-04	2.31E-04
2321	560809	4192701	1.02E-03	1.28E-03	1.01E-03	1.01E-03	1.01E-03	7.48E-04	4.53E-04	7.30E-04	1.00E-03	7.82E-04	7.84E-04	7.82E-04	5.21E-04	2.28E-04
2322	560803.8	4192691	1.01E-03	1.27E-03	9.93E-04	9.96E-04	9.93E-04	7.36E-04	4.46E-04	7.20E-04	9.86E-04	7.70E-04	7.72E-04	7.70E-04	5.13E-04	2.25E-04
2323	560798.6	4192681	9.90E-04	1.24E-03	9.77E-04	9.80E-04	9.77E-04	7.24E-04	4.39E-04	7.08E-04	9.70E-04	7.57E-04	7.60E-04	7.57E-04	5.05E-04	2.21E-04
2324	560793.3	4192671	9.73E-04	1.22E-03	9.60E-04	9.63E-04	9.60E-04	7.12E-04	4.32E-04	6.96E-04	9.53E-04	7.45E-04	7.47E-04	7.45E-04	4.96E-04	2.17E-04
2325	560788.1	4192661	9.56E-04	1.20E-03	9.44E-04	9.46E-04	9.44E-04	7.00E-04	4.24E-04	6.84E-04	9.37E-04	7.32E-04	7.34E-04	7.32E-04	4.88E-04	2.14E-04
2326	560782.8	4192650	9.39E-04	1.18E-03	9.27E-04	9.30E-04	9.27E-04	6.87E-04	4.17E-04	6.72E-04	9.20E-04	7.19E-04	7.21E-04	7.19E-04	4.79E-04	2.10E-04
2327	560777.6	4192640	9.23E-04	1.16E-03	9.11E-04	9.14E-04	9.11E-04	6.76E-04	4.10E-04	6.60E-04	9.05E-04	7.06E-04	7.08E-04	7.06E-04	4.71E-04	2.06E-04
2328	560772.3	4192630	9.08E-04	1.14E-03	8.96E-04	8.98E-04	8.96E-04	6.64E-04	4.03E-04	6.49E-04	8.90E-04	6.95E-04	6.97E-04	6.95E-04	4.63E-04	2.03E-04
2329	560767.1	4192620	8.93E-04	1.12E-03	8.82E-04	8.84E-04	8.82E-04	6.54E-04	3.96E-04	6.39E-04	8.75E-04	6.84E-04	6.86E-04	6.84E-04	4.56E-04	2.00E-04
2330	560761.8	4192610	8.80E-04	1.11E-03	8.68E-04	8.71E-04	8.68E-04	6.44E-04	3.90E-04	6.29E-04	8.62E-04	6.73E-04	6.75E-04	6.73E-04	4.49E-04	1.97E-04
2331	560756.6	4192600	8.67E-04	1.09E-03	8.56E-04	8.58E-04	8.56E-04	6.35E-04	3.85E-04	6.20E-04	8.50E-04	6.64E-04	6.66E-04	6.64E-04	4.43E-04	1.94E-04
2332	560751.3	4192590	8.57E-04	1.08E-03	8.46E-04	8.48E-04	8.46E-04	6.27E-04	3.80E-04	6.13E-04	8.40E-04	6.56E-04	6.57E-04	6.56E-04	4.37E-04	1.91E-04
2333	560746.1	4192580	8.48E-04	1.07E-03	8.37E-04	8.39E-04	8.37E-04	6.20E-04	3.76E-04	6.06E-04	8.31E-04	6.49E-04	6.51E-04	6.49E-04	4.33E-04	1.89E-04
2334	560807.2	4192718	9.91E-04	1.25E-03	9.78E-04	9.80E-04	9.78E-04	7.25E-04	4.40E-04	7.09E-04	9.71E-04	7.58E-04	7.60E-04	7.58E-04	5.06E-04	2.21E-04
2335	560802	4192708	9.77E-04	1.23E-03	9.65E-04	9.67E-04	9.65E-04	7.15E-04	4.34E-04	6.99E-04	9.58E-04	7.48E-04	7.50E-04	7.48E-04	4.99E-04	2.18E-04
2336	560796.7	4192698	9.63E-04	1.21E-03	9.50E-04	9.53E-04	9.50E-04	7.05E-04	4.27E-04	6.89E-04	9.44E-04	7.37E-04	7.39E-04	7.37E-04	4.91E-04	2.15E-04
2337	560791.4	4192688	9.47E-04	1.19E-03	9.35E-04	9.38E-04	9.35E-04	6.93E-04	4.20E-04	6.78E-04	9.28E-04	7.25E-04	7.27E-04	7.25E-04	4.83E-04	2.12E-04
2338	560786.2	4192678	9.31E-04	1.17E-03	9.19E-04	9.22E-04	9.19E-04	6.82E-04	4.13E-04	6.66E-04	9.13E-04	7.13E-04	7.15E-04	7.13E-04	4.75E-04	2.08E-04
2339	560780.9	4192668	9.15E-04	1.15E-03	9.03E-04	9.06E-04	9.03E-04	6.70E-04	4.06E-04	6.54E-04	8.97E-04	7.00E-04	7.02E-04	7.00E-04	4.67E-04	2.04E-04
2340	560775.7	4192657	8.99E-04	1.13E-03	8.87E-04	8.90E-04	8.87E-04	6.58E-04	3.99E-04	6.43E-04	8.81E-04	6.88E-04	6.90E-04	6.88E-04	4.59E-04	2.01E-04
2341	560770.4	4192647	8.84E-04	1.11E-03	8.72E-04	8.75E-04	8.72E-04	6.47E-04	3.92E-04	6.32E-04	8.66E-04	6.76E-04	6.78E-04	6.76E-04	4.51E-04	1.97E-04
2342	560765.2	4192637	8.69E-04	1.09E-03	8.58E-04	8.60E-04	8.58E-04	6.36E-04	3.86E-04	6.22E-04	8.52E-04	6.65E-04	6.67E-04	6.65E-04	4.43E-04	1.94E-04
2343	560759.9	4192627	8.55E-04	1.08E-03	8.44E-04	8.46E-04	8.44E-04	6.26E-04	3.80E-04	6.12E-04	8.38E-04	6.55E-04	6.56E-04	6.55E-04	4.36E-04	1.91E-04
2344	560754.7	4192617	8.42E-04	1.06E-03	8.31E-04	8.33E-04	8.31E-04	6.16E-04	3.74E-04	6.02E-04	8.25E-04	6.45E-04	6.46E-04	6.45E-04	4.30E-04	1.88E-04
2345	560749.4	4192607	8.30E-04	1.04E-03	8.19E-04	8.22E-04	8.19E-04	6.08E-04	3.68E-04	5.94E-04	8.13E-04	6.35E-04	6.37E-04	6.35E-04	4.24E-04	1.85E-04

2346	560744.1	4192597	8.20E-04	1.03E-03	8.09E-04	8.12E-04	8.09E-04	6.00E-04	3.64E-04	5.87E-04	8.04E-04	6.28E-04	6.29E-04	6.28E-04	4.18E-04	1.83E-04
2347	560738.9	4192587	8.11E-04	1.02E-03	8.01E-04	8.03E-04	8.01E-04	5.94E-04	3.60E-04	5.80E-04	7.95E-04	6.21E-04	6.23E-04	6.21E-04	4.14E-04	1.81E-04
2348	560800.1	4192725	9.49E-04	1.19E-03	9.37E-04	9.39E-04	9.37E-04	6.95E-04	4.21E-04	6.79E-04	9.30E-04	7.26E-04	7.28E-04	7.26E-04	4.84E-04	2.12E-04
2349	560794.9	4192715	9.37E-04	1.18E-03	9.24E-04	9.27E-04	9.24E-04	6.85E-04	4.16E-04	6.70E-04	9.18E-04	7.17E-04	7.19E-04	7.17E-04	4.78E-04	2.09E-04
2350	560789.6	4192705	9.23E-04	1.16E-03	9.11E-04	9.13E-04	9.11E-04	6.75E-04	4.09E-04	6.60E-04	9.04E-04	7.06E-04	7.08E-04	7.06E-04	4.71E-04	2.06E-04
2351	560784.3	4192695	9.08E-04	1.14E-03	8.96E-04	8.98E-04	8.96E-04	6.64E-04	4.03E-04	6.49E-04	8.90E-04	6.95E-04	6.97E-04	6.95E-04	4.63E-04	2.03E-04
2352	560779.1	4192685	8.93E-04	1.12E-03	8.81E-04	8.83E-04	8.81E-04	6.53E-04	3.96E-04	6.38E-04	8.75E-04	6.83E-04	6.85E-04	6.83E-04	4.55E-04	1.99E-04
2353	560773.8	4192674	8.77E-04	1.10E-03	8.66E-04	8.68E-04	8.66E-04	6.42E-04	3.89E-04	6.27E-04	8.59E-04	6.71E-04	6.73E-04	6.71E-04	4.48E-04	1.96E-04
2354	560768.5	4192664	8.62E-04	1.08E-03	8.51E-04	8.53E-04	8.51E-04	6.31E-04	3.82E-04	6.16E-04	8.44E-04	6.60E-04	6.61E-04	6.60E-04	4.40E-04	1.93E-04
2355	560763.3	4192654	8.47E-04	1.07E-03	8.36E-04	8.38E-04	8.36E-04	6.20E-04	3.76E-04	6.06E-04	8.30E-04	6.48E-04	6.50E-04	6.48E-04	4.32E-04	1.89E-04
2356	560758	4192644	8.33E-04	1.05E-03	8.22E-04	8.24E-04	8.22E-04	6.10E-04	3.70E-04	5.96E-04	8.16E-04	6.38E-04	6.39E-04	6.38E-04	4.25E-04	1.86E-04
2357	560752.8	4192634	8.20E-04	1.03E-03	8.09E-04	8.12E-04	8.09E-04	6.00E-04	3.64E-04	5.86E-04	8.03E-04	6.28E-04	6.29E-04	6.28E-04	4.18E-04	1.83E-04
2358	560747.5	4192624	8.07E-04	1.02E-03	7.97E-04	7.99E-04	7.97E-04	5.91E-04	3.58E-04	5.77E-04	7.91E-04	6.18E-04	6.20E-04	6.18E-04	4.12E-04	1.80E-04
2359	560742.2	4192614	7.96E-04	1.00E-03	7.86E-04	7.88E-04	7.86E-04	5.83E-04	3.53E-04	5.69E-04	7.80E-04	6.09E-04	6.11E-04	6.09E-04	4.06E-04	1.78E-04
2360	560737	4192604	7.86E-04	9.88E-04	7.76E-04	7.78E-04	7.76E-04	5.75E-04	3.49E-04	5.62E-04	7.70E-04	6.02E-04	6.03E-04	6.02E-04	4.01E-04	1.76E-04
2361	560731.7	4192594	7.78E-04	9.78E-04	7.67E-04	7.69E-04	7.67E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.97E-04	5.95E-04	3.97E-04	1.74E-04
2362	560726.4	4192584	7.70E-04	9.69E-04	7.60E-04	7.62E-04	7.60E-04	5.64E-04	3.42E-04	5.51E-04	7.55E-04	5.89E-04	5.91E-04	5.89E-04	3.93E-04	1.72E-04
2363	560793.1	4192732	9.11E-04	1.15E-03	8.99E-04	9.01E-04	8.99E-04	6.66E-04	4.04E-04	6.51E-04	8.92E-04	6.97E-04	6.99E-04	6.97E-04	4.65E-04	2.03E-04
2364	560787.8	4192722	8.98E-04	1.13E-03	8.87E-04	8.89E-04	8.87E-04	6.58E-04	3.99E-04	6.43E-04	8.80E-04	6.88E-04	6.89E-04	6.88E-04	4.58E-04	2.01E-04
2365	560782.5	4192712	8.85E-04	1.11E-03	8.74E-04	8.76E-04	8.74E-04	6.48E-04	3.93E-04	6.33E-04	8.67E-04	6.77E-04	6.79E-04	6.77E-04	4.52E-04	1.98E-04
2366	560777.2	4192702	8.71E-04	1.10E-03	8.60E-04	8.62E-04	8.60E-04	6.37E-04	3.86E-04	6.23E-04	8.53E-04	6.67E-04	6.68E-04	6.67E-04	4.44E-04	1.95E-04
2367	560772	4192692	8.56E-04	1.08E-03	8.45E-04	8.47E-04	8.45E-04	6.27E-04	3.80E-04	6.12E-04	8.39E-04	6.55E-04	6.57E-04	6.55E-04	4.37E-04	1.91E-04
2368	560766.7	4192681	8.42E-04	1.06E-03	8.31E-04	8.33E-04	8.31E-04	6.16E-04	3.73E-04	6.02E-04	8.25E-04	6.44E-04	6.46E-04	6.44E-04	4.29E-04	1.88E-04
2369	560761.4	4192671	8.27E-04	1.04E-03	8.16E-04	8.18E-04	8.16E-04	6.05E-04	3.67E-04	5.91E-04	8.10E-04	6.33E-04	6.35E-04	6.33E-04	4.22E-04	1.85E-04
2370	560756.1	4192661	8.13E-04	1.02E-03	8.02E-04	8.04E-04	8.02E-04	5.95E-04	3.61E-04	5.81E-04	7.97E-04	6.22E-04	6.24E-04	6.22E-04	4.15E-04	1.82E-04
2371	560750.9	4192651	7.99E-04	1.01E-03	7.89E-04	7.91E-04	7.89E-04	5.85E-04	3.55E-04	5.72E-04	7.83E-04	6.12E-04	6.13E-04	6.12E-04	4.08E-04	1.79E-04
2372	560745.6	4192641	7.87E-04	9.89E-04	7.76E-04	7.79E-04	7.76E-04	5.76E-04	3.49E-04	5.63E-04	7.71E-04	6.02E-04	6.04E-04	6.02E-04	4.01E-04	1.76E-04
2373	560740.3	4192631	7.75E-04	9.74E-04	7.65E-04	7.67E-04	7.65E-04	5.67E-04	3.44E-04	5.54E-04	7.59E-04	5.93E-04	5.95E-04	5.93E-04	3.95E-04	1.73E-04
2374	560735	4192621	7.64E-04	9.61E-04	7.54E-04	7.56E-04	7.54E-04	5.59E-04	3.39E-04	5.46E-04	7.48E-04	5.85E-04	5.86E-04	5.85E-04	3.90E-04	1.71E-04
2375	560729.8	4192611	7.54E-04	9.49E-04	7.44E-04	7.46E-04	7.44E-04	5.52E-04	3.35E-04	5.39E-04	7.39E-04	5.77E-04	5.79E-04	5.77E-04	3.85E-04	1.68E-04
2376	560724.5	4192601	7.46E-04	9.38E-04	7.36E-04	7.38E-04	7.36E-04	5.46E-04	3.31E-04	5.33E-04	7.31E-04	5.71E-04	5.72E-04	5.71E-04	3.81E-04	1.67E-04
2377	560719.2	4192590	7.39E-04	9.29E-04	7.29E-04	7.31E-04	7.29E-04	5.41E-04	3.28E-04	5.28E-04	7.24E-04	5.65E-04	5.67E-04	5.65E-04	3.77E-04	1.65E-04
2378	560786	4192739	8.74E-04	1.10E-03	8.63E-04	8.65E-04	8.63E-04	6.40E-04	3.88E-04	6.25E-04	8.57E-04	6.69E-04	6.71E-04	6.69E-04	4.46E-04	1.95E-04
2379	560780.7	4192729	8.63E-04	1.08E-03	8.51E-04	8.54E-04	8.51E-04	6.31E-04	3.83E-04	6.17E-04	8.45E-04	6.60E-04	6.62E-04	6.60E-04	4.40E-04	1.93E-04
2380	560775.4	4192719	8.50E-04	1.07E-03	8.39E-04	8.41E-04	8.39E-04	6.22E-04	3.77E-04	6.08E-04	8.33E-04	6.50E-04	6.52E-04	6.50E-04	4.34E-04	1.90E-04
2381	560770.1	4192709	8.36E-04	1.05E-03	8.26E-04	8.28E-04	8.26E-04	6.12E-04	3.71E-04	5.98E-04	8.20E-04	6.40E-04	6.42E-04	6.40E-04	4.27E-04	1.87E-04
2382	560764.9	4192699	8.22E-04	1.03E-03	8.12E-04	8.14E-04	8.12E-04	6.02E-04	3.65E-04	5.88E-04	8.06E-04	6.29E-04	6.31E-04	6.29E-04	4.20E-04	1.84E-04
2383	560759.6	4192688	8.08E-04	1.02E-03	7.98E-04	8.00E-04	7.98E-04	5.92E-04	3.59E-04	5.78E-04	7.92E-04	6.19E-04	6.20E-04	6.19E-04	4.12E-04	1.81E-04
2384	560754.3	4192678	7.94E-04	9.99E-04	7.84E-04	7.86E-04	7.84E-04	5.81E-04	3.52E-04	5.68E-04	7.78E-04	6.08E-04	6.10E-04	6.08E-04	4.05E-04	1.77E-04
2385	560749	4192668	7.81E-04	9.82E-04	7.71E-04	7.73E-04	7.71E-04	5.72E-04	3.46E-04	5.58E-04	7.65E-04	5.98E-04	5.99E-04	5.98E-04	3.98E-04	1.74E-04
2386	560743.7	4192658	7.68E-04	9.66E-04	7.58E-04	7.60E-04	7.58E-04	5.62E-04	3.41E-04	5.49E-04	7.53E-04	5.88E-04	5.89E-04	5.88E-04	3.92E-04	1.72E-04
2387	560738.4	4192648	7.56E-04	9.50E-04	7.46E-04	7.48E-04	7.46E-04	5.53E-04	3.35E-04	5.40E-04	7.41E-04	5.78E-04	5.80E-04	5.78E-04	3.86E-04	1.69E-04
2388	560733.2	4192638	7.44E-04	9.36E-04	7.34E-04	7.36E-04	7.34E-04	5.45E-04	3.30E-04	5.32E-04	7.29E-04	5.69E-04	5.71E-04	5.69E-04	3.80E-04	1.66E-04
2389	560727.9	4192628	7.34E-04	9.23E-04	7.24E-04	7.26E-04	7.24E-04	5.37E-04	3.25E-04	5.25E-04	7.19E-04	5.61E-04	5.63E-04	5.61E-04	3.74E-04	1.64E-04
2390	560722.6	4192618	7.24E-04	9.11E-04	7.15E-04	7.17E-04	7.15E-04	5.30E-04	3.21E-04	5.18E-04	7.10E-04	5.54E-04	5.56E-04	5.54E-04	3.70E-04	1.62E-04
2391	560717.3	4192607	7.17E-04	9.01E-04	7.07E-04	7.09E-04	7.07E-04	5.24E-04	3.18E-04	5.12E-04	7.02E-04	5.48E-04	5.50E-04	5.48E-04	3.66E-04	1.60E-04
2392	560712	4192597	7.10E-04	8.92E-04	7.00E-04	7.02E-04	7.00E-04	5.19E-04	3.15E-04	5.07E-04	6.95E-04	5.43E-04	5.45E-04	5.43E-04	3.62E-04	1.59E-04
2393	560706.7	4192587	7.04E-04	8.85E-04	6.95E-04	6.96E-04	6.95E-04	5.15E-04	3.12E-04	5.03E-04	6.90E-04	5.39E-04	5.40E-04	5.39E-04	3.59E-04	1.57E-04
2394	560778.9	4192746	8.41E-04	1.06E-03	8.30E-04	8.32E-04	8.30E-04	6.15E-04	3.73E-04	6.01E-04	8.24E-04	6.43E-04	6.45E-04	6.43E-04	4.29E-04	1.88E-04
2395	560773.6	4192736	8.29E-04	1.04E-03	8.18E-04	8.21E-04	8.18E-04	6.07E-04	3.68E-04	5.93E-04	8.13E-04	6.35E-04	6.36E-04	6.35E-04	4.23E-04	1.85E-04
2396	560768.3	4192726	8.17E-04	1.03E-03	8.06E-04	8.09E-04	8.06E-04	5.98E-04	3.63E-04	5.84E-04	8.01E-04	6.25E-04	6.27E-04	6.25E-04	4.17E-04	1.83E-04
2397	560763	4192716	8.04E-04	1.01E-03	7.94E-04	7.96E-04	7.94E-04	5.89E-04	3.57E-04	5.75E-04	7.88E-04	6.15E-04	6.17E-04	6.15E-04	4.10E-04	1.80E-04
2398	560757.8	4192706	7.91E-04	9.94E-04	7.80E-04	7.83E-04	7.80E-04	5.79E-04	3.51E-04	5.66E-04	7.75E-04	6.05E-04	6.07E-04	6.05E-04	4.03E-04	1.77E-04
2399	560752.5	4192695	7.77E-04	9.77E-04	7.67E-04	7.69E-04	7.67E-04	5.69E-04	3.45E-04	5.56E-04	7.62E-04	5.95E-04	5.96E-04	5.95E-04	3.97E-04	1.74E-04
2400	560747.2	4192685	7.64E-04	9.61E-04	7.54E-04	7.56E-04	7.54E-04	5.59E-04	3.39E-04	5.46E-04	7.49E-04	5.85E-04	5.86E-04	5.85E-04	3.90E-04	1.71E-04
2401	560741.9	4192675	7.51E-04	9.44E-04	7.41E-04	7.43E-04	7.41E-04	5.50E-04	3.33E-04	5.37E-04	7.36E-04	5.75E-04	5.76E-04	5.75E-04	3.83E-04	1.68E-04
2402	560736.6	4192665	7.39E-04	9.29E-04	7.29E-04	7.31E-04	7.29E-04	5.41E-04	3.28E-04	5.28E-04	7.24E-04	5.65E-04	5.67E-04	5.65E-04	3.77E-04	1.65E-04
2403	560731.3	4192655	7.27E-04	9.14E-04	7.17E-04	7.19E-04	7.17E-04	5.32E-04	3.22E-04	5.20E-04	7.12E-04	5.56E-04	5.58E-04	5.56E-04	3.71E-04	1.62E-04
2404	560726	4192645	7.16E-04	9.00E-04	7.06E-04	7.08E-04	7.06E-04	5.24E-04	3.17E-04	5.12E-04	7.01E-04	5.48E-04	5.49E-04	5.48E-04	3.65E-04	1.60E-04
2405	560720.7	4192635	7.05E-04	8.87E-04	6.96E-04	6.98E-04	6.96E-04	5.16E-04	3.13E-04	5.04E-04	6.91E-04	5.40E-04	5.41E-04	5.40E-04	3.60E-04	1.58E-04
2406	560715.4	4192624	6.97E-04	8.76E-04	6.88E-04	6.89E-04	6.88E-04	5.10E-04	3.09E-04	4.98E-04	6.83E-04	5.33E-04	5.35E-04	5.33E-04	3.55E-04	1.56E-04
2407	560710.1	4192614	6.89E-04	8.66E-04	6.80E-04	6.82E-04	6.80E-04	5.04E-04	3.06E-04	4.93E-04	6.75E-04	5.27E-04	5.29E-04	5.27E-04	3.52E-04	1.54E-04
2408	560704.8	4192604	6.82E-04	8.58E-04	6.73E-04	6.75E-04	6.73E-04	4.99E-04	3.03E-04	4.88E-04	6.68E-04	5.22E-04	5.24E-04	5.22E-04	3.48E-04	1.52E-04
2409	560699.5	4192594	6.76E-04	8.51E-04	6.68E-04	6.69E-04	6.68E-04	4.95E-04	3.00E-04	4.84E-04	6.63E-04	5.18E-04	5.19E-04	5.18E-04	3.45E-04	1.51E-04
2410	561025.5	4192215	6.57E-03	8.26E-03	6.48E-03	6.50E-03	6.48E-03	4.81E-03	2.91E-03	4.70E-03	6.44E-03	5.03E-03	5.04E-03	5.03E-03	3.35E-03	1.47E-03

	Max Yr	**1**	T4iRev	T4fRev
	Row	**32**	4.44E-02	3.17E-02
		Col	**4**	**5**
		Adjustment	**100%**	**72%**
			Year 1	Year 1
1	560828.8	4192712	5.55E-03	3.97E-03
2	560833.9	4192728	5.54E-03	3.96E-03
3	560824.7	4192721	5.37E-03	3.84E-03
4	560827.4	4192736	5.31E-03	3.80E-03
5	560817.8	4192728	5.14E-03	3.67E-03
6	560832.6	4192752	5.27E-03	3.77E-03
7	560823.2	4192745	5.13E-03	3.67E-03
8	560813.8	4192738	4.97E-03	3.56E-03
9	560828.2	4192761	5.09E-03	3.64E-03
10	560818.9	4192754	4.96E-03	3.54E-03
11	560809.6	4192747	4.81E-03	3.44E-03
12	560800.4	4192740	4.66E-03	3.33E-03
13	560831.7	4192776	5.01E-03	3.59E-03
14	560822.1	4192769	4.90E-03	3.50E-03
15	560812.5	4192762	4.77E-03	3.41E-03
16	560802.9	4192754	4.62E-03	3.31E-03
17	560793.4	4192747	4.48E-03	3.20E-03
18	560827.1	4192785	4.84E-03	3.46E-03
19	560817.7	4192778	4.73E-03	3.38E-03
20	560808.2	4192771	4.61E-03	3.30E-03
21	560798.8	4192764	4.48E-03	3.21E-03
22	560789.4	4192756	4.35E-03	3.11E-03
23	560998.7	4192564	3.60E-02	2.58E-02
24	561014.6	4192568	4.00E-02	2.86E-02
25	561030.5	4192573	4.16E-02	2.98E-02
26	560991.4	4192572	3.02E-02	2.16E-02
27	561004.1	4192576	3.29E-02	2.35E-02
28	561020	4192580	3.53E-02	2.52E-02
29	561035.9	4192584	3.65E-02	2.61E-02
30	560987.6	4192581	2.65E-02	1.89E-02
31	561001.5	4192585	2.87E-02	2.06E-02
32	561017.4	4192590	3.08E-02	2.20E-02
33	561033.2	4192594	3.21E-02	2.30E-02
34	560983.8	4192590	2.35E-02	1.68E-02
35	560998.9	4192595	2.55E-02	1.83E-02
36	561014.8	4192599	2.73E-02	1.95E-02
37	561030.6	4192604	2.86E-02	2.04E-02
38	560982.8	4192600	2.15E-02	1.54E-02
39	560996.3	4192605	2.29E-02	1.64E-02
40	561012.2	4192609	2.45E-02	1.75E-02
41	561028	4192613	2.56E-02	1.83E-02
42	560979.4	4192610	1.95E-02	1.40E-02
43	560993.7	4192614	2.08E-02	1.49E-02
44	561009.5	4192619	2.21E-02	1.58E-02
45	561025.4	4192623	2.32E-02	1.66E-02
46	560976	4192619	1.79E-02	1.28E-02

47	560991.1	4192624	1.90E-02	1.36E-02
48	561006.9	4192628	2.02E-02	1.44E-02
49	561022.8	4192633	2.11E-02	1.51E-02
50	560974.6	4192629	1.66E-02	1.19E-02
51	560962.8	4192624	1.58E-02	1.13E-02
52	560988.5	4192634	1.75E-02	1.25E-02
53	561004.3	4192638	1.85E-02	1.32E-02
54	561020.2	4192642	1.93E-02	1.38E-02
55	560971.4	4192639	1.54E-02	1.10E-02
56	560958.4	4192633	1.46E-02	1.05E-02
57	560985.9	4192643	1.62E-02	1.16E-02
58	561001.7	4192648	1.70E-02	1.22E-02
59	561017.6	4192652	1.77E-02	1.27E-02
60	560968.2	4192648	1.43E-02	1.03E-02
61	560954.1	4192642	1.36E-02	9.73E-03
62	560983.2	4192653	1.51E-02	1.08E-02
63	560999.1	4192657	1.58E-02	1.13E-02
64	561015	4192662	1.63E-02	1.17E-02
65	560966.6	4192658	1.35E-02	9.62E-03
66	560954.3	4192653	1.29E-02	9.24E-03
67	560980.6	4192663	1.40E-02	1.00E-02
68	560996.5	4192667	1.47E-02	1.05E-02
69	561012.4	4192671	1.51E-02	1.08E-02
70	560963.5	4192667	1.26E-02	9.01E-03
71	560950.3	4192662	1.21E-02	8.66E-03
72	560978	4192672	1.31E-02	9.39E-03
73	560993.9	4192677	1.37E-02	9.77E-03
74	561009.8	4192681	1.41E-02	1.01E-02
75	560960.4	4192677	1.18E-02	8.47E-03
76	560946.2	4192671	1.14E-02	8.13E-03
77	560975.4	4192682	1.23E-02	8.81E-03
78	560991.3	4192686	1.28E-02	9.13E-03
79	561007.2	4192691	1.31E-02	9.37E-03
80	560957.3	4192686	1.12E-02	7.98E-03
81	560942.2	4192680	1.07E-02	7.66E-03
82	560972.8	4192692	1.16E-02	8.28E-03
83	560988.7	4192696	1.20E-02	8.56E-03
84	561004.6	4192700	1.23E-02	8.77E-03
85	560955.6	4192696	1.06E-02	7.56E-03
86	560942.2	4192691	1.02E-02	7.32E-03
87	560970.2	4192701	1.09E-02	7.80E-03
88	560986.1	4192706	1.13E-02	8.05E-03
89	561002	4192710	1.15E-02	8.22E-03
90	560952.6	4192706	1.00E-02	7.15E-03
91	560938.4	4192700	9.68E-03	6.92E-03
92	560967.6	4192711	1.03E-02	7.37E-03
93	560983.5	4192715	1.06E-02	7.58E-03
94	560999.4	4192720	1.08E-02	7.72E-03
95	560949.6	4192715	9.47E-03	6.78E-03
96	560934.7	4192709	9.18E-03	6.56E-03
97	560965	4192721	9.75E-03	6.97E-03
98	560980.9	4192725	1.00E-02	7.15E-03

99	560996.8	4192729	1.02E-02	7.28E-03
100	560947.7	4192725	9.01E-03	6.44E-03
101	560934.2	4192720	8.78E-03	6.28E-03
102	560962.4	4192730	9.24E-03	6.61E-03
103	560978.3	4192735	9.46E-03	6.76E-03
104	560994.2	4192739	9.60E-03	6.87E-03
105	560939.9	4192754	7.79E-03	5.57E-03
106	560926.3	4192749	7.63E-03	5.46E-03
107	560954.6	4192759	7.94E-03	5.68E-03
108	560970.5	4192764	8.08E-03	5.78E-03
109	560986.4	4192768	8.16E-03	5.84E-03
110	560937	4192764	7.43E-03	5.32E-03
111	560922.8	4192758	7.29E-03	5.22E-03
112	560952	4192769	7.57E-03	5.41E-03
113	560967.9	4192773	7.69E-03	5.50E-03
114	560983.8	4192777	7.76E-03	5.55E-03
115	560934.1	4192773	7.11E-03	5.08E-03
116	560919.3	4192767	6.98E-03	4.99E-03
117	560949.4	4192779	7.22E-03	5.17E-03
118	560965.3	4192783	7.33E-03	5.24E-03
119	560981.2	4192787	7.39E-03	5.28E-03
120	560932	4192783	6.80E-03	4.87E-03
121	560918.4	4192778	6.70E-03	4.79E-03
122	560946.8	4192788	6.90E-03	4.94E-03
123	560962.7	4192793	6.99E-03	5.00E-03
124	560978.6	4192797	7.04E-03	5.04E-03
125	560929.2	4192793	6.52E-03	4.66E-03
126	560915	4192787	6.42E-03	4.59E-03
127	560944.2	4192798	6.60E-03	4.72E-03
128	560960.1	4192802	6.68E-03	4.78E-03
129	560976	4192806	6.72E-03	4.81E-03
130	560926.3	4192802	6.25E-03	4.47E-03
131	560911.6	4192796	6.16E-03	4.41E-03
132	560941.6	4192808	6.32E-03	4.52E-03
133	560957.5	4192812	6.39E-03	4.57E-03
134	560973.4	4192816	6.42E-03	4.59E-03
135	560924.2	4192812	6.00E-03	4.29E-03
136	560910.5	4192807	5.93E-03	4.24E-03
137	560939	4192817	6.06E-03	4.34E-03
138	560954.9	4192821	6.12E-03	4.38E-03
139	560970.8	4192826	6.15E-03	4.40E-03
140	560921.4	4192822	5.76E-03	4.12E-03
141	560907.2	4192816	5.70E-03	4.08E-03
142	560936.4	4192827	5.82E-03	4.16E-03
143	560952.3	4192831	5.87E-03	4.20E-03
144	560968.2	4192835	5.89E-03	4.21E-03
145	560918.5	4192831	5.54E-03	3.96E-03
146	560903.9	4192825	5.48E-03	3.92E-03
147	560933.8	4192837	5.59E-03	4.00E-03
148	560949.7	4192841	5.63E-03	4.03E-03
149	560965.6	4192845	5.65E-03	4.04E-03
150	561056.9	4192580	4.28E-02	3.06E-02

151	561066.1	4192582	4.36E-02	3.12E-02
152	561075.3	4192585	4.42E-02	3.16E-02
153	561084.5	4192587	4.44E-02	3.17E-02
154	561093.8	4192590	4.40E-02	3.15E-02
155	561103	4192592	4.31E-02	3.08E-02
156	561112.2	4192595	4.15E-02	2.97E-02
157	561121.4	4192597	3.92E-02	2.80E-02
158	561130.6	4192600	3.62E-02	2.59E-02
159	561054.3	4192589	3.75E-02	2.68E-02
160	561063.5	4192592	3.80E-02	2.71E-02
161	561072.7	4192594	3.82E-02	2.74E-02
162	561081.9	4192597	3.83E-02	2.74E-02
163	561091.2	4192599	3.79E-02	2.71E-02
164	561100.4	4192602	3.71E-02	2.65E-02
165	561109.6	4192604	3.57E-02	2.56E-02
166	561118.8	4192607	3.39E-02	2.42E-02
167	561128	4192609	3.16E-02	2.26E-02
168	561051.7	4192599	3.31E-02	2.37E-02
169	561060.9	4192602	3.34E-02	2.39E-02
170	561070.1	4192604	3.36E-02	2.40E-02
171	561079.3	4192606	3.35E-02	2.39E-02
172	561088.5	4192609	3.31E-02	2.37E-02
173	561097.8	4192611	3.24E-02	2.31E-02
174	561107	4192614	3.12E-02	2.23E-02
175	561116.2	4192616	2.98E-02	2.13E-02
176	561125.4	4192619	2.80E-02	2.00E-02
177	561049.1	4192609	2.95E-02	2.11E-02
178	561058.3	4192611	2.98E-02	2.13E-02
179	561067.5	4192614	2.98E-02	2.13E-02
180	561076.7	4192616	2.97E-02	2.12E-02
181	561085.9	4192619	2.93E-02	2.09E-02
182	561095.2	4192621	2.86E-02	2.05E-02
183	561104.4	4192624	2.77E-02	1.98E-02
184	561113.6	4192626	2.65E-02	1.89E-02
185	561122.8	4192629	2.50E-02	1.79E-02
186	561046.5	4192618	2.65E-02	1.89E-02
187	561055.7	4192621	2.67E-02	1.91E-02
188	561064.9	4192623	2.67E-02	1.91E-02
189	561074.1	4192626	2.65E-02	1.90E-02
190	561083.3	4192628	2.62E-02	1.87E-02
191	561092.6	4192631	2.56E-02	1.83E-02
192	561101.8	4192633	2.48E-02	1.77E-02
193	561111	4192636	2.38E-02	1.70E-02
194	561120.2	4192638	2.26E-02	1.62E-02
195	561043.9	4192628	2.39E-02	1.71E-02
196	561053.1	4192630	2.41E-02	1.72E-02
197	561062.3	4192633	2.41E-02	1.72E-02
198	561071.5	4192635	2.39E-02	1.71E-02
199	561080.7	4192638	2.36E-02	1.69E-02
200	561090	4192640	2.31E-02	1.65E-02
201	561099.2	4192643	2.24E-02	1.60E-02
202	561108.4	4192645	2.15E-02	1.54E-02

203	561117.6	4192648	2.06E-02	1.47E-02
204	561041.3	4192638	2.17E-02	1.55E-02
205	561050.5	4192640	2.18E-02	1.56E-02
206	561059.7	4192643	2.18E-02	1.56E-02
207	561068.9	4192645	2.17E-02	1.55E-02
208	561078.1	4192648	2.14E-02	1.53E-02
209	561087.3	4192650	2.09E-02	1.50E-02
210	561096.6	4192653	2.03E-02	1.45E-02
211	561105.8	4192655	1.96E-02	1.40E-02
212	561115	4192658	1.88E-02	1.35E-02
213	561038.7	4192647	1.98E-02	1.42E-02
214	561047.9	4192650	1.99E-02	1.42E-02
215	561057.1	4192652	1.99E-02	1.42E-02
216	561066.3	4192655	1.98E-02	1.41E-02
217	561075.5	4192657	1.95E-02	1.39E-02
218	561084.7	4192660	1.91E-02	1.37E-02
219	561094	4192662	1.86E-02	1.33E-02
220	561103.2	4192665	1.80E-02	1.29E-02
221	561112.4	4192667	1.73E-02	1.24E-02
222	561036	4192657	1.82E-02	1.30E-02
223	561045.3	4192659	1.83E-02	1.31E-02
224	561054.5	4192662	1.82E-02	1.30E-02
225	561063.7	4192664	1.81E-02	1.30E-02
226	561072.9	4192667	1.79E-02	1.28E-02
227	561082.1	4192669	1.75E-02	1.25E-02
228	561091.4	4192672	1.71E-02	1.22E-02
229	561100.6	4192674	1.66E-02	1.19E-02
230	561109.8	4192677	1.60E-02	1.15E-02
231	561033.4	4192667	1.67E-02	1.20E-02
232	561042.7	4192669	1.68E-02	1.20E-02
233	561051.9	4192672	1.68E-02	1.20E-02
234	561061.1	4192674	1.67E-02	1.19E-02
235	561070.3	4192677	1.65E-02	1.18E-02
236	561079.5	4192679	1.62E-02	1.16E-02
237	561088.7	4192682	1.58E-02	1.13E-02
238	561098	4192684	1.54E-02	1.10E-02
239	561107.2	4192686	1.49E-02	1.06E-02
240	561030.8	4192676	1.54E-02	1.10E-02
241	561040.1	4192679	1.55E-02	1.11E-02
242	561049.3	4192681	1.55E-02	1.11E-02
243	561058.5	4192684	1.54E-02	1.10E-02
244	561067.7	4192686	1.52E-02	1.09E-02
245	561076.9	4192689	1.50E-02	1.07E-02
246	561086.1	4192691	1.46E-02	1.05E-02
247	561095.4	4192694	1.43E-02	1.02E-02
248	561104.6	4192696	1.39E-02	9.91E-03
249	561028.2	4192686	1.43E-02	1.02E-02
250	561037.4	4192688	1.44E-02	1.03E-02
251	561046.7	4192691	1.43E-02	1.03E-02
252	561055.9	4192693	1.43E-02	1.02E-02
253	561065.1	4192696	1.41E-02	1.01E-02
254	561074.3	4192698	1.39E-02	9.93E-03

255	561083.5	4192701	1.36E-02	9.74E-03
256	561092.8	4192703	1.33E-02	9.51E-03
257	561102	4192706	1.29E-02	9.25E-03
258	561034.8	4192698	1.34E-02	9.55E-03
259	561044.1	4192701	1.33E-02	9.54E-03
260	561053.3	4192703	1.33E-02	9.48E-03
261	561062.5	4192706	1.31E-02	9.38E-03
262	561071.7	4192708	1.29E-02	9.25E-03
263	561080.9	4192710	1.27E-02	9.08E-03
264	561090.2	4192713	1.24E-02	8.88E-03
265	561099.4	4192715	1.21E-02	8.66E-03
266	561032.2	4192708	1.25E-02	8.91E-03
267	561041.5	4192710	1.24E-02	8.89E-03
268	561050.7	4192713	1.24E-02	8.84E-03
269	561059.9	4192715	1.22E-02	8.75E-03
270	561069.1	4192718	1.21E-02	8.64E-03
271	561078.3	4192720	1.19E-02	8.49E-03
272	561087.5	4192723	1.16E-02	8.32E-03
273	561096.8	4192725	1.14E-02	8.13E-03
274	561029.6	4192717	1.17E-02	8.33E-03
275	561038.9	4192720	1.16E-02	8.31E-03
276	561048.1	4192722	1.16E-02	8.27E-03
277	561057.3	4192725	1.15E-02	8.19E-03
278	561066.5	4192727	1.13E-02	8.09E-03
279	561075.7	4192730	1.11E-02	7.96E-03
280	561084.9	4192732	1.09E-02	7.81E-03
281	561094.2	4192735	1.07E-02	7.64E-03
282	561027	4192727	1.09E-02	7.81E-03
283	561036.2	4192729	1.09E-02	7.79E-03
284	561045.5	4192732	1.08E-02	7.75E-03
285	561054.7	4192734	1.07E-02	7.68E-03
286	561063.9	4192737	1.06E-02	7.59E-03
287	561073.1	4192739	1.05E-02	7.48E-03
288	561082.3	4192742	1.03E-02	7.35E-03
289	561091.6	4192744	1.01E-02	7.20E-03
290	561024.4	4192737	1.03E-02	7.34E-03
291	561033.6	4192739	1.02E-02	7.32E-03
292	561042.9	4192742	1.02E-02	7.28E-03
293	561052.1	4192744	1.01E-02	7.22E-03
294	561061.3	4192747	9.99E-03	7.14E-03
295	561070.5	4192749	9.85E-03	7.04E-03
296	561079.7	4192752	9.69E-03	6.93E-03
297	561089	4192754	9.51E-03	6.80E-03
298	561021.8	4192746	9.67E-03	6.92E-03
299	561031	4192749	9.64E-03	6.90E-03
300	561040.3	4192751	9.59E-03	6.86E-03
301	561049.5	4192754	9.51E-03	6.80E-03
302	561058.7	4192756	9.41E-03	6.73E-03
303	561067.9	4192759	9.29E-03	6.64E-03
304	561077.1	4192761	9.15E-03	6.54E-03
305	561086.3	4192764	8.99E-03	6.43E-03
306	561019.2	4192756	9.13E-03	6.53E-03

307	561028.4	4192758	9.10E-03	6.51E-03
308	561037.6	4192761	9.05E-03	6.47E-03
309	561046.9	4192763	8.98E-03	6.42E-03
310	561056.1	4192766	8.89E-03	6.36E-03
311	561065.3	4192768	8.78E-03	6.28E-03
312	561074.5	4192771	8.66E-03	6.19E-03
313	561083.7	4192773	8.52E-03	6.09E-03
314	561016.6	4192766	8.64E-03	6.18E-03
315	561025.8	4192768	8.61E-03	6.16E-03
316	561035	4192771	8.56E-03	6.12E-03
317	561044.3	4192773	8.50E-03	6.08E-03
318	561053.5	4192776	8.41E-03	6.02E-03
319	561062.7	4192778	8.32E-03	5.95E-03
320	561071.9	4192781	8.20E-03	5.87E-03
321	561081.1	4192783	8.08E-03	5.78E-03
322	561014	4192775	8.18E-03	5.85E-03
323	561023.2	4192778	8.15E-03	5.83E-03
324	561032.4	4192780	8.11E-03	5.80E-03
325	561041.7	4192783	8.05E-03	5.76E-03
326	561050.9	4192785	7.98E-03	5.70E-03
327	561060.1	4192788	7.89E-03	5.64E-03
328	561069.3	4192790	7.79E-03	5.57E-03
329	561078.5	4192793	7.68E-03	5.49E-03
330	561011.4	4192785	7.77E-03	5.55E-03
331	561020.6	4192787	7.74E-03	5.53E-03
332	561029.8	4192790	7.70E-03	5.50E-03
333	561039.1	4192792	7.64E-03	5.46E-03
334	561048.3	4192795	7.57E-03	5.42E-03
335	561057.5	4192797	7.49E-03	5.36E-03
336	561066.7	4192800	7.40E-03	5.29E-03
337	561075.9	4192802	7.30E-03	5.22E-03
338	561008.8	4192795	7.39E-03	5.28E-03
339	561018	4192797	7.36E-03	5.26E-03
340	561027.2	4192800	7.32E-03	5.23E-03
341	561036.4	4192802	7.27E-03	5.20E-03
342	561045.7	4192805	7.20E-03	5.15E-03
343	561054.9	4192807	7.13E-03	5.10E-03
344	561064.1	4192810	7.05E-03	5.04E-03
345	561073.3	4192812	6.96E-03	4.97E-03
346	561006.2	4192804	7.03E-03	5.03E-03
347	561015.4	4192807	7.00E-03	5.01E-03
348	561024.6	4192809	6.97E-03	4.98E-03
349	561033.8	4192812	6.92E-03	4.95E-03
350	561043.1	4192814	6.86E-03	4.91E-03
351	561052.3	4192817	6.79E-03	4.86E-03
352	561061.5	4192819	6.72E-03	4.80E-03
353	561070.7	4192822	6.64E-03	4.75E-03
354	561003.6	4192814	6.71E-03	4.80E-03
355	561012.8	4192816	6.68E-03	4.78E-03
356	561022	4192819	6.64E-03	4.75E-03
357	561031.2	4192821	6.60E-03	4.72E-03
358	561040.5	4192824	6.54E-03	4.68E-03

359	561049.7	4192826	6.48E-03	4.63E-03
360	561058.9	4192829	6.41E-03	4.59E-03
361	561068.1	4192831	6.34E-03	4.53E-03
362	561001	4192824	6.40E-03	4.58E-03
363	561010.2	4192826	6.38E-03	4.56E-03
364	561019.4	4192829	6.34E-03	4.54E-03
365	561028.6	4192831	6.30E-03	4.50E-03
366	561037.9	4192834	6.25E-03	4.47E-03
367	561047.1	4192836	6.19E-03	4.43E-03
368	561056.3	4192838	6.13E-03	4.38E-03
369	561065.5	4192841	6.06E-03	4.33E-03
370	560998.4	4192833	6.12E-03	4.38E-03
371	561007.6	4192836	6.10E-03	4.36E-03
372	561016.8	4192838	6.06E-03	4.34E-03
373	561026	4192841	6.02E-03	4.31E-03
374	561035.2	4192843	5.97E-03	4.27E-03
375	561044.5	4192846	5.92E-03	4.23E-03
376	561053.7	4192848	5.86E-03	4.19E-03
377	561062.9	4192851	5.80E-03	4.15E-03
378	560995.8	4192843	5.86E-03	4.19E-03
379	561005	4192845	5.83E-03	4.17E-03
380	561014.2	4192848	5.80E-03	4.15E-03
381	561023.4	4192850	5.76E-03	4.12E-03
382	561032.6	4192853	5.72E-03	4.09E-03
383	561041.9	4192855	5.67E-03	4.06E-03
384	561051.1	4192858	5.62E-03	4.02E-03
385	561060.3	4192860	5.56E-03	3.97E-03
386	560993.2	4192853	5.62E-03	4.02E-03
387	561002.4	4192855	5.59E-03	4.00E-03
388	561011.6	4192857	5.56E-03	3.98E-03
389	561020.8	4192860	5.52E-03	3.95E-03
390	561030	4192862	5.48E-03	3.92E-03
391	561039.3	4192865	5.44E-03	3.89E-03
392	561048.5	4192867	5.39E-03	3.85E-03
393	561057.7	4192870	5.33E-03	3.81E-03
394	561179.1	4192570	2.63E-02	1.88E-02
395	561181.2	4192560	2.73E-02	1.95E-02
396	561183.4	4192551	2.82E-02	2.02E-02
397	561185.5	4192541	2.90E-02	2.08E-02
398	561187.6	4192532	2.97E-02	2.12E-02
399	561189.7	4192522	3.02E-02	2.16E-02
400	561191.9	4192512	3.05E-02	2.18E-02
401	561194	4192503	3.06E-02	2.19E-02
402	561196.1	4192493	3.07E-02	2.20E-02
403	561198.3	4192483	3.07E-02	2.20E-02
404	561200.4	4192474	3.05E-02	2.18E-02
405	561202.5	4192464	3.01E-02	2.15E-02
406	561204.7	4192455	2.97E-02	2.12E-02
407	561206.8	4192445	2.95E-02	2.11E-02
408	561208.9	4192435	2.93E-02	2.09E-02
409	561211.1	4192426	2.91E-02	2.08E-02
410	561213.2	4192416	2.88E-02	2.06E-02

411	561215.3	4192406	2.85E-02	2.04E-02
412	561188.8	4192572	2.24E-02	1.60E-02
413	561191	4192563	2.31E-02	1.65E-02
414	561193.1	4192553	2.38E-02	1.70E-02
415	561195.2	4192543	2.44E-02	1.74E-02
416	561197.4	4192534	2.49E-02	1.78E-02
417	561199.5	4192524	2.53E-02	1.81E-02
418	561201.6	4192514	2.56E-02	1.83E-02
419	561203.8	4192505	2.58E-02	1.84E-02
420	561205.9	4192495	2.59E-02	1.85E-02
421	561208	4192486	2.59E-02	1.85E-02
422	561210.2	4192476	2.57E-02	1.84E-02
423	561212.3	4192466	2.55E-02	1.82E-02
424	561214.4	4192457	2.53E-02	1.81E-02
425	561216.6	4192447	2.51E-02	1.79E-02
426	561218.7	4192437	2.49E-02	1.78E-02
427	561220.8	4192428	2.47E-02	1.76E-02
428	561223	4192418	2.44E-02	1.74E-02
429	561225.1	4192409	2.40E-02	1.72E-02
430	561229.4	4192389	2.32E-02	1.66E-02
431	561179.3	4192608	1.98E-02	1.41E-02
432	561163.8	4192617	2.16E-02	1.54E-02
433	561196.5	4192584	1.89E-02	1.35E-02
434	561198.6	4192574	1.94E-02	1.39E-02
435	561200.7	4192565	1.99E-02	1.42E-02
436	561202.9	4192555	2.04E-02	1.46E-02
437	561205	4192545	2.08E-02	1.49E-02
438	561207.1	4192536	2.12E-02	1.52E-02
439	561209.3	4192526	2.16E-02	1.54E-02
440	561211.4	4192517	2.18E-02	1.56E-02
441	561213.5	4192507	2.20E-02	1.57E-02
442	561215.7	4192497	2.20E-02	1.58E-02
443	561217.8	4192488	2.21E-02	1.58E-02
444	561219.9	4192478	2.20E-02	1.57E-02
445	561222.1	4192469	2.19E-02	1.56E-02
446	561224.2	4192459	2.17E-02	1.55E-02
447	561226.3	4192449	2.16E-02	1.54E-02
448	561228.5	4192440	2.14E-02	1.53E-02
449	561230.6	4192430	2.12E-02	1.51E-02
450	561232.7	4192420	2.09E-02	1.49E-02
451	561234.9	4192411	2.06E-02	1.47E-02
452	561239.1	4192392	1.97E-02	1.41E-02
453	561184.2	4192617	1.76E-02	1.26E-02
454	561169.4	4192626	1.90E-02	1.36E-02
455	561160.1	4192627	2.04E-02	1.46E-02
456	561206.2	4192586	1.66E-02	1.19E-02
457	561208.4	4192576	1.70E-02	1.22E-02
458	561210.5	4192567	1.74E-02	1.24E-02
459	561212.6	4192557	1.77E-02	1.27E-02
460	561214.8	4192548	1.81E-02	1.29E-02
461	561216.9	4192538	1.84E-02	1.32E-02
462	561219	4192528	1.86E-02	1.33E-02

463	561221.2	4192519	1.88E-02	1.35E-02
464	561223.3	4192509	1.90E-02	1.36E-02
465	561225.4	4192500	1.91E-02	1.36E-02
466	561227.6	4192490	1.91E-02	1.37E-02
467	561229.7	4192480	1.91E-02	1.36E-02
468	561231.8	4192471	1.90E-02	1.36E-02
469	561234	4192461	1.89E-02	1.35E-02
470	561236.1	4192451	1.87E-02	1.34E-02
471	561238.2	4192442	1.85E-02	1.33E-02
472	561240.4	4192432	1.83E-02	1.31E-02
473	561242.5	4192423	1.81E-02	1.29E-02
474	561244.6	4192413	1.78E-02	1.27E-02
475	561248.9	4192394	1.71E-02	1.22E-02
476	561189.3	4192626	1.58E-02	1.13E-02
477	561174.8	4192634	1.69E-02	1.21E-02
478	561165.8	4192636	1.80E-02	1.29E-02
479	561156.7	4192637	1.91E-02	1.36E-02
480	561216	4192588	1.48E-02	1.06E-02
481	561218.1	4192579	1.51E-02	1.08E-02
482	561220.3	4192569	1.53E-02	1.10E-02
483	561222.4	4192559	1.56E-02	1.12E-02
484	561224.5	4192550	1.59E-02	1.14E-02
485	561226.7	4192540	1.61E-02	1.15E-02
486	561228.8	4192531	1.63E-02	1.17E-02
487	561230.9	4192521	1.65E-02	1.18E-02
488	561233.1	4192511	1.66E-02	1.19E-02
489	561235.2	4192502	1.67E-02	1.19E-02
490	561237.3	4192492	1.67E-02	1.19E-02
491	561239.5	4192482	1.67E-02	1.19E-02
492	561241.6	4192473	1.66E-02	1.19E-02
493	561243.7	4192463	1.65E-02	1.18E-02
494	561245.9	4192454	1.64E-02	1.17E-02
495	561248	4192444	1.62E-02	1.16E-02
496	561250.1	4192434	1.60E-02	1.15E-02
497	561252.3	4192425	1.58E-02	1.13E-02
498	561254.4	4192415	1.56E-02	1.11E-02
499	561258.6	4192396	1.49E-02	1.07E-02
500	561204.8	4192620	1.42E-02	1.01E-02
501	561194.3	4192634	1.43E-02	1.02E-02
502	561180.2	4192643	1.52E-02	1.09E-02
503	561162.4	4192645	1.70E-02	1.22E-02
504	561153.5	4192647	1.78E-02	1.28E-02
505	561227.9	4192581	1.34E-02	9.62E-03
506	561230	4192571	1.37E-02	9.77E-03
507	561232.2	4192562	1.39E-02	9.92E-03
508	561234.3	4192552	1.41E-02	1.01E-02
509	561236.4	4192542	1.42E-02	1.02E-02
510	561238.6	4192533	1.44E-02	1.03E-02
511	561240.7	4192523	1.45E-02	1.04E-02
512	561242.8	4192513	1.46E-02	1.05E-02
513	561245	4192504	1.47E-02	1.05E-02
514	561247.1	4192494	1.47E-02	1.05E-02

515	561249.2	4192485	1.47E-02	1.05E-02
516	561251.4	4192475	1.47E-02	1.05E-02
517	561253.5	4192465	1.46E-02	1.04E-02
518	561255.6	4192456	1.45E-02	1.03E-02
519	561257.7	4192446	1.43E-02	1.02E-02
520	561259.9	4192437	1.42E-02	1.01E-02
521	561262	4192427	1.40E-02	9.99E-03
522	561268.4	4192398	1.32E-02	9.44E-03
523	561209.8	4192629	1.29E-02	9.24E-03
524	561199.4	4192643	1.31E-02	9.33E-03
525	561185.5	4192651	1.38E-02	9.89E-03
526	561168	4192654	1.54E-02	1.10E-02
527	561150.5	4192656	1.67E-02	1.19E-02
528	561237.7	4192583	1.21E-02	8.65E-03
529	561239.8	4192573	1.23E-02	8.76E-03
530	561241.9	4192564	1.24E-02	8.87E-03
531	561244.1	4192554	1.26E-02	8.98E-03
532	561246.2	4192545	1.27E-02	9.08E-03
533	561248.3	4192535	1.28E-02	9.17E-03
534	561250.5	4192525	1.29E-02	9.25E-03
535	561252.6	4192516	1.30E-02	9.31E-03
536	561254.7	4192506	1.31E-02	9.35E-03
537	561256.9	4192496	1.31E-02	9.37E-03
538	561259	4192487	1.31E-02	9.36E-03
539	561261.1	4192477	1.30E-02	9.33E-03
540	561263.2	4192468	1.30E-02	9.28E-03
541	561265.4	4192458	1.29E-02	9.20E-03
542	561267.5	4192448	1.27E-02	9.11E-03
543	561269.6	4192439	1.26E-02	9.01E-03
544	561271.8	4192429	1.24E-02	8.90E-03
545	561278.2	4192400	1.18E-02	8.42E-03
546	561222.4	4192627	1.17E-02	8.36E-03
547	561216.7	4192635	1.18E-02	8.45E-03
548	561210.9	4192643	1.19E-02	8.52E-03
549	561205.2	4192651	1.20E-02	8.55E-03
550	561189.7	4192660	1.27E-02	9.09E-03
551	561180	4192661	1.35E-02	9.63E-03
552	561170.3	4192663	1.42E-02	1.02E-02
553	561160.5	4192664	1.49E-02	1.06E-02
554	561150.8	4192666	1.55E-02	1.11E-02
555	561253.8	4192556	1.13E-02	8.06E-03
556	561256	4192547	1.14E-02	8.13E-03
557	561258.1	4192537	1.15E-02	8.21E-03
558	561260.2	4192527	1.16E-02	8.28E-03
559	561262.4	4192518	1.17E-02	8.33E-03
560	561264.5	4192508	1.17E-02	8.37E-03
561	561266.6	4192499	1.17E-02	8.38E-03
562	561268.7	4192489	1.17E-02	8.37E-03
563	561270.9	4192479	1.17E-02	8.34E-03
564	561273	4192470	1.16E-02	8.30E-03
565	561275.1	4192460	1.15E-02	8.24E-03
566	561277.3	4192450	1.14E-02	8.16E-03

567	561279.4	4192441	1.13E-02	8.08E-03
568	561281.5	4192431	1.12E-02	7.98E-03
569	561287.9	4192402	1.06E-02	7.58E-03
570	561232.7	4192628	1.06E-02	7.61E-03
571	561227.1	4192636	1.08E-02	7.71E-03
572	561221.5	4192644	1.09E-02	7.79E-03
573	561215.9	4192652	1.10E-02	7.85E-03
574	561210.3	4192659	1.10E-02	7.87E-03
575	561195.1	4192669	1.17E-02	8.34E-03
576	561185.6	4192670	1.23E-02	8.81E-03
577	561176.1	4192671	1.29E-02	9.26E-03
578	561166.6	4192673	1.35E-02	9.68E-03
579	561157.1	4192674	1.41E-02	1.01E-02
580	561147.6	4192675	1.45E-02	1.04E-02
581	561231.8	4192645	9.98E-03	7.14E-03
582	561226.3	4192653	1.01E-02	7.21E-03
583	561220.8	4192660	1.01E-02	7.25E-03
584	561215.3	4192668	1.02E-02	7.28E-03
585	561200.5	4192677	1.08E-02	7.69E-03
586	561191.1	4192678	1.13E-02	8.10E-03
587	561181.8	4192680	1.19E-02	8.49E-03
588	561172.5	4192681	1.24E-02	8.87E-03
589	561163.1	4192682	1.29E-02	9.21E-03
590	561153.8	4192684	1.33E-02	9.52E-03
591	561144.4	4192685	1.37E-02	9.78E-03
592	561264.8	4192599	8.97E-03	6.42E-03
593	561267	4192589	9.05E-03	6.47E-03
594	561269.1	4192580	9.12E-03	6.52E-03
595	561271.2	4192570	9.18E-03	6.57E-03
596	561273.4	4192561	9.25E-03	6.61E-03
597	561275.5	4192551	9.31E-03	6.65E-03
598	561277.6	4192541	9.37E-03	6.70E-03
599	561279.7	4192532	9.43E-03	6.74E-03
600	561281.9	4192522	9.47E-03	6.77E-03
601	561284	4192513	9.50E-03	6.79E-03
602	561286.1	4192503	9.51E-03	6.80E-03
603	561288.3	4192493	9.50E-03	6.79E-03
604	561290.4	4192484	9.48E-03	6.78E-03
605	561292.5	4192474	9.44E-03	6.75E-03
606	561252.9	4192631	8.94E-03	6.39E-03
607	561225.8	4192669	9.41E-03	6.73E-03
608	561220.4	4192677	9.45E-03	6.76E-03
609	561205.8	4192686	9.95E-03	7.12E-03
610	561196.6	4192687	1.05E-02	7.48E-03
611	561187.4	4192688	1.09E-02	7.83E-03
612	561178.2	4192690	1.14E-02	8.16E-03
613	561169	4192691	1.19E-02	8.48E-03
614	561159.8	4192692	1.22E-02	8.76E-03
615	561150.6	4192693	1.26E-02	9.00E-03
616	561141.4	4192695	1.29E-02	9.21E-03
617	561274.6	4192601	8.24E-03	5.89E-03
618	561276.7	4192592	8.30E-03	5.93E-03

619	561278.8	4192582	8.35E-03	5.97E-03
620	561281	4192572	8.40E-03	6.00E-03
621	561283.1	4192563	8.44E-03	6.04E-03
622	561285.2	4192553	8.49E-03	6.07E-03
623	561287.4	4192544	8.53E-03	6.10E-03
624	561289.5	4192534	8.57E-03	6.13E-03
625	561291.6	4192524	8.60E-03	6.15E-03
626	561293.8	4192515	8.62E-03	6.16E-03
627	561295.9	4192505	8.63E-03	6.17E-03
628	561298	4192495	8.63E-03	6.17E-03
629	561300.2	4192486	8.61E-03	6.16E-03
630	561302.3	4192476	8.59E-03	6.14E-03
631	561304.4	4192467	8.54E-03	6.11E-03
632	561306.6	4192457	8.49E-03	6.07E-03
633	561308.7	4192447	8.43E-03	6.03E-03
634	561310.8	4192438	8.35E-03	5.97E-03
635	561317.2	4192409	7.99E-03	5.71E-03
636	561263	4192633	8.24E-03	5.89E-03
637	561257.6	4192641	8.37E-03	5.98E-03
638	561252.3	4192648	8.48E-03	6.06E-03
639	561211.1	4192694	9.25E-03	6.62E-03
640	561202	4192695	9.69E-03	6.93E-03
641	561192.9	4192697	1.01E-02	7.25E-03
642	561183.9	4192698	1.06E-02	7.55E-03
643	561174.8	4192699	1.10E-02	7.83E-03
644	561165.7	4192701	1.13E-02	8.09E-03
645	561156.6	4192702	1.16E-02	8.32E-03
646	561147.5	4192703	1.19E-02	8.52E-03
647	561138.4	4192704	1.21E-02	8.68E-03
648	561286.5	4192594	7.63E-03	5.46E-03
649	561288.6	4192584	7.67E-03	5.49E-03
650	561290.7	4192575	7.71E-03	5.51E-03
651	561292.9	4192565	7.74E-03	5.53E-03
652	561295	4192555	7.77E-03	5.56E-03
653	561297.1	4192546	7.80E-03	5.58E-03
654	561299.3	4192536	7.83E-03	5.60E-03
655	561301.4	4192526	7.85E-03	5.61E-03
656	561303.5	4192517	7.87E-03	5.63E-03
657	561305.7	4192507	7.88E-03	5.63E-03
658	561307.8	4192498	7.88E-03	5.63E-03
659	561309.9	4192488	7.87E-03	5.63E-03
660	561312.1	4192478	7.85E-03	5.61E-03
661	561314.2	4192469	7.82E-03	5.59E-03
662	561316.3	4192459	7.77E-03	5.56E-03
663	561318.5	4192450	7.72E-03	5.52E-03
664	561320.6	4192440	7.65E-03	5.47E-03
665	561327	4192411	7.35E-03	5.25E-03
666	561271.2	4192638	7.65E-03	5.47E-03
667	561265.5	4192646	7.78E-03	5.57E-03
668	561259.7	4192654	7.89E-03	5.64E-03
669	561254	4192661	7.99E-03	5.71E-03
670	561248.3	4192669	8.07E-03	5.77E-03

671	561242.6	4192677	8.13E-03	5.81E-03
672	561236.8	4192685	8.17E-03	5.85E-03
673	561215.6	4192703	8.66E-03	6.19E-03
674	561205.9	4192704	9.09E-03	6.50E-03
675	561196.2	4192706	9.51E-03	6.80E-03
676	561186.4	4192707	9.92E-03	7.09E-03
677	561176.7	4192708	1.03E-02	7.37E-03
678	561167	4192710	1.06E-02	7.61E-03
679	561157.2	4192711	1.09E-02	7.83E-03
680	561147.5	4192712	1.12E-02	8.02E-03
681	561137.8	4192714	1.14E-02	8.17E-03
682	561294.1	4192606	7.01E-03	5.02E-03
683	561296.2	4192596	7.05E-03	5.04E-03
684	561298.4	4192586	7.07E-03	5.06E-03
685	561300.5	4192577	7.09E-03	5.07E-03
686	561302.6	4192567	7.11E-03	5.09E-03
687	561304.8	4192557	7.14E-03	5.10E-03
688	561306.9	4192548	7.16E-03	5.12E-03
689	561309	4192538	7.18E-03	5.14E-03
690	561311.2	4192529	7.20E-03	5.15E-03
691	561313.3	4192519	7.21E-03	5.16E-03
692	561315.4	4192509	7.22E-03	5.17E-03
693	561317.6	4192500	7.22E-03	5.17E-03
694	561319.7	4192490	7.22E-03	5.16E-03
695	561321.8	4192481	7.20E-03	5.15E-03
696	561324	4192471	7.18E-03	5.14E-03
697	561326.1	4192461	7.15E-03	5.11E-03
698	561328.2	4192452	7.10E-03	5.08E-03
699	561330.4	4192442	7.04E-03	5.04E-03
700	561336.8	4192413	6.78E-03	4.85E-03
701	561281.3	4192639	7.09E-03	5.07E-03
702	561275.7	4192647	7.21E-03	5.16E-03
703	561270	4192655	7.32E-03	5.24E-03
704	561264.4	4192663	7.42E-03	5.30E-03
705	561258.8	4192671	7.50E-03	5.36E-03
706	561253.1	4192679	7.56E-03	5.41E-03
707	561247.5	4192686	7.62E-03	5.45E-03
708	561241.8	4192694	7.66E-03	5.48E-03
709	561236.2	4192702	7.68E-03	5.50E-03
710	561211.4	4192713	8.48E-03	6.06E-03
711	561201.8	4192714	8.86E-03	6.34E-03
712	561192.2	4192715	9.23E-03	6.60E-03
713	561182.6	4192717	9.57E-03	6.85E-03
714	561173.1	4192718	9.89E-03	7.08E-03
715	561163.5	4192719	1.02E-02	7.28E-03
716	561153.9	4192721	1.04E-02	7.46E-03
717	561144.3	4192722	1.06E-02	7.61E-03
718	561134.7	4192724	1.08E-02	7.73E-03
719	561303.9	4192608	6.49E-03	4.64E-03
720	561306	4192598	6.52E-03	4.66E-03
721	561308.1	4192589	6.53E-03	4.67E-03
722	561310.3	4192579	6.54E-03	4.68E-03

723	561312.4	4192569	6.56E-03	4.69E-03
724	561314.5	4192560	6.58E-03	4.71E-03
725	561316.7	4192550	6.60E-03	4.72E-03
726	561318.8	4192540	6.62E-03	4.73E-03
727	561320.9	4192531	6.63E-03	4.74E-03
728	561323.1	4192521	6.64E-03	4.75E-03
729	561325.2	4192512	6.65E-03	4.75E-03
730	561327.3	4192502	6.65E-03	4.75E-03
731	561329.5	4192492	6.64E-03	4.75E-03
732	561331.6	4192483	6.63E-03	4.74E-03
733	561333.7	4192473	6.61E-03	4.73E-03
734	561335.9	4192463	6.59E-03	4.71E-03
735	561338	4192454	6.56E-03	4.69E-03
736	561340.1	4192444	6.51E-03	4.65E-03
737	561346.5	4192415	6.29E-03	4.50E-03
738	561291.4	4192641	6.59E-03	4.71E-03
739	561285.8	4192649	6.70E-03	4.79E-03
740	561280.3	4192656	6.81E-03	4.87E-03
741	561274.7	4192664	6.90E-03	4.93E-03
742	561269.1	4192672	6.98E-03	4.99E-03
743	561263.6	4192680	7.05E-03	5.04E-03
744	561258	4192687	7.11E-03	5.08E-03
745	561252.4	4192695	7.15E-03	5.12E-03
746	561246.9	4192703	7.19E-03	5.14E-03
747	561241.3	4192711	7.22E-03	5.16E-03
748	561207.4	4192723	8.28E-03	5.92E-03
749	561197.9	4192724	8.61E-03	6.16E-03
750	561188.5	4192725	8.93E-03	6.39E-03
751	561179	4192727	9.23E-03	6.60E-03
752	561169.6	4192728	9.49E-03	6.79E-03
753	561160.1	4192729	9.73E-03	6.96E-03
754	561150.6	4192731	9.93E-03	7.10E-03
755	561141.2	4192732	1.01E-02	7.22E-03
756	561131.7	4192733	1.02E-02	7.32E-03
757	561313.6	4192610	6.03E-03	4.31E-03
758	561315.8	4192600	6.04E-03	4.32E-03
759	561317.9	4192591	6.05E-03	4.33E-03
760	561320	4192581	6.06E-03	4.33E-03
761	561322.2	4192571	6.07E-03	4.34E-03
762	561324.3	4192562	6.09E-03	4.35E-03
763	561326.4	4192552	6.10E-03	4.36E-03
764	561328.6	4192543	6.11E-03	4.37E-03
765	561330.7	4192533	6.12E-03	4.38E-03
766	561332.8	4192523	6.13E-03	4.38E-03
767	561335	4192514	6.13E-03	4.38E-03
768	561337.1	4192504	6.13E-03	4.39E-03
769	561339.2	4192494	6.13E-03	4.38E-03
770	561341.4	4192485	6.12E-03	4.38E-03
771	561343.5	4192475	6.11E-03	4.37E-03
772	561345.6	4192466	6.10E-03	4.36E-03
773	561347.7	4192456	6.07E-03	4.34E-03
774	561349.9	4192446	6.03E-03	4.31E-03

775	561301.4	4192643	6.13E-03	4.38E-03
776	561295.9	4192650	6.24E-03	4.46E-03
777	561290.4	4192658	6.34E-03	4.53E-03
778	561284.9	4192666	6.43E-03	4.60E-03
779	561279.4	4192673	6.51E-03	4.65E-03
780	561273.9	4192681	6.57E-03	4.70E-03
781	561268.4	4192689	6.64E-03	4.75E-03
782	561262.9	4192696	6.69E-03	4.79E-03
783	561257.4	4192704	6.73E-03	4.82E-03
784	561251.9	4192712	6.77E-03	4.84E-03
785	561246.4	4192719	6.79E-03	4.86E-03
786	561231.6	4192728	7.12E-03	5.09E-03
787	561203.5	4192732	8.06E-03	5.76E-03
788	561194.2	4192734	8.35E-03	5.97E-03
789	561184.9	4192735	8.63E-03	6.17E-03
790	561175.5	4192736	8.88E-03	6.35E-03
791	561166.2	4192738	9.10E-03	6.51E-03
792	561156.8	4192739	9.30E-03	6.65E-03
793	561147.5	4192740	9.47E-03	6.77E-03
794	561138.1	4192742	9.60E-03	6.87E-03
795	561128.8	4192743	9.71E-03	6.94E-03
796	561323.4	4192612	5.61E-03	4.01E-03
797	561325.5	4192602	5.62E-03	4.02E-03
798	561327.7	4192593	5.63E-03	4.02E-03
799	561329.8	4192583	5.63E-03	4.03E-03
800	561331.9	4192574	5.64E-03	4.03E-03
801	561334.1	4192564	5.65E-03	4.04E-03
802	561336.2	4192554	5.66E-03	4.04E-03
803	561338.3	4192545	5.66E-03	4.05E-03
804	561340.5	4192535	5.67E-03	4.05E-03
805	561342.6	4192525	5.67E-03	4.06E-03
806	561344.7	4192516	5.67E-03	4.06E-03
807	561346.9	4192506	5.68E-03	4.06E-03
808	561349	4192497	5.67E-03	4.06E-03
809	561351.1	4192487	5.67E-03	4.05E-03
810	561353.2	4192477	5.66E-03	4.05E-03
811	561355.4	4192468	5.65E-03	4.04E-03
812	561357.5	4192458	5.64E-03	4.03E-03
813	561359.6	4192449	5.60E-03	4.01E-03
814	561311.4	4192645	5.71E-03	4.08E-03
815	561306	4192652	5.82E-03	4.16E-03
816	561300.5	4192660	5.91E-03	4.23E-03
817	561295.1	4192667	6.00E-03	4.29E-03
818	561289.6	4192675	6.08E-03	4.35E-03
819	561284.2	4192683	6.14E-03	4.39E-03
820	561278.7	4192690	6.20E-03	4.44E-03
821	561273.3	4192698	6.26E-03	4.48E-03
822	561267.9	4192705	6.31E-03	4.51E-03
823	561262.4	4192713	6.35E-03	4.54E-03
824	561257	4192720	6.38E-03	4.57E-03
825	561251.5	4192728	6.41E-03	4.58E-03
826	561236.8	4192737	6.70E-03	4.79E-03

827	561227.6	4192738	6.99E-03	5.00E-03
828	561199.9	4192742	7.83E-03	5.60E-03
829	561190.6	4192743	8.09E-03	5.78E-03
830	561181.4	4192745	8.32E-03	5.95E-03
831	561172.1	4192746	8.54E-03	6.10E-03
832	561162.9	4192747	8.73E-03	6.24E-03
833	561153.6	4192749	8.89E-03	6.36E-03
834	561144.4	4192750	9.02E-03	6.45E-03
835	561135.2	4192751	9.13E-03	6.53E-03
836	561125.9	4192753	9.21E-03	6.59E-03
837	561333.2	4192614	5.24E-03	3.75E-03
838	561335.3	4192605	5.25E-03	3.75E-03
839	561337.4	4192595	5.25E-03	3.76E-03
840	561339.6	4192585	5.25E-03	3.76E-03
841	561341.7	4192576	5.25E-03	3.76E-03
842	561343.8	4192566	5.26E-03	3.76E-03
843	561346	4192557	5.26E-03	3.76E-03
844	561348.1	4192547	5.26E-03	3.76E-03
845	561350.2	4192537	5.26E-03	3.76E-03
846	561352.4	4192528	5.27E-03	3.77E-03
847	561354.5	4192518	5.27E-03	3.77E-03
848	561356.6	4192508	5.27E-03	3.77E-03
849	561358.7	4192499	5.27E-03	3.77E-03
850	561360.9	4192489	5.27E-03	3.77E-03
851	561363	4192480	5.27E-03	3.77E-03
852	561365.1	4192470	5.26E-03	3.76E-03
853	561367.3	4192460	5.24E-03	3.75E-03
854	561369.4	4192451	5.21E-03	3.73E-03
855	561320	4192648	5.36E-03	3.83E-03
856	561314.3	4192656	5.46E-03	3.91E-03
857	561308.6	4192664	5.56E-03	3.98E-03
858	561302.8	4192672	5.64E-03	4.04E-03
859	561297.1	4192680	5.72E-03	4.09E-03
860	561291.4	4192688	5.78E-03	4.14E-03
861	561285.6	4192696	5.84E-03	4.18E-03
862	561279.9	4192704	5.90E-03	4.22E-03
863	561274.2	4192712	5.95E-03	4.26E-03
864	561268.5	4192720	6.00E-03	4.29E-03
865	561262.7	4192728	6.03E-03	4.31E-03
866	561257	4192736	6.05E-03	4.33E-03
867	561241.5	4192746	6.34E-03	4.54E-03
868	561231.8	4192747	6.62E-03	4.73E-03
869	561222.1	4192748	6.90E-03	4.93E-03
870	561202.6	4192751	7.43E-03	5.32E-03
871	561192.9	4192752	7.68E-03	5.49E-03
872	561183.2	4192754	7.91E-03	5.66E-03
873	561173.4	4192755	8.12E-03	5.80E-03
874	561163.7	4192757	8.30E-03	5.93E-03
875	561154	4192758	8.45E-03	6.04E-03
876	561144.2	4192759	8.57E-03	6.13E-03
877	561134.5	4192761	8.67E-03	6.20E-03
878	561124.8	4192762	8.75E-03	6.25E-03

879	561324.4	4192658	5.11E-03	3.66E-03
880	561318.7	4192666	5.20E-03	3.72E-03
881	561313.1	4192674	5.29E-03	3.78E-03
882	561307.4	4192682	5.36E-03	3.83E-03
883	561301.7	4192690	5.42E-03	3.88E-03
884	561296.1	4192697	5.48E-03	3.92E-03
885	561290.4	4192705	5.54E-03	3.96E-03
886	561284.8	4192713	5.59E-03	4.00E-03
887	561279.1	4192721	5.64E-03	4.03E-03
888	561273.4	4192729	5.68E-03	4.06E-03
889	561267.8	4192737	5.71E-03	4.08E-03
890	561262.1	4192745	5.73E-03	4.10E-03
891	561246.8	4192754	6.00E-03	4.29E-03
892	561237.2	4192755	6.25E-03	4.47E-03
893	561227.6	4192757	6.50E-03	4.65E-03
894	561218	4192758	6.75E-03	4.83E-03
895	561198.8	4192761	7.23E-03	5.17E-03
896	561189.1	4192762	7.44E-03	5.32E-03
897	561179.5	4192764	7.64E-03	5.46E-03
898	561169.9	4192765	7.81E-03	5.59E-03
899	561160.3	4192766	7.96E-03	5.69E-03
900	561150.7	4192768	8.09E-03	5.78E-03
901	561141	4192769	8.19E-03	5.86E-03
902	561131.4	4192770	8.27E-03	5.91E-03
903	561121.8	4192772	8.32E-03	5.95E-03
904	561356.9	4192629	4.44E-03	3.17E-03
905	561317.6	4192683	5.03E-03	3.60E-03
906	561312	4192691	5.09E-03	3.64E-03
907	561306.4	4192699	5.15E-03	3.68E-03
908	561300.8	4192707	5.21E-03	3.72E-03
909	561295.2	4192714	5.26E-03	3.76E-03
910	561289.6	4192722	5.31E-03	3.80E-03
911	561284	4192730	5.35E-03	3.83E-03
912	561278.4	4192738	5.38E-03	3.85E-03
913	561272.8	4192746	5.41E-03	3.87E-03
914	561267.2	4192753	5.43E-03	3.89E-03
915	561252.1	4192763	5.68E-03	4.06E-03
916	561242.6	4192764	5.91E-03	4.23E-03
917	561233.1	4192765	6.15E-03	4.39E-03
918	561223.6	4192767	6.38E-03	4.56E-03
919	561195	4192771	7.02E-03	5.02E-03
920	561185.5	4192772	7.20E-03	5.15E-03
921	561176	4192773	7.37E-03	5.27E-03
922	561166.5	4192775	7.52E-03	5.37E-03
923	561157	4192776	7.64E-03	5.46E-03
924	561147.4	4192777	7.74E-03	5.54E-03
925	561137.9	4192779	7.82E-03	5.59E-03
926	561128.4	4192780	7.88E-03	5.64E-03
927	561362.5	4192621	4.34E-03	3.10E-03
928	561364.6	4192611	4.34E-03	3.10E-03
929	561366.7	4192601	4.33E-03	3.10E-03
930	561368.8	4192592	4.33E-03	3.10E-03

931	561371	4192582	4.32E-03	3.09E-03
932	561373.1	4192573	4.32E-03	3.09E-03
933	561375.2	4192563	4.31E-03	3.08E-03
934	561377.4	4192553	4.31E-03	3.08E-03
935	561379.5	4192544	4.31E-03	3.08E-03
936	561381.6	4192534	4.31E-03	3.08E-03
937	561383.8	4192525	4.31E-03	3.08E-03
938	561385.9	4192515	4.31E-03	3.08E-03
939	561388	4192505	4.31E-03	3.08E-03
940	561390.2	4192496	4.31E-03	3.08E-03
941	561392.3	4192486	4.30E-03	3.08E-03
942	561394.4	4192476	4.30E-03	3.07E-03
943	561396.6	4192467	4.28E-03	3.06E-03
944	561398.7	4192457	4.27E-03	3.05E-03
945	561366.7	4192631	4.18E-03	2.99E-03
946	561350	4192654	4.44E-03	3.18E-03
947	561344.5	4192662	4.52E-03	3.23E-03
948	561338.9	4192669	4.60E-03	3.29E-03
949	561311.2	4192708	4.90E-03	3.51E-03
950	561305.6	4192716	4.96E-03	3.54E-03
951	561300.1	4192723	5.00E-03	3.58E-03
952	561294.6	4192731	5.05E-03	3.61E-03
953	561289	4192739	5.08E-03	3.63E-03
954	561283.5	4192747	5.11E-03	3.66E-03
955	561277.9	4192754	5.14E-03	3.68E-03
956	561272.4	4192762	5.16E-03	3.69E-03
957	561257.4	4192771	5.39E-03	3.85E-03
958	561248	4192773	5.60E-03	4.01E-03
959	561238.5	4192774	5.82E-03	4.16E-03
960	561229.1	4192775	6.03E-03	4.31E-03
961	561219.7	4192777	6.24E-03	4.46E-03
962	561191.4	4192781	6.81E-03	4.87E-03
963	561182	4192782	6.97E-03	4.98E-03
964	561172.6	4192783	7.11E-03	5.08E-03
965	561163.1	4192785	7.23E-03	5.17E-03
966	561153.7	4192786	7.33E-03	5.24E-03
967	561372.2	4192623	4.09E-03	2.93E-03
968	561374.3	4192613	4.09E-03	2.92E-03
969	561376.5	4192604	4.08E-03	2.92E-03
970	561378.6	4192594	4.08E-03	2.92E-03
971	561380.7	4192584	4.07E-03	2.91E-03
972	561382.9	4192575	4.06E-03	2.91E-03
973	561385	4192565	4.06E-03	2.90E-03
974	561387.1	4192556	4.05E-03	2.90E-03
975	561389.3	4192546	4.05E-03	2.89E-03
976	561391.4	4192536	4.04E-03	2.89E-03
977	561393.5	4192527	4.04E-03	2.89E-03
978	561395.7	4192517	4.04E-03	2.89E-03
979	561397.8	4192507	4.04E-03	2.89E-03
980	561399.9	4192498	4.04E-03	2.89E-03
981	561402.1	4192488	4.04E-03	2.89E-03
982	561404.2	4192479	4.03E-03	2.88E-03

983	561406.3	4192469	4.02E-03	2.88E-03
984	561408.5	4192459	4.01E-03	2.87E-03
985	561376.5	4192633	3.95E-03	2.82E-03
986	561360	4192656	4.19E-03	2.99E-03
987	561354.5	4192663	4.26E-03	3.05E-03
988	561349	4192671	4.33E-03	3.10E-03
989	561343.5	4192679	4.40E-03	3.15E-03
990	561338	4192686	4.46E-03	3.19E-03
991	561332.5	4192694	4.52E-03	3.23E-03
992	561305	4192732	4.76E-03	3.41E-03
993	561299.5	4192740	4.80E-03	3.43E-03
994	561294	4192748	4.83E-03	3.46E-03
995	561288.5	4192755	4.86E-03	3.48E-03
996	561283	4192763	4.89E-03	3.50E-03
997	561277.5	4192771	4.91E-03	3.51E-03
998	561262.7	4192780	5.12E-03	3.66E-03
999	561253.3	4192781	5.32E-03	3.80E-03
1000	561244	4192782	5.52E-03	3.95E-03
1001	561234.6	4192784	5.71E-03	4.09E-03
1002	561225.3	4192785	5.91E-03	4.23E-03
1003	561215.9	4192786	6.09E-03	4.36E-03
1004	561187.9	4192790	6.59E-03	4.72E-03
1005	561178.6	4192792	6.73E-03	4.81E-03
1006	561382	4192625	3.86E-03	2.76E-03
1007	561384.1	4192615	3.86E-03	2.76E-03
1008	561386.2	4192606	3.85E-03	2.76E-03
1009	561388.4	4192596	3.85E-03	2.75E-03
1010	561390.5	4192587	3.84E-03	2.75E-03
1011	561392.6	4192577	3.83E-03	2.74E-03
1012	561394.8	4192567	3.82E-03	2.73E-03
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1014	561399	4192548	3.81E-03	2.72E-03
1015	561401.2	4192538	3.80E-03	2.72E-03
1016	561403.3	4192529	3.80E-03	2.72E-03
1017	561405.4	4192519	3.80E-03	2.72E-03
1018	561407.6	4192510	3.80E-03	2.72E-03
1019	561409.7	4192500	3.80E-03	2.72E-03
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1021	561414	4192481	3.79E-03	2.71E-03
1022	561416.1	4192471	3.78E-03	2.71E-03
1023	561418.2	4192462	3.77E-03	2.70E-03
1024	561386	4192635	3.74E-03	2.67E-03
1025	561368.8	4192659	3.97E-03	2.84E-03
1026	561363.1	4192667	4.04E-03	2.89E-03
1027	561357.4	4192675	4.11E-03	2.94E-03
1028	561351.6	4192683	4.18E-03	2.99E-03
1029	561345.9	4192691	4.24E-03	3.03E-03
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1032	561328.7	4192715	4.39E-03	3.14E-03
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1037	561267.4	4192788	4.88E-03	3.49E-03
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1054	561413.1	4192531	3.58E-03	2.56E-03
1055	561415.2	4192521	3.58E-03	2.56E-03
1056	561417.3	4192512	3.58E-03	2.56E-03
1057	561419.5	4192502	3.58E-03	2.56E-03
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1060	561425.9	4192473	3.56E-03	2.55E-03
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1062	561395.8	4192637	3.54E-03	2.53E-03
1063	561378.8	4192661	3.76E-03	2.69E-03
1064	561373.1	4192669	3.82E-03	2.73E-03
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1067	561356.1	4192693	4.01E-03	2.87E-03
1068	561350.4	4192701	4.06E-03	2.90E-03
1069	561344.8	4192708	4.11E-03	2.94E-03
1070	561339.1	4192716	4.16E-03	2.97E-03
1071	561333.4	4192724	4.20E-03	3.00E-03
1072	561327.7	4192732	4.24E-03	3.03E-03
1073	561322.1	4192740	4.28E-03	3.06E-03
1074	561293.7	4192780	4.44E-03	3.17E-03
1075	561288	4192788	4.46E-03	3.19E-03
1076	561272.7	4192797	4.65E-03	3.33E-03
1077	561263.1	4192798	4.83E-03	3.45E-03
1078	561253.4	4192800	5.01E-03	3.58E-03
1079	561243.8	4192801	5.19E-03	3.71E-03
1080	561234.2	4192802	5.36E-03	3.84E-03
1081	561224.5	4192804	5.53E-03	3.96E-03
1082	561401.5	4192629	3.46E-03	2.48E-03
1083	561403.6	4192620	3.46E-03	2.47E-03
1084	561405.8	4192610	3.45E-03	2.47E-03
1085	561407.9	4192601	3.44E-03	2.46E-03
1086	561410	4192591	3.44E-03	2.46E-03

1087	561412.2	4192581	3.43E-03	2.45E-03
1088	561414.3	4192572	3.42E-03	2.44E-03
1089	561416.4	4192562	3.40E-03	2.43E-03
1090	561418.6	4192552	3.39E-03	2.43E-03
1091	561420.7	4192543	3.39E-03	2.42E-03
1092	561422.8	4192533	3.38E-03	2.42E-03
1093	561425	4192524	3.38E-03	2.42E-03
1094	561427.1	4192514	3.38E-03	2.41E-03
1095	561429.2	4192504	3.38E-03	2.41E-03
1096	561431.4	4192495	3.37E-03	2.41E-03
1097	561433.5	4192485	3.37E-03	2.41E-03
1098	561435.6	4192475	3.36E-03	2.40E-03
1099	561437.7	4192466	3.35E-03	2.39E-03
1100	561405.6	4192639	3.35E-03	2.40E-03
1101	561388.8	4192663	3.56E-03	2.54E-03
1102	561383.1	4192671	3.62E-03	2.59E-03
1103	561377.5	4192679	3.68E-03	2.63E-03
1104	561371.9	4192686	3.74E-03	2.68E-03
1105	561366.3	4192694	3.80E-03	2.71E-03
1106	561360.7	4192702	3.85E-03	2.75E-03
1107	561355	4192710	3.89E-03	2.78E-03
1108	561349.4	4192718	3.94E-03	2.82E-03
1109	561343.8	4192726	3.98E-03	2.85E-03
1110	561338.2	4192733	4.02E-03	2.87E-03
1111	561332.5	4192741	4.06E-03	2.90E-03
1112	561326.9	4192749	4.10E-03	2.93E-03
1113	561321.3	4192757	4.13E-03	2.95E-03
1114	561315.7	4192765	4.16E-03	2.97E-03
1115	561278	4192805	4.44E-03	3.17E-03
1116	561268.4	4192807	4.60E-03	3.29E-03
1117	561258.9	4192808	4.77E-03	3.41E-03
1118	561249.3	4192809	4.94E-03	3.53E-03
1119	561239.8	4192811	5.10E-03	3.65E-03
1120	561411.3	4192632	3.28E-03	2.35E-03
1121	561413.4	4192622	3.28E-03	2.35E-03
1122	561415.5	4192612	3.27E-03	2.34E-03
1123	561417.7	4192603	3.27E-03	2.34E-03
1124	561419.8	4192593	3.26E-03	2.33E-03
1125	561421.9	4192583	3.25E-03	2.32E-03
1126	561424.1	4192574	3.24E-03	2.31E-03
1127	561426.2	4192564	3.22E-03	2.31E-03
1128	561428.3	4192555	3.21E-03	2.30E-03
1129	561430.5	4192545	3.21E-03	2.29E-03
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1132	561436.9	4192516	3.19E-03	2.28E-03
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1136	561445.4	4192478	3.17E-03	2.27E-03
1137	561447.5	4192468	3.16E-03	2.26E-03
1138	561415.5	4192641	3.18E-03	2.28E-03

1139	561398.7	4192665	3.37E-03	2.41E-03
1140	561393.1	4192673	3.44E-03	2.46E-03
1141	561387.6	4192680	3.49E-03	2.50E-03
1142	561382	4192688	3.55E-03	2.54E-03
1143	561376.4	4192696	3.60E-03	2.57E-03
1144	561370.8	4192704	3.65E-03	2.61E-03
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1146	561359.7	4192719	3.74E-03	2.67E-03
1147	561354.1	4192727	3.78E-03	2.70E-03
1148	561348.5	4192735	3.81E-03	2.73E-03
1149	561342.9	4192743	3.85E-03	2.75E-03
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1153	561320.6	4192774	3.97E-03	2.84E-03
1154	561315	4192782	4.00E-03	2.86E-03
1155	561309.5	4192789	4.02E-03	2.88E-03
1156	561283.2	4192814	4.24E-03	3.03E-03
1157	561273.8	4192815	4.39E-03	3.14E-03
1158	561264.3	4192817	4.55E-03	3.25E-03
1159	561421	4192634	3.12E-03	2.23E-03
1160	561423.2	4192624	3.12E-03	2.23E-03
1161	561425.3	4192614	3.11E-03	2.22E-03
1162	561427.4	4192605	3.10E-03	2.22E-03
1163	561429.6	4192595	3.09E-03	2.21E-03
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1165	561433.8	4192576	3.07E-03	2.19E-03
1166	561436	4192566	3.06E-03	2.19E-03
1167	561438.1	4192557	3.05E-03	2.18E-03
1168	561440.2	4192547	3.04E-03	2.18E-03
1169	561442.4	4192538	3.04E-03	2.17E-03
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1171	561446.6	4192518	3.03E-03	2.16E-03
1172	561448.7	4192509	3.02E-03	2.16E-03
1173	561450.9	4192499	3.02E-03	2.16E-03
1174	561453	4192489	3.01E-03	2.15E-03
1175	561455.1	4192480	3.00E-03	2.15E-03
1176	561457.3	4192470	3.00E-03	2.14E-03
1177	561425.3	4192644	3.03E-03	2.17E-03
1178	561408.6	4192667	3.21E-03	2.29E-03
1179	561403.1	4192674	3.26E-03	2.33E-03
1180	561397.6	4192682	3.32E-03	2.37E-03
1181	561392	4192690	3.37E-03	2.41E-03
1182	561386.5	4192698	3.42E-03	2.45E-03
1183	561381	4192705	3.47E-03	2.48E-03
1184	561375.4	4192713	3.51E-03	2.51E-03
1185	561369.9	4192721	3.55E-03	2.54E-03
1186	561364.3	4192729	3.59E-03	2.57E-03
1187	561358.8	4192736	3.62E-03	2.59E-03
1188	561353.3	4192744	3.66E-03	2.61E-03
1189	561347.7	4192752	3.69E-03	2.64E-03
1190	561342.2	4192759	3.72E-03	2.66E-03

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1192	561331.1	4192775	3.77E-03	2.70E-03
1193	561325.6	4192783	3.80E-03	2.72E-03
1194	561320	4192790	3.82E-03	2.73E-03
1195	561314.5	4192798	3.85E-03	2.75E-03
1196	561309	4192806	3.87E-03	2.77E-03
1197	561303.4	4192813	3.89E-03	2.78E-03
1198	561430.8	4192636	2.97E-03	2.12E-03
1199	561432.9	4192626	2.96E-03	2.12E-03
1200	561435.1	4192617	2.96E-03	2.11E-03
1201	561437.2	4192607	2.95E-03	2.11E-03
1202	561439.3	4192597	2.94E-03	2.10E-03
1203	561441.5	4192588	2.93E-03	2.09E-03
1204	561443.6	4192578	2.91E-03	2.08E-03
1205	561445.7	4192569	2.91E-03	2.08E-03
1206	561447.9	4192559	2.90E-03	2.07E-03
1207	561450	4192549	2.89E-03	2.07E-03
1208	561452.1	4192540	2.88E-03	2.06E-03
1209	561454.2	4192530	2.88E-03	2.06E-03
1210	561456.4	4192520	2.87E-03	2.05E-03
1211	561458.5	4192511	2.87E-03	2.05E-03
1212	561460.6	4192501	2.86E-03	2.05E-03
1213	561462.8	4192492	2.86E-03	2.04E-03
1214	561464.9	4192482	2.85E-03	2.04E-03
1215	561467	4192472	2.84E-03	2.03E-03
1216	561417.6	4192670	3.06E-03	2.19E-03
1217	561411.9	4192678	3.11E-03	2.23E-03
1218	561406.2	4192686	3.17E-03	2.26E-03
1219	561400.5	4192694	3.22E-03	2.30E-03
1220	561394.7	4192702	3.27E-03	2.34E-03
1221	561389	4192710	3.31E-03	2.37E-03
1222	561383.3	4192718	3.35E-03	2.40E-03
1223	561377.5	4192726	3.39E-03	2.43E-03
1224	561371.8	4192734	3.43E-03	2.45E-03
1225	561366.1	4192742	3.46E-03	2.48E-03
1226	561360.4	4192750	3.50E-03	2.50E-03
1227	561354.6	4192758	3.53E-03	2.52E-03
1228	561348.9	4192766	3.56E-03	2.54E-03
1229	561343.2	4192774	3.58E-03	2.56E-03
1230	561337.4	4192782	3.61E-03	2.58E-03
1231	561331.7	4192790	3.63E-03	2.60E-03
1232	561326	4192798	3.66E-03	2.61E-03
1233	561320.3	4192806	3.68E-03	2.63E-03
1234	561314.5	4192814	3.70E-03	2.65E-03
1235	561308.8	4192822	3.72E-03	2.66E-03
1236	561459.7	4192551	2.75E-03	1.96E-03
1237	561461.9	4192542	2.74E-03	1.96E-03
1238	561464	4192532	2.73E-03	1.95E-03
1239	561466.1	4192523	2.73E-03	1.95E-03
1240	561468.3	4192513	2.72E-03	1.95E-03
1241	561470.4	4192503	2.72E-03	1.94E-03
1242	561472.5	4192494	2.71E-03	1.94E-03

1243	561474.7	4192484	2.71E-03	1.93E-03
1244	561476.8	4192475	2.70E-03	1.93E-03
1245	561421.9	4192680	2.97E-03	2.12E-03
1246	561416.2	4192688	3.01E-03	2.16E-03
1247	561410.5	4192696	3.06E-03	2.19E-03
1248	561404.9	4192704	3.11E-03	2.22E-03
1249	561399.2	4192712	3.15E-03	2.25E-03
1250	561393.5	4192719	3.19E-03	2.28E-03
1251	561387.8	4192727	3.23E-03	2.31E-03
1252	561382.1	4192735	3.27E-03	2.34E-03
1253	561376.4	4192743	3.30E-03	2.36E-03
1254	561370.8	4192751	3.33E-03	2.38E-03
1255	561365.1	4192759	3.36E-03	2.40E-03
1256	561359.4	4192767	3.39E-03	2.42E-03
1257	561353.7	4192775	3.41E-03	2.44E-03
1258	561348	4192783	3.44E-03	2.46E-03
1259	561342.4	4192791	3.46E-03	2.47E-03
1260	561336.7	4192799	3.48E-03	2.49E-03
1261	561331	4192807	3.51E-03	2.51E-03
1262	561325.3	4192815	3.53E-03	2.52E-03
1263	561319.6	4192822	3.55E-03	2.54E-03
1264	561313.9	4192830	3.57E-03	2.55E-03
1265	561233.8	4192334	2.29E-02	1.64E-02
1266	561236.2	4192325	2.18E-02	1.56E-02
1267	561238.7	4192316	2.06E-02	1.47E-02
1268	561241.1	4192307	1.93E-02	1.38E-02
1269	561243.5	4192297	1.81E-02	1.29E-02
1270	561245.9	4192288	1.68E-02	1.20E-02
1271	561248.3	4192279	1.56E-02	1.12E-02
1272	561233.8	4192373	2.19E-02	1.57E-02
1273	561236.2	4192364	2.13E-02	1.52E-02
1274	561238.6	4192355	2.06E-02	1.47E-02
1275	561241.1	4192346	1.98E-02	1.42E-02
1276	561243.5	4192336	1.90E-02	1.36E-02
1277	561245.9	4192327	1.81E-02	1.30E-02
1278	561248.3	4192318	1.72E-02	1.23E-02
1279	561250.7	4192309	1.63E-02	1.16E-02
1280	561253.2	4192300	1.53E-02	1.09E-02
1281	561255.6	4192291	1.44E-02	1.03E-02
1282	561258	4192282	1.35E-02	9.65E-03
1283	561243.5	4192375	1.87E-02	1.34E-02
1284	561245.9	4192366	1.81E-02	1.29E-02
1285	561248.3	4192357	1.74E-02	1.25E-02
1286	561250.7	4192348	1.68E-02	1.20E-02
1287	561253.1	4192339	1.61E-02	1.15E-02
1288	561255.6	4192330	1.54E-02	1.10E-02
1289	561258	4192321	1.47E-02	1.05E-02
1290	561260.4	4192312	1.40E-02	9.99E-03
1291	561262.8	4192303	1.32E-02	9.47E-03
1292	561265.3	4192294	1.25E-02	8.96E-03
1293	561267.7	4192284	1.19E-02	8.48E-03
1294	561253.1	4192378	1.62E-02	1.16E-02

1295	561255.6	4192369	1.56E-02	1.12E-02
1296	561258	4192360	1.51E-02	1.08E-02
1297	561260.4	4192351	1.45E-02	1.04E-02
1298	561262.8	4192342	1.39E-02	9.97E-03
1299	561265.2	4192332	1.34E-02	9.57E-03
1300	561267.7	4192323	1.28E-02	9.16E-03
1301	561270.1	4192314	1.22E-02	8.75E-03
1302	561272.5	4192305	1.17E-02	8.34E-03
1303	561274.9	4192296	1.11E-02	7.94E-03
1304	561277.3	4192287	1.06E-02	7.56E-03
1305	561262.8	4192381	1.42E-02	1.01E-02
1306	561265.2	4192371	1.37E-02	9.79E-03
1307	561267.6	4192362	1.32E-02	9.45E-03
1308	561270.1	4192353	1.27E-02	9.11E-03
1309	561272.5	4192344	1.23E-02	8.78E-03
1310	561274.9	4192335	1.18E-02	8.44E-03
1311	561277.3	4192326	1.13E-02	8.10E-03
1312	561279.7	4192317	1.09E-02	7.77E-03
1313	561282.2	4192308	1.04E-02	7.44E-03
1314	561284.6	4192299	9.95E-03	7.11E-03
1315	561287	4192290	9.51E-03	6.80E-03
1316	561272.5	4192383	1.26E-02	8.98E-03
1317	561274.9	4192374	1.22E-02	8.69E-03
1318	561277.3	4192365	1.17E-02	8.40E-03
1319	561279.7	4192356	1.13E-02	8.11E-03
1320	561282.1	4192347	1.09E-02	7.82E-03
1321	561284.6	4192338	1.05E-02	7.54E-03
1322	561287	4192329	1.01E-02	7.26E-03
1323	561289.4	4192319	9.75E-03	6.98E-03
1324	561291.8	4192310	9.37E-03	6.70E-03
1325	561294.2	4192301	9.00E-03	6.44E-03
1326	561296.7	4192292	8.64E-03	6.18E-03
1327	561282.1	4192386	1.12E-02	8.04E-03
1328	561284.5	4192377	1.09E-02	7.80E-03
1329	561287	4192367	1.06E-02	7.55E-03
1330	561289.4	4192358	1.02E-02	7.30E-03
1331	561291.8	4192349	9.85E-03	7.05E-03
1332	561294.2	4192340	9.51E-03	6.80E-03
1333	561296.6	4192331	9.17E-03	6.56E-03
1334	561299.1	4192322	8.84E-03	6.32E-03
1335	561301.5	4192313	8.52E-03	6.09E-03
1336	561303.9	4192304	8.21E-03	5.87E-03
1337	561306.3	4192295	7.91E-03	5.66E-03
1338	561291.8	4192388	1.02E-02	7.26E-03
1339	561294.2	4192379	9.86E-03	7.05E-03
1340	561296.6	4192370	9.55E-03	6.83E-03
1341	561299	4192361	9.25E-03	6.61E-03
1342	561301.5	4192352	8.95E-03	6.40E-03
1343	561303.9	4192343	8.65E-03	6.19E-03
1344	561306.3	4192334	8.36E-03	5.98E-03
1345	561308.7	4192325	8.08E-03	5.78E-03
1346	561311.2	4192315	7.80E-03	5.58E-03

1347	561313.6	4192306	7.54E-03	5.39E-03
1348	561316	4192297	7.28E-03	5.21E-03
1349	561320.8	4192396	7.73E-03	5.53E-03
1350	561323.2	4192387	7.54E-03	5.39E-03
1351	561332.9	4192350	6.75E-03	4.83E-03
1352	561335.3	4192341	6.56E-03	4.69E-03
1353	561337.7	4192332	6.37E-03	4.55E-03
1354	561340.1	4192323	6.19E-03	4.43E-03
1355	561342.6	4192314	6.02E-03	4.30E-03
1356	561345	4192305	5.85E-03	4.19E-03
1357	561330.4	4192399	7.13E-03	5.10E-03
1358	561332.9	4192389	6.97E-03	4.98E-03
1359	561342.5	4192353	6.27E-03	4.48E-03
1360	561345	4192344	6.10E-03	4.36E-03
1361	561347.4	4192335	5.93E-03	4.24E-03
1362	561349.8	4192326	5.78E-03	4.13E-03
1363	561352.2	4192317	5.63E-03	4.03E-03
1364	561354.6	4192308	5.48E-03	3.92E-03
1365	561340.1	4192401	6.60E-03	4.72E-03
1366	561342.5	4192392	6.46E-03	4.62E-03
1367	561352.2	4192356	5.85E-03	4.18E-03
1368	561354.6	4192347	5.69E-03	4.07E-03
1369	561357	4192337	5.55E-03	3.97E-03
1370	561359.5	4192328	5.41E-03	3.87E-03
1371	561361.9	4192319	5.28E-03	3.78E-03
1372	561364.3	4192310	5.15E-03	3.68E-03
1373	561349.8	4192404	6.13E-03	4.39E-03
1374	561352.2	4192395	6.01E-03	4.30E-03
1375	561364.3	4192349	5.34E-03	3.82E-03
1376	561366.7	4192340	5.21E-03	3.72E-03
1377	561369.1	4192331	5.08E-03	3.64E-03
1378	561371.6	4192322	4.97E-03	3.55E-03
1379	561374	4192313	4.85E-03	3.47E-03
1380	561217	4192241	2.13E-02	1.52E-02
1381	561207.5	4192238	2.43E-02	1.74E-02
1382	561197.9	4192236	2.70E-02	1.93E-02
1383	561188.4	4192234	2.93E-02	2.10E-02
1384	561178.9	4192231	3.12E-02	2.23E-02
1385	561169.4	4192229	3.25E-02	2.33E-02
1386	561159.8	4192227	3.34E-02	2.39E-02
1387	561150.3	4192224	3.38E-02	2.41E-02
1388	561121.7	4192217	3.49E-02	2.49E-02
1389	561112.2	4192215	3.59E-02	2.56E-02
1390	561102.6	4192213	3.67E-02	2.62E-02
1391	561093.1	4192210	3.71E-02	2.65E-02
1392	561083.6	4192208	3.71E-02	2.65E-02
1393	561074	4192206	3.66E-02	2.61E-02
1394	561064.5	4192203	3.54E-02	2.53E-02
1395	561055	4192201	3.33E-02	2.38E-02
1396	561219.4	4192231	1.80E-02	1.29E-02
1397	561209.9	4192229	2.02E-02	1.45E-02
1398	561200.3	4192226	2.23E-02	1.60E-02

1399	561190.8	4192224	2.42E-02	1.73E-02
1400	561181.3	4192222	2.57E-02	1.84E-02
1401	561171.7	4192219	2.70E-02	1.93E-02
1402	561162.2	4192217	2.78E-02	1.99E-02
1403	561152.7	4192215	2.83E-02	2.03E-02
1404	561124.1	4192208	2.96E-02	2.12E-02
1405	561114.5	4192205	3.03E-02	2.16E-02
1406	561105	4192203	3.08E-02	2.20E-02
1407	561095.5	4192201	3.11E-02	2.23E-02
1408	561086	4192198	3.11E-02	2.23E-02
1409	561076.4	4192196	3.08E-02	2.20E-02
1410	561066.9	4192194	2.99E-02	2.14E-02
1411	561057.4	4192191	2.85E-02	2.04E-02
1412	561257.2	4192250	1.19E-02	8.49E-03
1413	561221.8	4192221	1.56E-02	1.12E-02
1414	561212.3	4192219	1.73E-02	1.24E-02
1415	561202.7	4192217	1.89E-02	1.36E-02
1416	561193.2	4192214	2.05E-02	1.46E-02
1417	561183.7	4192212	2.18E-02	1.56E-02
1418	561174.1	4192210	2.28E-02	1.63E-02
1419	561164.6	4192207	2.37E-02	1.69E-02
1420	561155.1	4192205	2.42E-02	1.73E-02
1421	561126.5	4192198	2.56E-02	1.83E-02
1422	561116.9	4192196	2.61E-02	1.87E-02
1423	561107.4	4192193	2.65E-02	1.89E-02
1424	561097.9	4192191	2.67E-02	1.91E-02
1425	561088.3	4192189	2.67E-02	1.91E-02
1426	561078.8	4192186	2.65E-02	1.89E-02
1427	561069.3	4192184	2.59E-02	1.85E-02
1428	561059.7	4192181	2.49E-02	1.78E-02
1429	561266.1	4192247	1.04E-02	7.46E-03
1430	561267.4	4192256	1.08E-02	7.72E-03
1431	561224.2	4192212	1.37E-02	9.83E-03
1432	561214.6	4192209	1.51E-02	1.08E-02
1433	561205.1	4192207	1.64E-02	1.17E-02
1434	561195.6	4192205	1.77E-02	1.26E-02
1435	561186	4192202	1.88E-02	1.34E-02
1436	561176.5	4192200	1.97E-02	1.41E-02
1437	561167	4192198	2.05E-02	1.46E-02
1438	561157.4	4192195	2.11E-02	1.51E-02
1439	561128.9	4192188	2.25E-02	1.61E-02
1440	561119.3	4192186	2.29E-02	1.63E-02
1441	561109.8	4192183	2.32E-02	1.66E-02
1442	561100.3	4192181	2.34E-02	1.67E-02
1443	561090.7	4192179	2.34E-02	1.67E-02
1444	561081.2	4192176	2.32E-02	1.66E-02
1445	561071.7	4192174	2.27E-02	1.63E-02
1446	561062.1	4192172	2.21E-02	1.58E-02
1447	561265.9	4192226	9.28E-03	6.64E-03
1448	561274.7	4192241	9.22E-03	6.59E-03
1449	561275.9	4192250	9.53E-03	6.81E-03
1450	561277.2	4192259	9.77E-03	6.99E-03

1451	561236.1	4192204	1.12E-02	8.01E-03
1452	561226.6	4192202	1.23E-02	8.77E-03
1453	561217	4192200	1.34E-02	9.56E-03
1454	561207.5	4192197	1.45E-02	1.03E-02
1455	561198	4192195	1.55E-02	1.11E-02
1456	561188.4	4192192	1.64E-02	1.18E-02
1457	561178.9	4192190	1.73E-02	1.23E-02
1458	561169.4	4192188	1.80E-02	1.28E-02
1459	561159.8	4192185	1.85E-02	1.33E-02
1460	561131.2	4192178	1.99E-02	1.42E-02
1461	561121.7	4192176	2.03E-02	1.45E-02
1462	561112.2	4192174	2.05E-02	1.47E-02
1463	561102.6	4192171	2.07E-02	1.48E-02
1464	561093.1	4192169	2.07E-02	1.48E-02
1465	561083.6	4192167	2.06E-02	1.47E-02
1466	561074	4192164	2.03E-02	1.45E-02
1467	561064.5	4192162	1.98E-02	1.41E-02
1468	561267.5	4192216	8.58E-03	6.13E-03
1469	561274.7	4192221	8.25E-03	5.90E-03
1470	561283.2	4192236	8.23E-03	5.89E-03
1471	561284.5	4192245	8.50E-03	6.08E-03
1472	561286.9	4192263	8.90E-03	6.36E-03
1473	561228.9	4192192	1.11E-02	7.91E-03
1474	561219.4	4192190	1.20E-02	8.56E-03
1475	561209.9	4192187	1.29E-02	9.21E-03
1476	561200.3	4192185	1.38E-02	9.84E-03
1477	561190.8	4192183	1.46E-02	1.04E-02
1478	561181.3	4192180	1.53E-02	1.09E-02
1479	561171.7	4192178	1.59E-02	1.14E-02
1480	561162.2	4192176	1.65E-02	1.18E-02
1481	561133.6	4192169	1.78E-02	1.27E-02
1482	561124.1	4192166	1.81E-02	1.30E-02
1483	561114.6	4192164	1.84E-02	1.32E-02
1484	561105	4192162	1.86E-02	1.33E-02
1485	561095.5	4192159	1.86E-02	1.33E-02
1486	561086	4192157	1.85E-02	1.32E-02
1487	561076.4	4192155	1.82E-02	1.30E-02
1488	561066.9	4192152	1.79E-02	1.28E-02
1489	561276.4	4192211	7.67E-03	5.48E-03
1490	561283.5	4192216	7.41E-03	5.30E-03
1491	561291.8	4192230	7.42E-03	5.30E-03
1492	561294.2	4192248	7.86E-03	5.62E-03
1493	561296.7	4192265	8.15E-03	5.83E-03
1494	561231.3	4192182	1.00E-02	7.18E-03
1495	561221.8	4192180	1.08E-02	7.74E-03
1496	561212.3	4192178	1.16E-02	8.29E-03
1497	561202.7	4192175	1.23E-02	8.83E-03
1498	561193.2	4192173	1.30E-02	9.33E-03
1499	561183.7	4192171	1.37E-02	9.79E-03
1500	561174.1	4192168	1.43E-02	1.02E-02
1501	561164.6	4192166	1.48E-02	1.06E-02
1502	561136	4192159	1.61E-02	1.15E-02

1503	561126.5	4192157	1.64E-02	1.17E-02
1504	561116.9	4192154	1.66E-02	1.19E-02
1505	561107.4	4192152	1.68E-02	1.20E-02
1506	561097.9	4192150	1.68E-02	1.20E-02
1507	561088.3	4192147	1.67E-02	1.20E-02
1508	561078.8	4192145	1.66E-02	1.18E-02
1509	561069.3	4192143	1.63E-02	1.16E-02
1510	561278.2	4192201	7.14E-03	5.11E-03
1511	561292.2	4192211	6.71E-03	4.80E-03
1512	561300.4	4192225	6.73E-03	4.82E-03
1513	561302.8	4192242	7.13E-03	5.10E-03
1514	561305.2	4192260	7.42E-03	5.30E-03
1515	561233.7	4192173	9.18E-03	6.57E-03
1516	561224.2	4192170	9.85E-03	7.05E-03
1517	561214.6	4192168	1.05E-02	7.52E-03
1518	561205.1	4192166	1.12E-02	7.99E-03
1519	561195.6	4192163	1.18E-02	8.43E-03
1520	561186	4192161	1.24E-02	8.85E-03
1521	561176.5	4192159	1.29E-02	9.23E-03
1522	561167	4192156	1.34E-02	9.58E-03
1523	561138.4	4192149	1.46E-02	1.04E-02
1524	561128.9	4192147	1.49E-02	1.06E-02
1525	561119.3	4192145	1.51E-02	1.08E-02
1526	561109.8	4192142	1.53E-02	1.09E-02
1527	561100.3	4192140	1.53E-02	1.09E-02
1528	561090.7	4192138	1.53E-02	1.09E-02
1529	561081.2	4192135	1.51E-02	1.08E-02
1530	561071.7	4192133	1.49E-02	1.07E-02
1531	561276.7	4192188	6.77E-03	4.84E-03
1532	561284.5	4192194	6.54E-03	4.67E-03
1533	561292.3	4192200	6.32E-03	4.52E-03
1534	561300	4192206	6.13E-03	4.39E-03
1535	561309.1	4192221	6.18E-03	4.42E-03
1536	561310.5	4192231	6.38E-03	4.56E-03
1537	561311.8	4192240	6.57E-03	4.70E-03
1538	561313.1	4192250	6.73E-03	4.81E-03
1539	561314.4	4192259	6.85E-03	4.90E-03
1540	561315.8	4192269	6.94E-03	4.96E-03
1541	561245.6	4192165	7.88E-03	5.64E-03
1542	561236.1	4192163	8.45E-03	6.04E-03
1543	561226.6	4192161	9.03E-03	6.46E-03
1544	561217	4192158	9.61E-03	6.87E-03
1545	561207.5	4192156	1.02E-02	7.28E-03
1546	561198	4192154	1.07E-02	7.68E-03
1547	561188.4	4192151	1.13E-02	8.05E-03
1548	561178.9	4192149	1.18E-02	8.40E-03
1549	561169.4	4192147	1.22E-02	8.73E-03
1550	561150.3	4192142	1.30E-02	9.30E-03
1551	561140.8	4192140	1.33E-02	9.53E-03
1552	561131.2	4192137	1.36E-02	9.73E-03
1553	561121.7	4192135	1.38E-02	9.88E-03
1554	561112.2	4192133	1.40E-02	9.98E-03

1555	561102.6	4192130	1.40E-02	1.00E-02
1556	561093.1	4192128	1.40E-02	1.00E-02
1557	561083.6	4192126	1.39E-02	9.94E-03
1558	561074.1	4192123	1.37E-02	9.81E-03
1559	561278.4	4192178	6.35E-03	4.54E-03
1560	561286	4192184	6.13E-03	4.39E-03
1561	561293.6	4192189	5.94E-03	4.25E-03
1562	561301.2	4192195	5.77E-03	4.13E-03
1563	561308.8	4192201	5.62E-03	4.02E-03
1564	561317.7	4192216	5.67E-03	4.05E-03
1565	561319	4192225	5.85E-03	4.19E-03
1566	561320.3	4192234	6.03E-03	4.31E-03
1567	561321.6	4192244	6.17E-03	4.42E-03
1568	561322.9	4192253	6.30E-03	4.50E-03
1569	561324.2	4192263	6.39E-03	4.57E-03
1570	561325.5	4192272	6.46E-03	4.62E-03
1571	561248	4192156	7.31E-03	5.23E-03
1572	561238.5	4192153	7.81E-03	5.59E-03
1573	561228.9	4192151	8.32E-03	5.95E-03
1574	561219.4	4192149	8.84E-03	6.32E-03
1575	561209.9	4192146	9.35E-03	6.68E-03
1576	561200.3	4192144	9.84E-03	7.04E-03
1577	561190.8	4192142	1.03E-02	7.38E-03
1578	561181.3	4192139	1.08E-02	7.70E-03
1579	561171.8	4192137	1.12E-02	8.00E-03
1580	561152.7	4192132	1.19E-02	8.53E-03
1581	561143.2	4192130	1.22E-02	8.75E-03
1582	561133.6	4192128	1.25E-02	8.93E-03
1583	561124.1	4192125	1.27E-02	9.08E-03
1584	561114.6	4192123	1.28E-02	9.17E-03
1585	561105	4192121	1.29E-02	9.22E-03
1586	561095.5	4192118	1.29E-02	9.22E-03
1587	561086	4192116	1.28E-02	9.17E-03
1588	561076.4	4192113	1.27E-02	9.08E-03
1589	561280.2	4192168	5.96E-03	4.26E-03
1590	561287.7	4192174	5.76E-03	4.12E-03
1591	561295.2	4192179	5.59E-03	4.00E-03
1592	561302.6	4192185	5.43E-03	3.89E-03
1593	561310.1	4192190	5.30E-03	3.79E-03
1594	561317.5	4192196	5.17E-03	3.70E-03
1595	561326.3	4192210	5.23E-03	3.74E-03
1596	561327.6	4192220	5.40E-03	3.86E-03
1597	561328.8	4192229	5.55E-03	3.97E-03
1598	561330.1	4192238	5.69E-03	4.07E-03
1599	561331.4	4192247	5.81E-03	4.16E-03
1600	561332.6	4192256	5.91E-03	4.22E-03
1601	561250.4	4192146	6.81E-03	4.87E-03
1602	561240.9	4192144	7.26E-03	5.19E-03
1603	561231.3	4192141	7.71E-03	5.52E-03
1604	561221.8	4192139	8.17E-03	5.84E-03
1605	561212.3	4192137	8.63E-03	6.17E-03
1606	561202.7	4192134	9.07E-03	6.49E-03

1607	561193.2	4192132	9.50E-03	6.80E-03
1608	561183.7	4192130	9.92E-03	7.09E-03
1609	561174.1	4192127	1.03E-02	7.37E-03
1610	561155.1	4192123	1.10E-02	7.86E-03
1611	561145.5	4192120	1.13E-02	8.06E-03
1612	561136	4192118	1.15E-02	8.24E-03
1613	561126.5	4192115	1.17E-02	8.37E-03
1614	561116.9	4192113	1.18E-02	8.47E-03
1615	561107.4	4192111	1.19E-02	8.52E-03
1616	561097.9	4192108	1.19E-02	8.53E-03
1617	561088.4	4192106	1.19E-02	8.50E-03
1618	561078.8	4192104	1.18E-02	8.43E-03
1619	561282.2	4192158	5.60E-03	4.01E-03
1620	561289.5	4192163	5.43E-03	3.88E-03
1621	561296.9	4192169	5.27E-03	3.77E-03
1622	561304.2	4192174	5.13E-03	3.67E-03
1623	561311.6	4192180	5.00E-03	3.57E-03
1624	561318.9	4192185	4.89E-03	3.49E-03
1625	561326.3	4192191	4.78E-03	3.42E-03
1626	561334.9	4192205	4.84E-03	3.46E-03
1627	561336.1	4192214	4.99E-03	3.57E-03
1628	561337.4	4192223	5.14E-03	3.68E-03
1629	561338.6	4192232	5.27E-03	3.77E-03
1630	561344.9	4192278	5.65E-03	4.04E-03
1631	561233.7	4192132	7.18E-03	5.13E-03
1632	561224.2	4192129	7.59E-03	5.43E-03
1633	561214.6	4192127	8.00E-03	5.72E-03
1634	561205.1	4192125	8.41E-03	6.01E-03
1635	561195.6	4192122	8.80E-03	6.29E-03
1636	561186.1	4192120	9.18E-03	6.56E-03
1637	561176.5	4192117	9.53E-03	6.82E-03
1638	561157.5	4192113	1.02E-02	7.27E-03
1639	561147.9	4192110	1.04E-02	7.46E-03
1640	561138.4	4192108	1.07E-02	7.62E-03
1641	561128.9	4192106	1.08E-02	7.75E-03
1642	561119.3	4192103	1.10E-02	7.85E-03
1643	561109.8	4192101	1.11E-02	7.90E-03
1644	561100.3	4192099	1.11E-02	7.92E-03
1645	561090.7	4192096	1.11E-02	7.90E-03
1646	561081.2	4192094	1.10E-02	7.85E-03
1647	561291.4	4192153	5.12E-03	3.66E-03
1648	561305.9	4192164	4.84E-03	3.46E-03
1649	561320.5	4192175	4.62E-03	3.30E-03
1650	561335	4192186	4.44E-03	3.18E-03
1651	561343.5	4192200	4.50E-03	3.22E-03
1652	561344.7	4192209	4.64E-03	3.32E-03
1653	561350.9	4192254	5.18E-03	3.70E-03
1654	561352.1	4192263	5.24E-03	3.75E-03
1655	561354.6	4192281	5.31E-03	3.80E-03
1656	561296.4	4192146	4.79E-03	3.42E-03
1657	561304.2	4192151	4.65E-03	3.32E-03
1658	561312	4192157	4.52E-03	3.23E-03

1659	561319.7	4192163	4.40E-03	3.15E-03
1660	561327.5	4192169	4.31E-03	3.08E-03
1661	561335.3	4192174	4.22E-03	3.02E-03
1662	561343	4192180	4.14E-03	2.96E-03
1663	561357.4	4192234	4.71E-03	3.37E-03
1664	561358.8	4192244	4.80E-03	3.44E-03
1665	561360.1	4192253	4.88E-03	3.49E-03
1666	561361.4	4192263	4.94E-03	3.53E-03
1667	561362.8	4192272	4.98E-03	3.56E-03
1668	561364.1	4192282	5.00E-03	3.58E-03
1669	561257.5	4192117	5.63E-03	4.02E-03
1670	561248	4192114	5.96E-03	4.26E-03
1671	561238.5	4192112	6.29E-03	4.50E-03
1672	561229	4192110	6.63E-03	4.74E-03
1673	561219.4	4192107	6.97E-03	4.99E-03
1674	561209.9	4192105	7.31E-03	5.23E-03
1675	561200.4	4192103	7.64E-03	5.46E-03
1676	561190.8	4192100	7.96E-03	5.69E-03
1677	561181.3	4192098	8.26E-03	5.91E-03
1678	561162.2	4192093	8.80E-03	6.29E-03
1679	561152.7	4192091	9.03E-03	6.46E-03
1680	561143.2	4192089	9.23E-03	6.60E-03
1681	561133.6	4192086	9.39E-03	6.72E-03
1682	561124.1	4192084	9.51E-03	6.80E-03
1683	561114.6	4192082	9.60E-03	6.86E-03
1684	561105	4192079	9.64E-03	6.89E-03
1685	561095.5	4192077	9.64E-03	6.90E-03
1686	561086	4192075	9.61E-03	6.87E-03
1687	561321.2	4192152	4.18E-03	2.99E-03
1688	561328.8	4192158	4.09E-03	2.92E-03
1689	561336.5	4192164	4.01E-03	2.86E-03
1690	561344.1	4192170	3.93E-03	2.81E-03
1691	561351.8	4192175	3.87E-03	2.77E-03
1692	561363.3	4192209	4.19E-03	2.99E-03
1693	561364.6	4192219	4.30E-03	3.08E-03
1694	561365.9	4192228	4.40E-03	3.15E-03
1695	561367.3	4192238	4.50E-03	3.21E-03
1696	561368.6	4192247	4.57E-03	3.27E-03
1697	561369.9	4192256	4.63E-03	3.31E-03
1698	561371.2	4192266	4.68E-03	3.34E-03
1699	561372.5	4192275	4.71E-03	3.37E-03
1700	561373.8	4192285	4.73E-03	3.38E-03
1701	561259.9	4192107	5.31E-03	3.80E-03
1702	561250.4	4192105	5.61E-03	4.02E-03
1703	561240.9	4192102	5.92E-03	4.24E-03
1704	561231.3	4192100	6.23E-03	4.46E-03
1705	561221.8	4192098	6.55E-03	4.68E-03
1706	561212.3	4192095	6.85E-03	4.90E-03
1707	561202.7	4192093	7.15E-03	5.12E-03
1708	561193.2	4192091	7.45E-03	5.32E-03
1709	561183.7	4192088	7.72E-03	5.52E-03
1710	561164.6	4192084	8.22E-03	5.88E-03

1711	561155.1	4192081	8.44E-03	6.03E-03
1712	561145.6	4192079	8.62E-03	6.17E-03
1713	561136	4192077	8.78E-03	6.28E-03
1714	561126.5	4192074	8.90E-03	6.36E-03
1715	561117	4192072	8.98E-03	6.42E-03
1716	561107.4	4192070	9.03E-03	6.46E-03
1717	561097.9	4192067	9.04E-03	6.47E-03
1718	561088.4	4192065	9.02E-03	6.45E-03
1719	561292.5	4192120	4.45E-03	3.18E-03
1720	561300.1	4192125	4.32E-03	3.09E-03
1721	561307.6	4192131	4.19E-03	3.00E-03
1722	561345.4	4192159	3.74E-03	2.67E-03
1723	561352.9	4192165	3.68E-03	2.63E-03
1724	561369.3	4192185	3.69E-03	2.64E-03
1725	561370.6	4192194	3.81E-03	2.72E-03
1726	561371.9	4192204	3.92E-03	2.80E-03
1727	561373.2	4192213	4.03E-03	2.88E-03
1728	561374.5	4192222	4.13E-03	2.95E-03
1729	561375.8	4192232	4.22E-03	3.02E-03
1730	561377	4192241	4.29E-03	3.07E-03
1731	561378.3	4192250	4.36E-03	3.11E-03
1732	561379.6	4192260	4.40E-03	3.15E-03
1733	561380.9	4192269	4.44E-03	3.17E-03
1734	561382.2	4192278	4.46E-03	3.19E-03
1735	561383.5	4192288	4.48E-03	3.20E-03
1736	561262.3	4192097	5.03E-03	3.60E-03
1737	561252.8	4192095	5.31E-03	3.79E-03
1738	561243.3	4192093	5.59E-03	4.00E-03
1739	561233.7	4192090	5.88E-03	4.20E-03
1740	561224.2	4192088	6.16E-03	4.41E-03
1741	561214.7	4192086	6.44E-03	4.61E-03
1742	561205.1	4192083	6.72E-03	4.81E-03
1743	561195.6	4192081	6.99E-03	5.00E-03
1744	561186.1	4192079	7.25E-03	5.18E-03
1745	561167	4192074	7.71E-03	5.51E-03
1746	561157.5	4192072	7.91E-03	5.66E-03
1747	561147.9	4192069	8.08E-03	5.78E-03
1748	561138.4	4192067	8.23E-03	5.88E-03
1749	561128.9	4192065	8.34E-03	5.97E-03
1750	561119.3	4192062	8.43E-03	6.03E-03
1751	561109.8	4192060	8.48E-03	6.06E-03
1752	561100.3	4192058	8.50E-03	6.08E-03
1753	561090.7	4192055	8.49E-03	6.07E-03
1754	561294.5	4192110	4.24E-03	3.03E-03
1755	561302	4192115	4.11E-03	2.94E-03
1756	561309.5	4192121	4.00E-03	2.86E-03
1757	561316.9	4192126	3.89E-03	2.78E-03
1758	561324.4	4192132	3.79E-03	2.71E-03
1759	561331.9	4192137	3.70E-03	2.65E-03
1760	561377.9	4192180	3.47E-03	2.48E-03
1761	561379.2	4192189	3.58E-03	2.56E-03
1762	561380.4	4192198	3.68E-03	2.63E-03

1763	561381.7	4192207	3.79E-03	2.71E-03
1764	561383	4192217	3.88E-03	2.77E-03
1765	561384.3	4192226	3.97E-03	2.84E-03
1766	561385.5	4192235	4.04E-03	2.89E-03
1767	561386.8	4192244	4.10E-03	2.93E-03
1768	561388.1	4192254	4.15E-03	2.97E-03
1769	561389.4	4192263	4.19E-03	3.00E-03
1770	561390.6	4192272	4.22E-03	3.02E-03
1771	561391.9	4192281	4.24E-03	3.03E-03
1772	561393.2	4192290	4.25E-03	3.04E-03
1773	561264.7	4192088	4.77E-03	3.41E-03
1774	561255.2	4192085	5.03E-03	3.60E-03
1775	561245.6	4192083	5.29E-03	3.78E-03
1776	561236.1	4192081	5.55E-03	3.97E-03
1777	561226.6	4192078	5.82E-03	4.16E-03
1778	561217	4192076	6.08E-03	4.35E-03
1779	561207.5	4192074	6.33E-03	4.53E-03
1780	561198	4192071	6.58E-03	4.70E-03
1781	561188.4	4192069	6.82E-03	4.87E-03
1782	561169.4	4192064	7.24E-03	5.18E-03
1783	561159.9	4192062	7.43E-03	5.31E-03
1784	561150.3	4192060	7.59E-03	5.43E-03
1785	561140.8	4192057	7.73E-03	5.53E-03
1786	561131.3	4192055	7.84E-03	5.61E-03
1787	561121.7	4192053	7.92E-03	5.66E-03
1788	561112.2	4192050	7.97E-03	5.70E-03
1789	561102.7	4192048	8.00E-03	5.72E-03
1790	561093.1	4192046	8.00E-03	5.72E-03
1791	561298.6	4192101	4.01E-03	2.87E-03
1792	561306.5	4192107	3.89E-03	2.78E-03
1793	561314.3	4192113	3.77E-03	2.70E-03
1794	561322.2	4192119	3.67E-03	2.62E-03
1795	561330.1	4192125	3.57E-03	2.55E-03
1796	561338	4192131	3.49E-03	2.49E-03
1797	561345.8	4192136	3.41E-03	2.44E-03
1798	561353.7	4192142	3.35E-03	2.40E-03
1799	561386.6	4192175	3.28E-03	2.34E-03
1800	561387.9	4192185	3.38E-03	2.42E-03
1801	561389.3	4192195	3.49E-03	2.49E-03
1802	561390.6	4192204	3.59E-03	2.57E-03
1803	561391.9	4192214	3.68E-03	2.63E-03
1804	561393.3	4192224	3.77E-03	2.69E-03
1805	561394.6	4192234	3.84E-03	2.75E-03
1806	561396	4192243	3.90E-03	2.79E-03
1807	561397.3	4192253	3.95E-03	2.82E-03
1808	561398.7	4192263	3.99E-03	2.85E-03
1809	561400	4192272	4.01E-03	2.87E-03
1810	561401.4	4192282	4.03E-03	2.88E-03
1811	561402.7	4192292	4.04E-03	2.89E-03
1812	561267.1	4192078	4.54E-03	3.24E-03
1813	561257.6	4192076	4.77E-03	3.41E-03
1814	561248	4192073	5.02E-03	3.59E-03

1815	561238.5	4192071	5.26E-03	3.76E-03
1816	561229	4192069	5.50E-03	3.93E-03
1817	561219.4	4192066	5.74E-03	4.11E-03
1818	561209.9	4192064	5.98E-03	4.28E-03
1819	561200.4	4192062	6.21E-03	4.44E-03
1820	561190.8	4192059	6.43E-03	4.60E-03
1821	561171.8	4192055	6.82E-03	4.88E-03
1822	561162.2	4192052	6.99E-03	5.00E-03
1823	561152.7	4192050	7.15E-03	5.11E-03
1824	561143.2	4192048	7.27E-03	5.20E-03
1825	561133.6	4192045	7.38E-03	5.28E-03
1826	561124.1	4192043	7.46E-03	5.33E-03
1827	561114.6	4192040	7.51E-03	5.37E-03
1828	561105	4192038	7.55E-03	5.40E-03
1829	561095.5	4192036	7.56E-03	5.41E-03
1830	561300.6	4192091	3.83E-03	2.74E-03
1831	561308.3	4192097	3.72E-03	2.66E-03
1832	561316.1	4192103	3.61E-03	2.58E-03
1833	561323.9	4192109	3.51E-03	2.51E-03
1834	561331.6	4192114	3.42E-03	2.44E-03
1835	561339.4	4192120	3.33E-03	2.38E-03
1836	561347.2	4192126	3.26E-03	2.33E-03
1837	561355	4192132	3.20E-03	2.29E-03
1838	561362.7	4192137	3.15E-03	2.25E-03
1839	561378.3	4192149	3.06E-03	2.19E-03
1840	561396.5	4192180	3.19E-03	2.28E-03
1841	561397.8	4192189	3.29E-03	2.35E-03
1842	561399.1	4192199	3.38E-03	2.42E-03
1843	561400.5	4192208	3.47E-03	2.48E-03
1844	561401.8	4192218	3.55E-03	2.54E-03
1845	561404.4	4192237	3.69E-03	2.64E-03
1846	561405.8	4192247	3.74E-03	2.67E-03
1847	561407.1	4192256	3.78E-03	2.70E-03
1848	561408.4	4192266	3.81E-03	2.72E-03
1849	561409.7	4192276	3.83E-03	2.74E-03
1850	561411.1	4192285	3.84E-03	2.75E-03
1851	561412.4	4192295	3.84E-03	2.75E-03
1852	561269.5	4192068	4.32E-03	3.09E-03
1853	561259.9	4192066	4.54E-03	3.25E-03
1854	561250.4	4192064	4.77E-03	3.41E-03
1855	561240.9	4192061	4.99E-03	3.57E-03
1856	561231.3	4192059	5.22E-03	3.73E-03
1857	561221.8	4192057	5.44E-03	3.89E-03
1858	561212.3	4192054	5.66E-03	4.05E-03
1859	561202.7	4192052	5.87E-03	4.20E-03
1860	561193.2	4192050	6.07E-03	4.34E-03
1861	561174.2	4192045	6.44E-03	4.61E-03
1862	561164.6	4192042	6.60E-03	4.72E-03
1863	561155.1	4192040	6.74E-03	4.82E-03
1864	561145.6	4192038	6.86E-03	4.91E-03
1865	561136	4192035	6.96E-03	4.98E-03
1866	561126.5	4192033	7.04E-03	5.03E-03

1867	561117	4192031	7.10E-03	5.08E-03
1868	561107.4	4192028	7.13E-03	5.10E-03
1869	561097.9	4192026	7.15E-03	5.11E-03
1870	561302.6	4192081	3.67E-03	2.62E-03
1871	561310.3	4192087	3.56E-03	2.55E-03
1872	561317.9	4192093	3.46E-03	2.47E-03
1873	561325.6	4192098	3.36E-03	2.40E-03
1874	561333.3	4192104	3.27E-03	2.34E-03
1875	561341	4192110	3.19E-03	2.28E-03
1876	561348.7	4192116	3.12E-03	2.23E-03
1877	561356.3	4192121	3.06E-03	2.19E-03
1878	561364	4192127	3.01E-03	2.15E-03
1879	561387.1	4192144	2.89E-03	2.07E-03
1880	561394.8	4192150	2.86E-03	2.05E-03
1881	561406.4	4192184	3.11E-03	2.22E-03
1882	561407.7	4192193	3.20E-03	2.29E-03
1883	561409	4192203	3.28E-03	2.35E-03
1884	561414.2	4192241	3.54E-03	2.53E-03
1885	561415.5	4192250	3.58E-03	2.56E-03
1886	561416.9	4192260	3.62E-03	2.59E-03
1887	561418.2	4192269	3.64E-03	2.60E-03
1888	561419.5	4192279	3.66E-03	2.61E-03
1889	561420.8	4192288	3.66E-03	2.62E-03
1890	561271.9	4192059	4.13E-03	2.95E-03
1891	561262.3	4192056	4.33E-03	3.10E-03
1892	561252.8	4192054	4.54E-03	3.25E-03
1893	561243.3	4192051	4.75E-03	3.40E-03
1894	561233.7	4192049	4.96E-03	3.55E-03
1895	561224.2	4192047	5.16E-03	3.69E-03
1896	561214.7	4192044	5.37E-03	3.84E-03
1897	561205.1	4192042	5.56E-03	3.98E-03
1898	561195.6	4192040	5.75E-03	4.11E-03
1899	561176.5	4192035	6.09E-03	4.36E-03
1900	561167	4192033	6.24E-03	4.46E-03
1901	561157.5	4192030	6.37E-03	4.56E-03
1902	561147.9	4192028	6.49E-03	4.64E-03
1903	561138.4	4192026	6.58E-03	4.71E-03
1904	561128.9	4192023	6.66E-03	4.76E-03
1905	561119.3	4192021	6.72E-03	4.80E-03
1906	561109.8	4192019	6.76E-03	4.83E-03
1907	561100.3	4192016	6.78E-03	4.85E-03
1908	561304.6	4192071	3.52E-03	2.52E-03
1909	561312.2	4192077	3.42E-03	2.44E-03
1910	561319.8	4192083	3.32E-03	2.37E-03
1911	561327.4	4192088	3.23E-03	2.31E-03
1912	561335	4192094	3.14E-03	2.25E-03
1913	561342.6	4192100	3.06E-03	2.19E-03
1914	561350.2	4192105	3.00E-03	2.14E-03
1915	561357.8	4192111	2.93E-03	2.10E-03
1916	561365.4	4192116	2.88E-03	2.06E-03
1917	561388.2	4192133	2.77E-03	1.98E-03
1918	561395.8	4192139	2.74E-03	1.96E-03

1919	561403.4	4192145	2.71E-03	1.94E-03
1920	561412.3	4192160	2.77E-03	1.98E-03
1921	561414.9	4192178	2.94E-03	2.10E-03
1922	561416.2	4192188	3.02E-03	2.16E-03
1923	561424	4192244	3.41E-03	2.44E-03
1924	561425.3	4192253	3.44E-03	2.46E-03
1925	561426.6	4192263	3.47E-03	2.48E-03
1926	561274.2	4192049	3.95E-03	2.82E-03
1927	561264.7	4192046	4.14E-03	2.96E-03
1928	561255.2	4192044	4.33E-03	3.10E-03
1929	561245.6	4192042	4.52E-03	3.24E-03
1930	561236.1	4192039	4.72E-03	3.37E-03
1931	561226.6	4192037	4.91E-03	3.51E-03
1932	561217	4192035	5.10E-03	3.65E-03
1933	561207.5	4192032	5.28E-03	3.78E-03
1934	561198	4192030	5.45E-03	3.90E-03
1935	561178.9	4192025	5.77E-03	4.13E-03
1936	561169.4	4192023	5.91E-03	4.23E-03
1937	561159.9	4192021	6.04E-03	4.32E-03
1938	561150.3	4192018	6.14E-03	4.39E-03
1939	561140.8	4192016	6.23E-03	4.46E-03
1940	561131.3	4192014	6.31E-03	4.51E-03
1941	561121.7	4192011	6.37E-03	4.55E-03
1942	561112.2	4192009	6.41E-03	4.58E-03
1943	561102.7	4192007	6.43E-03	4.60E-03
1944	561306.7	4192061	3.38E-03	2.42E-03
1945	561314.3	4192067	3.28E-03	2.35E-03
1946	561321.8	4192073	3.19E-03	2.28E-03
1947	561329.3	4192078	3.10E-03	2.22E-03
1948	561336.8	4192084	3.02E-03	2.16E-03
1949	561344.4	4192089	2.94E-03	2.11E-03
1950	561351.9	4192095	2.88E-03	2.06E-03
1951	561359.4	4192101	2.82E-03	2.01E-03
1952	561366.9	4192106	2.76E-03	1.98E-03
1953	561389.5	4192123	2.65E-03	1.89E-03
1954	561397.1	4192128	2.62E-03	1.87E-03
1955	561404.6	4192134	2.59E-03	1.85E-03
1956	561412.1	4192140	2.57E-03	1.84E-03
1957	561420.9	4192154	2.63E-03	1.88E-03
1958	561422.2	4192164	2.71E-03	1.94E-03
1959	561440.2	4192294	3.35E-03	2.40E-03
1960	561441.5	4192303	3.35E-03	2.40E-03
1961	561276.6	4192039	3.78E-03	2.70E-03
1962	561267.1	4192037	3.96E-03	2.83E-03
1963	561257.6	4192034	4.14E-03	2.96E-03
1964	561248	4192032	4.32E-03	3.09E-03
1965	561238.5	4192030	4.50E-03	3.22E-03
1966	561229	4192027	4.68E-03	3.35E-03
1967	561219.4	4192025	4.85E-03	3.47E-03
1968	561209.9	4192023	5.02E-03	3.59E-03
1969	561200.4	4192020	5.18E-03	3.71E-03
1970	561181.3	4192016	5.48E-03	3.92E-03

1971	561171.8	4192013	5.61E-03	4.01E-03
1972	561162.2	4192011	5.73E-03	4.10E-03
1973	561152.7	4192009	5.83E-03	4.17E-03
1974	561143.2	4192006	5.92E-03	4.23E-03
1975	561133.6	4192004	5.99E-03	4.28E-03
1976	561124.1	4192002	6.05E-03	4.32E-03
1977	561114.6	4191999	6.09E-03	4.35E-03
1978	561105.1	4191997	6.11E-03	4.37E-03
1979	561310.4	4192053	3.23E-03	2.31E-03
1980	561318.3	4192059	3.13E-03	2.24E-03
1981	561326.1	4192064	3.04E-03	2.18E-03
1982	561334	4192070	2.96E-03	2.11E-03
1983	561341.8	4192076	2.87E-03	2.06E-03
1984	561349.7	4192082	2.80E-03	2.00E-03
1985	561357.6	4192088	2.73E-03	1.96E-03
1986	561365.4	4192093	2.67E-03	1.91E-03
1987	561373.3	4192099	2.62E-03	1.88E-03
1988	561389	4192111	2.54E-03	1.82E-03
1989	561396.8	4192117	2.51E-03	1.80E-03
1990	561404.7	4192123	2.49E-03	1.78E-03
1991	561412.5	4192128	2.46E-03	1.76E-03
1992	561420.4	4192134	2.45E-03	1.75E-03
1993	561429.6	4192150	2.51E-03	1.79E-03
1994	561430.9	4192159	2.59E-03	1.85E-03
1995	561447	4192276	3.20E-03	2.29E-03
1996	561448.3	4192285	3.21E-03	2.29E-03
1997	561449.7	4192295	3.21E-03	2.30E-03
1998	561451	4192305	3.21E-03	2.29E-03
1999	561279	4192029	3.62E-03	2.59E-03
2000	561269.5	4192027	3.79E-03	2.71E-03
2001	561259.9	4192025	3.96E-03	2.83E-03
2002	561250.4	4192022	4.13E-03	2.95E-03
2003	561240.9	4192020	4.30E-03	3.07E-03
2004	561231.3	4192018	4.46E-03	3.19E-03
2005	561221.8	4192015	4.63E-03	3.31E-03
2006	561212.3	4192013	4.78E-03	3.42E-03
2007	561202.8	4192011	4.93E-03	3.53E-03
2008	561183.7	4192006	5.21E-03	3.73E-03
2009	561174.2	4192004	5.33E-03	3.82E-03
2010	561164.6	4192001	5.44E-03	3.89E-03
2011	561155.1	4191999	5.54E-03	3.96E-03
2012	561145.6	4191997	5.62E-03	4.02E-03
2013	561136	4191994	5.69E-03	4.07E-03
2014	561126.5	4191992	5.75E-03	4.11E-03
2015	561117	4191990	5.79E-03	4.14E-03
2016	561107.4	4191987	5.82E-03	4.16E-03
2017	561312.5	4192043	3.11E-03	2.22E-03
2018	561320.3	4192049	3.02E-03	2.16E-03
2019	561328	4192054	2.93E-03	2.10E-03
2020	561335.8	4192060	2.85E-03	2.04E-03
2021	561343.6	4192066	2.77E-03	1.98E-03
2022	561351.3	4192072	2.70E-03	1.93E-03

2023	561359.1	4192077	2.63E-03	1.88E-03
2024	561366.9	4192083	2.58E-03	1.84E-03
2025	561374.7	4192089	2.52E-03	1.80E-03
2026	561390.2	4192100	2.44E-03	1.75E-03
2027	561398	4192106	2.41E-03	1.72E-03
2028	561405.8	4192112	2.38E-03	1.70E-03
2029	561413.5	4192118	2.36E-03	1.69E-03
2030	561421.3	4192123	2.34E-03	1.68E-03
2031	561451.4	4192240	3.00E-03	2.15E-03
2032	561456.7	4192279	3.07E-03	2.20E-03
2033	561458.1	4192288	3.08E-03	2.20E-03
2034	561281.4	4192020	3.48E-03	2.49E-03
2035	561271.9	4192017	3.63E-03	2.60E-03
2036	561262.3	4192015	3.79E-03	2.71E-03
2037	561252.8	4192013	3.95E-03	2.83E-03
2038	561243.3	4192010	4.11E-03	2.94E-03
2039	561233.7	4192008	4.26E-03	3.05E-03
2040	561224.2	4192006	4.42E-03	3.16E-03
2041	561214.7	4192003	4.56E-03	3.26E-03
2042	561205.1	4192001	4.71E-03	3.36E-03
2043	561186.1	4191996	4.96E-03	3.55E-03
2044	561176.5	4191994	5.08E-03	3.63E-03
2045	561167	4191992	5.18E-03	3.71E-03
2046	561157.5	4191989	5.27E-03	3.77E-03
2047	561147.9	4191987	5.35E-03	3.83E-03
2048	561138.4	4191985	5.42E-03	3.88E-03
2049	561128.9	4191982	5.47E-03	3.91E-03
2050	561119.4	4191980	5.52E-03	3.94E-03
2051	561109.8	4191978	5.55E-03	3.97E-03
2052	561314.6	4192033	3.00E-03	2.14E-03
2053	561322.3	4192039	2.91E-03	2.08E-03
2054	561330	4192044	2.83E-03	2.02E-03
2055	561337.7	4192050	2.75E-03	1.97E-03
2056	561345.4	4192056	2.68E-03	1.91E-03
2057	561353.1	4192061	2.61E-03	1.86E-03
2058	561360.8	4192067	2.54E-03	1.82E-03
2059	561368.5	4192073	2.48E-03	1.78E-03
2060	561376.2	4192078	2.43E-03	1.74E-03
2061	561399.3	4192096	2.31E-03	1.66E-03
2062	561407	4192101	2.29E-03	1.64E-03
2063	561414.7	4192107	2.27E-03	1.62E-03
2064	561422.4	4192113	2.25E-03	1.61E-03
2065	561458.6	4192225	2.83E-03	2.02E-03
2066	561459.9	4192234	2.87E-03	2.05E-03
2067	561461.2	4192244	2.90E-03	2.07E-03
2068	561283.8	4192010	3.34E-03	2.39E-03
2069	561274.2	4192008	3.49E-03	2.50E-03
2070	561264.7	4192005	3.64E-03	2.60E-03
2071	561255.2	4192003	3.79E-03	2.71E-03
2072	561245.7	4192001	3.94E-03	2.81E-03
2073	561236.1	4191998	4.08E-03	2.92E-03
2074	561226.6	4191996	4.22E-03	3.02E-03

2075	561217.1	4191994	4.36E-03	3.12E-03
2076	561188.5	4191987	4.73E-03	3.39E-03
2077	561178.9	4191984	4.84E-03	3.46E-03
2078	561169.4	4191982	4.94E-03	3.53E-03
2079	561159.9	4191980	5.03E-03	3.60E-03
2080	561150.3	4191977	5.10E-03	3.65E-03
2081	561140.8	4191975	5.17E-03	3.69E-03
2082	561131.3	4191973	5.22E-03	3.73E-03
2083	561121.7	4191970	5.26E-03	3.76E-03
2084	561112.2	4191968	5.29E-03	3.79E-03
2085	561316.7	4192023	2.89E-03	2.07E-03
2086	561324.3	4192029	2.81E-03	2.01E-03
2087	561331.9	4192034	2.73E-03	1.96E-03
2088	561339.6	4192040	2.66E-03	1.90E-03
2089	561347.2	4192046	2.59E-03	1.85E-03
2090	561354.8	4192051	2.52E-03	1.80E-03
2091	561362.5	4192057	2.46E-03	1.76E-03
2092	561370.1	4192063	2.40E-03	1.72E-03
2093	561377.7	4192068	2.35E-03	1.68E-03
2094	561400.6	4192085	2.23E-03	1.59E-03
2095	561408.3	4192091	2.20E-03	1.57E-03
2096	561415.9	4192096	2.18E-03	1.56E-03
2097	561423.5	4192102	2.16E-03	1.54E-03
2098	561468.4	4192228	2.74E-03	1.96E-03
2099	561469.7	4192238	2.77E-03	1.98E-03
2100	561471	4192247	2.80E-03	2.00E-03
2101	561326.4	4192019	2.72E-03	1.94E-03
2102	561334	4192024	2.64E-03	1.89E-03
2103	561341.5	4192030	2.57E-03	1.84E-03
2104	561349.1	4192035	2.50E-03	1.79E-03
2105	561356.7	4192041	2.44E-03	1.74E-03
2106	561364.2	4192047	2.38E-03	1.70E-03
2107	561371.8	4192052	2.32E-03	1.66E-03
2108	561379.4	4192058	2.27E-03	1.62E-03
2109	561402.1	4192075	2.15E-03	1.54E-03
2110	561409.7	4192080	2.12E-03	1.52E-03
2111	561417.2	4192086	2.10E-03	1.50E-03
2112	561424.8	4192092	2.08E-03	1.48E-03
2113	561478.2	4192232	2.66E-03	1.90E-03
2114	561479.4	4192241	2.68E-03	1.92E-03
2115	561480.7	4192250	2.70E-03	1.93E-03
2116	561353.7	4192027	2.40E-03	1.72E-03
2117	561361.5	4192033	2.34E-03	1.67E-03
2118	561369.3	4192039	2.28E-03	1.63E-03
2119	561377.2	4192045	2.22E-03	1.59E-03
2120	561385	4192051	2.17E-03	1.55E-03
2121	561400.7	4192062	2.09E-03	1.49E-03
2122	561408.5	4192068	2.05E-03	1.47E-03
2123	561416.4	4192074	2.03E-03	1.45E-03
2124	561424.2	4192080	2.00E-03	1.43E-03
2125	561432.1	4192086	1.98E-03	1.42E-03
2126	561487.3	4192231	2.56E-03	1.83E-03

2127	561488.6	4192240	2.59E-03	1.85E-03
2128	561490	4192250	2.61E-03	1.86E-03
2129	561281.4	4191978	3.11E-03	2.23E-03
2130	561271.9	4191976	3.24E-03	2.31E-03
2131	561262.3	4191974	3.36E-03	2.40E-03
2132	561252.8	4191971	3.48E-03	2.49E-03
2133	561243.3	4191969	3.60E-03	2.58E-03
2134	561233.7	4191967	3.72E-03	2.66E-03
2135	561224.2	4191964	3.83E-03	2.74E-03
2136	561214.7	4191962	3.94E-03	2.82E-03
2137	561205.1	4191960	4.04E-03	2.89E-03
2138	561195.6	4191957	4.14E-03	2.96E-03
2139	561186.1	4191955	4.23E-03	3.03E-03
2140	561176.6	4191953	4.31E-03	3.08E-03
2141	561167	4191950	4.39E-03	3.14E-03
2142	561157.5	4191948	4.45E-03	3.18E-03
2143	561148	4191946	4.51E-03	3.23E-03
2144	561138.4	4191943	4.56E-03	3.26E-03
2145	561128.9	4191941	4.60E-03	3.29E-03
2146	561119.4	4191939	4.63E-03	3.31E-03
2147	561324.4	4191994	2.60E-03	1.86E-03
2148	561332.2	4192000	2.53E-03	1.81E-03
2149	561371	4192029	2.21E-03	1.58E-03
2150	561378.8	4192035	2.15E-03	1.54E-03
2151	561386.6	4192040	2.11E-03	1.51E-03
2152	561417.7	4192063	1.96E-03	1.40E-03
2153	561425.5	4192069	1.93E-03	1.38E-03
2154	561433.2	4192075	1.91E-03	1.37E-03
2155	561283.8	4191969	3.00E-03	2.15E-03
2156	561274.3	4191966	3.12E-03	2.23E-03
2157	561264.7	4191964	3.23E-03	2.31E-03
2158	561255.2	4191962	3.35E-03	2.39E-03
2159	561245.7	4191959	3.46E-03	2.48E-03
2160	561236.1	4191957	3.57E-03	2.55E-03
2161	561226.6	4191955	3.68E-03	2.63E-03
2162	561217.1	4191952	3.78E-03	2.70E-03
2163	561207.5	4191950	3.88E-03	2.77E-03
2164	561198	4191948	3.97E-03	2.84E-03
2165	561188.5	4191945	4.05E-03	2.90E-03
2166	561178.9	4191943	4.13E-03	2.96E-03
2167	561169.4	4191941	4.20E-03	3.01E-03
2168	561159.9	4191938	4.27E-03	3.05E-03
2169	561150.3	4191936	4.32E-03	3.09E-03
2170	561140.8	4191934	4.37E-03	3.12E-03
2171	561131.3	4191931	4.41E-03	3.15E-03
2172	561121.7	4191929	4.44E-03	3.18E-03
2173	561326.5	4191984	2.52E-03	1.80E-03
2174	561334.3	4191990	2.45E-03	1.75E-03
2175	561342	4191996	2.39E-03	1.71E-03
2176	561349.7	4192001	2.32E-03	1.66E-03
2177	561357.4	4192007	2.26E-03	1.62E-03
2178	561286.2	4191959	2.90E-03	2.07E-03

2179	561276.6	4191957	3.01E-03	2.15E-03
2180	561267.1	4191954	3.12E-03	2.23E-03
2181	561257.6	4191952	3.22E-03	2.31E-03
2182	561248	4191950	3.33E-03	2.38E-03
2183	561238.5	4191947	3.43E-03	2.46E-03
2184	561229	4191945	3.53E-03	2.53E-03
2185	561219.4	4191943	3.63E-03	2.60E-03
2186	561209.9	4191940	3.72E-03	2.66E-03
2187	561200.4	4191938	3.81E-03	2.72E-03
2188	561190.9	4191936	3.89E-03	2.78E-03
2189	561181.3	4191933	3.96E-03	2.83E-03
2190	561171.8	4191931	4.03E-03	2.88E-03
2191	561162.3	4191929	4.09E-03	2.93E-03
2192	561152.7	4191926	4.14E-03	2.96E-03
2193	561143.2	4191924	4.19E-03	2.99E-03
2194	561133.7	4191922	4.23E-03	3.02E-03
2195	561124.1	4191919	4.26E-03	3.05E-03
2196	560814.6	4192518	6.92E-03	4.95E-03
2197	560817.7	4192535	6.80E-03	4.86E-03
2198	560820.7	4192553	6.69E-03	4.79E-03
2199	560804.8	4192520	6.49E-03	4.64E-03
2200	560807.8	4192537	6.37E-03	4.56E-03
2201	560810.9	4192554	6.28E-03	4.49E-03
2202	560792.9	4192506	6.24E-03	4.46E-03
2203	560794.9	4192522	6.09E-03	4.35E-03
2204	560798	4192539	5.98E-03	4.28E-03
2205	560801	4192556	5.90E-03	4.22E-03
2206	560783.1	4192507	5.87E-03	4.20E-03
2207	560785.1	4192524	5.73E-03	4.10E-03
2208	560788.1	4192541	5.63E-03	4.03E-03
2209	560791.2	4192558	5.55E-03	3.97E-03
2210	560773.2	4192508	5.55E-03	3.97E-03
2211	560775.2	4192525	5.41E-03	3.87E-03
2212	560778.3	4192542	5.31E-03	3.80E-03
2213	560781.3	4192560	5.24E-03	3.74E-03
2214	560763.4	4192511	5.24E-03	3.74E-03
2215	560765.4	4192527	5.12E-03	3.66E-03
2216	560768.4	4192544	5.03E-03	3.60E-03
2217	560771.5	4192561	4.96E-03	3.54E-03
2218	560753.6	4192512	4.97E-03	3.55E-03
2219	560752.6	4192497	5.11E-03	3.66E-03
2220	560755.6	4192529	4.85E-03	3.47E-03
2221	560758.6	4192546	4.77E-03	3.41E-03
2222	560761.6	4192563	4.70E-03	3.36E-03
2223	560743.7	4192514	4.72E-03	3.37E-03
2224	560742.7	4192497	4.86E-03	3.48E-03
2225	560745.7	4192531	4.61E-03	3.29E-03
2226	560748.8	4192548	4.53E-03	3.24E-03
2227	560751.8	4192565	4.46E-03	3.19E-03
2228	560733.8	4192515	4.49E-03	3.21E-03
2229	560735.9	4192532	4.38E-03	3.13E-03
2230	560738.9	4192549	4.31E-03	3.08E-03

2231	560742	4192567	4.24E-03	3.04E-03
2232	560724	4192518	4.27E-03	3.05E-03
2233	560726	4192534	4.17E-03	2.99E-03
2234	560729.1	4192551	4.10E-03	2.93E-03
2235	560732.1	4192568	4.04E-03	2.89E-03
2236	560716.2	4192536	3.98E-03	2.85E-03
2237	560719.2	4192553	3.92E-03	2.80E-03
2238	560722.3	4192570	3.86E-03	2.76E-03
2239	560706.3	4192538	3.80E-03	2.72E-03
2240	560709.4	4192555	3.74E-03	2.68E-03
2241	560712.4	4192572	3.69E-03	2.64E-03
2242	560699.5	4192556	3.58E-03	2.56E-03
2243	560702.6	4192574	3.53E-03	2.52E-03
2244	560692.7	4192575	3.38E-03	2.42E-03
2245	560834.1	4192584	6.89E-03	4.93E-03
2246	560828.8	4192574	6.78E-03	4.85E-03
2247	560823.6	4192564	6.67E-03	4.77E-03
2248	560842.7	4192621	6.87E-03	4.92E-03
2249	560837.4	4192611	6.75E-03	4.83E-03
2250	560832.2	4192601	6.63E-03	4.74E-03
2251	560826.9	4192591	6.51E-03	4.66E-03
2252	560821.6	4192580	6.40E-03	4.58E-03
2253	560816.3	4192570	6.30E-03	4.51E-03
2254	560840.9	4192638	6.63E-03	4.74E-03
2255	560835.6	4192628	6.51E-03	4.65E-03
2256	560830.3	4192618	6.39E-03	4.57E-03
2257	560825	4192608	6.27E-03	4.49E-03
2258	560819.7	4192597	6.16E-03	4.41E-03
2259	560814.4	4192587	6.06E-03	4.33E-03
2260	560809.2	4192577	5.97E-03	4.27E-03
2261	560803.9	4192567	5.88E-03	4.21E-03
2262	560839	4192655	6.39E-03	4.57E-03
2263	560833.7	4192645	6.28E-03	4.49E-03
2264	560828.4	4192635	6.17E-03	4.41E-03
2265	560823.2	4192625	6.06E-03	4.33E-03
2266	560817.9	4192615	5.95E-03	4.26E-03
2267	560812.6	4192604	5.85E-03	4.18E-03
2268	560807.3	4192594	5.75E-03	4.11E-03
2269	560802	4192584	5.66E-03	4.05E-03
2270	560796.7	4192574	5.57E-03	3.99E-03
2271	560837.2	4192672	6.17E-03	4.41E-03
2272	560831.9	4192662	6.07E-03	4.34E-03
2273	560826.6	4192652	5.97E-03	4.27E-03
2274	560821.3	4192642	5.87E-03	4.20E-03
2275	560816	4192632	5.76E-03	4.12E-03
2276	560810.7	4192621	5.66E-03	4.05E-03
2277	560805.4	4192611	5.56E-03	3.97E-03
2278	560800.1	4192601	5.46E-03	3.91E-03
2279	560794.8	4192591	5.38E-03	3.85E-03
2280	560789.5	4192581	5.29E-03	3.79E-03
2281	560784.2	4192571	5.22E-03	3.73E-03
2282	560835.5	4192690	5.95E-03	4.26E-03

2283	560830.3	4192680	5.87E-03	4.20E-03
2284	560825.1	4192670	5.78E-03	4.14E-03
2285	560819.9	4192660	5.69E-03	4.07E-03
2286	560814.7	4192650	5.59E-03	4.00E-03
2287	560809.5	4192640	5.49E-03	3.93E-03
2288	560804.3	4192630	5.40E-03	3.86E-03
2289	560799.1	4192620	5.30E-03	3.79E-03
2290	560793.8	4192610	5.22E-03	3.73E-03
2291	560788.6	4192600	5.13E-03	3.67E-03
2292	560783.4	4192590	5.06E-03	3.62E-03
2293	560778.2	4192580	4.98E-03	3.56E-03
2294	560828.4	4192697	5.67E-03	4.06E-03
2295	560823.2	4192687	5.60E-03	4.00E-03
2296	560818	4192677	5.51E-03	3.94E-03
2297	560812.8	4192667	5.42E-03	3.88E-03
2298	560807.5	4192657	5.33E-03	3.81E-03
2299	560802.3	4192647	5.24E-03	3.75E-03
2300	560797.1	4192637	5.15E-03	3.68E-03
2301	560791.9	4192627	5.06E-03	3.62E-03
2302	560786.7	4192617	4.97E-03	3.56E-03
2303	560781.4	4192607	4.90E-03	3.50E-03
2304	560776.2	4192597	4.82E-03	3.45E-03
2305	560771	4192587	4.75E-03	3.40E-03
2306	560765.8	4192577	4.69E-03	3.36E-03
2307	560821.4	4192704	5.41E-03	3.87E-03
2308	560816.1	4192694	5.34E-03	3.82E-03
2309	560810.9	4192684	5.26E-03	3.76E-03
2310	560805.7	4192674	5.18E-03	3.70E-03
2311	560800.4	4192664	5.09E-03	3.64E-03
2312	560795.2	4192654	5.00E-03	3.58E-03
2313	560790	4192644	4.91E-03	3.51E-03
2314	560784.7	4192634	4.83E-03	3.45E-03
2315	560779.5	4192623	4.75E-03	3.40E-03
2316	560774.3	4192613	4.67E-03	3.34E-03
2317	560769	4192603	4.60E-03	3.29E-03
2318	560763.8	4192593	4.54E-03	3.25E-03
2319	560758.6	4192583	4.48E-03	3.21E-03
2320	560814.3	4192711	5.18E-03	3.70E-03
2321	560809	4192701	5.11E-03	3.65E-03
2322	560803.8	4192691	5.03E-03	3.60E-03
2323	560798.6	4192681	4.95E-03	3.54E-03
2324	560793.3	4192671	4.86E-03	3.48E-03
2325	560788.1	4192661	4.78E-03	3.42E-03
2326	560782.8	4192650	4.70E-03	3.36E-03
2327	560777.6	4192640	4.62E-03	3.30E-03
2328	560772.3	4192630	4.54E-03	3.25E-03
2329	560767.1	4192620	4.47E-03	3.19E-03
2330	560761.8	4192610	4.40E-03	3.15E-03
2331	560756.6	4192600	4.34E-03	3.10E-03
2332	560751.3	4192590	4.28E-03	3.06E-03
2333	560746.1	4192580	4.24E-03	3.03E-03
2334	560807.2	4192718	4.95E-03	3.54E-03

2335	560802	4192708	4.89E-03	3.50E-03
2336	560796.7	4192698	4.81E-03	3.44E-03
2337	560791.4	4192688	4.74E-03	3.39E-03
2338	560786.2	4192678	4.66E-03	3.33E-03
2339	560780.9	4192668	4.58E-03	3.27E-03
2340	560775.7	4192657	4.50E-03	3.22E-03
2341	560770.4	4192647	4.42E-03	3.16E-03
2342	560765.2	4192637	4.35E-03	3.11E-03
2343	560759.9	4192627	4.28E-03	3.06E-03
2344	560754.7	4192617	4.21E-03	3.01E-03
2345	560749.4	4192607	4.15E-03	2.97E-03
2346	560744.1	4192597	4.10E-03	2.93E-03
2347	560738.9	4192587	4.06E-03	2.90E-03
2348	560800.1	4192725	4.75E-03	3.39E-03
2349	560794.9	4192715	4.68E-03	3.35E-03
2350	560789.6	4192705	4.61E-03	3.30E-03
2351	560784.3	4192695	4.54E-03	3.25E-03
2352	560779.1	4192685	4.46E-03	3.19E-03
2353	560773.8	4192674	4.39E-03	3.14E-03
2354	560768.5	4192664	4.31E-03	3.08E-03
2355	560763.3	4192654	4.24E-03	3.03E-03
2356	560758	4192644	4.17E-03	2.98E-03
2357	560752.8	4192634	4.10E-03	2.93E-03
2358	560747.5	4192624	4.04E-03	2.89E-03
2359	560742.2	4192614	3.98E-03	2.85E-03
2360	560737	4192604	3.93E-03	2.81E-03
2361	560731.7	4192594	3.89E-03	2.78E-03
2362	560726.4	4192584	3.85E-03	2.75E-03
2363	560793.1	4192732	4.55E-03	3.26E-03
2364	560787.8	4192722	4.49E-03	3.21E-03
2365	560782.5	4192712	4.43E-03	3.16E-03
2366	560777.2	4192702	4.35E-03	3.11E-03
2367	560772	4192692	4.28E-03	3.06E-03
2368	560766.7	4192681	4.21E-03	3.01E-03
2369	560761.4	4192671	4.13E-03	2.96E-03
2370	560756.1	4192661	4.06E-03	2.91E-03
2371	560750.9	4192651	4.00E-03	2.86E-03
2372	560745.6	4192641	3.93E-03	2.81E-03
2373	560740.3	4192631	3.87E-03	2.77E-03
2374	560735	4192621	3.82E-03	2.73E-03
2375	560729.8	4192611	3.77E-03	2.70E-03
2376	560724.5	4192601	3.73E-03	2.67E-03
2377	560719.2	4192590	3.69E-03	2.64E-03
2378	560786	4192739	4.37E-03	3.13E-03
2379	560780.7	4192729	4.31E-03	3.08E-03
2380	560775.4	4192719	4.25E-03	3.04E-03
2381	560770.1	4192709	4.18E-03	2.99E-03
2382	560764.9	4192699	4.11E-03	2.94E-03
2383	560759.6	4192688	4.04E-03	2.89E-03
2384	560754.3	4192678	3.97E-03	2.84E-03
2385	560749	4192668	3.90E-03	2.79E-03
2386	560743.7	4192658	3.84E-03	2.75E-03

2387	560738.4	4192648	3.78E-03	2.70E-03
2388	560733.2	4192638	3.72E-03	2.66E-03
2389	560727.9	4192628	3.67E-03	2.62E-03
2390	560722.6	4192618	3.62E-03	2.59E-03
2391	560717.3	4192607	3.58E-03	2.56E-03
2392	560712	4192597	3.55E-03	2.54E-03
2393	560706.7	4192587	3.52E-03	2.52E-03
2394	560778.9	4192746	4.20E-03	3.01E-03
2395	560773.6	4192736	4.15E-03	2.97E-03
2396	560768.3	4192726	4.09E-03	2.92E-03
2397	560763	4192716	4.02E-03	2.88E-03
2398	560757.8	4192706	3.95E-03	2.83E-03
2399	560752.5	4192695	3.89E-03	2.78E-03
2400	560747.2	4192685	3.82E-03	2.73E-03
2401	560741.9	4192675	3.75E-03	2.69E-03
2402	560736.6	4192665	3.69E-03	2.64E-03
2403	560731.3	4192655	3.63E-03	2.60E-03
2404	560726	4192645	3.58E-03	2.56E-03
2405	560720.7	4192635	3.53E-03	2.52E-03
2406	560715.4	4192624	3.48E-03	2.49E-03
2407	560710.1	4192614	3.44E-03	2.46E-03
2408	560704.8	4192604	3.41E-03	2.44E-03
2409	560699.5	4192594	3.38E-03	2.42E-03
2410	561025.5	4192215	3.28E-02	2.35E-02

PM 10				
Tons/Yr	T4i	T4iRev	T4fRev	
Year 1	0.034175	0.034175	0.02444	0
Year 2	0.019315	0.026085	0.020325	0
Year 3	0.018305	0.025425	0.019715	0
Year 4	0.018355	0.025495	0.01977	0
Year 5	0.018305	0.025425	0.019715	0
Year 6	0.015295	0.018855	0.013145	0
Year 7	0.02024	0.01143	0.005755	0
Year 8	0.00	0	0	0
Year 9	0	0	0	0
Year 10	0	0	0	0
Year 11	0	0	0	0

PM 10				
Lbs /Yr	T4i	T4iRev	T4fRev	0
Year 1	68.35	68.35	48.88	0
Year 2	38.63	52.17	40.65	0
Year 3	36.61	50.85	39.43	0
Year 4	36.71	50.99	39.54	0
Year 5	36.61	50.85	39.43	0
Year 6	30.59	37.71	26.29	0
Year 7	40.48	22.86	11.51	0
Year 8	0	0	0	0
Year 9	0	0	0	0
Year 10	0	0	0	0
Year 11	0	0	0	0

For Running Each Base Year

PM 10				
% Chng	T4i	T4iRev	T4fRev	0
Year 1	100%	100%	72%	0%
Year 2	100%	135%	105%	0%
Year 3	100%	139%	108%	0%
Year 4	100%	139%	108%	0%
Year 5	100%	139%	108%	0%
Year 6	100%	123%	86%	0%
Year 7	100%	56%	28%	0%
Year 8	0%	0%	0%	0%
Year 9	0%	0%	0%	0%
Year 10	0%	0%	0%	0%
Year 11	0%	0%	0%	0%

Run only 1,2, & 3 Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
T4i	100.0%	100.0%	100.0%	100.3%	100.0%	83.6%	110.6%
T4iRev	100.0%	135.1%	138.9%	139.3%	138.9%	103.0%	62.4%
T4fRev	71.5%	105.2%	107.7%	108.0%	107.7%	71.8%	31.4%
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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** Lakes Environmental AERMOD MPI
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****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 12.0.0
** Lakes Environmental Software Inc.
** Date: 5/25/2024
** File: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\Const\Const.ADI
**
****************************************
**
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****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\Const\Const.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   URBANOPT 118962 Berkeley
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL Const.err
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   561061.901  4192549.544        3.000
   LOCATION PAREA2       AREAPOLY   561188.310  4192380.492        2.000
   LOCATION PAREA3       AREAPOLY   561037.937  4192265.918        2.000
** Source Parameters **
   SRCPARAM PAREA1       0.0000241607     3.048         8
   AREAVERT PAREA1       561061.901 4192549.544 561143.386 4192570.952
   AREAVERT PAREA1       561152.839 4192533.366 561110.857 4192521.827
   AREAVERT PAREA1       561114.563 4192507.189 561157.819 4192518.342
   AREAVERT PAREA1       561185.771 4192397.753 561105.053 4192376.938
   SRCPARAM PAREA2       0.0000241606     3.048         4
   AREAVERT PAREA2       561188.310 4192380.492 561112.668 4192361.201
   AREAVERT PAREA2       561142.112 4192245.961 561218.770 4192265.760
   SRCPARAM PAREA3       0.0000241606     3.048        12
   AREAVERT PAREA3       561037.937 4192265.918 561112.358 4192285.811
   AREAVERT PAREA3       561095.861 4192357.721 561069.671 4192456.557
   AREAVERT PAREA3       561066.242 4192463.417 561055.510 4192507.822
   AREAVERT PAREA3       561016.828 4192497.551 561007.626 4192534.504
   AREAVERT PAREA3       561000.767 4192530.450 560999.831 4192528.268
   AREAVERT PAREA3       560991.413 4192478.694 560991.413 4192469.964
```

```
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 2"
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA2       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA3       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
```

```
**
**
RE STARTING
   INCLUDED Const.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE ..\..\CHEVRON_2013-2017.SFC
   PROFFILE ..\..\CHEVRON_2013-2017.PFL
   SURFDATA 23230 2013 OAKLAND/WSO_AP
   UAIRDATA 23230 2013 OAKLAND/WSO_AP
   SITEDATA 2703 2013
   PROFBASE 1.5 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST CONST.AD\01H1GALL.PLT 31
   PLOTFILE PERIOD ALL CONST.AD\PE00GALL.PLT 32
   SUMMFILE Const.sum
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
                ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403     128       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** MODEL SETUP OPTIONS SUMMARY ***

- - - -

```
                                                          m for Missing Hours
                                                          b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     1.50 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.6 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   Const.err
**File for Summary of Results:   Const.sum
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
PAREA1	0	0.24161E-04	561061.9	4192549.5	3.0	3.05	8	0.00	YES	HRDOW	NO
PAREA2	0	0.24161E-04	561188.3	4192380.5	2.0	3.05	4	0.00	YES	HRDOW	NO
PAREA3	0	0.24161E-04	561037.9	4192265.9	2.0	3.05	12	0.00	YES	HRDOW	NO

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 , PAREA2 , PAREA3 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	118962.	PAREA1 , PAREA2 , PAREA3 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA2 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA3 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\..\CHEVRON_2013-2017.SFC Met Version: 18081
Profile file: ..\..\CHEVRON_2013-2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23230 Upper air station no.: 23230
Name: OAKLAND/WSO_AP Name: OAKLAND/WSO_AP
Year: 2013 Year: 2013

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
13	01	01	1	01	-6.3	0.084	-9.000	-9.000	-999.	58.	8.4	0.17	0.63	1.00	1.70	173.	10.0	279.9	8.8
13	01	01	1	02	-9.2	0.134	-9.000	-9.000	-999.	117.	23.7	0.15	0.63	1.00	2.10	93.	10.0	278.4	8.8
13	01	01	1	03	-6.5	0.086	-9.000	-9.000	-999.	61.	9.0	0.15	0.63	1.00	1.80	63.	10.0	278.4	8.8
13	01	01	1	04	-11.3	0.164	-9.000	-9.000	-999.	160.	35.8	0.19	0.63	1.00	2.20	25.	10.0	278.5	8.8
13	01	01	1	05	-15.9	0.232	-9.000	-9.000	-999.	268.	71.3	0.19	0.63	1.00	2.70	43.	10.0	278.8	8.8
13	01	01	1	06	-25.3	0.368	-9.000	-9.000	-999.	537.	180.2	0.15	0.63	1.00	4.10	72.	10.0	278.9	8.8
13	01	01	1	07	-24.5	0.242	-9.000	-9.000	-999.	296.	52.9	0.15	0.63	1.00	3.10	64.	10.0	278.5	8.8
13	01	01	1	08	-28.7	0.284	-9.000	-9.000	-999.	363.	72.7	0.19	0.63	1.00	3.30	56.	10.0	278.1	8.8
13	01	01	1	09	1.9	0.246	0.106	0.005	23.	293.	-724.2	0.19	0.63	0.38	2.40	49.	10.0	278.5	8.8
13	01	01	1	10	39.2	0.414	0.490	0.007	109.	639.	-164.7	0.19	0.63	0.25	3.90	42.	10.0	279.9	8.8
13	01	01	1	11	68.1	0.405	0.767	0.007	241.	619.	-88.9	0.19	0.63	0.20	3.70	26.	10.0	280.8	8.8
13	01	01	1	12	84.6	0.456	1.112	0.008	592.	738.	-102.1	0.19	0.63	0.19	4.20	26.	10.0	281.6	8.8
13	01	01	1	13	87.7	0.532	1.277	0.007	865.	929.	-156.0	0.19	0.63	0.18	5.00	50.	10.0	282.8	8.8
13	01	01	1	14	77.3	0.596	1.242	0.005	903.	1103.	-249.4	0.19	0.63	0.19	5.70	58.	10.0	283.8	8.8
13	01	01	1	15	53.8	0.729	1.108	0.005	920.	1489.	-653.8	0.15	0.63	0.22	7.50	62.	10.0	284.4	8.8
13	01	01	1	16	19.4	0.459	0.790	0.007	925.	827.	-454.5	0.15	0.63	0.31	4.70	72.	10.0	284.4	8.8
13	01	01	1	17	-32.5	0.383	-9.000	-9.000	-999.	578.	157.6	0.15	0.63	0.54	4.30	78.	10.0	283.9	8.8
13	01	01	1	18	-22.8	0.210	-9.000	-9.000	-999.	256.	36.9	0.15	0.63	1.00	2.90	99.	10.0	282.6	8.8
13	01	01	1	19	-12.8	0.118	-9.000	-9.000	-999.	103.	11.7	0.17	0.63	1.00	2.40	124.	10.0	281.8	8.8
13	01	01	1	20	-1.7	0.043	-9.000	-9.000	-999.	25.	4.2	0.15	0.63	1.00	0.90	336.	10.0	281.1	8.8
13	01	01	1	21	-2.6	0.053	-9.000	-9.000	-999.	29.	5.2	0.15	0.63	1.00	1.10	304.	10.0	281.2	8.8
13	01	01	1	22	-5.5	0.077	-9.000	-9.000	-999.	51.	7.5	0.15	0.63	1.00	1.60	94.	10.0	280.6	8.8
13	01	01	1	23	-3.4	0.061	-9.000	-9.000	-999.	36.	6.1	0.19	0.63	1.00	1.20	19.	10.0	279.0	8.8
13	01	01	1	24	-6.7	0.086	-9.000	-9.000	-999.	60.	8.6	0.19	0.63	1.00	1.70	30.	10.0	278.2	8.8

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
13	01	01	01	8.8	0	-999.	-99.00	280.0	999.0	-99.00	-99.00
13	01	01	01	10.0	1	173.	1.70	-999.0	25.2	-99.00	0.68

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	17.62828 AT	(561116.53, 4192515.88, 3.00, 3.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	17.52085 AT	(561122.24, 4192517.22, 3.00, 3.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	17.25902 AT	(561127.38, 4192518.55, 3.00, 3.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	16.89437 AT	(561132.34, 4192519.69, 3.00, 3.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	16.48952 AT	(561136.53, 4192520.84, 3.00, 3.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	15.84790 AT	(561141.67, 4192521.79, 3.00, 3.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	15.03339 AT	(561146.43, 4192522.74, 3.00, 3.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	14.34333 AT	(561149.48, 4192523.69, 3.00, 3.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	1.16648 AT	(561116.02, 4192791.18, 3.00, 3.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	1.11946 AT	(561122.51, 4192799.55, 3.00, 3.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	411.08741	ON 17010409:	AT (561116.53, 4192515.88, 3.00, 3.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

```
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  SigA Data

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         2128 Informational Message(s)

A Total of        43824 Hours Were Processed

A Total of            2 Calm Hours Identified

A Total of         2126 Missing Hours Identified (  4.85 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W403     128       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data
MX W403       1       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 12.0.0
** Lakes Environmental Software Inc.
** Date: 5/25/2024
** File: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\Const\Const.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\Const\Const.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   URBANOPT 118962 Berkeley
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL Const.err
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   561061.901  4192549.544        3.000
   LOCATION PAREA2       AREAPOLY   561188.310  4192380.492        2.000
   LOCATION PAREA3       AREAPOLY   561037.937  4192265.918        2.000
** Source Parameters **
   SRCPARAM PAREA1       0.0000241607     3.048         8
   AREAVERT PAREA1       561061.901 4192549.544 561143.386 4192570.952
   AREAVERT PAREA1       561152.839 4192533.366 561110.857 4192521.827
   AREAVERT PAREA1       561114.563 4192507.189 561157.819 4192518.342
   AREAVERT PAREA1       561185.771 4192397.753 561105.053 4192376.938
   SRCPARAM PAREA2       0.0000241606     3.048         4
   AREAVERT PAREA2       561188.310 4192380.492 561112.668 4192361.201
   AREAVERT PAREA2       561142.112 4192245.961 561218.770 4192265.760
   SRCPARAM PAREA3       0.0000241606     3.048        12
   AREAVERT PAREA3       561037.937 4192265.918 561112.358 4192285.811
   AREAVERT PAREA3       561095.861 4192357.721 561069.671 4192456.557
   AREAVERT PAREA3       561066.242 4192463.417 561055.510 4192507.822
   AREAVERT PAREA3       561016.828 4192497.551 561007.626 4192534.504
   AREAVERT PAREA3       561000.767 4192530.450 560999.831 4192528.268
   AREAVERT PAREA3       560991.413 4192478.694 560991.413 4192469.964
```

```
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 2"
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA2       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA3       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
```

```
**
**
RE STARTING
   INCLUDED Const.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE ..\..\CHEVRON_2013-2017.SFC
   PROFFILE ..\..\CHEVRON_2013-2017.PFL
   SURFDATA 23230 2013 OAKLAND/WSO_AP
   UAIRDATA 23230 2013 OAKLAND/WSO_AP
   SITEDATA 2703 2013
   PROFBASE 1.5 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST CONST.AD\01H1GALL.PLT 31
   PLOTFILE PERIOD ALL CONST.AD\PE00GALL.PLT 32
   SUMMFILE Const.sum
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
                ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403     128       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** MODEL SETUP OPTIONS SUMMARY ***

- - - -

```
                                                          m for Missing Hours
                                                          b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     1.50 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.8 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   Const.err
**File for Summary of Results:   Const.sum
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
PAREA1	0	0.24161E-04	561061.9	4192549.5	3.0	3.05	8	0.00	YES	HRDOW	NO
PAREA2	0	0.24161E-04	561188.3	4192380.5	2.0	3.05	4	0.00	YES	HRDOW	NO
PAREA3	0	0.24161E-04	561037.9	4192265.9	2.0	3.05	12	0.00	YES	HRDOW	NO

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 , PAREA2 , PAREA3 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	118962.	PAREA1 , PAREA2 , PAREA3 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA2 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA3 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\..\CHEVRON_2013-2017.SFC Met Version: 18081
Profile file: ..\..\CHEVRON_2013-2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23230 Upper air station no.: 23230
Name: OAKLAND/WSO_AP Name: OAKLAND/WSO_AP
Year: 2013 Year: 2013

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
13	01	01	1	01	-6.3	0.084	-9.000	-9.000	-999.	58.	8.4	0.17	0.63	1.00	1.70	173.	10.0	279.9	8.8
13	01	01	1	02	-9.2	0.134	-9.000	-9.000	-999.	117.	23.7	0.15	0.63	1.00	2.10	93.	10.0	278.4	8.8
13	01	01	1	03	-6.5	0.086	-9.000	-9.000	-999.	61.	9.0	0.15	0.63	1.00	1.80	63.	10.0	278.4	8.8
13	01	01	1	04	-11.3	0.164	-9.000	-9.000	-999.	160.	35.8	0.19	0.63	1.00	2.20	25.	10.0	278.5	8.8
13	01	01	1	05	-15.9	0.232	-9.000	-9.000	-999.	268.	71.3	0.19	0.63	1.00	2.70	43.	10.0	278.8	8.8
13	01	01	1	06	-25.3	0.368	-9.000	-9.000	-999.	537.	180.2	0.15	0.63	1.00	4.10	72.	10.0	278.9	8.8
13	01	01	1	07	-24.5	0.242	-9.000	-9.000	-999.	296.	52.9	0.15	0.63	1.00	3.10	64.	10.0	278.5	8.8
13	01	01	1	08	-28.7	0.284	-9.000	-9.000	-999.	363.	72.7	0.19	0.63	1.00	3.30	56.	10.0	278.1	8.8
13	01	01	1	09	1.9	0.246	0.106	0.005	23.	293.	-724.2	0.19	0.63	0.38	2.40	49.	10.0	278.5	8.8
13	01	01	1	10	39.2	0.414	0.490	0.007	109.	639.	-164.7	0.19	0.63	0.25	3.90	42.	10.0	279.9	8.8
13	01	01	1	11	68.1	0.405	0.767	0.007	241.	619.	-88.9	0.19	0.63	0.20	3.70	26.	10.0	280.8	8.8
13	01	01	1	12	84.6	0.456	1.112	0.008	592.	738.	-102.1	0.19	0.63	0.19	4.20	26.	10.0	281.6	8.8
13	01	01	1	13	87.7	0.532	1.277	0.007	865.	929.	-156.0	0.19	0.63	0.18	5.00	50.	10.0	282.8	8.8
13	01	01	1	14	77.3	0.596	1.242	0.005	903.	1103.	-249.4	0.19	0.63	0.19	5.70	58.	10.0	283.8	8.8
13	01	01	1	15	53.8	0.729	1.108	0.005	920.	1489.	-653.8	0.15	0.63	0.22	7.50	62.	10.0	284.4	8.8
13	01	01	1	16	19.4	0.459	0.790	0.007	925.	827.	-454.5	0.15	0.63	0.31	4.70	72.	10.0	284.4	8.8
13	01	01	1	17	-32.5	0.383	-9.000	-9.000	-999.	578.	157.6	0.15	0.63	0.54	4.30	78.	10.0	283.9	8.8
13	01	01	1	18	-22.8	0.210	-9.000	-9.000	-999.	256.	36.9	0.15	0.63	1.00	2.90	99.	10.0	282.6	8.8
13	01	01	1	19	-12.8	0.118	-9.000	-9.000	-999.	103.	11.7	0.17	0.63	1.00	2.40	124.	10.0	281.8	8.8
13	01	01	1	20	-1.7	0.043	-9.000	-9.000	-999.	25.	4.2	0.15	0.63	1.00	0.90	336.	10.0	281.1	8.8
13	01	01	1	21	-2.6	0.053	-9.000	-9.000	-999.	29.	5.2	0.15	0.63	1.00	1.10	304.	10.0	281.2	8.8
13	01	01	1	22	-5.5	0.077	-9.000	-9.000	-999.	51.	7.5	0.15	0.63	1.00	1.60	94.	10.0	280.6	8.8
13	01	01	1	23	-3.4	0.061	-9.000	-9.000	-999.	36.	6.1	0.19	0.63	1.00	1.20	19.	10.0	279.0	8.8
13	01	01	1	24	-6.7	0.086	-9.000	-9.000	-999.	60.	8.6	0.19	0.63	1.00	1.70	30.	10.0	278.2	8.8

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
13	01	01	01	8.8	0	-999.	-99.00	280.0	999.0	-99.00	-99.00
13	01	01	01	10.0	1	173.	1.70	-999.0	25.2	-99.00	0.68

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	17.62828 AT	(561116.53, 4192515.88, 3.00, 3.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	17.52085 AT	(561122.24, 4192517.22, 3.00, 3.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	17.25902 AT	(561127.38, 4192518.55, 3.00, 3.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	16.89437 AT	(561132.34, 4192519.69, 3.00, 3.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	16.48952 AT	(561136.53, 4192520.84, 3.00, 3.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	15.84790 AT	(561141.67, 4192521.79, 3.00, 3.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	15.03339 AT	(561146.43, 4192522.74, 3.00, 3.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	14.34333 AT	(561149.48, 4192523.69, 3.00, 3.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	9.77515 AT	(561025.32, 4192519.72, 3.00, 3.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	9.77135 AT	(561032.85, 4192521.93, 3.00, 3.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	411.28674	ON 13121309:	AT (561048.53, 4192246.30, 2.00, 2.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 2128 Informational Message(s)

A Total of 43824 Hours Were Processed

A Total of 2 Calm Hours Identified

A Total of 2126 Missing Hours Identified (4.85 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
MX W403 128 PFLCNV: Turbulence data is being used w/o ADJ_U* option SigA Data
MX W403 1 PFLCNV: Turbulence data is being used w/o ADJ_U* option SigA Data

****
*** AERMOD Finishes Successfully ***
****

HARP2 - HRACalc (dated 22118) 5/21/2024 8:03:09 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year1_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year1_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year1_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year1_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year1_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year1_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/21/2024 8:27:02 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 1
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year2_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year2_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year2_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year2_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year2_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year2_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/21/2024 8:51:43 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 2
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year3_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year3_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year3_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year3_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year3_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\School_Year3_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/25/2024 11:26:36 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitivel_Year1_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitivel_Year1_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitivel_Year1_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitivel_Year1_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitivel_Year1_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitivel_Year1_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/25/2024 12:10:58 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 1
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year2_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year2_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year2_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year2_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year2_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year2_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/25/2024 12:14:07 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 2
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year3_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year3_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year3_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year3_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year3_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 2\HARP_CONST\hra\Sensitive_Year3_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/19/2024 12:15:59 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year1_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year1_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year1_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year1_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year1_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year1_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/19/2024 12:19:34 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 17
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year2_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year2_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year2_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year2_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year2_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year2_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/19/2024 12:21:45 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 18
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year3_CancerRisk.csv
Cancer risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year3_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year3_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year3_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year3_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\LSA\2024\CBE1906.09 Gilman Gateway\Scenario 1\HARP_CONST\hra\Worker_Year3_NCAcuteRiskSumByRec.csv
HRA ran successfully

APPENDIX H

ENERGY CALCULATIONS

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Construction Off-Road Equipment - Bu				
Phase	**Off-Road Equipment Type**	**Amount**	**Usage Hour/Day**	**Total Usage Days**
Demolition	Concrete/Industrial Saws	1	8	120
	Excavators	3	8	120
	Rubber Tired Dozers	2	8	120
Site Preparation	Rubber Tired Dozers	3	8	60
	Tractors/Loaders/Backhoes	4	8	60
Grading	Excavators	2	8	160
	Graders	1	8	160
	Rubber Tired Dozers	1	8	160
	Scrapers	2	8	160
	Tractors/Loaders/Backhoes	2	8	160
Building Construction	Cranes	1	7	1500
	Forklifts	3	8	1500
	Generator Sets	1	8	1500
	Tractors/Loaders/Backhoes	3	7	1500
	Welders	1	8	1500
	Bore/Drill Rigs	1	8	1500
Paving	Pavers	2	8	125
	Paving Equipment	2	8	125
	Rollers	2	8	125
Architectural Coating	Air Compressors	1	6	125

uildout under the Gilman Gateway Rezone

Total Usage Hours/Equipment	Horsepower	Load Factor	Total Usage Hours/ Equipment	Horsepower-Hour	Fuel Usage (gallons)
960	33	0.73	960	23126.4	1184.07168
2880	36	0.38	2880	39398.4	2017.19808
1920	367	0.4	1920	281856	14431.0272
1440	367	0.4	1440	211392	10823.2704
1920	84	0.37	1920	59673.6	3055.28832
2560	36	0.38	2560	35020.8	1793.06496
1280	148	0.41	1280	77670.4	3976.72448
1280	367	0.4	1280	187904	9620.6848
2560	423	0.48	2560	519782.4	26612.85888
2560	84	0.37	2560	79564.8	4073.71776
10500	367	0.29	10500	1117515	57216.768
36000	82	0.2	36000	590400	30228.48
12000	14	0.74	12000	124320	6365.184
31500	84	0.37	31500	979020	50125.824
12000	46	0.45	12000	248400	12718.08
12000	83	0.5	12000	498000	25497.6
2000	81	0.42	2000	68040	3483.648
2000	89	0.36	2000	64080	3280.896
2000	36	0.38	2000	27360	1400.832
750	37	0.48	750	13320	681.984
				Total	**268587.2026** Diesel

Construction Truck and Worker Vehicle Fuel Efficiency - Buildout under the Gilman Gateway Rezone				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	70.9	598,407.5	8.4
	HHDT	296.6	1,777,266.4	6.0
	HHDT/MHDT	-	-	7.2
Construction Worker Vehicle	LDA	665.3	19,996,646.2	30.1
	LDT1	68.6	1,731,568.5	25.3
	LDT2	396.0	9,685,168.7	24.5
	Worker Mix	-	-	27.5

Notes:

[1] For construction trucks assumes 50 percent HHDT and 50 percent MHDT vehicles, consistent with assumptions in CalEEMod for hauling trucks. For construction worker vehicles assum

[2] EMFAC2021 was run for Alameda County for the construction year 2024. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Vehicle Fuel Use - Diesel Vehicles - Buildout under the Gilman Gate				
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT
Demolition	Hauling	8,160.0	20.0	163,200.0
Grading	Hauling	37,440.0	20.0	748,800.0
Building Construction	Vendor	1,086,000.0	8.4	9,122,400.0

[1] Assumes 100 percent HHDT vehicles for haul trucks and 50 percent HHDT/50 percent MHDT vehicles for MHDT, consistent with assumptions in CalEEMod.

[2] EMFAC2021 was run for Alameda County for the construction year 2024. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Buildout under the Gilman					
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT
Demolition	15	120	3,600	11.7	42,120
Site Preparation	18	60	2,160	11.7	25,272

Grading	20	160	6,400	11.7	74,880
Building Construction	828	1,500	2,484,000	11.7	29,062,800
Paving	15	125	3,750	11.7	43,875
Architectural Coating	166	125	41,500	11.7	485,550

Total Construction Gasoline Usage	1,082,963.2
Total Construction Diesel Usage	1,684,799.0

es 50 percent LDA, 25 percent LDT1, and 25 percent LDT2 vehicles, consistent with assumptions in CalEEMod for worker vehicles.

way Rezone	
Diesel Fuel Effiency (miles/gallon)	**Fuel Usage (gallons/year)**
6.0	27,240.1
6.0	124,984.2
7.2	1,263,987.5
Total	**1,416,211.8**

Diesel

Gateway Rezone	
Gasoline Fuel Effiency (miles/gallon)	**Fuel Usage (gallons/year)**
27.5	1,534.1
27.5	920.4

27.5	2,727.2	
27.5	1,058,499.2	
27.5	1,598.0	
27.5	17,684.3	
Total	**1,082,963.2**	Gas

Operational Trips - Buildout under the Gilman Gateway Rezone			
Vehicle Class	**CalEEMod**	**Total Project Trips**	**Total Trips per Vehicle Class**
LDA	51.16%	10,002	5,117.0
LDT1	3.61%	10,002	361.1
LDT2	23.41%	10,002	2,341.5
MDV	13.12%	10,002	1,312.3
LHD1	2.50%	10,002	250.1
LHD2	0.63%	10,002	63.0
MHD	1.48%	10,002	148.0
HHD	1.45%	10,002	145.0
OBUS	0.07%	10,002	7.0
UBUS	0.09%	10,002	9.0
MCY	2.22%	10,002	222.0
SBUS	0.05%	10,002	5.0
MH	0.20%	10,002	20.0

Operational Trips – Fuel Efficiency - Buildout under the Gilman Gateway Rezo				
		EMFAC2021 Outputs1		
Fuel	**Vehicle Class**	**Fleet Mix (%)2**	**Fuel Consumption (1,000 gallons/day)**	**VMT (miles/day)**
Gas	LDA	54%	665.3	19,996,646.21
	LDT1	5%	68.6	1,731,568.48
	LDT2	26%	396.0	9,685,168.66
	MDV	13%	246.5	4,980,332.96
	LHD1	2%	396.0	716,627.08
	MCY	0%	3.7	152,639.62
	MH	0%	3.9	17,316.01
	Fleet Mix	–	–	–
Diesel	LHD2	6%	12.0	159,736.20
	MHDT	24%	70.9	598,407.5
	HHDT	70%	296.6	1,777,266.4
	Fleet Mix	–	–	–

Notes:

[1] EMFAC2021 was run for Alameda County for the year 2024. Data was aggregated over all vehicle model years and speed bins.

[2] Fleet mix is based on assumptions made in CalEEMod for the proposed project.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Operational Trips – Fuel Usage - Buildout under the Gilman Gatev				
Land Use	**Total Annual VMT2 (miles/year)**	**Fuel Type**	**Portion of Fleet3 (%)**	**VMT by Fuel Type (miles/year)**
Research &	35,508,126.00	Gas	96%	34,215,630.2

Development	35,308,120.00	Diesel	4%	1,264,089.3

Notes:

[1] Calculated for year 2024 only. Future years will likely use less fuel due to more efficient cars.

[2] Total VMT is based on project's trip generation and trip lengths.

[3] Fleet distribution is based on EMFAC2021 output and CalEEMod assumptions.

[4] Fuel efficiency is based on fuel consumption and VMT data from EMFAC2021 for Alameda County and total VMT.

ne	
Fuel Efficiency3 (miles/gallon)	
30.1	16.1
25.3	1.2
24.5	6.4
20.2	2.7
1.8	0.0
41.4	0.2
4.4	0.0
26.6	26.6
13.4	0.8
8.4	2.0
6.0	4.2
7.0	7.0

way Rezone	
Fleet Mix Efficiency4 (miles/gallon)	**Fuel Usage (gallons/ year)**
26.6	1,288,549.2

7.0	179,721.2
Total Gasoline/year	**1,288,549.2**
Total Diesel/year	**179,721.2**

Proposed Project Electricity Usage	
Electricity by Land Use	**kWh/year**
Research & Development	21,280,107
Unenclosed Parking with Elevator	3,399,635
Total	**24,679,742**

Proposed Project Natural Gas Usage			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Research & Development	23,875,359	23,875,359,060	238,801
Total	**23,875,359**	**23,875,359,060**	**238,801**

Construction Off-Road Equipment				
Phase	**Off-Road Equipment Type**	**Amount**	**Usage Hour/Day**	**Total Usage Days**
Demolition	Concrete/Industrial Saws	1	8	90
	Excavators	3	8	90
	Rubber Tired Dozers	2	8	90
Site Preparation	Rubber Tired Dozers	3	8	45
	Tractors/Loaders/Backhoes	4	8	45
Grading	Excavators	2	8	135
	Graders	1	8	135
	Rubber Tired Dozers	1	8	135
	Scrapers	2	8	135
	Tractors/Loaders/Backhoes	2	8	135
Building Construction	Cranes	1	7	1380
	Forklifts	3	8	1380
	Generator Sets	1	8	1380
	Tractors/Loaders/Backhoes	3	7	1380
	Welders	1	8	1380
	Bore/Drill Rigs	1	8	1380
Paving	Pavers	2	8	90
	Paving Equipment	2	8	90
	Rollers	2	8	90
Architectural Coating	Air Compressors	1	6	90

- Potential Berkeley Forge Development

Total Usage Hours/Equipment	Horsepower	Load Factor	Total Usage Hours/ Equipment	Horsepower-Hour	Fuel Usage (gallons)
720	33	0.73	720	17344.8	888.05376
2160	36	0.38	2160	29548.8	1512.89856
1440	367	0.4	1440	211392	10823.2704
1080	367	0.4	1080	158544	8117.4528
1440	84	0.37	1440	44755.2	2291.46624
2160	36	0.38	2160	29548.8	1512.89856
1080	148	0.41	1080	65534.4	3355.36128
1080	367	0.4	1080	158544	8117.4528
2160	423	0.48	2160	438566.4	22454.59968
2160	84	0.37	2160	67132.8	3437.19936
9660	367	0.29	9660	1028113.8	52639.42656
33120	82	0.2	33120	543168	27810.2016
11040	14	0.74	11040	114374.4	5855.96928
28980	84	0.37	28980	900698.4	46115.75808
11040	46	0.45	11040	228528	11700.6336
11040	83	0.5	11040	458160	23457.792
1440	81	0.42	1440	48988.8	2508.22656
1440	89	0.36	1440	46137.6	2362.24512
1440	36	0.38	1440	19699.2	1008.59904
540	37	0.48	540	9590.4	491.02848
				Total	**236460.5338** Diesel

Construction Truck and Worker Vehicle Fuel Efficiency - Potential Berkeley Forge Development				
		EMFAC 2021 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	70.9	598,407.5	8.4
	HHDT	296.6	1,777,266.4	6.0
	HHDT/MHDT	-	-	7.2
Construction Worker Vehicle	LDA	665.3	19,996,646.2	30.1
	LDT1	68.6	1,731,568.5	25.3
	LDT2	396.0	9,685,168.7	24.5
	Worker Mix	-	-	27.5

Notes:

[1] For construction trucks assumes 50 percent HHDT and 50 percent MHDT vehicles, consistent with assumptions in CalEEMod for hauling trucks. For construction worker vehicles

[2] EMFAC2021 was run for Alameda County for the construction year 2024. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Vehicle Fuel Use - Diesel Vehicles - Potential Berkeley Forge De				
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT
Demolition	Hauling	7,380.0	20.0	147,600.0
Grading	Hauling	31,320.0	20.0	626,400.0
Building Construction	Vendor	750,720.0	8.4	6,306,048.0

[1] Assumes 100 percent HHDT vehicles for haul trucks and 50 percent HHDT/50 percent MHDT vehicles for MHDT, consistent with assumptions in CalEEMod.

[2] EMFAC2021 was run for Alameda County for the construction year 2024. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles - Potential Berkeley For					
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT
Demolition	15	90	2,700	11.7	31,590
Site Preparation	18	45	1,620	11.7	18,954

Grading	20	135	5,400	11.7	63,180
Building Construction	607	1,380	1,675,320	11.7	19,601,244
Paving	15	90	2,700	11.7	31,590
Architectural Coating	121	90	21,780	11.7	254,826

Total Construction Gasoline Usage	728,472.5
Total Construction Diesel Usage	1,271,535.1

assumes 50 percent LDA, 25 percent LDT1, and 25 percent LDT2 vehicles, consistent with assumptions in CalEEMod for worker vehicles.

evelopment	
Diesel Fuel Effiency (miles/gallon)	**Fuel Usage (gallons/year)**
6.0	24,636.3
6.0	104,554.1
7.2	873,757.5
Total	**1,002,947.9**

Diesel

ge Development	
Gasoline Fuel Effiency (miles/gallon)	**Fuel Usage (gallons/year)**
27.5	1,150.5
27.5	690.3

27.5	2,301.1	
27.5	713,898.9	
27.5	1,150.5	
27.5	9,281.0	
Total	**728,472.5**	Gas

Proposed Project Operational Trips			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	50.94%	8,955	4,561.7
LDT1	3.53%	8,955	316.1
LDT2	23.54%	8,955	2,108.0
MDV	13.27%	8,955	1,188.3
LHD1	2.52%	8,955	225.7
LHD2	0.63%	8,955	56.4
MHD	1.49%	8,955	133.4
HHD	1.47%	8,955	131.6
OBUS	0.08%	8,955	7.2
UBUS	0.09%	8,955	8.1
MCY	2.21%	8,955	197.9
SBUS	0.05%	8,955	4.5
MH	0.19%	8,955	17.0

Proposed Project Operational Trips – Fuel Efficiency				
		EMFAC2021 Outputs1		
Fuel	Vehicle Class	Fleet Mix (%)2	Fuel Consumption (1,000 gallons/day)	VMT (miles/day)
Gas	LDA	54%	665.3	19,996,646.21
	LDT1	5%	68.6	1,731,568.48
	LDT2	26%	396.0	9,685,168.66
	MDV	13%	246.5	4,980,332.96
	LHD1	2%	396.0	716,627.08
	MCY	0%	3.7	152,639.62
	MH	0%	3.9	17,316.01
	Fleet Mix	–	–	–
Diesel	LHD2	6%	12.0	159,736.20
	MHDT	24%	70.9	598,407.5
	HHDT	70%	296.6	1,777,266.4
	Fleet Mix	–	–	–

Notes:

[1] EMFAC2021 was run for Alameda County for the year 2024. Data was aggregated over all vehicle model years and speed bins.

[2] Fleet mix is based on assumptions made in CalEEMod for the proposed project.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Proposed Project Operational Trips – Fuel Usage				
Land Use	Total Annual VMT2 (miles/year)	Fuel Type	Portion of Fleet3 (%)	VMT by Fuel Type (miles/year)
Research &	31,789,908.00	Gas	96%	30,626,397.4

Development	31,789,908.00	Diesel	4%	1,141,257.7

Notes:

[1] Calculated for year 2024 only. Future years will likely use less fuel due to more efficient cars.

[2] Total VMT is based on project's trip generation and trip lengths.

[3] Fleet distribution is based on EMFAC2021 output and CalEEMod assumptions.

[4] Fuel efficiency is based on fuel consumption and VMT data from EMFAC2021 for Alameda County and total VMT.

Fuel Efficiency3 (miles/gallon)	
30.1	16.1
25.3	1.2
24.5	6.4
20.2	2.7
1.8	0.0
41.4	0.2
4.4	0.0
26.6	26.6
13.4	0.8
8.4	2.0
6.0	4.2
7.0	7.0

Fleet Mix Efficiency4 (miles/gallon)	Fuel Usage (gallons/ year)
26.6	1,153,379.9

7.0	162,257.7
Total Gasoline/year	**1,153,379.9**
Total Diesel/year	**162,257.7**

Proposed Project Electricity Usage	
Electricity by Land Use	**kWh/year**
Research & Development	19,051,770
Unenclosed Parking with Elevator	2,141,680
Total	**21,193,450**

Proposed Project Natural Gas Usage			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Research & Development	-	-	-
Total	**-**	**-**	**-**

APPENDIX I

NOISE MEASUREMENTS

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Noise Measurement Survey – 24 HR

Project Number: CBE1906.09
Project Name: Gilman Gateway

Test Personnel: Dana Kwan
Equipment: Spark 706RC (SN:17815)

Site Number: LT-1 Date: 1/11/24

Time: From 11:00 a.m. To 10:00 a.m.

Site Location: On a billboard post south of Gilman Street and in between Second Street and Fourth Street, approximately 40 feet south of Gilman Street centerline and approximately 40 feet west of center of train tracks

Primary Noise Sources: Traffic on Gilman Street, industrial noise, occasional train noise, less occasional aircraft noise

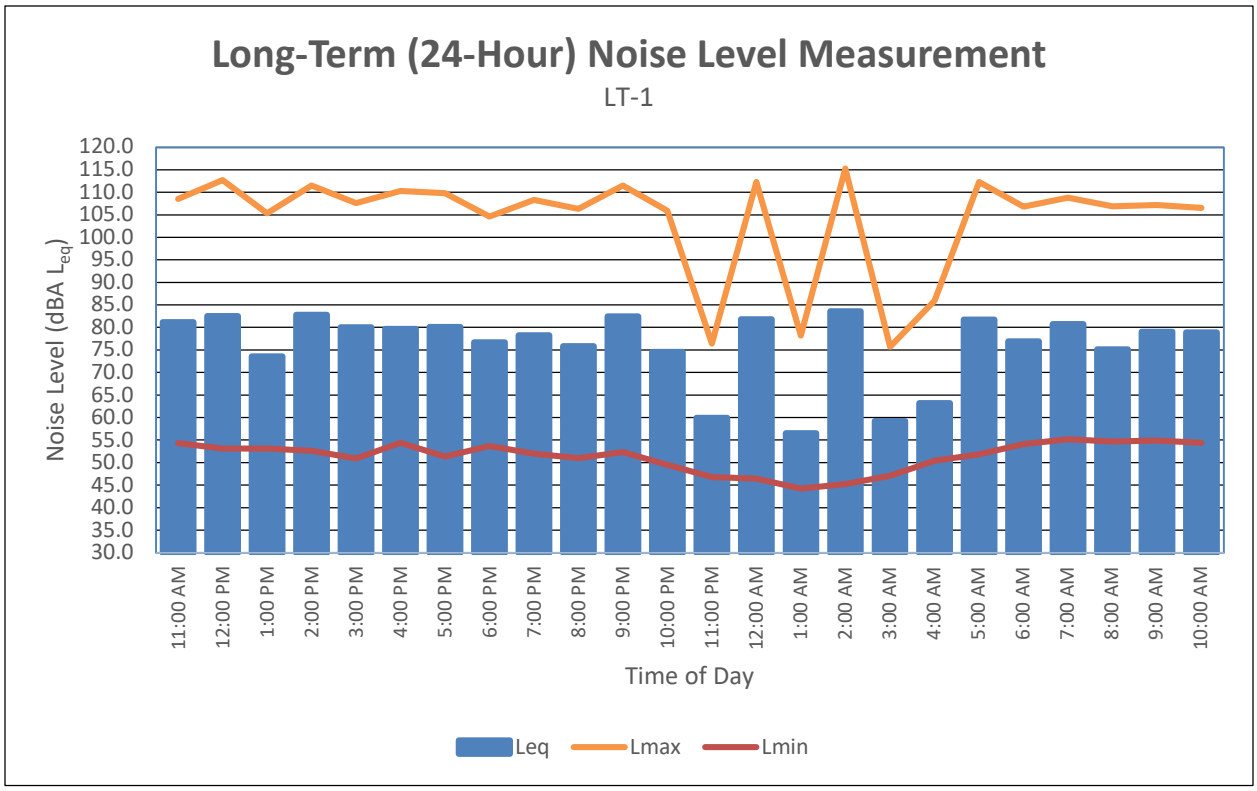
Comments:

Photo:

Long-Term (24-Hour) Noise Level Measurement Results at LT-1

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
11:00 AM	1/11/24	81.2	108.5	54.3
12:00 PM	1/11/24	82.5	112.7	53.1
1:00 PM	1/11/24	73.5	105.3	53.1
2:00 PM	1/11/24	82.8	111.5	52.6
3:00 PM	1/11/24	80.1	107.6	50.9
4:00 PM	1/11/24	79.7	110.3	54.4
5:00 PM	1/11/24	80.1	109.8	51.3
6:00 PM	1/11/24	76.7	104.6	53.7
7:00 PM	1/11/24	78.2	108.3	52.0
8:00 PM	1/11/24	75.8	106.3	51.0
9:00 PM	1/11/24	82.4	111.5	52.3
10:00 PM	1/11/24	74.6	105.9	49.5
11:00 PM	1/11/24	59.9	76.4	46.8
12:00 AM	1/12/24	81.8	112.3	46.4
1:00 AM	1/12/24	56.5	78.2	44.3
2:00 AM	1/12/24	83.6	115.3	45.2
3:00 AM	1/12/24	59.2	75.7	47.1
4:00 AM	1/12/24	63.2	85.9	50.4
5:00 AM	1/12/24	81.7	112.3	51.8
6:00 AM	1/12/24	76.9	106.8	54.1
7:00 AM	1/12/24	80.7	108.8	55.2
8:00 AM	1/12/24	75.1	106.9	54.7
9:00 AM	1/12/24	79.1	107.2	54.9
10:00 AM	1/12/24	79.0	106.5	54.4

Source: Compiled by LSA Associates, Inc. (2024).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level


Long-Term (24-Hour) Noise Level Measurement
LT-1
Noise Level (dBA L_{eq})
120.0
115.0
110.0
105.0
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time of Day
Leq
Lmax
Lmin

Noise Measurement Survey – 24 HR

Project Number: CBE1906.09
Project Name: Gilman Gateway

Test Personnel: Dana Kwan
Equipment: Spark 706RC (SN:18571)

Site Number: LT-2 Date: 1/11/24

Time: From 12:00 p.m. To 11:00 a.m.

Site Location: On a tree east of Eastshore Highway and in between Page Street and Jones Street, approximately 35 feet from Eastshore Highway centerline

Primary Noise Sources: Traffic on Eastshore Freeway (580) and Eastshore Highway, construction from Gilman Overcross project, industrial noise, occasional train and aircraft noise

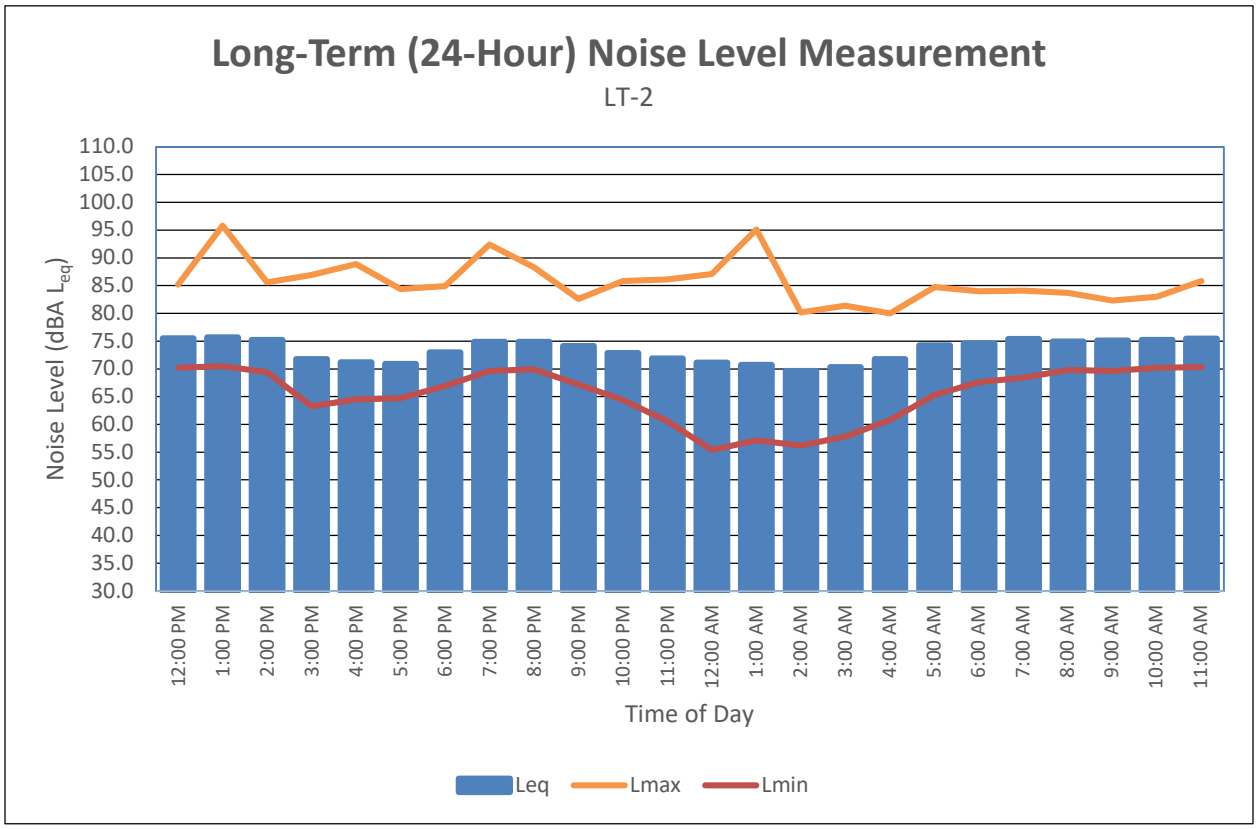
Comments: Unable to safely set up monitor on Eastshore Highway within project boundaries, so set up 340 feet south of project boundary

Photo:

Long-Term (24-Hour) Noise Level Measurement Results at LT-2

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
12:00 PM	1/11/24	75.5	85.2	70.2
1:00 PM	1/11/24	75.7	95.8	70.5
2:00 PM	1/11/24	75.2	85.6	69.4
3:00 PM	1/11/24	71.8	86.9	63.3
4:00 PM	1/11/24	71.2	88.9	64.5
5:00 PM	1/11/24	70.9	84.4	64.7
6:00 PM	1/11/24	73.0	84.9	66.9
7:00 PM	1/11/24	74.9	92.4	69.6
8:00 PM	1/11/24	74.9	88.3	69.9
9:00 PM	1/11/24	74.1	82.6	67.2
10:00 PM	1/11/24	72.8	85.8	64.4
11:00 PM	1/11/24	71.8	86.1	60.6
12:00 AM	1/12/24	71.1	87.1	55.4
1:00 AM	1/12/24	70.7	95.1	57.1
2:00 AM	1/12/24	69.6	80.2	56.2
3:00 AM	1/12/24	70.3	81.4	57.8
4:00 AM	1/12/24	71.7	80.0	60.8
5:00 AM	1/12/24	74.2	84.7	65.3
6:00 AM	1/12/24	74.6	84.0	67.6
7:00 AM	1/12/24	75.4	84.1	68.4
8:00 AM	1/12/24	74.9	83.7	69.8
9:00 AM	1/12/24	75.1	82.3	69.6
10:00 AM	1/12/24	75.2	83.0	70.2
11:00 AM	1/12/24	75.5	85.8	70.3

Source: Compiled by LSA Associates, Inc. (2024).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level


Long-Term (24-Hour) Noise Level Measurement
LT-2
Noise Level (dBA L_{eq})
110.0
105.0
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
Time of Day
Leq
Lmax
Lmin

APPENDIX J

FEDERAL HIGHWAY ADMINSTRATION NOISE MODEL

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TABLE Existing -01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Gilman Street West of Second Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17550 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.7	155.8	332.3

TABLE Existing -02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Gilman Street East of Second Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14360 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.3	136.9	290.9

TABLE Existing -03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Second Street North of Gilman Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1970 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 15 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing -04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Second Street South of Gilman Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1320 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 15 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing -05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Sixth Street North of Gilman Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2880 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	61.7

TABLE Existing -06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Sixth Street South of Gilman Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5560 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	92.7

TABLE Existing -07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Cedar Street East of Sixth Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4690 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	83.2

TABLE Existing -08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Cedar Street West of Sixth Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3190 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	65.6

TABLE Existing -09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Eastoshore North of Cedar Street
NOTES: Gilman Gateway Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3570 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.9	116.4

TABLE Near-Term-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Gilman Street West of Second Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16910 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	74.0	152.1	324.2

TABLE Near-Term-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Gilman Street East of Second Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14650 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	68.1	138.6	294.8

TABLE Near-Term-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Second Street North of Gilman Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 15 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	60.6

TABLE Near-Term-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Second Street South of Gilman Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1320 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 15 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Near-Term-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Sixth Street North of Gilman Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2880 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	61.7

TABLE Near-Term-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Sixth Street South of Gilman Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5560 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	92.7

TABLE Near-Term-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Cedar Street East of Sixth Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5150 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	88.3

TABLE Near-Term-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Cedar Street West of Sixth Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3340 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	67.5

TABLE Near-Term-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Eastoshore North of Cedar Street
NOTES: Gilman Gateway Project - Near-Term

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4370 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	64.1	132.7

TABLE Near-Term Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Gilman Street West of Second Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18900 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.1	163.5	349.0

TABLE Near-Term Plus Project-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Gilman Street East of Second Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15650 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	70.7	144.7	308.0

TABLE Near-Term Plus Project-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Second Street North of Gilman Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 15 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	60.6

TABLE Near-Term Plus Project-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Second Street South of Gilman Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2310 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 15 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	52.6

TABLE Near-Term Plus Project-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Sixth Street North of Gilman Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2880 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	61.7

TABLE Near-Term Plus Project-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Sixth Street South of Gilman Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5690 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	94.1

TABLE Near-Term Plus Project-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Cedar Street East of Sixth Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6110 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	98.4

TABLE Near-Term Plus Project-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Cedar Street West of Sixth Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4790 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	84.3

TABLE Near-Term Plus Project-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 02/08/2024
ROADWAY SEGMENT: Eastoshore North of Cedar Street
NOTES: Gilman Gateway Project - Near-Term Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4790 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 20 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	67.8	140.9

APPENDIX K

WATER SUPPLY ASSESSMENT

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EAST BAY
MUNICIPAL UTILITY DISTRICT

May 23, 2023

Ashley James, Senior Planner
City of Berkeley
1947 Center Street, 2nd Floor
Berkeley, California 94704

Re: Water Supply Assessment – Gilman Gateway Rezone Project

Dear Ms. James:

This letter is in response to your request made on March 13, 2023, for water agency consultation (Enclosure 1) concerning the Water Supply Assessment (WSA) for the Gilman Gateway Rezone Project (Project), located in the City of Berkeley (City), which is within East Bay Municipal Utility District's (EBMUD's) Ultimate Service Boundary. EBMUD appreciates the opportunity to provide this response.

Pursuant to Sections 10910-10915 of the California Water Code, the Project meets the threshold requirement for an assessment of water supply availability because the Project proposes commercial development of more than 250,000 square feet of floor space.

Please note this WSA addresses the issue of water supply only and is not a guarantee of service; future water service is subject to the rates and regulations in effect at that time.

Project Demand

The water demand for the Project is accounted for in EBMUD's water demand projections, as published in EBMUD's Urban Water Management Plan (UWMP) 2020 (see https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan/). EBMUD's water demand projections account for anticipated future water demands within EBMUD's service boundaries and for variations in demand-attributed changes in development patterns. The existing land uses consist of surface parking lots and industrial, commercial and live/work use with a historical water use of approximately 13,100 gallons per day (GPD). The Project area is planned to be rezoned to allow a mix of light industrial, research and development, and laboratory and office uses consisting of approximately 1,005,300 square feet. The estimated water use at Project build-out is approximately 164,900 GPD.

EBMUD's demand projections indicate both densification and land use changes in a few existing land use classifications, including commercial and residential land use areas. These changes increase demand for EBMUD water. EBMUD's UWMP 2020 projects water demands over time, accounting for estimated variations in demand usage minus

conservation and recycled supply sources, as noted in the UWMP 2020, Table 3-1, 2050 Demand Projections (Table 1). Typically, EBMUD prepares a full demand study every ten years; the most recent version, the 2050 Demand Study, was completed in 2020, and the study results are incorporated into the UWMP 2020. For planning purposes, water demands are estimated in five-year increments, but it is recognized that actual incremental amounts may occur stepwise in shorter time increments. An increase in usage by one customer in a particular customer class does not require a strict gallon-for-gallon increase in conservation by other customers in that class, as, in actuality, the amount of potable demand, conservation and recycled water use EBMUD-wide will vary somewhat.

Table 1
2050 Demand Projections (UWMP 2020, Table 3-1)

TABLE 3-1 — AVERAGE ANNUAL WATER DEMAND FORECAST 2050 DEMAND PROJECTIONS (MGD)

	2020	2025	2030	2035	2040	2045	2050
FORECASTED WATER DEMAND	238	245	254	264	277	287	297
WATER CONSERVATION[1]	-48	-53	-58	-61	-63	-65	-66
RECYCLED WATER[1]	-5	-6	-6	-9	-13	-13	-13
RAW WATER	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
PLANNING LEVEL OF DEMAND (ROUNDED)	181	186	190	194	201	209	218

1. See Chapters 6 and 5 for more specific program details on conservation and water recycling, respectively. The goals reflected in this table take into account uncertainty as described in Section 5.2.3 and Section 6.1.3.

Project Area

The Project is located in the City of Berkeley and consists of 18 parcels totaling approximately 11.5 acres. The Project area is bisected by Second Street and bounded by Interstate 80 to the west, Gilman Street to the north, Third Street (Union Pacific Railroad and Amtrak heavy rail corridor) to the east, and Page Street to the south.

EBMUD Water Demand Projections

Since the 1970s, water demand within EBMUD's service area has ranged from 200 to 220 million gallons per day (MGD) in non-drought years. Section 3.1 of the UWMP 2020 outlines past and current EBMUD water demand, including Figure 3-1 which shows historic water use (including metered and unmetered demands) within EBMUD's service area, along with the number of customer accounts. The 2050 water demand forecast of 297 MGD for EBMUD's service area can be reduced to 218 MGD with the successful implementation of water recycling and conservation programs, as outlined in the UWMP 2020. Current demand is lower than estimated in the 2050 Demand Study as a result of the current drought and recent multi-year drought in 2014-2016. The difference is because the planning level of demand may differ from the actual demand in any given year due to water use reductions that typically occur during droughts. After droughts, a rebound effect is expected wherein demand rises back to projected levels. Thus, the 2050 Demand Study still reflects a reasonable expectation for demands in future years, as the demands are expected to gradually increase back to 2050 projected demand levels as development and

water use return to pre-drought and pre-recession conditions. The proposed Project's future development and operations will not change EBMUD's 2050 demand projection.

EBMUD Water Supply, Water Rights and the UWMP 2020

EBMUD has water right permits and licenses that allow for water delivery from the Mokelumne River to the East Bay, subject to the availability of Mokelumne River runoff and the senior water rights of other users. EBMUD's position in the hierarchy of Mokelumne River water users is determined by a variety of agreements between Mokelumne River water right holders and the terms of the appropriative water right permits and licenses.

Conditions that could, depending on hydrology, restrict EBMUD's ability to receive its full entitlement include:

- Upstream water use by senior water right holders.
- Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.
- Variability in precipitation and runoff.
- Curtailments by State Water Resources Control Board.

During prolonged severe droughts, the Mokelumne River supply cannot meet EBMUD's projected customer demands. To address this, EBMUD has completed construction of the Freeport Regional Water Facility and is evaluating future local groundwater projects in the East Bay Plain Subbasin (EBP Subbasin) as part of a Groundwater Sustainability Plan (GSP), which are discussed below in the Supplemental Water Supply and Demand Management section of this assessment. EBMUD has obtained and continues to seek supplemental supplies.

The UWMP 2020, adopted on June 22, 2021, by EBMUD's Board of Directors under Resolution No. 35234-21, is a long-range planning document used to assess current and projected water usage, water supply planning, and conservation and recycling efforts. The Water Shortage Contingency Plan (WSCP) 2020, also adopted on July 22, 2021, by EBMUD's Board of Directors under Resolution No. 35235-21 for inclusion as Attachment 1 within the UWMP 2020, is a document used to develop a coordinated response for when water shortages occur (for example, due to drought, earthquakes, and other emergencies that could impact EBMUD's ability to supply water to customers), and to guide EBMUD's planning and response through thoughtful assessment and management of the water supply.

EBMUD's water supply sources are discussed in Section 1.4.3 of the UWMP 2020. EBMUD's main water supply is the Mokelumne River, and EBMUD has rights to receive up to 325 MGD of water from this source subject to the availability of runoff, senior water rights of other users, and downstream fishery flow requirements. EBMUD also has a Long-Term Renewal Contract (Contract No. 14-06-200-5183A-LTR1) with the United States (U.S.) Bureau of Reclamation to receive water from the Central Valley Project (CVP)

through the Freeport Regional Water Facility in years when EBMUD's water supplies are relatively low (for more details, see Section 1.4.3 of the UWMP 2020). During some dry years, EBMUD may purchase water transfers to help meet customer demands. Section 4.2 of the UWMP 2020 discusses EBMUD's water transfer program.

EBMUD maintains a biennial budget and five-year capital improvement program to optimize investments and maximize drinking water quality, and the reliability, safety, flexibility, and overall efficiency of the water supply system. EBMUD's most recently adopted budget, which includes capital expenditures for the delivery of water supplies to its customers, can be found at http://www.ebmud.com/about-us/investors/budget-and-rates/.

EBMUD complies with applicable local, state, and federal regulations in the operation of its water supply system. Figure 1-4 of the UWMP 2020 illustrates the numerous local, state, and federal agencies that may regulate EBMUD's facilities and operations.

A summary of EBMUD's demand and supply projections, in five-year increments, for a 30-year planning horizon is provided in UWMP 2020 Attachment 1, WSCP, Table W-3, Supply and Demand Assessment, 2020-2050 (Table 2).

Table 2
Supply and Demand Assessment, 2020-2050 (UWMP 2020, WSCP Table W-3)

TABLE W-3 — SUPPLY & DEMAND ASSESSMENT, 2020-2050

EBMUD PLANNING LEVEL OF DEMAND (PLOD)		2020	2025	2030	2035	2040	2045	2050
NORMAL YEAR	MOKELUMNE SUPPLY (MGD)	>181	>186	>190	>194	>201	>209	>218
	EBMUD PLANNING LEVEL OF DEMAND (PLOD) (MGD)	181	186	190	194	201	209	218
	NEED FOR WATER (TAF)	0	0	0	0	0	0	0
SINGLE DRY YEAR	MOKELUMNE SUPPLY (MGD)	121	126	129	132	138	144	151
	CVP SUPPLIES (MGD)	60	60	60	60	60	60	60
	TOTAL SUPPLIES (MGD)	181	186	189	192	198	204	211
	VOLUNTARY RATIONING (%)	0	0	1	1	2	2	3
	NEED FOR WATER (TAF)	0	0	0	0	0	0	0
SECOND DRY YEAR	MOKELUMNE SUPPLY (MGD)	82	86	89	92	98	104	111
	CVP SUPPLIES (MGD)	74	74	74	74	74	74	74
	TOTAL SUPPLIES (MGD)	156	161	164	167	172	178	185
	MANDATORY RATIONING (%)	13	13	13	14	14	14	15
	NEED FOR WATER (TAF)	0	0	0	0	0	0	0
THIRD DRY YEAR	MOKELUMNE SUPPLY (MGD)	141	145	146	145	132	118	105
	CVP SUPPLIES (MGD)	12	12	12	12	12	12	12
	TOTAL SUPPLIES (MGD)	153	157	158	157	144	130	117
	MANDATORY RATIONING (%)	15	15	15	15	15	15	15
	NEED FOR WATER - BASE CONDITION (TAF)	0	0	0	0	28	52	75
	NEED FOR WATER - HIGH DEMAND SCENARIO (TAF)	0	0	21	35	60	97	125
	NEED FOR WATER - EXTREME DROUGHT SCENARIO (TAF)	0	0	0	13	32	55	84

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases on the Mokelumne River. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD, U.S. Fish and Wildlife Service, and the California Department of Fish and Wildlife. The JSA requires EBMUD to make minimum flow releases from its reservoirs to the lower Mokelumne River to protect and enhance the

fishery resources and ecosystem of the river. As this water is released downriver, it is, therefore, not available for use by EBMUD's customers.

The available supply and demand shown in Table 2 were derived from EBMUD's baseline hydrologic model with the following assumptions:

- Customer demand values are based on the 2050 Demand Study, and planning-level demands account for projected savings from water recycling and conservation programs.
- EBMUD Drought Planning Sequence assumes water years 1976, 1977 and a modified 1978 hydrology.
- Total system storage is depleted by the end of the third year of the drought.
- EBMUD will implement its Drought Management Program (DMP) when necessary.
- The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir will increase over time, eventually reaching the full extent of their senior rights.
- Releases are made to meet the requirements of senior downstream water right holders and fishery releases, as required by the JSA.
- EBMUD allocation of CVP supply, as available each drought year based on model results generated by the Department of Water Resources, is available the first year of a drought and subsequent drought years, according to the U.S. Bureau of Reclamation's (USBR) Municipal and Industrial Shortage Policy. However, in some severe dry years, USBR could make a determination of insufficient CVP water supplies and therefore limit further the allocation amounts that EBMUD would receive. During the 2014-2016 drought, EBMUD's CVP allocation went as low as 25 percent, and the extreme drought scenario in Table 2 reflects this reduced allocation.

The UWMP 2020 concludes that EBMUD has, and will have, adequate water supplies to serve existing and projected demand within the Ultimate Service Boundary during normal and wet years, but that deficits are projected for multi-year droughts. During multi-year droughts, EBMUD may require significant customer water use reductions and may also need to acquire supplemental supplies to meet customer demand.

As discussed in the UWMP 2020 WSCP, EBMUD's system storage generally allows EBMUD to continue serving its customers during dry-year events. EBMUD typically imposes water use restrictions based on the projected storage available at the end of September and may also implement water use restrictions in response to a State of California mandate. By imposing water use restrictions in the first dry year of potential drought periods, EBMUD attempts to minimize water use restrictions in subsequent years if a drought persists. Throughout dry periods, EBMUD must continue to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies.

The UWMP 2020 WSCP includes DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions. Under the DMP Guidelines, water use restrictions may be determined based upon projected end-of-September Total System Storage (TSS). When state-mandated water use restrictions exceed the reductions that would otherwise be called for based upon end-of-September TSS, EBMUD's water use reduction requirements may be guided by the applicable state mandates. Under either scenario, while EBMUD strives to keep water use reductions at or below 15 percent, if the drought is severe, mandatory water use reductions could exceed 15 percent.

Despite water savings from EBMUD's aggressive conservation and recycling programs and water use restrictions called for in the DMP Guidelines, supplemental supplies are still needed in significant, severe, and critical droughts. The proposed Project will be subject to the same drought restrictions that apply to all EBMUD customers. In addition, the proposed Project will be subject to EBMUD's regulations aimed at encouraging efficient water use, such as Sections 29 and 31 of EBMUD's Regulations Governing Water Service. Section 29, "Water Use Restrictions," promotes efficient water use by EBMUD customers and prohibits certain uses of potable water. Section 31, "Water Efficiency Requirements," identifies the types of water efficiency requirements (i.e., maximum flow rates for flow control devices) for water service.

Supplemental Water Supply and Demand Management

The goals of meeting projected water needs, and increased water reliability rely on supplemental supplies, improving reliability of existing water supply facilities, water conservation, and recycled water programs. Chapter 4 of the UWMP 2020 describes potential supplemental water supply projects that could be implemented to meet projected long-term water demands during multi-year drought periods.

The Freeport Regional Water Facility became operational in February 2011. EBMUD's ability to take delivery of CVP water through the Freeport Regional Water Facility is based on its Long Term Renewal Contract (LTRC) with the U.S. Bureau of Reclamation. The LTRC provides for up to 133,000 acre feet of CVP supply in a single dry year, not to exceed a total of 165,000 acre feet in three consecutive dry years. Under the LTRC, the CVP supply is available to EBMUD only in dry years when EBMUD's total stored water supply is forecast to be below 500,000 total acre feet on September 30 of each year.

EBMUD is the Groundwater Sustainability Agency (GSA) for the portion of the East Bay Plain Subbasin underlying its service area, and as a GSA, is finalizing a Groundwater Sustainability Plan (GSP) that includes the first phase of the Bayside Groundwater Project. Construction of the first phase (Bayside Groundwater Project Phase 1) was completed in 2010, allowing EBMUD to pilot injection of treated potable water into a deep aquifer in the South East Bay Plain Groundwater Basin for later extraction, treatment, and use during severe droughts. A permit from the Department of Public Health is required before groundwater extraction can be piloted for municipal use. Additional information on the Bayside Groundwater Project can be found in Section 4.1.1 and the WSCP of the UWMP

2020. As part of the GSP management actions, EBMUD will collect additional data and use science-based decision making to inform whether future expansion of Bayside or other groundwater projects are necessary.

Chapter 4 of the UWMP 2020 also lists other potential supplemental water projects, including Northern California water transfers, Bayside Groundwater Project Expansion, expansion of Contra Costa Water District's Los Vaqueros Reservoir, and others that could be implemented to meet the projected long-term water supplemental need during multi-year drought periods. The UWMP 2020 identifies a broad mix of projects, with inherent scalability and the ability to adjust implementation schedules for particular components, which will allow EBMUD to pursue the necessary supplemental supplies while minimizing the risks associated with future uncertainties, such as project implementation challenges, evolving regulatory requirements, and global climate change. The Environmental Impact Report that EBMUD certified for the Water Supply Management Program 2040 examined the impacts of pursuing these supplemental supply projects at a program level. Separate project-level environmental documentation will be prepared, as appropriate, for specific components as they are developed in further detail and implemented in accordance with EBMUD's water supply needs.

In addition to pursuing supplemental water supply sources, EBMUD also maximizes resources through continuous improvements in the delivery and transmission of available water supplies and investments in ensuring the safety of its existing water supply facilities. These programs, along with emergency interties and planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area.

Water Conservation and Recycled Water Considerations

The Project presents opportunities to incorporate water conservation measures. Conditions of approval for the implementation of the proposed Project should require that the Project comply with the California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). EBMUD staff would appreciate the opportunity to meet with the City to discuss conservation measures. This meeting will explore early opportunities to expand water conservation via EBMUD's conservation programs and best management practices applicable to the Project.

Conservation strategies will be required to achieve water use reduction goals and restrictions, including compliance with Sections 29 and 31, described above, of EBMUD's Regulations Governing Water Service, and all other legally mandated water conservation requirements. The State of California is developing a new regulatory framework for urban water conservation based on two policy bills, Senate Bill 606 and Assembly Bill 1668, passed in 2018. These bills direct the State to establish water use efficiency targets for urban water agencies based on indoor residential water use, outdoor water use, and distribution systems. EBMUD will continue to comply with State water conservation regulations as they are developed.

EBMUD's current recycled water infrastructure does not extend to the project area; however, the site is located within EBMUD's East Bayshore Recycled Water Project designated service boundaries and as part of the EBMUD's long term water supply planning, future expansion plans will extend recycled water along Interstate 80 adjacent to the project area. As EBMUD advances plans and implements its recycled water supply expansion, EBMUD requires the City and project sponsors to coordinate closely with EBMUD and provide an estimate of expected water demand for potential recycled water uses for each specific project during the planning of the project to further explore the options and requirements relating to recycled water use. Accordingly, EBMUD will continue to assess and consider the feasibility of providing recycled water to the project area for appropriate uses.

The Project sponsor should contact Jennifer L. McGregor, Senior Civil Engineer, at (510) 287-1030 for further information.

Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning Division

DJR:CW:kvv
wdpd23_099 Gilman Gateway Rezone WSA - Letter

Enclosure: 1. Letter of Request for Water Supply Assessment dated March 13, 2023

cc: Board of Directors

Enclosure

Internal

Planning and Development Department
Land Use Planning Division

March 13, 2023

drehnstr@ebmud.com

David J. Rehnstrom
Manager of Water Distribution Planning
East Bay Municipal Utility District
375 Eleventh Street
Oakland, CA 94607-4240

Subject: Request for Confirmation of Water Supply Assessment for the proposed Gilman Gateway Rezone Project, Berkeley (SCH No. 2022120549)

Dear Mr. Rehnstrom:

Pursuant to Section 10910 of the Water Code, the City of Berkeley is submitting this request to the East Bay Municipal Utility District (EBMUD) for a water supply assessment. The City is requesting EBMUD to determine whether the projected water demand associated with the proposed Gilman Gateway Rezone Project (project) was included in the adopted Urban Water Management Plan and, if it was not included, to prepare a water supply assessment as outlined in Section 10910(c)(3) of the Water Code. The assessment is required in order to determine whether adequate water supply is available to meet the project water demand for the project. This request considers your comments, dated February 9, 2023 (enclosed) on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the proposed project.

The approximately 11.5-acre project site is comprised of 18 parcels in West Berkeley bisected by Second Street and bordered by Gilman Street to the north, the Union Pacific Railroad (UPRR) and Amtrak heavy rail corridor to the east, Page Street to the south, and Eastshore Highway to the west. A table summarizing the existing parcels and buildings is included as an attachment. The project site is primarily developed with industrial buildings with manufacturing and warehouse uses, the majority of which are vacant. Currently, a total approximately 75 employees work on the project site. The proposed project would include the establishment of a new zoning district to facilitate future buildout of up to 1,005,300 square feet of a mix of light manufacturing, research and development (R&D), laboratory, or office uses. It is estimated that the proposed uses would generated a maximum of approximately 2,875 employees, for an increase of approximately 2,800 employees compared to existing conditions.

The City respectfully requests that EBMUD prepare a water supply assessment for the proposed project as described herein. To assist EBMUD with the assessment, projected water demand calculations for the proposed project are also attached to this letter. The City

acknowledges that this request for an assessment is a required part of the environmental documentation for the project. We appreciate your prompt response to this request.

I can be reached by email at AJames@cityofberkeley.info or by mail at:

Ashley James, Senior Planner
City of Berkeley
Planning and Development Department, Land Use Planning Division
1947 Center Street, 2nd Floor
Berkeley, California 94704

Thank you for your consideration of this request.

Sincerely,

Ashley James, Senior Planner

Attachments:

- Existing Parcel and Building Summary
- Water Use Estimate for the Gilman Gateway Rezone Project
- EBMUD Water Use Factors Used to Develop the Water Use Estimate

Table 1: Existing Parcel and Building Summary

Assessor's Parcel Number	Street Address	Building Use	Lot Size (square feet)	Building Size (square feet)
Pacific Steel Casting				
59-2344-1-2	1305 Eastshore Highway	Vacant - Former Industrial/Manufacturing	7,657	1,010
59-2341-4	1401 Eastshore Highway		40,022	26,217
59-2340-8-2	1421 Second Street		102,399	73,640
59-2341-5	1420 Second Street		27,995	19,942
59-2344-4-1	1320 Second Street		54,496	44,343
59-2344-3-1	1314 Second Street		14,000	12,504
59-2345-9	1333 Second Street		36,581	14,840
59-2345-2-2	1310 Third Street		26,604	26,550
59-2345-1	1311 Second Street 630 Gilman Street 640 Gilman Street		44,563	31,560
Berkeley Forge and Tool				
59-2344-7	1331 Eastshore Highway	Industrial/Manufacturing	39,186	31,092
59-2344-5-1	1330 Second Street		12,076	12,030
59-2345-8-1	1337 Second Street	Industrial/Manufacturing	14,632	2,432
59-2345-6-1	635 Camelia Street	Industrial/Manufacturing	13,002	9,024
59-2345-4	643 Camelia Street	Industrial/Manufacturing	5,501	Undeveloped land* current uses include storage of materials, no permanent structures are on the site
Other Ownership				
58-2345-2-1	1306 Third Street	Live/Work	6,651	6,204
59-2344-2-1	600 Gilman Street	Vehicle Rental	11,624	1,008
59-2341-3-2	1433 Eastshore Highway	Approved Recycled Materials Processing use no longer operational. Property currently used for storage of materials.	37,543	1,944
59-2345-7	631 Camelia Street 625 Camelia Street	Industrial/Manufacturing (Clearflow Valves)	8,101	5,730
		Total	**502,633**	**320,070**

Source: Berkeley, City of. 2023.

GILMAN GATEWAY REZONE PROJECT
WATER USAGE ESTIMATE

Use	Unit (Square Feet)	Typical Water Demand (gallons per unit)	Average Daily Water Demand (gpd)
R&D/Office	1,005,300	0.173	173,917

Flowrate factor is based on reference material provided by EBMUD (see attachment)

0.173 gpd/sf for general office (-10 years)

Attachment 3

WASTEWATER ENGINEERING
Treatment, Disposal, and Reuse

Third Edition

METCALF & EDDY, INC.

Revised by

George Tchobanoglous

Professor of Civil Engineering
University of California, Davis

Franklin L. Burton

Vice President, Retired
Metcalf & Eddy, Inc.

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Commercial facilities. The water used by commercial facilities for sanitary purposes will vary widely depending on the type of activity (e.g., an office as compared to a restaurant). Typical water-use values for various types of commercial facilities are reported in Table 2-3. For large commercial water-using facilities such as laundries and car washes, careful estimates of actual water use should be made.

Institutional facilities. Water used by facilities such as hospitals, schools, and rest homes is usually based on some measure of the size of the facility and the type of housing function provided (e.g., per student or per bed). Water use for schools will vary significantly depending on whether the students are housed on campus or are day students. Representative water-use values for institutional facilities are reported in Table 2-4.

TABLE 2-3
Typical rates of water use for commercial facilities[a]

User	Unit	Flow, gal/unit · d	
		Range	Typical
Airport	Passenger	3–5	4
Apartment house	Person	100–200	100
Automobile service station	Employee	8–15	13
	Vehicle served	8–15	10
Boarding house	Person	25–50	40
Department store	Toilet room	400–600	550
	Employee	8–13	10
Hotel	Guest	40–60	50
	Employee	8–13	10
Lodging house and tourist home	Guest	30–50	40
Motel	Guest	25–40	35
Motel with kitchen	Guest	25–60	40
Laundry (self-service)	Machine	400–650	550
	Wash	45–55	50
Office	Employee	8–20	15
Public lavatory	User	3–6	5
Restaurant (including toilet)			
Conventional	Customer	8–10	9
Short-order	Customer	3–8	6
Bar and cocktail lounge	Customer	2–4	3
	Seat	15–25	20
Shopping center	Parking space	1–3	2
	Employee	8–13	10
Theater			
Indoor	Seat	2–4	3
Outdoor	Car	3–5	4

[a] Adapted in part from Refs. 7 and 8.
Note: gal × 3.7854 = L

TABLE 2-4
Typical water-

User

Assembly hall
Hospital, medical

Hospital, mental

Prison

Rest home

School, day
With cafeteria, g
and showers
With cafeteria or
Without cafeteria
School, boarding

[a] Adapted in part fro
Note: gal × 3.7854 =

Recreati
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involving water

Industrial (No
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Public Servic
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used for public
system mainter
new water line
flushing of sew
sanitary sewer

Water Supply Planning

David W. Prasifka

Krieger Publishing Company
Malabar, Florida
1994

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Table 1-6. Summary of Commercial and Institutional Water Use.

Type of Establishment or Institution	*Selected Parameter*	Annual Water Use (gpd/unit)		Maximum Day Water Use (gpd/unit)		Peak Hour Water Use (gpd/unit)	
		Expected	*Design*	*Expected*	*Design*	*Expected*	*Design*
Primary and secondary schools							
public elementary	gpd/student	5.38	8.67	9.68	13.00	49.10	52.40
public senior high	gpd/student	5.64	9.75				
public junior high	gpd/student	6.63	12.20	19.60	25.20	121.00	127.00
private elementary	gpd/student	2.24	6.09	3.10	6.92	25.70	29.50
private senior high	gpd/student	10.40	18.60	15.70	23.90	38.70	46.90
combined (grades 1–12)	gpd/student	8.49	18.70	16.80	27.00	51.30	61.50
Colleges							
students in residence	gpd/student	106	179	114	187	250	323
nonresident students	gpd/student	15	*	27	*	58	*
Hospitals	gpd/bed	346	559	551	764	912	1120
Nursing homes and institutions	gpd/bed	113	209	146	222	424	500
Apartments							
high-rise	gpd/occupied unit	218	322	426	530	745	849
garden-type	gpd/occupied unit	213	315	272	374	671	773
Hotels	gpd/sq. ft.	0.256	*	0.294	*	0.433	*
Motels	gpd/sq. ft.	0.224	0.326	0.461	0.563	1.55	1.65
Office buildings							
general offices (−10 years)	gpd/sq. ft.	0.093	0.164	0.173	0.244	0.521	0.592
general offices (+10 years)	gpd/sq. ft.	0.142	0.273				
medical offices	gpd/sq. ft.	0.618	*	1.660	*	4.970	*
Department stores	gpd/sq. ft. of total sales area	0.216	0.483	0.388	0.655	0.958	1.230
Shopping centers	[illegible]	[illegible]	*	0.232	*	0.412	*
Car washes	gpd/sq. ft.	4.78	*	10.3	*	31.5	*
Service stations	gpd/sq. ft. of garage & office space	0.251	0.485	0.590	0.824	4.890	5.120
Laundries							
commercial laundries & dry cleaners	gpd/sq. ft.	0.253	0.639	0.326	0.712	1.570	1.960
laundromats	gpd/sq. ft.	2.170	6.390	*	*	*	*
Restaurants							
drive-ins (parking only)	gpd/car space	109.0					
drive-ins (seating & parking)	gpd/seat	40.6					
conventional restaurants	gpd/seat	24.2	55.2	83.4	114	167	198

(continued)