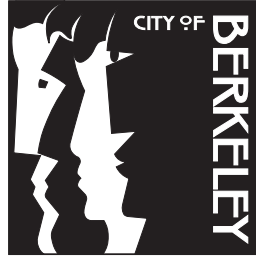


CITY OF



BERKELEY

**DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

SPECIFICATIONS

**FOR
FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT
PROJECT**

SPECIFICATION NOS. 23-11616-C & 23-11614-C (RE-ISSUED)

APRIL 2024

PRE-BID CONFERENCE: None

BID OPENING DATE: MAY 09, 2024

**1947 CENTER STREET, 4TH FLOOR, BERKELEY, CALIFORNIA 94704
(510) 981-6400**

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

SPECIFICATIONS

FOR

FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT
SPECIFICATION NOS. 23-11616-C & 23-11614-C (RE-ISSUED)

Prepared under the direction of:



Srinivas Muktevi, P.E.
Supervising Civil Engineer



04/11/2024

Reviewed by:



Ronald A. Nevels, P.E.
City Engineer

Engineering Division
1947 Center Street, 4th Floor
Berkeley, California 94704
Project Manager: Terrence Salonga

NOTICE TO BIDDERS 1
BIDDER'S PROPOSAL..... 1
EXPERIENCE AND FINANCIAL QUALIFICATIONS 15
TAXPAYER IDENTIFICATION REPORT..... 16
NUCLEAR FREE ZONE DISCLOSURE FORM 17
OPPRESSIVE STATES COMPLIANCE STATEMENT FOR PERSONAL SERVICES 18
MEMORANDUM OF UNDERSTANDING (MOU)..... 19
AGREEMENT FOR CHANGE IN SUB-CONTRACTORS..... 20
WORKFORCE COMPOSITION FORM FOR ALL CONSTRUCTION CONTRACTS..... 21
NOTICE REGARDING THE EQUAL BENEFITS ORDINANCE..... 23
EQUAL BENEFITS ORDINANCE DISCLOSURE FORM..... 24
CERTIFICATION OF COMPLIANCE WITH EQUAL BENEFITS ORDINANCE 25
SANCTUARY CITY COMPLIANCE STATEMENT..... 27
BIDDING & CONTRACTING UNDER COMMUNITY WORKFORCE AGREEMENT (CWA)..... 28
AGREEMENT TO BE BOUND..... 30
COMMUNITY WORKFORCE AGREEMENT (CWA) HIRING PLAN 31
PERFORMANCE BOND 32
COMMERCIAL GENERAL AND AUTOMOBILE LIABILITY ENDORSEMENT 35
RIGHT TO AUDIT FORM..... 36

PART A General Provisions
PART B Special Provisions
PART C Technical Provisions for Package A
PART D Technical Provisions for Package B

APPENDIX A Community Workforce Agreement
APPENDIX B Pedestrian Access during Construction Projects
APPENDIX C City of Berkeley Monument Reference Guidelines
APPENDIX D Survey Monuments to be Referenced
APPENDIX E Traffic Control Plan Examples
APPENDIX F Geotechnical Reports

PART A – GENERAL PROVISIONS

SECTION 1 - DEFINITION OF TERMS	1
SECTION 2 - PROPOSAL REQUIREMENTS AND CONDITIONS	4
SECTION 3 - AWARD AND EXECUTION OF CONTRACT	7
SECTION 4 - SCOPE OF WORK.....	9
SECTION 5 - CONTROL OF THE WORK	18
SECTION 6 - CONTROL OF MATERIAL.....	24
SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.....	26
SECTION 8 - PROSECUTION AND PROGRESS.....	35
SECTION 9 - MEASUREMENT AND PAYMENT.....	40

PART B - SPECIAL PROVISIONS

GENERAL CONDITIONS	1
1. Standard Specifications.....	1
2. Locations and Order of Work	1
3. Nature of Work	2
4. Contractor's License: State SB #223.....	2
5. State Senate Bill SB #854.....	3
6. Performance Bond	3
7. Labor and Material Bond.....	3
8. Oppressive States Compliance Statement.....	3
9. Nuclear Free Zone Disclosure Form.....	4
10. Equal Benefits Ordinance Disclosure Form	4
11. Sanctuary City Compliance Statement	4
12. Community Workforce Agreement	5
13. Insurance Certificate	5
14. Progress Schedule	5
15. Holidays	6
16. Obstructions	7
17. Weight Certificates	8
18. Public Relations Requirements.....	8
19. Lines and Grades.....	9
20. Protection and Preservation of Survey Monuments.....	9
21. Revocable Bid Items.....	10
22. Construction on Hill Streets.....	11
23. Overage Permits.....	11
24. Stormwater Pollution Control.....	11
25. Creek Protection.....	14
26. Audio/Video Survey	14
27. Tree and Root Protection and Root Pruning.....	14
28. Conformance to Plans and Specifications.....	14

29.	Bond Riders for Additional Work during Construction	15
30.	Retained Funds.....	15
31.	Mobilization and Demobilization	15
32.	Existing Utilities	16
33.	General Conditions Compensation	18
34.	Termination of Contract for Convenience	18

PART C - TECHNICAL PROVISIONS FOR FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT – “BID PACKAGE A”

BID ITEM NO. A-1 – TRAFFIC CONTROL..... 1

BID ITEM NO. A-2 – WATER POLLUTION CONTROL 5

BID ITEM NO. A-3 – CONSTRUCTION STAKING AND MONUMENT REFERENCING 6

BID ITEM NO. A-4 – EXCAVATION SAFETY..... 9

BID ITEM NO. A-5 – MOBILIZATION/DEMobilIZATION 11

BID ITEM NO. A-6 - CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING..... 13

BID ITEM NO. A-7 – TREE REMOVAL – 0 to 12” DIAMETER..... 13

BID ITEM NO. A-8 – TREE REMOVAL – 13” to 24” DIAMETER..... 13

BID ITEM NO. A-9 – STUMP GRINDING up to 48” DIAMETER – 15” BELOW GRADE (REVOCABLE)..... 13

BID ITEM NO. A-10 – ROADWAY EXCAVATION 19

BID ITEM NO. A-11 – NOT USED 21

BID ITEM NO. A-12 – REMOVE CONCRETE PAVEMENT 21

BID ITEM NO. A-13 – REMOVE CURB & GUTTER 21

BID ITEM NO. A-14 – REMOVE RETAINING WALL..... 21

BID ITEM NO. A-15 – REMOVE STORM DRAIN ACCESS HATCH..... 21

BID ITEM NO. A-16 – REMOVE METAL BEAM GUARDRAIL AND FENCE 21

BID ITEM NO. A-17 – CONCRETE FLATWORK (NON-TRAFFIC RATED)..... 25

BID ITEM NO. A-18 – CONCRETE THICKENED EDGE 25

BID ITEM NO. A-19 – (NOT USED) 25

BID ITEM NO. A-20 – CONCRETE 12-INCH WIDE CHANNEL 25

BID ITEM NO. A-21A - CONCRETE CURB AND GUTTER (12-INCH)..... 25

BID ITEM NO. A-21B - CONCRETE CURB AND GUTTER (24-INCH)..... 25

BID ITEM NO. A-22A – PEDESTRIAN BARRIER MEDIAN 25

BID ITEM NO. A-22B – PEDESTRIAN PASSAGEWAY..... 25

BID ITEM NO. A-23A – CONCRETE RETAINING WALL – HILGARD AVENUE..... 25

BID ITEM NO. A-23B – CONCRETE RETAINING WALL – LA LOMA AVENUE..... 25

BID ITEM NO. A-24 – CONCRETE CRACK REPAIR..... 30

BID ITEM NO. A-25 – CONCRETE STAIRCASE (UPPER COLUMBIA PATH) 34

BID ITEM NO. A-26 – DRILLED (CAST IN PLACE) PIERS 38

BID ITEM NO. A-27 – HOT MIX ASPHALT (TYPE A) 39

BID ITEM NO. A-28 – AGGREGATE BASE 43

BID ITEM NO. A-29 – PEDESTRIAN METAL FENCE 45

BID ITEM NO. A-30 – METAL BEAM GUARDRAIL 46

BID ITEM NO. A-31 – CONVERT SD VAULT TO MH ACCESS..... 46

BID ITEM NO. A-32A – ADJUST UTILITY BOX TO GRADE - EBMUD (REVOCABLE)..... 48

BID ITEM NO. A-32B – ADJUST SURVEY MONUMENT BOX TO GRADE (REVOCABLE)..... 48

BID ITEM NO. A-33 – 6” WHITE LINE 50

BID ITEM NO. A-34 – 12” WHITE CROSSWALK/LIMIT LINE 50

BID ITEM NO. A-35 – STRIPING DETAIL 22 – MODIFIED 50

BID ITEM NO. A-36 – YIELD LINE..... 50

BID ITEM NO. A-37 – PLASTIC LANE SEPARATOR..... 50

BID ITEM NO. A-38A – REMOVE AND REPLACE ROADSIDE SIGN AND POST 52

BID ITEM NO. A-38B – REPLACE ROADSIDE SIGN ON EXISTING POST 52

BID ITEM NO. A-39 - SUPPLEMENTAL WORK 53

BID ITEM NO. A-40 – (NOT USED) 54

BID ITEM NO. A-41 – POTHOLES..... 54

BID ITEM NO. A-42 – CONCRETE PATH REPAIR (INCL. CLASS II AB)..... 55

**PART D- TECHNICAL PROVISIONS FOR PEDESTRIAN IMPROVEMENTS AT THE
INTERSECTION OF WOOLSEY ST AND ETON AVE – “BID PACKAGE B”**

BID ITEM NO. B-1 – CONSTRUCTION PHASING AND TRAFFIC CONTROL	1
BID ITEM NO. B-2 – WATER POLLUTION CONTROL.....	1
BID ITEM NO. B-3 – CONSTRUCTION STAKING AND MONUMENT REFERENCING	1
BID ITEM NO. B-4 – (NOT USED).....	2
BID ITEM NO. B-5 – MOBILIZATION/DEMobilIZATION.....	2
BID ITEM NO. B-6 - CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING	2
BID ITEM NO. B-7 – (NOT USED).....	2
BID ITEM NO. B-8 – TREE REMOVAL – 13” to 24” DIAMETER	2
BID ITEM NO. B-9 – (NOT USED).....	2
BID ITEM NO. B-10 – ROADWAY EXCAVATION (FINAL PAY ITEM)	2
BID ITEM NO. B-11 – (NOT USED).....	2
BID ITEM NO. B-12 – REMOVE CONCRETE PAVEMENT.....	2
BID ITEM NO. B-13 – REMOVE CONCRETE CURB & GUTTER.....	2
BID ITEM NO. B-14 – (NOT USED).....	2
BID ITEM NO. B-15 – (NOT USED).....	2
BID ITEM NO. B-16 – (NOT USED).....	2
BID ITEM NO. B-17 – CONCRETE FLATWORK (NON-TRAFFIC RATED).....	3
BID ITEM NO. B-18 – (NOT USED).....	3
BID ITEM NO. B-19 – CONCRETE VERTICAL CURB	3
BID ITEM NO. B-20 – (NOT USED).....	3
BID ITEM NO. B-21A – (NOT USED).....	3
BID ITEM NO. B-21B - CONCRETE CURB AND GUTTER (24-INCH)	3
BID ITEM NO. B-22 – (NOT USED).....	3
BID ITEM NO. B-23 – (NOT USED).....	3
BID ITEM NO. B-24 – (NOT USED).....	3
BID ITEM NO. B-25 – (NOT USED).....	3
BID ITEM NO. B-26 – (NOT USED).....	3
BID ITEM NO. B-27 – HOT MIX ASPHALT (TYPE A).....	3
BID ITEM NO. B-28 – (NOT USED).....	4
BID ITEM NO. B-29 – (NOT USED).....	4
BID ITEM NO. B-30 – (NOT USED).....	4
BID ITEM NO. B-31 – NOT USED).....	4
BID ITEM NO. B-32 – ADJUST UTILITY BOX TO GRADE (REVOCABLE ITEM).....	4
BID ITEM NO. B-33 – 6” WHITE LINE	4
BID ITEM NO. B-34 – (NOT USED).....	4
BID ITEM NO. B-35 – (NOT USED).....	4
BID ITEM NO. B-36 – YIELD LINE	4
BID ITEM NO. B-37– (NOT USED).....	4
BID ITEM NO. B-38 – (NOT USED).....	4
BID ITEM NO. B-39 – (NOT USED).....	4
BID ITEM NO. B-40- CHANGEABLE MESSAGE BOARDS	4
BID ITEM NO. B-41 – POTHOLE.....	5
BID ITEM NO. B-42 – (NOT USED).....	5
BID ITEM NO. B-43 – REMOVE EXISTING SIGNAGE	5
BID ITEM NO. B-44 – ADJUST GAS VALVE COVER TO FINISH GRADE (REVOCABLE)	6
BID ITEM NO. B-45 – ADJUST CITY MAINTENANCE HOLE COVER TO FINISH GRADE	6
BID ITEM NO. B-46 – ADJUST MAINTENANCE HOLE COVER TO FINISH GRADE (REVOCABLE).....	6
BID ITEM NO. B-47 – RAISED CROSSWALK	7

BID ITEM NO. B-48 – CONCRETE CURB AND GUTTER AT RAISED CROSSWALK.....	8
BID ITEM NO. B-49 – CONCRETE MOUNTABLE CURB AT TRAFFIC CIRCLE	8
BID ITEM NO. B-50 – CONCRETE DRIVEWAY	8
BID ITEM NO. B-51 – CONCRETE CURB RAMP.....	8
BID ITEM NO. B-52 – CONCRETE RAISED MEDIAN.....	8
BID ITEM NO. B-53 – CONCRETE RAISED MEDIAN (TRAFFIC RATED).....	8
BID ITEM NO. B-54 – CONCRETE MOUNTABLE MEDIAN (TRAFFIC RATED).....	8
BID ITEM NO. B-55 – CONCRETE FLUSH MEDIAN (TRAFFIC-RATED).....	8
BID ITEM NO. B-56 – INSTALL ROADSIDE SIGN AND POST.....	9
BID ITEM NO. B-57 – REMOVE AND REINSTALL EXISTING SIGNAGE	9
BID ITEM NO. B-58 – WHITE TRIPLE FOUR CROSSWALK (THERMO)	14
BID ITEM NO. B-59 – STRIPING DETAIL #25 (THERMO AND MARKERS).....	14
BID ITEM NO. B-60 – STRIPING DETAIL #29 (THERMO AND MARKERS).....	14
BID ITEM NO. B-61 – 4” YELLOW LINE (THERMO).....	14
BID ITEM NO. B-62 – RED CURB PAINT	14
BID ITEM NO. B-63 – INSTALL BLUE RPM AT FIRE HYDRANT	14
BID ITEM NO. B-64 – INSTALL ARMADILLOS	19
BID ITEM NO. B-65 – INSTALL TOPSOIL	20
BID ITEM NO. B-66 – TREE REMOVAL – GREATER THAN 24” DIAMETER.....	21

NOTICE TO BIDDERS

1. Sealed bids will be received by the Finance Department – General Services Division in their office, 2180 Milvia Street, 3rd Floor, Berkeley, California up to the hour of:

2:00 P.M., Thursday, May 09, 2024

At which time bids will be publicly opened and read by the General Services Manager for **FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT** provided for in the plans and specifications. Proposals must be submitted, on forms prepared for this purpose furnished by the City, in an envelope marked **FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT, SPECIFICATION NOS. 23-11616-C & 23-11614-C (RE-ISSUED)**.

Pre-Award Conference: The apparent low Bidder will be invited to a pre-award conference tentatively scheduled for 2:00 P.M., Thursday, May 23, 2024, at 1947 Center Street, 4th Floor, Berkeley, CA.

2. Scope of Work: The work of the **FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT** consists of the following components:

- **Retaining Wall and Storm Drain Improvement – “Bid Package A”.**

The work done under this component includes but is not limited to: traffic control; potholing; protection of underground utilities; survey monument and utility cover adjustments; tree removals; stump grinding; removal and replacement of retaining wall asphalt pavement, concrete pavement, sidewalk, and curb & gutter; retaining wall crack sealing; storm drain maintenance hole removal and replacement; removal and replacement of metal fence; removal and replacement of guardrails; pavement marker placement; and roadway sign installation.

The work under this component is described in the bid documents, including but not limited to:

- Plans, titled **FY 2023 Retaining Wall and Storm Drain Improvement Project, Specification No. 23-11616-C (Re-Issued)**.
- Technical Specifications, with associated bid items indicated with the prefix “A”.

- **Intersection Work at Woolsey Street & Eton Avenue – “Bid Package B”.**

The work done under this component includes but is not limited to: saw cutting and removing existing asphalt concrete pavement, Portland cement concrete pavement, and associated base materials; utility cover and manhole adjustments for communications, sanitary sewer, storm drain, and domestic water utilities; removal of existing trees, stumps, and roots; new Portland cement concrete sidewalks, curb, gutter, curb ramps, roadway medians, and traffic circle; new asphalt concrete pavement sections, including a raised crosswalk; pavement markings; and signage.

The work under this component is described in the bid documents, including but not limited to:

- Plans, titled **Pedestrian Improvements at Intersection of Woolsey Street and Eton Avenue, Specification No. 23-11614-C (Re-Issued)**.
 - Technical Specifications, with associated bid items indicated with the prefix “B”.
3. California Contractor License Classification required: A - General Engineering
 4. Location: The work is located at various locations in Berkeley, CA.
 5. Project plans and specifications may be obtained online at the City of Berkeley's Public Works website under Current Construction Project Bid Opportunities:

<https://berkeleyca.gov/doing-business/working-city/bid-proposal-opportunities>

Bidders are responsible for notifying Randy Kong, Associate Civil Engineer, by email at wkong@berkeleyca.gov to be included on the Planholders List.

6. It is the Contractor's responsibility to check for any addenda on the City of Berkeley's website

<https://berkeleyca.gov/doing-business/working-city/bid-proposal-opportunities>

7. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

8. Each proposal must be accompanied by an unconditionally certified or cashier's check or bid bond made payable to the City of Berkeley, and such check or bond shall be in an amount equal to at least 10% of the amount of the bid.
9. Pursuant to City Council Resolution No. 59,853-N.S., each proposal must include a signed copy of the Oppressive States Resolution Disclosure Form regarding the Contractor's relationships with certain entities in the Oppressive States.
10. Each proposal must include a signed copy of the Nuclear Free Zone Disclosure Form.
11. Each proposal must include a signed copy of the Equal Benefits Ordinance Disclosure Form.

12. Each proposal must include a signed copy of the Sanctuary City Compliance Statement.
13. This contract will be subject to the Community Workforce Agreement approved by the Berkeley City Council on June 27, 2023. The successful Bidder and all subcontractors, at any tier, will be required to sign an Agreement to be Bound as a condition precedent to entering into any contract for this Project.
14. Prior to starting work, the Contractor must furnish the following:
 - a. Faithful Performance Bond in an amount not less than 100% of the amount of the contract, executed on the City of Berkeley Standard Performance Bond agreement form.
 - b. Labor and Material Bond are in the sum of not less than 100% of the contract amount.
 - c. A Worker's Compensation Insurance certificate is with a waiver of subrogation in favor of the City of Berkeley.
 - d. Commercial general liability insurance coverage is \$2 million for each occurrence of Bodily Injury and \$2 million for each occurrence of Property Damage, with defense costs payable in addition to policy limits.
 - e. Automobile liability insurance is \$2 million for each occurrence of Bodily Injury and \$2 million for each occurrence of Property Damage.
 - f. Insurance policies shall contain an endorsement naming the City, their employees, representatives, and agents as additional insureds, but only with respect to liability arising out of the activities of the named insured.
 - g. The policies shall apply separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's liability.
 - h. Written notice of cancellation or any limits reduction or change in said policy shall be mailed to the City and the Project Manager thirty (30) days in advance of the effective date thereof. Insurance policies shall contain a Notice of Cancellation endorsement.
 - i. Contractor's insurance shall be primary insurance and no other insurance or self-insured retention carried or held by City shall be called upon to contribute to a loss covered by insurance for the named insured.
15. In accordance with California State Labor Code, the wage scale is on file with the Engineering Office or is attached herewith.

16. Award will be made by the City Council at a meeting within 75 days subsequent to the date set for bid opening. The Council reserves the right to reject any or all bids or any combination of bids.
17. General information or plan holder's list: (510) 981-6400.
Questions concerning the anticipated work or scope of the Project should be directed to Randy Kong, Associate Civil Engineer, by email at wkong@cityofberkeley.info, no later than 10:00 A.M., April 18, 2024.

General Services Manager

BIDDER'S PROPOSAL

Bidders submitting proposals shall be very careful to follow all requirements in connection therewith. A checklist has been attached for guidance in complying with all phases of the bid process and Project. Any proposal not complying with all these requirements may be rejected.

TO THE HONORABLE MAYOR AND
MEMBERS OF THE CITY COUNCIL

Pursuant to the provisions of the plans, specifications and contract documents, the undersigned proposed to perform the work as described therein a manner satisfactory to the responsible City official. All material, equipment, tools, labor, and services necessary to the work will be furnished. All laws and ordinances relating to the work will be complied with, and a business license to do business in the City will be obtained. The undersigned declares that the plans, specifications, contract documents and the site of the work have been thoroughly examined and that this proposal is made without collusion with any person, firm, or corporation.

Execution of the proposal by the undersigned Bidder shall become a binding contract on the parties when the award of a contract pursuant to the said proposal is authorized by resolution of the City Council, where required by the Charter of the City by the City Manager, or an officer who is his/her authorized representative.

The undersigned agrees that when his proposal is executed he will furnish specified bonds and insurance, and he will begin work within the time specified, and complete work within the contract period or agree to the assessment of liquidated damages, all as stipulated in the attached pages of the Bidder's Proposal.

As a guaranty that the terms of this proposal will be complied with, the undersigned submits herewith a proposal guaranty for an amount equal to at least Ten Percent (10%) of his total bid.

All subcontractors who will perform work for the Bidder on this Project in the amount in excess of one-half of one percent (0.5%) of the total bid, including labor, materials, and equipment, or work specifically fabricated off the job site according to detailed drawings contained in the plans, shall be listed, pursuant to Sections 4100 to 4113, inclusive of the California Government Code.

BIDDER'S PROPOSAL
(continued)

Name of Subcontractor and address:	Subcontractor License No.	Type of Work	\$ Amount

Contractor's California License Number: _____

License Expiration Date: _____

I declare that representations made in this bid are under penalty of perjury.

Signature

Title

BIDDER'S PROPOSAL
(continued)

Bid Package A – Retaining Wall and Storm Drain Improvement

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
A-1.	Traffic Control	1	LS	\$ _____	\$ _____
A-2.	Water Pollution Control	1	LS	\$ _____	\$ _____
A-3.	Construction Staking and Monument Referencing	1	LS	\$ _____	\$ _____
A-4.	Excavation Safety	1	LS	\$ _____	\$ _____
A-5.	Mobilization/Demobilization	1	LS	\$ _____	\$ _____
A-6.	Clearing, Grubbing, Tree Protection And Root Pruning	1	LS	\$ _____	\$ _____
A-7.	Tree Removal – 0 to 12” Diameter	23	EA	\$ _____	\$ _____
A-8.	Tree Removal – 13” to 24" Diameter	3	EA	\$ _____	\$ _____
A-9.	Stump Grinding up to 48” Diameter - 15” below grade (Revocable)	3	EA	\$ _____	\$ _____
A-10.	Roadway Excavation	100	CY	\$ _____	\$ _____
A-11.	(not used)				
A-12.	Remove Concrete Pavement	280	SF	\$ _____	\$ _____
A-13.	Remove Curb & Gutter	108	LF	\$ _____	\$ _____
A-14.	Remove Retaining Wall	91	LF	\$ _____	\$ _____
A-15.	Remove Storm Drain Access Hatch	2	EA	\$ _____	\$ _____

BIDDER'S PROPOSAL
(continued)

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
A-16.	Remove Metal Beam Guardrail and Fence	1	LS	\$_____	\$_____
A-17.	Concrete Flatwork (Non-Traffic Rated)	400	SF	\$_____	\$_____
A-18.	Concrete Thickened Edge	35	LF	\$_____	\$_____
A-19.	(not used)				
A-20.	Concrete 12-inch Wide Channel	26	LF	\$_____	\$_____
A-21A.	Concrete Curb and Gutter (12-inch)	29	LF	\$_____	\$_____
A-21B.	Concrete Curb and Gutter (24-inch)	54	LF	\$_____	\$_____
A-22A.	Pedestrian Barrier Median	700	SF	\$_____	\$_____
A-22B.	Pedestrian Passageway	208	SF	\$_____	\$_____
A-23A.	Concrete Retaining Wall – Hilgard Ave	1	LS	\$_____	\$_____
A-23B.	Concrete Retaining Wall – La Loma Ave	1	LS	\$_____	\$_____
A-24.	Concrete Crack Repair	1	LS	\$_____	\$_____
<u>A-25.</u>	<u>Concrete Staircase (Upper Columbia Path):</u>				
A-25A.	Earthwork	200	TN	\$_____	\$_____
A-25B.	Concrete (Incl. Class II AB & Sub-Drain System)	27	CY	\$_____	\$_____
A-25C.	Handrail (Top-mounted)	20	LF	\$_____	\$_____

BIDDER'S PROPOSAL
(continued)

A-25D.Handrail (Side-mounted) 60 LF \$_____ \$_____

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
A-26.	Drilled (Cast in Place) Piers	290	LF	\$_____	\$_____
A-27.	Hot Mix Asphalt (Type A)	125	TN	\$_____	\$_____
A-28.	Aggregate Base (Class II)	35	CY	\$_____	\$_____
A-29.	Pedestrian Metal Fence	39	LF	\$_____	\$_____
A-30.	Metal Beam Guardrail	66	LF	\$_____	\$_____
A-31.	Convert SD Vault to MH Access	2	EA	\$_____	\$_____
A-32A.	Adjust Utility Box to Grade – EBMUD (Revocable)	2	EA	\$_____	\$_____
A-32B.	Adjust Survey Monument Box to Grade (Revocable)	1	EA	\$_____	\$_____
A-33.	6” White Line	45	LF	\$_____	\$_____
A-34.	12” White Crosswalk/Limit Line	330	LF	\$_____	\$_____
A-35.	Striping Detail #22 - Modified	188	LF	\$_____	\$_____
A-36.	Yield Line	81	SF	\$_____	\$_____
A-37.	Plastic Lane Separator	45	EA	\$_____	\$_____
A-38A.	Remove and Replace Roadside Sign and Post	1	EA	\$_____	\$_____
A-38B.	Replace Roadside Sign on Existing Post	4	EA	\$_____	\$_____

BIDDER'S PROPOSAL
(continued)

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
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The following Bid Item, "Supplemental Work," is an addition to the Project's scope of work. This additional work may or may not be authorized to be performed by the Contractor as part of this contract. The additional work may be located throughout the City of Berkeley and may be outside the limits of work.

A-39.	Supplemental Work	1	LS	\$ <u>100,000</u>	\$ <u>100,000</u>
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A-40. (not used)

A-41.	Pothole	1	LS	\$_____	\$_____
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A-42.	Concrete Path Repair (Incl. Class II AB)	1	LS	\$_____	\$_____
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TOTAL COST OF BID PACKAGE A IN WORDS AND FIGURES: _____

_____ Dollars

and _____ Cents/(\$__

_____).

BIDDER'S PROPOSAL
(continued)

Bid Package B – Intersection Work at Woolsey Street & Eton Avenue

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
B-1.	Construction Phasing and Traffic Control	1	LS	\$ _____	\$ _____
B-2.	Water Pollution Control	1	LS	\$ _____	\$ _____
B-3.	Construction Staking and Monument Referencing	1	LS	\$ _____	\$ _____
B-4.	(not used)				
B-5.	Mobilization/Demobilization	1	LS	\$ _____	\$ _____
B-6.	Clearing, Grubbing, Tree Protection And Root Pruning	1	LS	\$ _____	\$ _____
B-7.	(not used)				
B-8.	Tree Removal – 13” to 24" Diameter (Revocable)	1	EA	\$ _____	\$ _____
B-9.	(not used)				
B-10.	Roadway Excavation	185	CY	\$ _____	\$ _____
B-11.	(not used)				
B-12.	Remove Concrete Pavement	1,339	SF	\$ _____	\$ _____
B-13.	Remove Concrete Curb & Gutter	177	LF	\$ _____	\$ _____
B-14.	(not used)				
B-15.	(not used)				

BIDDER'S PROPOSAL
(continued)

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
B-16.	(not used)				
B-17.	Concrete Flatwork (Non-Traffic Rated)	892	SF	\$_____	\$_____
B-18.	(not used)				
B-19.	Concrete Vertical Curb	197	LF	\$_____	\$_____
B-20.	(not used)				
B-21A.	(not used)				
B-21B.	Concrete Curb and Gutter (24-inch)	148	LF	\$_____	\$_____
B-22.	(not used)				
B-23.	(not used)				
B-24.	(not used)				
B-25.	(not used)				
B-26.	(not used)				
B-27.	Hot Mix Asphalt (Type A)	369	TN	\$_____	\$_____
B-28.	(not used)				
B-29.	(not used)				
B-30.	(not used)				

BIDDER'S PROPOSAL
(continued)

B-31. (not used)

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
B-32.	Adjust Utility Box to Grade – EBMUD (Revocable)	4	EA	\$_____	\$_____
B-33.	6” White Line	565	LF	\$_____	\$_____
B-34.	(not used)				
B-35.	(not used)				
B-36.	Yield Line	18	SF	\$_____	\$_____
B-37.	(not used)				
B-38.	(not used)				
B-39.	(not used)				
B-40.	Changeable Message Boards	3	EA	\$_____	\$_____
B-41.	Pothole	1	LS	\$_____	\$_____
B-42.	(not used)				
B-43.	Remove Existing Signage	8	EA	\$_____	\$_____
B-44.	Adjust Gas Valve Cover to Finish Grade (Revocable)	1	EA	\$_____	\$_____
B-45.	Adjust City Maintenance Hole Cover to Finish Grade	4	EA	\$_____	\$_____

BIDDER'S PROPOSAL
(continued)

<u>Item No.</u>	<u>Description*</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
B-46.	Adjust Maintenance Hole Cover to Finish Grade (Revocable)	1	EA	\$_____	\$_____
B-47.	Raised Crosswalk	1	EA	\$_____	\$_____
B-48.	Concrete Curb & Gutter at Raised Crosswalk	39	LF	\$_____	\$_____
B-49.	Concrete Mountable Curb at Traffic Circle	51	LF	\$_____	\$_____
B-50.	Concrete Driveway	94	SF	\$_____	\$_____
B-51.	Concrete Curb Ramp	550	SF	\$_____	\$_____
B-52.	Concrete Raised Median	231	SF	\$_____	\$_____
B-53.	Concrete Raised Median (Traffic Rated)	63	SF	\$_____	\$_____
B-54.	Concrete Mountable Median (Traffic Rated)	163	SF	\$_____	\$_____
B-55.	Concrete Flush Median (Traffic Rated)	100	SF	\$_____	\$_____
B-56.	Install Roadside Sign and Post	11	EA	\$_____	\$_____
B-57.	Remove and Reinstall Existing Signage	3	EA	\$_____	\$_____
B-58.	White Triple Four Crosswalk (Thermo)	70	LF	\$_____	\$_____
B-59.	Striping Detail #25 (Thermo & Markers)	206	LF	\$_____	\$_____
B-60.	Striping Detail #29 (Thermo & Markers)	144	LF	\$_____	\$_____

BIDDER'S PROPOSAL
(continued)

B-61.	4" Yellow Line (Thermo)	28	LF	\$_____	\$_____
B-62.	Red Curb Paint	380	LF	\$_____	\$_____
Item No.	Description*	Estimated Quantity	Unit	Unit Cost	Total Cost
B-63.	Install Blue RPM at Fire Hydrant	1	EA	\$_____	\$_____
B-64.	Install Armadillos	1	LS	\$_____	\$_____
B-65.	Install Topsoil	1	LS	\$_____	\$_____
B-66.	Tree Removal – Greater than 24" Diameter	1	EA	\$_____	\$_____

TOTAL COST OF BID PACKAGE B IN WORDS AND FIGURES: _____

 _____ Dollars
 and _____ Cents/(\$_____
 _____).

BIDDER'S PROPOSAL
(continued)

THE AWARD'S BASIS IS THE LOWEST OF THE SUM OF THE TOTAL COST OF BID PACKAGE A AND THE TOTAL COST OF BID PACKAGE B.

SUM OF TOTAL COST OF BID PACKAGE A + TOTAL COST OF BID PACKAGE B IN WORDS AND FIGURES: _____

_____ Dollars

and _____ Cents/(\$ _____

_____).

* Refer to Project Plans and Description of Bid Items section in Special Provisions section of specifications for description of work included in bid items.

** Revocable bid items: the City reserves the right to delete these bid items prior to award of contract or during construction at its own discretion. No compensation will be allowed the Contractor by reason of such omission.

BIDDER'S PROPOSAL

(continued)

The undersigned bidder agrees to accept payment in full for the work at the price set forth above in accordance with provisions of the specifications and agrees to start within Fifteen (15) WORKING days following issuance of the Notice to Proceed and to complete all work specified in the contract documents in accordance with the plans and specifications within One Hundred Forty (140) WORKING days. The Notice to Proceed will be issued when the contract is fully executed. The contract construction time is inclusive of the time for delivery of materials. By execution of this contract, the City and the Bidder do hereby agree that the value of damage associated with the delay of the work is difficult to ascertain. Therefore the Bidder agrees further to the assessment of liquidated damages in the amount of One Thousand Five Dollars (\$1,500.00) for each working day that the construction work remains incomplete beyond the above construction time. The term of the contract is One Hundred Sixty (160) WORKING days, which includes an additional Twenty (20) WORKING days for project closeout beyond the above construction time.

Company _____ Address _____

Name _____

Signature _____ Phone (____) _____

Title _____ Date _____

Taxpayer I.D. No. _____ Corporation Yes [] No []

(The following spaces to be used by the City)

Pursuant to City of Berkeley Council Resolution No. _____ N.S. adopted on _____, the City of Berkeley agrees to pay _____ the prices set forth above for the Total Bid Items in the amount of _____ (\$_____), in accordance with the terms and conditions set forth in Specification Nos. 23-11616-C & 23-11614-C (Re-Issued). The contractor shall complete all work specified in the contract documents in accordance with the plans and specifications within One Hundred Ninety-Five (195) working days from the date established in the Notice to Proceed.

CITY OF BERKELEY

Dated: _____

By: _____
City Manager

Registered By: _____
Auditor

Attested By: _____
City Clerk

BIDDERS AND CONTRACTORS CHECKLIST

Items Required at Bid opening: 2:00 P.M, Thursday, May 09, 2024, at Finance Department – General Services Division, 2180 Milvia Street, 3rd Floor, Berkeley, California

- Bidder's Proposal
- Addenda (if any)
- Experience and Financial Qualifications
- Taxpayer Identification Report
- Oppressive States Resolution Disclosure Form
- Nuclear Free Zone Disclosure Form
- Equal Benefits Ordinance Disclosure Form
- Sanctuary City Compliance Statement
- Bid Guarantee - 10% of Total Base Bid

Items Required at Pre-Award Conference: 2:00 P.M., Thursday, May 23, 2024, at 1947 Center Street, 4th Floor, Berkeley, California

- Memorandum of Understanding
- Agreement for Change in Sub-Contractors
- Work Force Composition
- Certificate of Compliance with Equal Benefits Ordinance (Form EBO-1)

Items Required After Contract Award and Prior to Construction:

- Community Workforce Agreement– Agreements to be Bound and Hiring Plans
- City of Berkeley Business License
- Work Schedule
- Worker's Compensation Insurance - Statutory Amount
- Liability Insurance - \$2,000,000
- Performance Bond - 100% (executed on enclosed Performance Bond form)
- Labor and Material Bond- 100%
- Commercial General and Automobile Liability Endorsement form
- Submittals required at the preconstruction meeting
- Right to Audit Form

Items Required During Construction:

- Work Schedule Updates
- Weekly Payroll Statement (Fed Form WH-347 or equivalent)
- Community Workforce Agreement – Agreements to be Bound and Hiring Plans for any subcontractors added to project
- Correspondence with unions and minority/female organizations

Items Required Upon Completion of Project:

- Guarantee Bond - 10%
- As-Built Drawings

EXPERIENCE AND FINANCIAL QUALIFICATIONS

The bidder has been engaged in the contracting business under State License Number _____ for a period of _____ years.

The Bidder's three most recently completed contracts are:

	I	II	III
Title of Project			
Owner			
Address			
Telephone No.			
Engineer in Charge			
Date Accepted			

Reference is hereby made to the following Bank or Banks as to the financial responsibility of the Bidder:

Name of Bank _____ Address _____

Reference is hereby made to the following Surety Companies as to the financial responsibility and general reliability of the Bidder:

Company _____ Address _____

Signature of Bidder

TAXPAYER IDENTIFICATION REPORT

COMPANY NAME

MAILING ADDRESS

SOCIAL SECURITY NUMBER:

OR

EMPLOYER IDENTIFICATION NUMBER:

My Company is a Corporation

My Company is not a Corporation

I certify that the above information is true and correct:

Name

Title

The Tax Equity and Fiscal Responsibility Act of 1982 (Public Law 97-248) requires the above reporting information be furnished to the City.

Persons who do not furnish their tax information numbers become subject to backup withholding by the City at a rate of 20% from each disbursement made to the recipient.

CITY OF BERKELEY
NUCLEAR FREE ZONE DISCLOSURE FORM

I (we) certify that:

1. I am (we are) fully cognizant of any and all contracts held, products made or otherwise handled by this business entity, and of any such that are anticipated to be entered into, produced or handled for the duration of its contract(s) with the City of Berkeley. (To this end, more than one individual may sign this disclosure form, if a description of which type of contracts each individual is cognizant is attached.)
2. I (we) understand that Section 12.90.070 of the Nuclear Free Berkeley Act (Berkeley Municipal Code Ch. 12.90; Ordinance No. 5784-N.S.) prohibits the City of Berkeley from contracting with any person or business that knowingly engages in work for nuclear weapons.
3. I (we) understand the meaning of the following terms as set forth in Berkeley Municipal Code Section 12.90.130:

"Work for nuclear weapons" is any work the purpose of which is the development, testing, production, maintenance or storage of nuclear weapons or the components of nuclear weapons; or any secret or classified research or evaluation of nuclear weapons; or any operation, management or administration of such work.

"Nuclear weapon" is any device, the intended explosion of which results from the energy released by reactions involving atomic nuclei, either fission or fusion or both. This definition of nuclear weapons includes the means of transporting, guiding, propelling or triggering the weapon if and only if such means is destroyed or rendered useless in the normal propelling, triggering, or detonation of the weapon.

"Component of a nuclear weapon" is any device, radioactive or non-radioactive, the primary intended function of which is to contribute to the operation of a nuclear weapon (or be a part of a nuclear weapon).

4. Neither this business entity nor its parent nor any of its subsidiaries engages in work for nuclear weapons or anticipates entering into such work for the duration of its contract(s) with the City of Berkeley.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

PrintedName: _____ Title: _____

Signature: _____ Date: _____

Business Entity: _____

Contract Description/Specification No: **FY 2023 Retaining Wall and Storm Drain Improvement Project / 23-11616-C & 23-11614-C (Re-Issued)**

CITY OF BERKELEY

OPPRESSIVE STATES COMPLIANCE STATEMENT FOR PERSONAL SERVICES

The undersigned, an authorized agent of _____ (hereafter "Vendor"), has had an opportunity to review the requirements of Berkeley City Council Resolution No. 59,853-N.S. (hereafter "Resolution"). Vendor understands and agrees that the City may choose with whom it will maintain business relations and may refrain from contracting with those Business Entities which maintain business relationships with morally repugnant regimes. Vendor understands the meaning of the following terms used in the Resolution:

"Business Entity" means "any individual, firm, partnership, corporation, association or any other commercial organization, including parent-entities and wholly-owned subsidiaries" (to the extent that their operations are related to the purpose of the contract with the City).

"Oppressive State" means:
Tibet Autonomous Region and the Provinces of ADO, KHAM, and U-Tsang,

"Personal Services" means "the performance of any work or labor and shall also include acting as an independent contractor or providing any consulting advice or assistance, or otherwise acting as an agent pursuant to a contractual relationship."

Contractor understands that it is not eligible to receive or retain a City contract if at the time the contract is executed, or at any time during the term of the contract it provides Personal Services to:

- a. The governing regime in any Oppressive State.
- b. Any business or corporation organized under the authority of the governing regime of any Oppressive State.
- c. Any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

Vendor further understands and agrees that Vendor's failure to comply with the Resolution shall constitute a default of the contract and the City Manager may terminate the contract and bar Vendor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.

The undersigned is familiar with, or has made a reasonable effort to become familiar with, Vendor's business structure and the geographic extent of its operations. By executing the Statement, Vendor certifies that it complies with the requirements of the Resolution and that if any time during the term of the contract it ceases to comply, Vendor will promptly notify the City Manager in writing.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Business Entity: _____

I am unable to execute this Statement; however, Vendor is exempt under Section VII of the Resolution. I have attached a separate statement explaining the reason(s) Vendor cannot comply and the basis for any requested exemption.

Signature: _____ Date: _____

Contract Description/Specification No. **FY 2023 Retaining Wall and Storm Drain Improvement Project/
23-11616-C & 23-11618-C (Re-Issued)**

CITY OF BERKELEY
MEMORANDUM OF UNDERSTANDING (MOU)

1. In the performance of this contract the Contractor (and all Sub-contractors) agree not to discriminate pursuant to Section 13.26 of the Berkeley Municipal Code.
2. In the performance of this contract the Contractor agrees that he/she is also responsible for his/her Sub-Contractors' Compliance with Section 13.26 of the Berkeley Municipal Code.
3. For contracts that are not governed by a Community Workforce Agreement, the Contractor agrees to comply with Section 13.26 of the Municipal Code as it applies to the First Source Program (see Section 13.26.080).

The Contractor agrees to submit periodic employment and wage reports to the City's Contract Compliance Officer upon reasonable request.

Contractor

City Engineer or designee

Date

Date

AGREEMENT FOR CHANGE IN SUB-CONTRACTORS

I agree to use the Subcontractor(s) listed in the signed contract with the City of Berkeley. If it should become necessary to change Subcontractors, I will notify the Public Works Engineering Division by completing the following information:

Current Subcontractor(s)	Alternate Subcontractors	Reason for Change	Date

Signed by:

Verified by:

Date: _____

Date: _____

Date: _____

Officials and Administrators: Occupations in which employees set broad policies, exercise overall responsibility for execution of these policies, or provide specialized consultation on a regional, district or area basis. Includes: department heads, bureau chiefs, division chiefs, directors, deputy superintendents, unit supervisors and kindred workers.

Professionals: Occupations which require specialized and theoretical knowledge which is usually acquired through college training or through work experience and other training which provides comparable knowledge. Includes: personnel and labor relations workers, social workers, doctors, psychologists, registered nurses, economists, dietitians, lawyers, systems analysts, accountants, engineers, employment and vocational rehabilitation counselors, teachers or instructors, and kindred workers.

Technicians: Occupations which require a combination of basic scientific or technical knowledge and manual skill which can be obtained through specialized post-secondary school education or through equivalent on-the-job training. Includes computer programmers and operators, technical illustrators, highway technicians, technicians (medical, dental, electronic, physical sciences) and kindred workers.

Protective Service Workers: Occupations in which workers are entrusted with public safety, security and protection from destructive forces. Includes: Police officers, fire fighters, guards, sheriffs, bailiffs, correctional officers, detectives, marshals, harbor patrol officers and kindred workers.

Paraprofessionals: Occupations in which workers perform some of the duties of a professional or technician in a supportive role, which usually requires less formal training and/or experience normally required for professional or technical status. Such positions may fall within an identified pattern of a staff development and promotion under a "New Careers" concept. Includes: library assistants, research assistants, medical aides, child support workers, police auxiliary, welfare service aides, recreation assistants, homemaker aides, home health aides, and kindred workers.

Office and Clerical: Occupations in which workers are responsible for internal and external communication, recording and retrieval of data and/or information and other paperwork required in an office. Includes: bookkeepers, messengers, office machine operators, clerk-typists, stenographers, court transcribers, hearings reporters, statistical clerks, dispatchers, license distributors, payroll clerks, and kindred workers.

Skilled Craft Workers: Occupations in which workers perform jobs which require special manual skill and a thorough and comprehensive knowledge of the processes involved in the work which is acquired through on-the-job training and experience or through apprenticeship or other formal training programs. Includes: mechanics and repairpersons, electricians, heavy equipment operators, stationary engineers, skilled machining occupations, carpenters, compositors and typesetters, and kindred workers.

Service/Maintenance: Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene or safety of the general public or which contribute to the upkeep and care of buildings, facilities or grounds of public property. Workers in this group may operate machinery. Includes: chauffeurs, laundry and dry cleaning operatives, truck drivers, bus drivers, garage laborers, custodial personnel, gardeners and groundskeepers, refuse collectors, and construction laborers.

NOTICE REGARDING THE EQUAL BENEFITS ORDINANCE

As a condition of being awarded a contract with the City of Berkeley, the selected Contractor shall be required, during the performance of the agreement, to comply with the City's non-discrimination provisions of the Equal Benefits Ordinance (EBO) as set forth in Berkeley Municipal Code, Chapter 13.29.

The EBO requires that during the performance of a contract, the Contractor shall provide equal benefits to its employees with spouses and employees with domestic partners.

The EBO is applicable to the following employers:

- For-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$25,000 or more
- Non-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$100,000 or more
- Lessees of public property, licensees, concessionaires, and franchises that generate \$350,000 or more in annual gross receipts
- Entities which receive a grant agreement of \$100,000 or more

Contractors who are subject to the EBO must certify to the City that they are in compliance with the EBO and post this notice in a conspicuous place where all employees can see it. Subject contractors must also allow authorized City representatives access to records so the City can verify compliance with the Ordinance.

Compliance with the EBO

If a Contractor has not received a waiver from complying with the EBO and the timeframe within which it can delay implementation has expired but it has failed to comply with the EBO, the Contractor may be deemed to be in material breach of the City agreement. In such cases, the City may cancel, terminate or suspend the City agreement, in whole or in part. The City also may deem the Contractor an irresponsible bidder and disqualify the Contractor from contracting with the City for a period of five years. In addition, the City may assess liquidated damages against the Contractor which may be deducted from money otherwise due the Contractor, and pursue any other remedies available at law or in equity.

Violations: Any suspected violations of the EBO should be reported to:

EBO Compliance Officer
City Manager's Office
2180 Milvia St
Berkeley, CA 94704
510-981-7000

CITY OF BERKELEY
EQUAL BENEFITS ORDINANCE DISCLOSURE FORM

As a condition of being awarded a contract with the City of Berkeley, the selected Contractor/Vendor ("Contractor") may be required, during the performance of the contract, to comply with the City's non-discrimination provisions of the Equal Benefits Ordinance ("EBO") as set forth in Berkeley Municipal Code, Chapter 13.29. The EBO requires that during the performance of a contract, the Contractor shall provide equal benefits to its employees with spouses and employees with domestic partners. Benefits include, but are not limited to, health benefits, bereavement leave, family medical leaves, membership and membership discounts, moving expenses, retirement benefits, and travel benefits. A cash equivalent payment is permitted if an employer has taken all reasonable efforts to provide domestic partner's with access to benefits but is unable to do so. A situation in which a cash equivalent payment might be used is if the employer has difficulty finding an insurance provider that is willing to provide domestic partner benefits

The EBO is applicable to the following employers:

- For-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$25,000 or more
- Non-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$100,000 or more
- Lessees of public property, licensees, concessionaires, and franchises that generate \$350,000 or more in annual gross receipts
- Entities which receive a grant agreement of \$100,000 or more

Contractors who are subject to the EBO must certify to the City before execution of the contract by completing form EBO-1 that they are in compliance with the EBO or have been issued a waiver by the City. Contractors must also allow authorized City representatives access to records so the City can verify compliance with the Ordinance.

The EBO includes provisions that address difficulties associated with implementing procedures to comply with the EBO. Contractors can delay implementation of procedures to comply with the EBO in the following situations:

- (1) until the first effective date after the first open enrollment process following the contract execution date, not to exceed two years if the Contractor submits evidence of engaging in reasonable efforts to comply with the EBO;
- (2) until administrative steps can be taken to incorporate nondiscrimination in benefits in the contractor's infrastructure, not to exceed three months, unless extended at the discretion of the City Manager; and
- (3) until the expiration of a Contractor's current collective bargaining agreement(s)

Compliance with the EBO

If a Contractor has not received a waiver from complying with the EBO and the timeframe within which it can delay implementation has expired but it has failed to comply with the EBO, the Contractor may be deemed to be in material breach of the City agreement. In the event of a material breach, the City may cancel, terminate or suspend the City agreement, in whole or in part. The City also may deem the Contractor an irresponsible bidder and disqualify the Contractor from contracting with the City for a period of five years. In addition, the City may assess liquidated damages against the Contractor which may be deducted from money otherwise due the Contractor, and pursue any other remedies available at law or in equity.

By my signature below, I acknowledge that the Contractor understands that to the extent it is subject to the provisions of B.M.C. Chapter 13.29, the Contractor shall comply with this provision.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Business Entity: _____

Contract Description/Specification No: **FY 2023 Retaining Wall and Storm Drain Improvement Project / 23-11616-C & 23-11614-C (Re-Issued)**

To be completed by
Contractor/Vendor

**Form EBO-1
CITY OF BERKELEY**



CERTIFICATION OF COMPLIANCE WITH EQUAL BENEFITS ORDINANCE

If you are a **contractor**, return this form to the originating department/project manager. If you are a **vendor** (supplier of goods), return this form to the Purchasing Division of the Finance Dept.

SECTION 1. CONTRACTOR/VENDOR INFORMATION

Article I.	Name:	Article II.	Vendor No.:
Article III.	Address:	Article IV.	City:
		Article V.	State:
Article VI.	ZIP:	Article VII.	Contact Person:
		Article VIII.	Telephone:
Article IX.	E-mail Address:	Article X.	Fax No.:

SECTION 2. COMPLIANCE QUESTIONS

- A. The EBO is inapplicable to this contract because the contractor/vendor has no employees.
 Yes No (If "Yes," proceed to Section 5; if "No," continue to the next question.)
- B. Does your company provide (or make available at the employees' expense) any employee benefits?
 Yes No
If "Yes," continue to Question C.
If "No," proceed to Section 5. (The EBO is not applicable to you.)
- C. Does your company provide (or make available at the employees' expense) any benefits to the spouse of an employee? Yes No
- D. Does your company provide (or make available at the employees' expense) any benefits to the domestic partner of an employee? Yes No

If you answered "No" to both Questions C and D, proceed to Section 5. (The EBO is not applicable to this contract.) **If you answered "Yes" to both** Questions C and D, please continue to Question E. **If you answered "Yes"** to Question C and **"No"** to Question D, please continue to Section 3.

- E. Are the benefits that are available to the spouse of an employee identical to the benefits that are available to the domestic partner of the employee?..... Yes No

If you answered "Yes," proceed to Section 4. (You are in compliance with the EBO.)
If you answered "No," continue to Section 3.

SECTION 3. PROVISIONAL COMPLIANCE

- A. Contractor/vendor is not in compliance with the EBO now but will comply by the following date:
 - By the first effective date after the first open enrollment process following the contract start date, not to exceed two years, if the Contractor submits evidence of taking reasonable measures to comply with the EBO; or
 - At such time that administrative steps can be taken to incorporate nondiscrimination in benefits in the Contractor's infrastructure, not to exceed three months; or
 - Upon expiration of the contractor's current collective bargaining agreement(s).

B. If you have taken all reasonable measures to comply with the EBO but are unable to do so, do you agree to provide employees with a cash equivalent?* Yes No

* The cash equivalent is the amount of money your company pays for spousal benefits that are unavailable for domestic partners.

SECTION 4. REQUIRED DOCUMENTATION

At time of issuance of purchase order or contract award, you may be required by the City to provide documentation (copy of employee handbook, eligibility statement from your plans, insurance provider statements, etc.) to verify that you do not discriminate in the provision of benefits.

SECTION 5. CERTIFICATION

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I am authorized to bind this entity contractually. By signing this certification, I further agree to comply with all additional obligations of the Equal Benefits Ordinance that are set forth in the Berkeley Municipal Code and in the terms of the contract or purchase order with the City.

Executed this _____ day of _____, in the year _____, at _____, _____
(City) (State)

Name (please print) Signature

Title Federal ID or Social Security Number

<p>Article XI. FOR CITY OF BERKELEY USE ONLY</p> <p><input type="checkbox"/> Non-Compliant (The City may not do business with this contractor/vendor)</p> <p><input type="checkbox"/> One-Person Contractor/Vendor <input type="checkbox"/> Full Compliance <input type="checkbox"/> Reasonable Measures</p> <p><input type="checkbox"/> Provisional Compliance Category, Full Compliance by Date: _____</p> <p>Staff Name(<i>Sign and Print</i>): _____ Date: _____</p>

CITY OF BERKELEY
SANCTUARY CITY COMPLIANCE STATEMENT

The undersigned, an authorized agent of _____
(hereafter "Contractor"), has had an opportunity to review the requirements of Berkeley Code Chapter 13.105 (hereafter "Sanctuary City Contracting Ordinance" or "SCCO"). Contractor understands and agrees that the City may choose with whom it will maintain business relations and may refrain from contracting with any person or entity that provides Data Broker or Extreme Vetting services to the U.S. Immigration and Customs Enforcement Division of the United States Department of Homeland Security ("ICE"). Contractor understands the meaning of the following terms used in the SCCO:

- a. "Data Broker" means either of the following:
 - i. The collection of information, including personal information about consumers, from a wide variety of sources for the purposes of reselling such information to their customers, which include both private-sector business and government agencies;
 - ii. The aggregation of data that was collected for another purpose from that for which it is ultimately used.
- b. "Extreme Vetting" means data mining, threat modeling, predictive risk analysis, or other similar services." Extreme Vetting does not include:
 - i. The City's computer-network health and performance tools;
 - ii. Cybersecurity capabilities, technologies and systems used by the City of Berkeley Department of Information Technology to predict, monitor for, prevent, and protect technology infrastructure and systems owned and operated by the City of Berkeley from potential cybersecurity events and cyber-forensic based investigations and prosecutions of illegal computer based activity.

Contractor understands that it is not eligible to receive or retain a City contract if at the time the contract is executed, or at any time during the term of the contract, it provides Data Broker or Extreme Vetting services to ICE.

Contractor further understands and agrees that Contractor's failure to comply with the SCCO shall constitute a material default of the contract and the City Manager may terminate the contract and bar Contractor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.

By executing this Statement, Contractor certifies that it complies with the requirements of the SCCO and that if any time during the term of the contract it ceases to comply, Contractor will promptly notify the City Manager in writing. Any person or entity who knowingly or willingly supplies false information in violation of the SCCO shall be guilty of a misdemeanor and up to a \$1,000 fine.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed this _____ day of _____, 20__, at _____, California.

Printed Name: _____ Title: _____

Signed: _____ Date: _____

Business Entity: _____

BIDDING & CONTRACTING UNDER COMMUNITY WORKFORCE AGREEMENT (CWA)

- **Local Workforce Hiring Goals**

The City of Berkeley's local workforce-hiring goal is 20% of craft hours worked, on a craft by craft basis on locally funded projects. City Staff will provide a template to be used by the general contractor (GC) for reporting the summary of the total work hours and total number of Berkeley residents, this report is to be submitted with each certified payroll (CP), including CP for each subcontractor. GC can compile the report for the subcontractors or can require each sub to prepare their own report. Please include documentation detailing efforts to meet the local hire goals, i.e., dispatch requests to the unions. Please note the GC is responsible for the local hire component for the entire Project. This report will be reviewed by the Joint Administrative Committee (JAC) to monitor compliance of the local workforce hiring goals. The JAC may periodically request contractors to attend a JAC meeting to describe and discuss their local hire efforts. GC and the subs are strongly encouraged to utilize the city-funded pre-apprenticeship program, Rising Sun Energy Center, for the hiring of Berkeley residents on the projects. Rising Sun staff will work closely with the trades and the contractor to facilitate the hiring of the program graduates for entry into the trades. City staff will conduct periodic interviews of workers throughout the Project.

- **Certified Payrolls**

Contractors are required to submit certified payrolls (CP) on a monthly basis to the Public Works Project Manager. The monthly report described above shall reflect the information provided on the Certified Payrolls. Address & trade for each worker must be included in Certified Payroll and is subject to verification by City staff. Please redact Social Security Numbers from CP prior to sending to city staff. When submitting CP, please attach any documentation pertinent to your good faith efforts, such as dispatch requests & union hall responses to those requests.

- **Core (Regular, experienced) Employees**

A non-signatory contractor may use up to five (5) of its own "core" employees provided that the first worker hire comes from the union, second worker is "core", third worker from the union, fourth worker is "core", and so forth. The contractors' worker must comply with the Union Hall's registration process; the contractor and subcontractor may request by name, and the local will honor, referral of the core employee(s) who have applied to the local union hall for work on the Project and who demonstrate the following qualifications: 1) possess any license required by state or federal law, 2) have worked at least 1,000 hours in the construction craft during the prior three years, 3) have been on the Contractor's active payroll for at least sixty (60) out of the one hundred and eighty (180) hours in the calendar year immediately prior to contract award, 4) must have the ability to safely perform the basic functions of the applicable trade, and 5) must reside in Berkeley.

- **Hiring Plan**

A hiring plan is to be submitted prior to the Notice to Proceed date, with the understanding that the workforce may change during the Project. The hiring plan is used as baseline information, with the monthly workforce utilization reports, certified payroll and dispatch request documentation serving as confirmation of good faith efforts to hire locally.

- **Apprentices**

Consistent with the requirements of California Labor Code § 1776, 1777.5 and 1777.6, contractors and their subcontractors are required to hire at least one Berkeley resident as a First Period Apprentice for \$500,000 or more of total bid amount, thereafter, for every five million dollars of the total bid amount the Prime Contractor and their

subcontractors are required to hire one additional first period apprentice. Berkeley residents that participate in local workforce development programs will be screened and referred for the apprenticeship opportunities, city staff, union halls & training programs will facilitate this process.

- **California Prevailing Wages**

All construction workers will be paid prevailing wages as determined by the State of California. Benefits are the established labor-management vacation, pension or other form of deferred compensation plan, apprenticeship and health benefit funds for each hour worked. Any local collectively bargained wage and/or fringe benefit increase shall be recognized on the date on which they become effective.

- **Agreement to be Bound**

All general contractors and all sub-contractors, including trucking, and regardless of tier, must sign an *Agreement to be Bound* to the CWA. This agreement binds the contractor to the terms of the CWA for the awarded Project only. It does not bind any contractor to a union agreement for any other project.

- **Pre-Job Conference**

Prior to start of construction, the successful general contractor and all subcontractors are required to attend a pre-job conference with the affected Building & Construction Trades Council. The Pre-Job request form shall include subcontractor information including scopes of work. The Agreements to be Bound shall be submitted **prior** to the Pre-job Conference. General Contractor and subcontractors will make craft/trade work assignments at this meeting. Should any union disagree, it may follow the established jurisdictional dispute resolution process provided in the Community Workforce Agreement. The pre-job conference may be held via conference call arranged by the building trades, city staff will also participate in the pre-job conference.

- **Joint Administrative Committee**

This Committee shall be comprised of up to two (2) representative selected by the City; up to two (2) representatives of the signatory Unions and Alameda County Building and Construction Trades Council; and one (1) contractor representative, mutually selected by the City and the Alameda County Building and Construction Trades Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement. The Joint Administrative Committee shall meet regularly to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, craft workforce levels and construction progress. The JAC may contact the Contractor and/or their subcontractors in writing to request their presence at a JAC meeting to describe good faith efforts throughout the Project or at the end of a project.

CWA Administration:

*Department of Health, Housing and
Community Services
2180 Milvia, 2nd floor
Berkeley, CA 94704
localhire@cityofberkeley.info*

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor ("Contractor") on a City Project ("Project"), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the Project's Community Workforce Agreement ("Agreement"), a copy of which was received and is acknowledged, hereby:

1. Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made to said Agreement.
2. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement;
3. Agrees to secure from any Contractor (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, and from any successors, a duly executed Agreement to be bound in a form identical to this document.
4. Contractor agrees that it shall be bound by all applicable trust agreements and plans for the provision of such fringe benefits as accrue to the direct benefit of the construction persons, including Health and Welfare, Pension, Training, Vacation, and/or other direct benefits provided pursuant to the appropriate craft agreement contained in Schedule "A" of Agreement.

Date: _____

Company Name: _____

Name of Prime Contractor or Higher Level Subcontractor:

Name of Project: **FY 2023 RETAINING WALL AND STORM DRAIN
IMPROVEMENT PROJECT, 23-11616-C & 23-11614-C (RE-ISSUED)**

Signature: _____

Print Name: _____

Title: _____

Contractor's License #: _____

Motor Carrier Permit (CA) #: _____

PERFORMANCE BOND

CALIFORNIA PUBLIC WORKS

KNOW ALL MEN BY THESE PRESENTS,

That we, _____
_____ as Principal, and
_____, a Corporation organized and
existing under the laws of the State of _____ and authorized to
transact surety business in the State of California, as Surety, are held and firmly bound unto the City
of Berkeley (hereinafter called Obligee), in the sum of _____ Dollars
(\$ _____), for the payment whereof well and truly to be made
and we each of us bind ourselves, our heirs, executors, administrators, successors and assigns,
jointly and severally, firmly by these presents.

THE CONDITION of the above obligation is such that, Whereas, the above named bounden
principal entered into a contract dated _____, 20 ____ with the said Obligee to
do and perform the following work, to-wit:

which contract is hereby referred to, incorporated by reference, and made a part hereof as fully
and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That
if the above bounden Principal shall well and truly keep, do, pay and perform, each and every, all and
singular, all the matters, provisions, undertakings, covenants, terms, conditions, agreements and
things in said contract set forth and specified to be by the said principal kept, done, paid and performed

at the time and in the manner in said contract specified, and shall pay over, make good and reimburse to the above-named Oblige, all loss and damages which said Oblige may sustain by reason of failure or default, or breach on the part of said Principal, then this obligation shall be void; otherwise to be and remain in full force and effect.

Whenever Principal shall be, and is declared by Oblige to be in default under the contract, the Oblige having performed Oblige's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1) Complete the Contract in accordance with its terms, provisions, undertakings, covenants, agreements, clauses, and conditions, or

2) Obtain a bid or bids for completing the contract in accordance with its terms, provisions, undertakings, covenants, agreements, clauses, and conditions, and upon determination by Surety of the lowest responsible Bidder, or, if the Oblige elects, upon determination by the Oblige and the Surety jointly of the lowest responsible Bidder, arrange for a contract between such Bidder and Oblige, and make available as work progresses (even though there should be a default or a succession of defaults under the contract of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price, but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the amount payable by Oblige to principal under the contract and amendments, thereto, less the amount properly paid by Oblige to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Obligee named herein or the heirs, executors, administrators or successors of Obligee.

If any action or law or in equity is brought to enforce or interpret the provisions of this bond, the prevailing party shall be entitled to reasonable attorney's fees in addition to any other relief to which it may be entitled.

SIGNED AND SEALED THIS _____ day of

_____, 20 _____.

Principal

Surety Attorney In Fact

COMMERCIAL GENERAL AND AUTOMOBILE LIABILITY ENDORSEMENT

The attached Certificates of Insurance are hereby certified to be a part of the following policies having the following expiration dates:

Policy No.	Company Providing Policy	Expir. Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

The scope of the insurance afforded by the policies designated in the attached certificates is not less than that which is afforded by the Insurance Service Organization's or other "Standard Provisions" forms in use by the insurance company in the territory in which coverage is afforded.

Such Policies provide for or are hereby amended to provide for the following:

1. The named insured is _____.
2. CITY OF BERKELEY ("City") is hereby included as an additional insured with respect to liability arising out of the hazards or operations under or in connection with the following agreement:
_____.

The insurance provided applies as though separate policies are in effect for both the named insured and City but does not increase the limits of liability set forth in said policies.

3. The limits of liability under the policies are not less than those shown on the certificate to which this endorsement is attached.
4. Cancellation or material reduction of this coverage will not be effective until thirty (30) days following written notice to City Engineer, Engineering Division, Department of Public Works, Berkeley, CA.
5. This insurance is primary, and the insurer is not entitled to any contribution from insurance in effect for City.

The term "City" includes successors and assigns of the City and the officers, employees, agents, and volunteers.

Insurance Company

Date: _____

By: _____
Signature of Underwriter's
Authorized Representative

CITY OF BERKELEY

RIGHT TO AUDIT FORM

The contractor agrees that pursuant to Section 61 of the Berkeley City Charter, the City Auditor's office may conduct an audit of Contractor's financial, performance, and compliance records maintained in connection with the operations and services performed under this contract.

In the event of such audit, Contractor agrees to provide the Auditor with reasonable access to Contractor's employees and make all such financial, performance, and compliance records available to the Auditor's office. City agrees to provide Contractor an opportunity to discuss and respond to/any findings before a final audit report is filed.

Signed: _____ Date: _____

Print Name & Title: _____

Company: _____

Questions regarding this form may be directed to the Auditor's Office, at (510) 981-6750

PART A – GENERAL PROVISIONS

SECTION 1 - DEFINITION OF TERMS1

SECTION 2 - PROPOSAL REQUIREMENTS AND CONDITIONS4

SECTION 3 - AWARD AND EXECUTION OF CONTRACT7

SECTION 4 - SCOPE OF WORK.....9

SECTION 5 - CONTROL OF THE WORK18

SECTION 6 - CONTROL OF MATERIAL.....24

SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC26

SECTION 8 - PROSECUTION AND PROGRESS.....35

SECTION 9 - MEASUREMENT AND PAYMENT40

SECTION 1 - DEFINITION OF TERMS

101.1		--	Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms are used, they shall have the following meanings:
101.2	AASHTO	--	The latest revised specifications of the American Association of State Highway and Transportation officials.
101.3	As Directed	--	As directed by the Engineer or his designated representative.
101.4	ASTM	--	The latest revised specifications of the American Society for Testing Materials.
101.5	Standard Specifications	—	The latest revised "Standard Specifications for Public Works Construction" by the Southern California Chapter, American Public Works Association, Part 2 and Part 3, construction materials and construction methods respectively, as amended herein.
101.6	Bidder	--	Any individual, firm, partnership, or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.
101.7	City, Agency	--	City of Berkeley.
101.8	Council	--	City Council of the City of Berkeley.
101.9	Engineer	--	The Assistant City Manager for Public Works of the City of Berkeley or his designated representatives.
101.10	Contract	--	The written agreement covering the performance of

the work.

- 101.11 Contractor -- The person or persons, partnership, association or corporation, private or municipal, who have entered into a contract with the City, as party or parties of the second part of his or their legal representatives.
- 101.12 Laboratory -- The official testing laboratory of the City or other laboratories authorized by the Engineer.
- 101.13 Proposal -- The written offer of the bidder for the work when made out and submitted on the prescribed proposal form, properly signed and guaranteed.
- 101.14 Proposal Guaranty -- The security required by the notice to bidders to be furnished by the bidder as a guaranty that the bidder will enter into a contract for the construction of the work if it is awarded to him.
- 101.15 Plans -- The official plans, profiles, cross-sections, details working drawings, and mental drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as a part of the contract supplementary to these specifications.
- 101.16 Purchasing Agent ___ The Purchasing Agent of the City of Berkeley.
- 101.17 Specifications -- The directions, provisions, and requirements contained herein, supplemented by special provisions, pertaining to the method and manner of performing the work, and to the quantities and qualities of materials to be furnished under the contract. The term specifications shall include the General Provisions, Detailed and Technical Specifications, Special Provisions, Standard Details, the Contract Documents, and all

supplementary agreements entered into between the contracting parties.

- 101.18 Subcontractor -- The person or persons, partnership, association, or corporation, private or municipal, who have a direct contract with the contractor. It includes one who furnishes material worked to a special design according to the plans or specifications of the work, but does not include one who merely furnishes material.
- 101.19 Street -- Any dedicated right-of-way for public use as an avenue, highway, lane alley, court, crossing, or intersection.
- 101.20 The Work -- All the work described in the specifications and contract or indicated on the plans as the contemplated improvement covered by the contract.
- 101.21 Contract Change Order -- A written order to the Contractor signed by the Engineer directing an addition, deletion or revision in the work, or an adjustment in the contract price or the contract time issued after the effective date of the contract. A change order may or may not also be signed by the Contractor.
- 101.22 Allowance -- An inexact bid quantity listed on the Bidder's Proposal in anticipation that work of the particular nature will be required, but the quantity is not known until the work of the whole is in progress or completed. The quantity listed is for comparison of total bids. Bidder agrees to do each unit of work for the unit price bid in the proposal.
- 101.23 Resident Engineer -- Designated inspection representative(s) of the Engineer.

SECTION 2 - PROPOSAL REQUIREMENTS AND CONDITIONS

201.1 Availability of Plans and Specifications. Plans and specifications may be examined at the office of the Engineering Division. Copies of the plans and specifications are available at the office of the Engineering Division. Copies of the Notice to Bidders and proposal forms may be obtained from the Engineering Division.

201.2 Approximate Estimate. The quantities given in the Notice to Bidders, proposal, and contract forms are approximate only, being given as a basis for the comparison of bids, and the City does not, expressly or by implication, agree that the actual amount of work will correspond therewith. For work bid on a lump sum price basis, any estimate of quantities is provided only for the convenience of Bidders and is not guaranteed correct by the City.

201.3 Examination of Plans, Specifications, and Site of the Work. The Bidder shall examine carefully the site of the work contemplated and the proposal, plans, specifications, and contract forms therefore. It will be assumed that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of these specifications, the plans, and the contract.

201.4 Proposal Form. All proposals must be submitted on forms for that purpose furnished by the City. Letters of transmittal cannot be considered as part of the bid.

All proposals shall give the prices proposed, and shall be signed by the Bidder, who must give his address. The Bidder shall fill out all blanks in the proposal form as therein required. In case of error, unit prices will govern over extensions and written words will govern over numerals, unless it can be established that an obviously incorrect entry has been made.

201.5 Rejection of Proposals Containing Alterations or Irregularities. Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, or irregularities of any kind. When proposals are signed by an agent, other than an officer or manager of a corporation or a member of a partnership, a power of attorney or written authorization must be on file with

the City prior to opening bids or shall be submitted with the proposal; otherwise, the proposal will be rejected as irregular and unauthorized.

201.6 Proposals Guaranty. All bids shall be presented in a sealed envelope and shall be accompanied by a "proposal guaranty) made payable to "City of Berkeley) and for the amount equal to at least ten percent (10%) of the bid unless otherwise specified on the "Notice to Bidders. Said guaranty shall be an unconditional certified or cashier's check, or a bank or postal money order, or bid bond executed as surety by a corporation authorized to issue surety bonds in the State of California.

201.7 Withdrawal of Proposals. Any bid may be withdrawn at any time prior to but not after, the hour fixed in the public notice for the opening of bids, provided that a request in writing executed by the Bidder or his duly authorized representative, for the withdrawal of such bid is filed with the Purchasing Agent. The withdrawal of a bid shall not prejudice the right of a Bidder to file a new bid.

201.8 Disqualification of Bidders. More than one proposal from an individual, a firm or partnership, a corporation or an association under the same or different names will not be considered. Reasonable ground for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. If there is a reason of believing that collusion exists among the Bidders, none of the participants in such collusion will be considered in this or future proposals. Proposals in which the prices are unbalanced may be rejected.

201.9 Competency of Bidders. Prior to the submission of bids, the Contractor shall be licensed in accordance with the provisions of Chapter 9 of Division III of the Business and Professional Code of the State of California and evidence of such license shall be presented to the Engineer on request.

The Engineer may require the Bidder to present satisfactory evidence that he has sufficient experience and that he is fully prepared with the necessary capital, materials, machinery, and skilled workmen to carry out the contract.

201.10 Material Guaranty. Before any contract is awarded, Bidders may be required to furnish a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work, together with samples, which samples may be subjected to the tests provided for in these specifications to determine their quality and fitness for the work.

201.11 Addenda. Prior to the time set for opening of bids, the Engineer may issue addenda for clarification of the plans or specifications or for minor alterations in the work. Such addenda shall take precedence over plans, specifications, and all other Contract Documents issued prior to the opening of bids.

FY 2023 RETAINING WALL AND STORM DRAIN
IMPROVEMENT PROJECT

SPECIFICATION NOS. 23-11616-C & 23-11614-C
(RE-ISSUED)

SECTION 3 - AWARD AND EXECUTION OF CONTRACT

- 301.1 Consideration of Bids. Bids will be opened publicly by the Purchasing Agent of the City on the date and at the time set forth in the "Notice to Bidders." The right is reserved by the City by action of the Council to reject any or all bids, to advertise for new proposals, to negotiate in the open market for a contract at a reasonable price, to purchase in the open market, or to have the work performed by City employees, or to abandon the work, if in the judgement of the Council, the best interests of the City will be promoted thereby.
- 301.2 Award of Contract. The award of the contract, if awarded, will be to the lowest responsive Bidder whose proposal complies with all the requirements prescribed. The award, if made, will be made within seventy-five (75) calendar days after the opening of the proposals.
- All bids will be compared on the basis of the Engineer's estimate of the quantities of work to be done.
- 301.3 Return of Proposal Guarantees. All proposal guarantees will be held by the City until the contract has been authorized by Council resolution and signed by the City Manager after which guarantees for unsuccessful proposals will be returned to the unsuccessful Bidders. If bids are rejected, the proposal guarantees will be returned after the date of the rejection.
- 301.4 Contract Bonds. At the time of execution of the contract by the City Manager, the Contractor will be required to furnish a Surety Company contract bond for faithful performance in the sum of not less than one hundred percent (100%) of the amount of his contract, in addition to which he will be required to furnish a Surety Company labor and material bond in the sum of not less than one hundred percent (100%) of the amount of the contract in accordance with the provisions of state laws.
- Alterations, extensions of time, extra and additional work, and other changes authorized by these specifications or any part of the contract may be made without securing the consent of the Surety or Sureties on the contract bonds.
- 301.5 Execution of Contract. The Bidder's Proposal (offer) shall become a binding contract on the parties when the award of a contract pursuant to said proposal is authorized by resolution of the City Council. The proposal will then be executed in writing by the City Manager, or his/her authorized representative, in the name of the City.
- 301.6 Failure to Perform Contract. If the successful Bidder fails to begin performance of the contract

within thirty (30) calendar days from the date of the award of the contract, the City will either let the contract to the next lowest Bidder or will reject all other bids and call for new bids. The successful Bidder who has failed to begin performance of the contract shall be liable to the City for the sum, not exceeding the amount of such cash, check, money order or bond as shall have been deposited as a proposal guaranty, by which the amount of the contract, covering the said proposal, executed by and between the City and some third party, may exceed the amount bid by the original successful Bidder. Such portion of said cash, check, money order, or original bond as equals said sum shall be deemed to be liquidated damages and shall be declared forfeited to the City and shall be collected and paid to the City.

SECTION 4 - SCOPE OF WORK

401.1 Work to be Done. The intent is to prescribe complete work or improvement which the Contractor undertakes to do in full compliance with the plans, specifications, and contract. The Contractor shall perform all items of work covered and stipulated in the specifications and contract, together with any extra work, all in accordance with lines, grades, cross-sections, and dimensions shown on the plans. It is further intended that all miscellaneous work required to make driveways, sidewalks, intersections, roof drains, and other privately owned improvements conform to the new work shall be performed by the Contractor. The Contractor shall furnish, unless otherwise provided in these specifications, all material, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work.

All work described in the plans and specifications will be let under one contract unless otherwise set forth in the Notice to Bidders or on the Bidder's Proposal.

401.2 Alterations and Increased or Decreased Quantities. The City reserves the right in writing, to increase or decrease the quantity, to order additions to, omissions from, or corrections, alterations and modifications in the line, grade, form dimensions, plan or kind or amount of work, or materials herein contemplated, or any part thereof, either before or after the beginning of construction, as may be deemed necessary or advisable by the Engineer, provided such alterations do not change the total cost of the project, based on original estimated quantities and the unit prices bid, by more than twenty percent (20%), and provided further that such items do not change the total cost of any major item by more than fifty percent (50%). (A major item is one, the total cost of which is more than ten percent (10%) of the total contract price.) Any alterations in excess of these limits will be treated as extra work and will be covered by a contract change order, the same as though the alteration were an extra work item.

Should conditions during the progress of the work make it impossible for the Contractor to comply strictly with the terms of the contract, the Contractor shall apply in writing to the Engineer for an alteration, provided that it is not detrimental to the work or does not entail additional cost. If such alteration is acceptable to the Engineer, the Contractor shall be notified in writing, whereupon the alteration may be made. When such alteration is not acceptable to the Engineer, the Contractor shall determine some other method of doing the work which shall be acceptable.

Such alteration and increased or decreased quantities shall in no way affect or make void this contract or any part thereof, except what is necessarily affected by such alteration and is clearly the evident intention of the parties to this contract.

401.3 Extra Work. New and unforeseen items of work will be classed as extra work when they

cannot be covered by any of the various items for which there is a bid price or by combinations of such items, or if the character of an item is materially changed on which the Contractor based his bid price, and that change materially increases or decreases the cost of the item as outlined in Section 401.2 hereof.

Prices for extra work shall be itemized and covered by a contract change order submitted by the Contractor and approved by the Engineer prior to actual starting of such work.

Should the parties be unable to agree on unit prices for the extra work, or if it is impractical, the Engineer may instruct the Contractor to proceed with the work by force account and he shall be paid as provided in Section 901.2 of these specifications.

401.4 Unauthorized Work. Work done without lines and grades being given, work done beyond the lines and grades shown on the plans, work done in the absence or without the knowledge of the Engineer, including any work performed by subcontractors without proper superintendence by the Contractor, as provided for in Section 501.6, or any extra work done without written authority, will be considered as unauthorized and at the expense of the Contractor and will not be measured or paid for by the City.

401.5 Protection of Utilities. A preliminary study of the location of underground utilities within the limits of the work has been made. The location of the underground utilities indicated on the plans is not guaranteed to be accurate or complete, but is plotted for the general information of the Contractor. The Contractor shall contact Underground Service Alert (USA) at (800) 227-2600 at least four (4) working days before excavating, to allow utility companies to mark and identify their respective utilities within the limit of the work. Aboveground utilities are not shown on the plans. It shall be the responsibility of the Contractor to coordinate and determine the exact locations and/or depths of all of the aboveground utilities, underground utilities, and their service locations.

The Contractor shall be responsible for protecting and supporting the aboveground utilities and the identified underground utilities that occur in the limits of the work with a method acceptable to the respective utility owners. The cost of protecting and supporting the utilities shall be included in the bid prices for the various items of work. Any identified damage to the SBC Telephone, PG&E, EBMUD, or Cable TV lines shall be repaired by the respective utility owner at the Contractor's expense.

See also Sections 701.25.1 and 701.25.2.

401.6 Cleaning Up. The Contractor shall not allow the site of the work to become littered with trash, rubbish, and waste material but shall maintain the same in a neat and orderly condition throughout the construction period. The Engineer shall have the right to determine what is or is not trash, rubbish or waste material and the place and manner of disposal.

The Contractor shall maintain a neat appearance to the work. Contractor shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids and cleaning solutions from surfaces to prevent marring or other damage.

Broken concrete debris, and unsuitable excavated native soil during construction shall be disposed of concurrently with its removal. If stockpiling is necessary all debris shall be placed in trash bins daily and shall be removed or disposed of weekly. Any waste shall not be buried on the site or disposed of into storm drains, sanitary sewers, streams, or waterways.

Forms or falsework that are to be re-used shall be stacked neatly concurrently with their removal. Forms and falsework that are not to be re-used shall be disposed of concurrently with their removal.

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Sidewalks, street area, parking strips, and driveway approaches must be kept reasonably clean at all times during construction and be completely and carefully cleaned after the work has progressed beyond the immediate vicinity to the satisfaction of the Engineer. Reasonable cleanup is defined as no dust, rock, or mud on any portion of the public right-of-way or the private properties as a result of the Contractor's work.

401.7 Dust and Debris Control. The Contractor shall be responsible for controlling dust in the air and rocks, debris, mud or dirt which are scattered as a result of his operations on the job. The Contractor shall be responsible for cleaning all mud, rock, dust, dirt, and debris-producing materials that originate in the project area and are deposited on other public or private property by truck tires, spillages, or by other means. The Contractor shall have suitable and adequate street cleaning equipment on the project site at all times.

The Contractor shall begin cleanup operation by 3 PM and before the end of each day's work, clean all paved portions of the project and paved streets leading from the project that have dust-producing materials or debris deposited upon them. The work areas shall be swept clean at the end of each day's work and at other times when directed by the Engineer.

The Contractor shall endeavor, whenever possible, to restrict the use of water to control dust for his convenience in order to conserve water during drought situations or mandated rationing required by the Water Utility Company. Whenever flushing of streets or any other work is necessary, the Contractor shall provide filter materials at the catch basin to retain any debris and dirt flowing into the City's drainage system.

The cost of the above work, including the providing of barricades, water and other materials, labor, and equipment shall be at the sole cost and expense of the Contractor.

The Engineer may determine that an emergency exists when dust, rocks, debris, mud, or dirt are scattered in the public right of way or in the private properties as a result of Contractor's activities and/or deterioration of such conditions due to rain. The emergency conditions may also be declared when traffic or the Contractor's equipment travelling through a job causes dust to fly or rocks, debris, mud, or dirt to be scattered. Similar emergency conditions may be determined by the Engineer if the storage of materials, tools, or any other equipment related to the project, in the public rights of way, is causing any obstruction or blocks access to the neighboring properties and/or dangerously placed without proper barricades and lights and/or backfill stockpiles or debris washing away into the street gutter and catch basins.

401.7-1 Emergency Cleanup Work. In any case in which the Contractor fails to satisfactorily complete the cleanup work described in this section, the Engineer or his representative may determine that an emergency exists. In the event an emergency is determined by the Engineer, the Contractor shall immediately make available manual labor or mechanical equipment capable of handling the cleaning process. During such an emergency, City forces may be called upon to complete the cleanup work, or the City may contract for the cleanup work. All construction work shall be shut down during this cleanup work by the City/contract forces. The Engineer may shut down further construction work until the violations are corrected to the satisfaction of the Engineer. The cost of the work performed by City/Contract forces plus an additional 70% surcharge shall be paid by the Contractor by deduction from payment due him on the contract. No compensation shall be given to the Contractor for stoppage of work.

Such action by the Engineer, however, shall not relieve the Contractor of his responsibility for any damages which may occur before, during or after such action has been taken by the Engineer, and shall place no liability upon the City or the Engineer.

401.8 Noise Control. All construction machinery and vehicles employed on the project shall be equipped with approved sound muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the work. Section 701.11 specifies time limitation in which engine driven equipment shall not be operated.

401.9 Temporary Light, Power, and Water. The Contractor shall at its own expense, furnish, install, maintain, and remove all temporary light, power, and water, including piping, wiring, lamps, and other equipment, necessary for the work. The Contractor shall not draw water from any fire hydrant, except to extinguish a fire, without first obtaining permission from the water agency concerned.

401.10 Coordination With Affected Residents. This contract may include a significant amount of

work within construction easements in private property. The Contractor shall be required to provide adequate notification to, and coordination with, the affected residents. At least 1 week prior to working in easements, the Contractor shall notify the affected residents in writing of the intention to perform work within their properties, the starting dates of work, and duration of the work. The Contractor shall only initiate an amount of work that can be reasonably completed on the same day. If the initiated work is unfinished, the Contractor shall provide adequate covers and appropriate barricades and warning signs to ensure public safety to the satisfaction of the Engineer. After completion of work in the easement area, the Contractor shall obtain written release from the property owners and give a copy to the Engineer. Any damages to the properties shall be restored and handled in accordance with Section 401.11 of this specification.

In addition, service connections may be required to be temporarily stopped for rehabilitation of the sewer mains and/or laterals. At least 1 week prior to working in a particular area, the Contractor shall notify the affected residents in writing of the intended work, the starting date and duration, and any coordination requirements to facilitate work progress. The Contractor shall be required to adequately notify affected residents of schedule changes.

For service connection disruptions required to make system improvements, the Contractor shall provide a second notice to residents/businesses not less than 48 hours prior to service interruption. For interruptions in service longer than the limits specified below, the Contractor shall at his cost arrange for and provide in-kind services. Maximum interruption time without provision of in-kind services for private residences shall be as follows:

Water Services: 4 hours
Sewer Services: 7 hours

All interruptions shall be restored by the Contractor at the end of each day.

The Contractor shall plan for and provide the services of a septic tank pumper truck to periodically pump out any sewage which may accumulate in excavation pits at the two-way cleanout location. Alternatively, the Contractor may utilize submersible sewage pumps or trash pumps to convey the sewage from the pits to a functional portion of the existing sanitary sewer within the project area.

The Contractor shall at all times perform his lateral connection work so as to minimize the quantity of sewage which may accumulate, to minimize adverse impacts on public health and sanitation and to minimize the potential for odors. The Contractor shall at all times maintain an adequate supply of bottled chlorine bleach (sodium hypochlorite solution) to treat any accumulated sewage should this be determined necessary by the Engineer to minimize odors and to protect the public and workers' health.

All costs to the Contractor for coordination with the affected residents shall be included in bid prices for the replacement or rehabilitation of sewer mains and laterals.

401.11 Protection and Restoration of Existing Improvements. The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements and street pavements which are not designated for removal (e.g., street sections, curbs, gutters, driveways, fences, walls, structures, landscaping, etc.) which are damaged or removed as a result of its operations. Repairs and replacements shall be at least equal to existing improvements, and shall match them in finish and dimensions.

Prior to initiating work in the public right of way and in the easements, the Contractor shall make an audio/video cassette tape recording of the affected areas showing all existing improvements, and their conditions. The tapes shall be turned over to the Engineer and shall be used as a historical recording of the pre-construction conditions. The costs of the pre-construction audio-visual survey shall be the responsibility of the Contractor.

Any damages to the private properties will be restored to the satisfaction of the property owners/Engineer within seven (7) days of the damage(s).

Damages within the public right of way including street pavement will be restored to the satisfaction of the Engineer after work on that particular block is completed.

401.12 Submittals. Where required by the specifications, the Contractor shall submit descriptive information which will enable the Engineer to advise the Agency whether the Contractor's proposed materials, equipment or methods of work are in general conformance to the design concept and in compliance with the drawings and specifications. The information to be submitted shall consist of proposed construction schedule, traffic control plan, shoring, sheeting and bracing as required drawings, specifications, descriptive data, certificates, samples, test results and such other information, all as specifically required in the specifications. In some instances, specified submittal information described some, but not all, features of the material, equipment, or method of work. Features not requiring submittals shall be as specified.

401.12-1 Contractor's Responsibilities. Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the drawings. Submittal documents shall be clearly edited to indicate only those items, models, or series of equipment, which are being submitted for review. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall insure that there

is no conflict with other submittals and notify the Engineer in each case where his submittal may affect the work of another contractor or the Agency. The Contractor shall insure coordination of submittals among the related crafts and subcontractors.

401.12-2 Transmittal Procedure

401.12-2a General. Submittals regarding material and equipment shall be accompanied by a transmittal form. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

401.12-2b Deviation from Contract. If the Contractor proposes to provide material, equipment, or method of work which deviates from the requirements of the plans and specifications, he shall indicate as "deviation" on the transmittal form accompanying the submittal copies.

401.12-2c Submittal Completeness. Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review.

401.12-3 Review Procedure. Submittals are specified for those features and characteristics of materials, equipment, and methods of operation which can be selected based on the Contractor's judgment of their conformance to the requirements of the plans and specifications. Other features and characteristics are specified in a manner which enables the Contractor to determine acceptable options without submittals. The review procedure is based on the Contractor's guarantee that all features and characteristics not requiring submittals conform to the plans and specifications. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights or gages, or fabrication processes except where specifically indicated or required by the contract documents or to safety precautions or programs incident thereto. Review of a separate item, as such, will not indicate approval of the assembly in which the item functions.

When the contract documents require a submittal, the Contractor shall submit the specified information as follows:

1. One reproducible original of all the submitted information. When individual sheets in the submittal exceed 8-1/2 inches x 11 inches, a sepiia shall be submitted.

2. Four copies of all the submitted information.

Unless otherwise specified, within 10 calendar days after receipt of the submittal, the Engineer shall review the submittal and return one copy of the marked-up reproducible original noted in 1 above. The reproducible original will be retained by the Engineer. The returned submittal shall indicate one of the following actions:

1. If the review indicates that the material, equipment or work method complies with the contract documents, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.

2. If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections.

3. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT." Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

4. If the review indicates that the material, equipment, or work method does not comply with the contract documents, copies of the submittal will be marked "REJECTED -SEE REMARKS." Submittals with deviations which have not been identified clearly may be rejected. Except at his own risk, the Contractor shall not undertake the work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

401.12-4 Effect of Review of Contractor's Submittals. Review of drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Engineer or the Agency, or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the Agency has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.

401.13 Final Cleaning Up. Upon completion of the work, and before acceptance and final payment, the Contractor shall clean the project areas and remove all surplus and discarded materials, falsework, rubbish

and temporary structures and restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the work, and shall leave the improvement in a neat and presentable condition throughout the entire length of the improvement under contract to the satisfaction of the Engineer. If the Conditions as noted above are not corrected immediately, the Engineer may declare an emergency and take necessary action in accordance with Section 401.7-1 of this specification.

401.14 Changed Conditions. The Contractor shall notify the Engineer in writing of the following Work site conditions, hereinafter called changed conditions, promptly upon their discovery and before they are disturbed.

1. Subsurface or latent physical conditions differing materially from those represented in the Contract; and
2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed.

The Engineer will promptly investigate conditions when notified or any conditions discovered by him which appear to be changed conditions. If the Engineer determines that the conditions are changed conditions and that they will materially increase or decrease the costs of any portion of the Work, a Change Order will be issued adjusting the compensation for such portion of the work in accordance with Subsection 401.3. If the Engineer determines that conditions of which has been notified by the Contractor do not justify an adjustment in compensation, the Contractor will be so advised in writing. Should the Contractor disagree with such determination, it may submit a notice of potential claim to the Engineer, as provided in Subsection 501.12.

If the Engineer determines that the conditions are changed conditions and that they will materially affect the performance time, the Contractor, upon submitting a written request, may be granted an extension of time subject to the provisions of Subsection 801.7.1.

The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

401.15 As-Built Records. The Contractor shall maintain at the jobsite one (1) set of Plans marked to show any deviations which have been made from the Plans, including buried or concealed construction and utility features revealed during the course of construction. Record the horizontal and vertical location of all buried utilities that differ from the Plans. These Plans shall be available for review by the Engineer at all times. Upon completion of the work, deliver the marked set of prints in good condition to the Engineer for incorporation into the original drawings.

SECTION 5 - CONTROL OF THE WORK

501.1 Authority of the Engineer. The Engineer shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner or performance and rate of progress of the work; all questions which may arise as to the interpretation of the Plans and Specifications; all questions as to the acceptable fulfillment of the contract on the part of the Contractor; and all questions as to compensation. His decision shall be final and he shall have authority to enforce and make effective such decisions and orders which the Contractor fails to carry out promptly.

501.2 Plans. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made in any plan or drawing after the same has been approved by the Engineer, except by direction of the Engineer. Where at any time reference is made to the plans, the interpretation shall be the plans as affected by all authorized alterations then in effect.

501.3 Conformity with Plans and Allowable Deviation. Finished surfaces in all cases shall conform with the lines, grades, cross sections, and dimensions shown on the approved plans. Deviation from the approved plans, as may be required by the exigencies of construction, will, in all cases, be determined by the Engineer and authorized in writing.

501.4 Coordination with Contract Documents. These specifications, the plans, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be cooperative, to describe and provide for a complete work. If there is a conflict between Contract Documents, the document highest in precedence shall control. The precedence shall be:

1. Federal and State requirements.
2. Permits from other agencies as may be required by law.
3. Special Provisions
4. General Provisions
5. Contract Plans, including General Notes.
6. Standard Details.
7. Amendments to the Standard Specifications for Public Works Construction, 1985 Edition.

8. Standard Specifications for Public Works Construction, 1985 Edition, Part 2 - Construction Materials and Part 3 - Construction Methods.
9. Reference Specifications.

Change orders, supplemental agreements, and approved revisions to Plans and Specifications will take precedence over documents listed above. Detailed plans shall have precedence over general plans.

501.5 Interpretation of Plans and Specifications. Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Plans or Specifications, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to the same as part of the contract, so far as may be consistent with the original specifications; and in the event of any doubt or question arising regarding the true meaning of the Specifications, reference shall be made to the Engineer, whose decision thereon shall be final.

In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.

Any part of the work which is not mentioned in the Specifications, but is shown in the Plans, or any part not shown on the Plans but described in the Specifications, shall be performed by the Contractor.

501.6 Superintendence. The Contractor will be supplied with five copies of the Plans and Specifications. Additional sets of Plans and Specifications shall be provided at the Contractor's cost which shall be equal to the City's reproduction costs. The Contractor shall have available on the work, at all times, one copy of each of said Plans and Specifications; he shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Engineer and with other contractors in every way. The Contractor shall, at all times, have a competent superintendent capable of reading and thoroughly understanding the Plans and Specifications, as his agent on the work, who shall receive instructions from the Engineer or his authorized representatives.

The superintendent shall have full authority to execute the order or directions of the Engineer without delay and to promptly supply such materials, tools, plant equipment, and labor as may be required. Such superintendent shall be furnished irrespective of the amount of work sublet.

501.7 Lines and Grades. Lines and grades for the work will be given by the Engineer. The Contractor shall give at least 48 hours' notice when he will require the services of the Engineer for laying out any portion of the work.

The Contractor may be required to furnish labor, at no extra cost to the City, to assist the City survey party. In general, this would mean the occasional furnishing of a laborer to drive stakes, pull manhole covers, move obstructions, etc., in order to expedite the work.

The Contractor shall protect stakes set by City surveyors by placing guard stakes or large objects to protect them from damage. The Engineer shall charge the Contractor for all time spent resetting stakes.

501.8 Authority and Duties of Resident Engineer. Duly authorized Resident Engineers, who shall perform their duties under the direction of the Engineer, will be assigned to the project or each part thereof. The presence of the Resident Engineer shall in no way lessen the responsibility of the Contractor. In case of any dispute arising between the Contractor and the Resident Engineer as to materials furnished or the manner of performing work, the Resident Engineer shall have authority to reject materials or suspend the work until the questions at issue can be referred to and decided by the Engineer. The Resident Engineer is not authorized to revoke, alter, enlarge, relax, or release any requirement to these specifications, nor to approve or accept any portion of the work, nor to issue instructions contrary to the Plans and Specifications.

501.9 Inspection. The Contractor shall furnish the Engineer or his designated representative with access to the work for ascertaining whether the work performed and materials used are in accordance with the requirements and intent of the specifications and contract.

The Contractor shall give the Engineer or his representative notice of the time when he or his subcontractors will start the various units or operations of the work. Notice shall be given at least 24 hours in advance of starting or resumption time exclusive of Saturdays, Sundays, or holidays, for the purpose of permitting the Engineer to make the necessary assignment of his representative or inspector on the work. Any work performed by the Contractor or his subcontractors in conflict with said notice shall be removed if so ordered by the Engineer, his representative or inspector on the work.

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the contract as prescribed. Defective work shall be made good, and unsuitable materials may be rejected, notwithstanding the fact that such defective work or unsuitable materials may have been previously overlooked by the Engineer and accepted or estimated for payment.

501.10 Traffic Control. The Contractor shall submit three copies of proposed traffic control plan to the Engineer for approval at least five (5) working days prior to commencement of work. No work will be started unless the traffic plan and requirements in Section 801.2 is duly approved. This plan will be submitted in the form of a drawing locating the project area and all major and minor access and exits to and out of this area. The plan will also include the immediate neighboring areas where the traffic shall be directly or indirectly affected as a result of construction work in the project area.

The traffic control plan shall be developed for various traffic situations and street configurations in the

work and surrounding areas in full conformance with the "State of California Business, Transportation and housing Agency Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zone" dated 1985, hereinafter referred to as Traffic Control Manual.

At main entry and exit points of each work location, the Contractor shall provide a 30" x 30" sign advising the public of the anticipated period of time that traffic delays may be anticipated. This sign will also include name and telephone number of the Contractor along with starting and completion dates of the contract. Sign will be erected 7 days in advance of any work.

If traffic is to be detoured over a centerline or detoured in advance of the work, detour plan must be incorporated in the traffic control plan. Police, Fire, and Public Works Department shall be notified at least 48 hours in advance of any work which will interfere with the normal flow of vehicular or pedestrian traffic. Intersection closure may only occur if, in the traffic plan, the two adjacent intersections remain open, unless otherwise approved by the Engineer.

All signs and devices proposed to warn, direct, and control traffic in the vicinity of the work shall conform in size, shape, and color to the requirements set forth in the Traffic Control Manual mentioned above and approved by the Engineer in accordance with the traffic control plan.

The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, designated legal holidays, after 3:00 P.M. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress.

Cost of traffic controls, including flag person, shall be included and spread among appropriate bid items as determined by the Contractor.

Public parking on streets may be restricted as necessary.

The Contractor shall furnish, erect, and maintain all signs except "No Parking" signs which shall be obtained by the Contractor from the City of Berkeley. All signs shall be placed as directed by the Engineer. The "No Parking" signs must be posted by the Contractor no later than 48 hours or as directed by the Engineer in advance of the time of need. "No Parking" signs shall bear the name of the Contractor and shall also specify the "No Parking" dates and locations.

The Contractor shall replace within a 24 hour period any sign that has been damaged, lost, or worn out.

The Traffic Engineer shall have authority to change the traffic plan and make recommendations through the Engineering Inspector after the project has started and throughout the project.

The Contractor shall comply with the traffic engineering recommendations within a 24 hour period or immediately if requested. Failure to comply with this item shall be enough reason for the Engineer to stop the project.

501.11 Defective and Unauthorized Work. All work which is defective in its construction or deficient in any of the requirements of these specifications shall be remedied, or removed and replaced by the Contractor in an acceptable manner, and no compensation will be allowed for such correction.

Upon failure of the Contractor to comply forthwith with any order of the Engineer made under the provisions of these specifications, the Engineer shall have the authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed, and to deduct the costs thereof from any monies due or to become due the Contractor.

501.12 Disputed Claims. In any case where the Contractor deems extra compensation is due him for work or materials not clearly covered in the contract, or not ordered by the Engineer as extra work, the Contractor shall notify the Engineer in writing of his intention to make claim for such extra compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper facilities by the Contractor for keeping strict account of actual cost, then the Contractor hereby agrees to waive the claims for such extra compensation.

Such notice by the Contractor, and the fact that the Engineer has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim. The claim must be passed upon by the Engineer. In case the claim is found to be just, it shall be allowed and paid for as extra work. Unless the Contractor gives notice of his claim to the Engineer within 10 calendar days, or before he begins the work on which he bases his claim, whichever is sooner, it will not be considered.

501.13 Arbitration. Disputed claims may be settled by arbitration if both parties mutually agree. The arbitration procedures shall be in accordance with the construction industry arbitration rules of the American Arbitration Association. Arbitration awards shall be presented in writing and shall include the following elements: (1) legal "finding of fact" established by the arbiter; (2) specific breakdown of the dollar amounts allocated for each issue under arbitration; (3) the arbiter's "conclusion of law"; (4) a summary of the evidence; and (5) reasons underlying the arbiter's award.

501.14 Final Inspection. Whenever the work provided and contemplated by the contract shall have been satisfactorily completed and the final cleaning up performed, the Engineer will make the final inspection.

501.15 Progress Meetings. The Contractor shall schedule and hold regular on-site progress meetings weekly and at other times as requested by the Engineer or as required by progress of the Work. The Contractor, Engineer, and all subcontractors active on the site shall be represented at each meeting. The

Contractor may, at its discretion, request attendance by representatives of its suppliers, manufacturers, and other subcontractors. The purpose of the meetings will be to review the progress of the work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop.

501.16 Substitution. Any materials, process, or article may be requested for a substitution by the Contractor, in lieu of that specified or shown, under the following conditions:

1. Requests must be submitted in writing sixty (60) days prior to starting the work, as established by the Engineer, so as not to cause any delay in completion of the project.

2. The Contractor shall, at no cost to the City, furnish all testing, data, engineering, and design services (including the review costs incurred by the Engineer) for items offered as equivalent to those specified. Test methods and findings shall, prior to installation, be subject to approval of the Engineer.

3. On sewer rehabilitation projects, the sewer rehabilitation methods shown on the Plans are the minimum levels acceptable for the respective reaches. The three sewer rehabilitation methods, in descending order of acceptability, are as follows:

- Replacement
- Inversion-Lining
- Sliplining

Substitution with a lower level rehabilitation method will not be permitted unless field conditions dictate that a lesser method will provide comparable sewer integrity. A credit change order will be prepared accordingly. The foregoing shall require the approval of the City and the Engineer. Substitution with higher level rehabilitation method may be acceptable subject to approval of the Engineer.

1. No requests for substitution will be considered during the bidding period.

2. Any substitution of any material, process, or article shall be at no additional costs to the City. Substitution with a lesser level rehabilitation method shall be accomplished by credit change order. Substitution with a higher level method shall be accomplished by a no cost change order.

The Engineer reserves all rights and will have final approval as to the substitution of alternative rehabilitation methods.

501.17 Reinspection, Retesting, and Re-staking. All costs incurred by the City for reinspection of poor workmanship, failing air tests, failing compaction tests, failing tests of any kind, and re-staking caused by the Contractor shall be deducted from the amounts due the Contractor by contract change order. The Engineer's decision as to determination of poor workmanship shall be final.

SECTION 6 - CONTROL OF MATERIAL

601.1 Sample and Tests. At the option of the Engineer, the source of each of the materials shall be approved by the Engineer before delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of all materials to be used in the work, for testing or examination as desired by the Engineer.

All tests of materials furnished by the Contractor shall be made in accordance with commonly recognized standards as set forth in the specifications and such other special methods and tests as may be prescribed.

The Contractor shall furnish such samples of materials as are requested by the Engineer, without charge. No material shall be used until it has been approved by the Engineer. Samples will be secured and tested by the laboratory whenever necessary to determine the quality of material.

601.2 Defective Materials. All materials not conforming to the requirements of these specifications shall be considered as defective, and all such defective materials, whether in place or not, shall be rejected. They shall be removed immediately from the site of the work unless otherwise permitted by the Engineer. No rejected material, the defects of which have subsequently been corrected, shall be used until approved in writing by the Engineer.

Upon failure on the part of the Contractor to comply with any order of the Engineer made under this provision of these specifications, the Engineer shall have authority to remove and replace defective material and deduct the cost of removal and replacement from any monies due or to become due the Contractor.

601.3 Storage of Materials. Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. Stored materials shall be so located as to facilitate prompt inspection. Space for main storage/construction yard shall be the Contractor's responsibility.

No construction material shall be stockpiled in the street for a period of more than five (5) days at a particular location. Contractor shall coordinate with the Engineer to designate such temporary storage areas. The delivery of materials on site should be scheduled in installments in such a way that all stockpiled materials are used within the above specified period. Proper lighted barricades and other required traffic controls shall be maintained at all times around the stored materials. No material shall be stored on the sidewalk area and/or in front of driveways or within 15 feet of a fire hydrant or catch basin, passageways, or in such a way as to hinder pedestrians, vehicular flow, or drainage.

Street curbs and gutters shall be clear from stockpiled materials. To maintain flow of unobstructed surface water on the street, 4" diameter minimum drain pipes shall be provided along the gutters if any materials are stockpiled in those areas.

At least one lane shall be kept open in the street at every time during the time material is stockpiled in the public right of way. Any violation of the above requirements will result in a declaration of an emergency situation by the Engineer and proper remedial action shall be taken in accordance with Section 401.7 of this specification.

Clean up and tidiness under Section 401.6 shall be adhered to and enforced.

601.4 Trade Names or Alternatives. Whenever any article or any class of materials is specified by a trade name or by the name of any particular patentee, manufacturer or dealer, it shall be and is mutually understood to mean and specify the article or class of materials described, or any other equal thereto in quality, finish, and durability, and equally as serviceable for the purpose for which it is intended, subject to the approval and acceptance of the Engineer.

SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

701.1 Laws to be Observed. The Contractor shall keep himself fully informed of all state and national laws and all municipal ordinances and regulations of the City which in any manner affect those engaged or employed in the work, or which in any way affect the conduct of the work, and or all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

The Contractor shall at all times observe and comply with, and shall cause all agents and employees to observe and comply with all such laws, ordinances, regulations, orders and decrees, including all provisions of the Occupational Safety and Health Act of 1979 and all amendments thereto, and all applicable federal, state, municipal, and local safety regulations; and shall protect and indemnify the City, the Council, and the Engineer, and all of its and their officers and agents and servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees. If such discrepancy or inconsistency is discovered in the plans, drawings, specifications, or contract for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same, in writing, to the Engineer.

701.2 Hours of Labor. Eight (8) hours of labor shall constitute a legal day's work for all workers employed on this contract and the Contractor and any subcontractor under him shall comply with and be governed by the laws of the State of California having to do with working hours as set forth in Division 2, Part 7, Chapter 1, Article 3 of the Labor Code of the State of California as amended.

The Contractor shall forfeit, as penalty to the City of Berkeley, twenty-five dollars (\$25.00) for each laborer, worker, or mechanic employed in the execution of the contract, by him or any subcontractor under him, upon any of the work hereinbefore mentioned, for each calendar day during which said laborer, worker, or mechanic is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of said Labor Code.

701.3 Apprentices. The Contractor and any subcontractor working under him must comply with and be governed by the laws of the State of California having to do with the employment of apprentices on public works as set forth in Sections 1777.5 and 1777.6 of the Labor Code of the State of California.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

701.4 Nondiscrimination. There shall be no discrimination against any employee who is employed in the work covered by this contract, or against any applicant for such employment, because of race,

religion, color, disability, national origin, or sexual preference. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship.

In order that this provision against discrimination shall achieve the intended result, before a contract is awarded to the apparent successful bidder there shall be a pre-award conference between such apparent successful bidder and the City Manager, or the City Manager's designated representative. Such pre-award conference shall be held after the opening of bids and before award of the contract at a date and time to be designated by the City Manager, or his representative, and at such pre-award conference the apparent successful bidder shall present to the City Manager, or his authorized representative, the program of affirmative action he proposed to undertake to ensure that persons are employed and employees are treated so that they receive equal opportunities without regard to race, religion, color, disability, national origin, or sexual preference. Such program shall include not only the affirmative action proposed to be undertaken by the apparent successful bidder in his own employment practices but also the affirmative action that he proposes to undertake to assure that all subcontractors working under him provide equal employment opportunities for all without regard to race, religion, color or national origin. Failure to carry out the proposed program of affirmative action shall be deemed to be a violation of the contract within the meaning of Section 701.26 of the General Provisions.

In the event that the apparent successful bidder refuses or fails to participate in such pre-award conference or refuses or fails to present a program of proposed affirmative action, the Council may determine that he is not the lowest responsive bidder and his bid shall be rejected. In such event, the City Council shall have the right to declare such apparent successful bidder to be a nonresponsive bidder, in which case no contract shall be awarded to him by the City for a period of at least three (3) years from the date of the declaration by the Council that he is a nonresponsive bidder, and then only after satisfactory evidence that he will comply with the requirements of this Section of the General Provisions.

If the bid of the apparent successful bidder is rejected by the Council and the Council wishes to award the contract to another bidder, such contract shall not be awarded until such bidder has complied with the requirements of this Section relating to pre-award conference and the effects thereof, as hereinabove set forth, shall be applicable to said other bidder, except that such pre-award conference shall be held within five (5) days following the action of the Council in rejecting the bid. The other bidders shall be considered for award pursuant to this paragraph in the order of their bids starting with the next lowest responsive bidder and continuing until a bidder complies with the requirements of this Section, or until the council takes other action as authorized by Section 67 of the Charter.

701.5 Prevailing Wage. The Contractor and any subcontractor working under him must comply with and be governed by the laws of the State of California having to do with the prevailing wage to be

paid as is set forth in Division 2, Part 7, Chapter 1, Article 2 of the Labor Code of the State of California as amended.

The Contractor shall forfeit, as penalty to the City, twenty-five dollars (\$25.00) for each laborer, workman, or mechanic employed, for each calendar day or portion thereof, such laborer, workman, or mechanic is paid less than the general prevailing wages hereinafter stipulated for any work done under the attached contract, by him or by any subcontractor under him, in violation of the provisions of said Labor Code. In addition, the Contractor shall pay to the workmen the wages resulting from the difference between the stipulated wage rate and the wages actually paid.

The Engineer has a current copy of general prevailing wage rates applicable to the work, a copy of which is made part of these specifications by reference.

701.6 Compensation Insurance. Before beginning work, the Contractor shall furnish to the Engineer a certificate of insurance as proof that he has taken out full compensation insurance for all persons whom he may employ directly or through subcontractors in carrying out the work specified herein, in accordance with laws of the State of California. Such insurance shall be maintained in full force and effect during the period covered by this contract.

701.7 Governmental Regulations. Bid price shall not be in excess of maximum prices permitted by the federal or state government.

All orders are subject to ability to obtain and use materials and deliver finished products under federal and state regulations and orders. If shipping dates are subject to delays resulting from preference rating or priority shipments order or requested by the United States Government or by any department, commission or agency thereof, the Contractor shall not be held liable for such delay.

701.8 Taxes. The City is liable for the State Sales Tax and where the County of purchase has adopted the Uniform Sales Tax law and a City and/or County tax is collected by the State, the City of Berkeley is liable for this tax also.

The City if exempt from the Federal Excise Tax and exemption certificates will be furnished. In certain instances, the bidder and subcontractor may be liable for Federal Excise Tax. Bidder must determine whether Federal Excise Tax is chargeable to him and if so, the amount of the tax should be included in the amount bid.

Any new or additional taxes levied after the adoption of these specifications that are payable by the City are not to be included in the price bid, but added thereto when invoiced.

701.9 Permit and Licenses. The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notice necessary for the lawful prosecution of the work.

701.10 Royalties and Patents. The Contractor shall pay all royalties and patent fees. He shall defend all suits and claims for infringements of any patent rights and shall save the City harmless from loss on account thereof, except that the City shall be responsible for all such loss when a particular process or the product of a particular manufacturer is specified. If, however, the Contractor has information that the procedures or article specified is an infringement of a patent, he shall be responsible for any loss unless he promptly gives said information to the City.

The Contractor shall assume all responsibilities arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work.

All fees and royalties for any patented invention or process used in connection with the work shall be included in the price bid for such work, and the Contractor shall obtain a permit from the patentee for use of the same.

701.11 Public Convenience and Safety. The Contractor shall so conduct his operations as to cause the least possible obstruction and inconvenience to the public.

Residents along the work shall be provided passage as far as practicable. Convenient access to driveways, houses, and buildings along the work shall be maintained and temporary crossings shall be provided and maintained in good conditions. Contractor shall maintain access to all driveways except when actually doing construction within the driveway boundaries, at which time parking access will be maintained unless alternate arrangement can be made with the property owners or tenants in advance. No more than one intersection street shall be closed at any one time without the approval of the Engineer.

The Contractor shall furnish all flagpersons, barricades, barriers, lanterns, flares, "DR" type detour signs, and other devices which may be necessary for adequate and safe traffic control, and in accordance with the approved traffic control plans per Section 501.10 of this specification.

Traffic control shall be performed in accordance with the following requirements:

- o Safe pedestrian passage shall be provided at all times on the project site.
- o All open trenches will be covered with appropriately thick steel plates in accordance with page 25 of the "Work Area Traffic Control Handbook" published by Building News, Inc. (213) 870-9871. Safe passage for all vehicles shall be maintained at all times in both directions.

- o Sufficient number of reflectorized signs shall be supplied and used on the job site at all times to efficiently control traffic in accordance with this specification. Each and all barricades shall be equipped with operative automatic flashers.
- o Berkeley Police and Fire Departments, Berkeley School District, City Streets and Utilities Division, and A.C. Transit shall be advised of the planned construction, blocked streets, and other changes affecting traffic conditions (48 hours in advance), every work day -- or more frequently. Additionally, the Police and Fire Departments and Resident Engineer must be given telephone numbers where the Contractor may be reached at all hours in the event of an emergency involving the work. Appropriate Police, Fire, Berkeley School District, City Streets and Utilities Division, and A.C. Transit telephone numbers are as follows:

Police: 981-5900
Fire: 981-5900
School: 644-6182
Streets & Utilities: 981-6620
A.C. Transit: (where applicable) 891-4777

Proper signs and devices shall be used to warn, direct, and control traffic in the vicinity of the work and shall conform in size, shape, and color to the requirements set forth in the specifications and approved by the Engineer in accordance with the Traffic Control Plan.

Where such facilities are not provided or are out of service, and an emergency exists that necessitates protective measures, the Engineer or his representative, may provide such facilities during the emergency and the cost thereof shall be paid by the Contractor or deducted from monies due or to become due him on the contract. Such action by the Engineer, however, shall not relieve the Contractor of his responsibility for any damages which may occur before, during or after such precaution has been taken by the Engineer, and shall place no liability upon the City or the Engineer.

To keep evening and night noise levels to a minimum, no engine driven equipment shall be operated between 5:00 p.m. and 7:30 a.m. unless previously authorized by the Engineer.

701.12 Responsibility for Damage. The City, the Council, or the Engineer shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any materials or equipment used in performing the work; or for injury or damage to person or persons, either workmen or the public; or for damage to adjoining property from any cause whatsoever during the progress of the work or at any time before final acceptance.

The Contractor shall be held responsible for any and all loss, accidents, injury or damage to persons or

property which may be the result of this contract and for which the City might be held liable. The Contractor shall protect and indemnify the City and save it harmless in every way from all claims, suits or actions of law for damage or injury to persons or property that may arise or be occasioned in any way because of this contract. The Council may retain so much of the money due the Contractor as shall be considered necessary, until disposition has been made of such suits or claims for damages as aforesaid.

701.13 Public Liability and Property Damage Insurance. Before commencing the work, the Contractor shall furnish to the City Attorney of the City satisfactory evidence of public Liability and Property Damage insurance with limits of liability as listed in the Notice to Bidders and as approved by the City's Risk Manager. Such insurance shall name the City of Berkeley officers, employees, agents and its consultants associated with the project (City to provide names of the consultant(s)) as additional named insured and it shall be provided that any cancellation or reduction in coverage of the insurance by either the assured or the insurance company will not be effective until thirty (30) days after written notice thereof has been given to the City.

701.14 Contractor's Responsibility for Work. Until the formal acceptance of the work by the Engineer, the Contractor shall have the charge and care thereof, except as provided in Section 701.11, Public Convenience and Safety, and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any cause before final acceptance and shall bear the expense thereof, except such injuries or damages as occasioned by acts of war.

701.15 Entry Rights. The right is reserved to the City, and also to railway, water, gas, telephone, telegraph, cable television and electric power transmission companies to enter upon the work for the purpose of making repairs and changes that have become necessary by reason of work. Projects financed in whole or in part with State funds shall be subject to inspection at all times by the State of California agency having jurisdiction or his agent.

701.16 Cooperation between Contractor and Utility Companies. The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The City, its workers and contractors, and others shall have right to operate within or adjacent to the workers to perform such work.

The City, the Contractor, and each of such workers, contractors, and others shall coordinate their operations and cooperate to minimize interference.

The Contractor shall include in its bid all costs involved as a result of coordinating its work with others. The Contractor will not be entitled to additional compensation from the City for damages resulting from

such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage, or delay, the Contractor shall redeploy its work force to other parts of the work.

Should the Contractor be delayed by the City, and such delay could not reasonably have been foreseen and prevented by the Contractor, the Engineer will determine the extent of the delay, the effect of the delay on the project as a whole, and any commensurate extension of time.

If the work of the Contractor is delayed because of any acts or omissions of any other contractor or utility company, the Contractor shall on that account have no claim against the City other than for an extension of time.

701.17 Obstruction. No material or other obstruction shall be placed within fifteen (15) feet of fire hydrants, which must be at all times readily accessible to the Fire Department.

Where the completion of the work requires their removal, the Contractor shall remove and dispose of all structures, debris, or other obstructions encountered in making the improvement.

701.18 Sanitary Conveniences. Necessary sanitary facilities for the use of workers properly secluded from public observation and in compliance with health ordinances and laws, shall be constructed and maintained in an approved manner by the Contractor, and their use shall be strictly enforced.

701.19 Preservation of Monuments. The Contractor shall carefully preserve bench marks, reference points and stakes, and in case of willfully or careless destruction, he will be charged with the entire cost of replacing them and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance. Monuments which have to be removed shall not be disturbed until authorized by the Engineer.

The Contractor shall provide the City with a minimum of 48 hours notice of any activities which may result in the displacement damage or destruction of monuments.

701.20 Opening Sections of New Work. Whenever, in the opinion of the Engineer, any section of the work is in a condition for beneficial use by the City it may be opened for use. Such openings, when authorized in writing by the Engineer shall not represent acceptance of that portion of the work unless all specified testing has been satisfactorily completed.

The Contractor will be responsible for all necessary repairs on any section of work, so opened, due to defective material or work, damage by Contractor's operation, or to natural causes other than ordinary wear and tear until final completion and acceptance of the work. Such repairs shall be at the expense of the Contractor.

701.21 Acceptance of Work on Contract. When the final inspection is completed and it has been determined that the work is in accord with the plans and specifications, the Engineer will formally accept the contract. After such acceptance, the Contractor will be relieved of protecting the work, except for such correction or repair as shall be required to correct any defect in the work. The Contractor will not be required to perform any further work thereon except such items as may be reserved specifically in the specifications or formal written acceptance, and he shall be relieved of responsibility for injury to persons or property or damage which occurs after the formal written acceptance.

701.22 Correction of Errors, Recovery for Errors, Dishonesty or Collusion. The City reserves the right to correct any error that may have been made in any estimate that has been paid. The City also reserves the right to claim and recover by process of law any sums sufficient to correct any error or make good any deficiency in the work, regardless of when such error, dishonesty or collusion shall be discovered.

701.23 Rights in Materials and Salvage. Ownership of materials incorporated in the work is vested in the name of the City. Any material delivered and paid for in part by the City or any material furnished by the City to be incorporated in the work, is or becomes the property of the City. Any salvageable materials or installations existing at the site of the work (such as manhole rings and covers, catch basin gratings, angle iron, pipe railings, valve boxes and lamphole boxes, and other steel, cast iron or metallic materials) that are the property of the City, if they are to be removed shall be delivered F.O.B. to the storage yard designated by the City. The salvageable materials shall be cleaned of clinging concrete and debris and delivered to the storage yard in the same condition as it existed prior to removal, unless the Contractor is instructed otherwise by the Engineer.

701.24 Right-of-Way. The right-of-way for the work to be constructed will be provided by the City. The Contractor shall make his own arrangements, and pay all expenses for additional area required by him outside the limits of the right-of-way, unless otherwise provided in the Special Provisions.

701.25.1 Underground Facilities. The City has investigated underground conditions to the extent allowed by the City records and has indicated on the drawings such underground structures and conditions as are known to exist. In addition, the drawings indicate information furnished to the City by the utility agencies concerning their facilities. The City does not guarantee, either expressly or by implication, that the underground conditions indicated are either complete or exact as to locations and depths. No additional allowance will be made in cases where underground conditions vary as to number, structures, depths, locations or any other condition from the information shown on the drawings. In all cases, the cost of dealing with the identified underground facilities encountered will be considered as being included in the bid prices for the various items of work.

701.25.2 Protection of and Liability for Unidentified Underground Public Utilities. The following is

pursuant to California Government Code Division 5, Chapter 3.1, Section 4215. The City is responsible for the removal, relocation or protection of existing utilities located on the construction site that is subject of these plans and specifications if such existing underground utilities are not identified in the plans and specifications and made a part of the invitation for bids. The Contractor will not be assessed liquidated damages for delay in completion of the contract, when such delay is caused by failure of the City or utility owner to provide for removal or relocation of the unidentified existing utility facilities.

701.26 Compliance with Contract. In the event any provision of the contract including the General Provisions and specifications, is violated, and the Contractor refuses to comply after 10 days written notice is given by the City, the City shall have the additional right, without further notice, to cancel the contract and/or declare such Contractor to be a nonresponsive bidder, in which case no contract shall be awarded him by the City of a period of at least three (3) years from the date of violation, and then only after satisfactory evidence that he will comply with City specification and contract provisions.

SECTION 8 - PROSECUTION AND PROGRESS

801.1 Subletting and Assignment. The Contractor shall give his personal attention to the fulfillment of the contract and shall keep the work under his control. The contract may be assigned only upon written consent of the Engineer.

Subcontractors will not be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor, and their work shall be subject to the provisions of the contract and specifications.

When a portion of the work sublet by the Contractor is not being prosecuted in a manner satisfactory to the Engineer, the subcontractor shall be removed immediately on the written request of the Engineer and shall not again be employed on the work.

801.2 Progress of the Work and Time for Completion. The Contractor shall begin work within 30 calendar days after the award of the contract and shall diligently prosecute the same to completion before the expiration of the time specified in the Bidding Documents. After issuing of Notice to Proceed and prior to commencement of mobilization and construction, the Contractor shall be required to attend a pre-construction meeting.

The Engineer may extend the starting date.

801.3 Programming Work. After notification of award and at least five (5) working days prior to start of any work, the Contractor shall submit to the Engineer for approval its proposed construction schedule. No construction work will start unless the schedule is approved by the Engineer. The construction schedule shall be in the form of a tabulation, chart, or graph and shall be in sufficient detail to show the chronological relationship of all activities of the project including, but not limited to, estimated starting and completion dates of various activities, submittal of shop drawings to the Engineer for approval, procurement of materials, and scheduling of equipment. The construction schedule shall reflect completion of all work under the contract within the specified time and in accordance with these specifications. The schedule shall include completion dates of all major activities on a block to block basis.

If the Contractor desires to make a major change in the method of operations after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Agency a revised construction schedule in advance of beginning revised operations.

Loss of work for any cause during the period of time prior to the submission of the progress schedule will

not be considered by the Engineer in his computation of time extensions. In addition, the Contractor shall submit a complete list of subcontractors who will perform the work on this project and a list of all major material suppliers. No substitutions of any kind will be allowed, either of subcontractors or material suppliers without the written approval of the Engineer.

In case of any delays from the original schedule due to any reason, the Contractor will immediately notify the Engineer and resubmit the revised schedule within forty-eight (48) hours of that change. Any request for change in the original schedule shall be evaluated and approved or denied in accordance with requirements listed in these specifications.

All work on the project shall be performed between the hours of 7:30 AM and 5:00 PM on a regular work day. No work shall be scheduled beyond these hours on a regular work day, holiday, or weekend without prior approval from the Engineer. The Contractor shall submit this request in writing at least one week in advance. The Contractor shall pay for the inspection time of the City's resident Engineer or his designated representative on an overtime basis for required inspection of work performed beyond the mentioned regular day working hours and on holidays or weekends. This inspection charge will be deducted from the Contractor's progress payment.

All work, including finish paving on a City block and final clean up, shall be completed within five (5) weeks from the start of construction on the respective City block.

801.4 Character of Workers. If any subcontractor or person employed by the Contractor shall refuse to carry out the provisions of the plans and specifications or shall appear to the Engineer to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the written request of the Engineer, and such person shall not again be employed on the work.

801.5 Temporary Suspension of Work. The Engineer shall have the authority to suspend the work wholly or in part, for such period as he may deem necessary due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the work, or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given, or to perform any provisions of the work. In addition, the Contractor shall comply with the Traffic Engineering recommendation within a 24-hour period or immediately if requested. Failure to comply with this shall be sufficient reason for the Engineer to suspend the work. The Contractor shall immediately obey such orders of the Engineer and shall not resume the work until ordered in writing by the Engineer.

801.6 Liquidated Damages for Failure to Complete Work in Specified Time. Time is of the essence and an essential condition of the Contract. If all the work called for under the contract is not completed before or upon the expiration of the time set forth in the Bidding Documents, damage will be sustained by the City. Since it is and will be impracticable to determine the actual damage which the City will sustain

in the event of and by reason of such delay, it is therefore agreed that the Contractor will pay to the City the sum specified in the Bidding Documents for each and every working day beyond the time prescribed to complete the work, not as a penalty, but as a predetermined liquidated damage. The Contractor agrees to pay such liquidated damages as are herein provided, and in case the same are not paid, agrees that the City may deduct the amount thereof from any money due or that may become due the Contractor under the contract.

801.7 Extension of Time. If the work called for under the contract is not completed within the time specified, the Engineer may extend the time for completion if it serves the best interest of the City. If the time limit for the completion of the contract is extended, the Engineer may charge to the Contractor or deduct from the final payment for the work, all or any part of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are incident to the work, and which accrue during the period of such extension. The cost of final surveys and preparation of final estimate shall not be included in such charges.

801.7.1 Extension of Time Due to Extra Work and Inclement Weather. Extensions of time for extra work, when granted, shall be based upon the effect of delays to the Work and will not be granted for noncontrolling delays to minor portions of the work unless it can be shown that such delays did or will delay the progress of the Work. Extensions of time for inclement weather, when granted, shall be based upon impacts to the Contractors work operations causing not less than 50 percent of the effort to be shut down.

801.8 Delays and Suspension of Work. The Contractor shall not be assessed with liquidated damages nor the cost of engineering and inspection during any delay in the completion of the work caused by the wrongful act or negligence of the City or its employees, agents or representatives, by acts of God, acts of the public enemy, fire, floods, epidemics, quarantine restrictions, labor disputes, freight embargoes, materials delays when approved by the Engineer, inclement weather or delays of subcontractors due to such causes; provided, that the Contractor shall within five (5) working days from the end of any such delay notify the Engineer in writing of the cause of delay. The Engineer will determine the extent of delay and his findings of the facts thereon shall be final.

In the event the Contractor is delayed in the work by the wrongful act or negligence of the City or its employees, agents or representatives, which said delay is not caused by or the continuance of which is not due to any act or conduct on the part of the Contractor, reimbursement or payment to the Contractor for such delay, if at all, shall be limited to any money actually and necessarily expended on the job during the period of delay, solely by reason of said delay. No reimbursement, payment or allowance will be made for anticipated profits, rental charges for equipment owned by the Contractor, or any overhead or indirect costs.

801.9 Acceptance of Payment Does Not Constitute Waiver. If the City accepts any work or makes any payment under this contract after a default by reason of delays, the payment or payments shall in no respect constitute a waiver or modification of any of the provisions in regard to time of completion and liquidated damages.

801.10 Suspension of Contract. If at any time the Contractor has failed to supply an adequate working force or materials of proper quality, or has failed in any other respect to prosecute the work as intended by the terms of the contract, notice thereof in writing will be served upon him and his surety by the Engineer. Should the Contractor neglect or refuse to provide means for satisfactory compliance with the contract within three (3) working days, the Engineer shall have the power to suspend the operations of the Contractor. Upon receiving notice of such suspension, the Contractor shall discontinue said work or such parts of it as the Engineer may designate. Upon such suspension, the Contractor's control of the work shall terminate. The City or its duly authorized representative, may take possession of all or any part of the Contractor's materials, tools, equipment, and appliances upon the premises, and use the same for the purpose of completing said contract, and hire such force and buy or rent such additional machinery, tools, appliance and equipment, and buy such additional materials and supplies at the Contractor's expense as may be necessary for the proper conduct of the work and for the completion thereof. The City may employ other parties to carry the contract to completion, employ the necessary workmen, substitute other machinery or materials, and purchase the materials contracted for, in such manner as the Engineer may deem proper. The City may annul and cancel the contract and re-let the work or any part thereof.

801.11 Liability of Contractor in Event of Suspension or Cancellation. Any excess of cost over and above the contract price because of suspension of the contract will be charged against the Contractor and his sureties, who will be liable therefor. In the event of such suspension, all moneys due the Contractor or retained under the terms of this contract shall be forfeited to the City until all obligations of the contract have been met. Such forfeiture will not release the Contractor or his sureties from liability for failure to fulfill the contract.

The Contractor and his sureties will be credited with any surplus of money so forfeited by the suspension or cancellation of the contract after the completion of the work by the City as above provided. The Contractor or his surety may claim any surplus remaining after all just claims for such completion of the contract have been paid.

801.12 Decision of Council Binding on All Parties. The final determination of the question as to whether there has been non-compliance with the contract sufficient to warrant the suspension or annulment thereof, rests with the Council. Its decision shall be binding on all parties to the contract.

801.13 Guarantee. The Contractor shall guarantee the entire work constructed by him under the Contract

to be free of defects in materials and workmanship for a period of one year after completion and acceptance by the Agency. The date of initiation of this guarantee period shall be the date of the filing of the notice of completion by the Agency. The Contractor shall agree to make, at his own expense, any repairs or replacements made necessary by defects in materials and workmanship which become evident within said guarantee period. The Contractor hereby agrees to defend, to indemnify and hold harmless the Agency; its officers, agents and employees, and its consultants associated with the project (City to provide name of consultant), against and from all claims and liability arising from damage and injury due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written order from the Engineer. If the Contractor fails to make the repairs and replacements promptly, the Agency may do the work and the Contractor and his surety shall be liable to the Agency for the cost of such work.

The performance of guarantee and conditions specified above shall be secured by a surety bond which shall be delivered by the Contractor to the Agency prior to the date on which final payment is made to the Contractor. Said bond shall be in an approved form and executed by a surety company or companies satisfactory to the Agency, in the amount of 10 percent of the Contract price. Said bond shall remain in force for the duration of the guarantee period.

SECTION 9 - MEASUREMENT AND PAYMENT

901.1 Measurement of Quantities. For all items of work, other than those to be paid for by lump sum, after the work is completed and before final payment is made therefore, the Engineer shall make final measurements to determine the quantities of various items of work performed as the basis for final settlement. The Contractor, in case of unit price items, will be paid for the actual amount of work performed and for the actual amount of materials in place, in accordance with these specifications as shown by the final measurements. All work completed under this contract shall be measured by the Engineer according to the standards of weight and measures recognized by the National Bureau of Standards. A ton shall consist of two thousand (2,000) pounds avoirdupois.

Measurement for items paid for on the basis of lineal or surface area shall be along centerline distances and in horizontal planes. In computing volumes, the method of average end areas will be used with the aid of planimeter. The pay weight for all items to be paid for by weight shall be determined by actual certified scale weight, certified shipping weight or computed weight if so specified.

In order that the City of Berkeley shall have control over materials paid for on a tonnage basis, certain procedures, as outlined below, shall be followed.

1. The Resident Engineer shall be notified prior to the delivery of materials which are to be paid for on a tonnage basis.
2. Material delivered must be accompanied by a weight tag at the time of delivery.
3. The Resident Engineer must validate each tag at the time of delivery.
4. Tags will be accepted and initialed only on the date shown on the tag, which shall be the date of delivery.
5. Final quantities will be based on initialed tags only.

Materials specified for measurement by tallying of vehicles having predetermined carrying capacity shall be hauled only in approved units, struck off at the top of the carrying unit or to permanent lines at the loading point and tallied at the point of delivery. Unless all vehicles have uniform carry capacity, each hauling unit shall be marked identifying the approved capacity.

901.2 Extra and Force Account Work. Extra work as defined in Section 401.3, when ordered and accepted, shall be paid for under a contract change order in accordance with the terms therein provided.

Payment for extra work will be made at the unit price or lump sum previously agreed upon by the Contractor and the Engineer; or by force account.

If the work is done on force account, an amount equal to the sum of the following items shall be used as full and proper compensation therefor, and such amount shall be added to the price fixed by the terms of this contract for the part of the work affected:

1. The actual cost to the Contractor of the material required for the work as furnished and delivered by him at the site of the work.

2. The actual cost to the Contractor of the labor (including foremen devoting their exclusive attention to the work in question) required to incorporate all of said material into the work and to finish the work in accordance with directions and the cost of workers compensation insurance premiums for said labor.

3. The actual cost to the Contractor of equipment required for the extra work, except that the rate paid shall not exceed the current prevailing equipment rental rates. The charge for equipment shall be only for that time of actual operation devoted exclusively to the work in question.

4. Ten percent (10%) of Item 2, which shall be considered as covering the cost of small tools, plant and superintendence, and clerical work in connection with the changes.

5. Fifteen percent (15%) of the sum of Items 1., 2., and 3. which shall be considered as covering all other expenses and profit.

The City reserves the right to furnish such materials required as it deems expedient, and the Contractor shall have no claim for profit on the cost of such materials.

In order that a proper estimate may be made by the Engineer of the net cost of labor and materials entering into extra work, in accordance with the procedure herein stated, the Contractor shall furnish daily an itemized statement of materials and labor supplied, together with the cost of such material and the wages paid and shall furnish vouchers for quantities and prices of such labor, material or work. In case the Contractor fails to comply with the above provisions, he shall have no claim for compensation against the City for such extra work.

This method of determining the price of work shall not apply to the performance of any work or the furnishing of any materials which is susceptible of classification under the items for which prices are established in this contract as is required or reasonably implied to be performed or furnished under this contract.

901.3 Progress Payments. The Engineer shall, once in each month, cause an estimate in writing to be made of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used to the time of such estimate, and the value thereof according to the schedule of prices contained in the accepted bid for work. The Engineer may make an estimate of such items of work that are only partially completed on a prorating basis and pay for that portion of the item of work completed as work done. The Contractor may request the Engineer to establish a basis for prorating the unfinished items of work, but must use such a schedule for said prorating as will then be established by the Engineer. In order to receive payment, the Contractor shall make his bills in triplicate and deliver to the office of the Engineer.

901.3.1 Bid Item Breakdown. The Contractor shall submit proposed bid item breakdowns for progress payment purpose within 5 days following Award. Engineer shall establish a basis for prorating unfinished items of work utilizing Contractor's proposal, but Engineer shall not be limited to breakdown of items as proposed by the Contractor. Unbalanced or "front loaded" breakdowns shall be rejected.

901.4.1 Retained Funds. Pursuant to Article XI, Section 66 of the City Charter, the City shall retain ten percent (10%) of such estimated value of work done as part security for the fulfillment of this contract by the Contractor and shall monthly pay to the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payment and all sums to be kept or retained under the provisions of this contract. No such estimate or payment shall be required to be made when in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of this contract or when, in his judgment, the total value of the work done since the last estimate amounts to less than one thousand dollars (\$1,000.00).

901.4.2 Payment of Retained Funds. Attention is directed to Section 901.3 of the General Provisions "Progress Payments" and in particular to the retention provisions of said section.

1. At the request and expense of Contractor, the City will make payments of funds withheld from progress payments to Contractor or to an Escrow Agent, pursuant to the terms of Government Code Section 4590 if Contractor deposits with the City or with a state or federally chartered bank as escrow agent an equal value of securities eligible for substitution pursuant to Government Code Section 4590. Contractor agrees that any escrow agreement under this contract provision must substantially conform to the form escrow agreement in Government Code 4590. Securities will be held in the name of the City, with the Contractor as beneficial owner. The City will determine market value of substituted securities. Contractor will deposit additional securities to restore the total market value of deposited securities if the market value decreases below the retention amount.

2. The Contractor shall bear the expense of the Escrow Agent who may be either the City Treasurer or the bank, in connection with the escrow deposit made.

3. The Contractor shall obtain the written consent of the surety to such agreement.

901.5 Final Payments. The Engineer shall, after the completion of the requested work in each area, make a final estimate of the amount of work done thereunder, and the value of such work, and the City shall pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be kept and all amounts subject to correction in the final estimate and payment.

The final payment shall not be due and payable until the expiration of thirty-five (35) calendar days from the date of acceptance of a specific phase of the work by the Engineer, and upon receipt of a bill for the amount due on the work from the Contractor.

No certificate given or payments made under the contract, except the final certificates or final payment, shall be conclusive evidence of the performance of the contract, either wholly or in part, against any claim of the Contractor, and no payment shall be construed to be an acceptance of any defective work or improper materials.

The payment of the final amounts due under the contract, and the adjustment and payment for any work done in accordance with any alterations of same, shall release the City, the Council, and the Engineer from any and all claims or liability on account of work performed under the contract or any alteration thereof.

PART B - SPECIAL PROVISIONS

GENERAL CONDITIONS	1
1. Standard Specifications.....	1
2. Locations and Order of Work	1
3. Nature of Work	2
4. Contractor's License: State SB #223.....	2
5. State Senate Bill SB #854.....	3
6. Performance Bond	3
7. Labor and Material Bond.....	3
8. Oppressive States Compliance Statement.....	3
9. Nuclear Free Zone Disclosure Form.....	4
10. Equal Benefits Ordinance Disclosure Form	4
11. Sanctuary City Compliance Statement	4
12. Community Workforce Agreement	5
13. Insurance Certificate	5
14. Progress Schedule	5
15. Holidays	6
16. Obstructions	7
17. Weight Certificates	8
18. Public Relations Requirements.....	8
19. Lines and Grades.....	9
20. Protection and Preservation of Survey Monuments.....	9
21. Revocable Bid Items.....	10
22. Construction on Hill Streets.....	11
23. Overage Permits.....	11
24. Stormwater Pollution Control.....	11
25. Creek Protection.....	14
26. Audio/Video Survey	14
27. Tree and Root Protection and Root Pruning.....	14
28. Conformance to Plans and Specifications.....	14

29.	Bond Riders for Additional Work during Construction	15
30.	Retained Funds.....	15
31.	Mobilization and Demobilization	15
32.	Existing Utilities	16
33.	General Conditions Compensation	18
34.	Termination of Contract for Convenience	18

SPECIAL PROVISIONS

GENERAL CONDITIONS

1. Standard Specifications

The work embraced herein shall be done in accordance with the project plans and/or tables, the City's General Provisions, these Special Provisions, and the State of California Department of Transportation (Caltrans) 2018 Standard Specifications and Standard Plans, revised October 15, 2021, herein, called the "Standard Specifications" and "Standard Plans" respectively unless otherwise noted. In case of conflict between the Standard Specifications and Plans and the Special Provisions and/or General Provisions, the Special and/or General Provisions shall prevail. It is the intent of this contract to obtain a finished, workmanlike job, complete in place.

2. Locations and Order of Work

The work is located in the City of Berkeley located at various locations noted as following:

- Retaining wall repairs along Hilgard Avenue at Le Roy Steps near 1644 La Loma Avenue
- Retaining wall repairs near La Loma Avenue at Virginia Street near 1700 La Loma Avenue
- Sidewalk repairs near La Loma Avenue at Rose Street near 1401 La Loma Avenue
- Sidewalk repairs near La Loma Avenue at Quarry Road near 1343 La Loma Avenue
- Traffic safety improvement at Piedmont Circle (The intersection of Piedmont Avenue at Channing Way)
- Staircase for the Upper Columbia Path near 1399 Queens Road
- Storm drain Access way improvements along Second Street at the Jones and Second Street intersection as well as on Second Street at the University Avenue and Second Street intersection.
- Improvements at Woolsey/Eton intersection

The City of Berkeley provides the following conceptual order of work in order to limit potential impacts to residents and stakeholders. Specific order and timeframe of work shall be agreed upon between Contractor and the City of Berkeley prior to the commencement of construction. The City recognizes the order of work may need to be altered due to specific items lead times and available resources.

- A. Pre Construction Activities
 - a. Contractor to provide submittals for review.
 - b. Contractor to order all materials upon favorable review.
 - c. Contractor to secure encroachment permit.
 - d. Coordinate with utilities related to work at the Upper Columbia Path.

- B. Once traffic control and water pollution control have been installed, the Contractor may begin work at the individual sites. Work shall be completed as follows:
 - a. The Contractor shall always be actively be working on an individual site. Work on a site shall not be dormant for more than 2 days on standard working days.
 - b. The work shall be organized so that special inspections can be coordinated. For instance, concrete and rebar inspections shall occur on the same days when possible.
 - c. The Contractor shall provide adequate labor and equipment to advance construction on the sites. Crews and equipment should not be re-directed to sites multiple times per day.
 - d. Work shall be completed consistent with the durations required in the Technical Provisions.

3. Nature of Work

Scope of Work: FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT (Bid Package A): The work done under these specifications includes but is not limited to: traffic and water pollution controls; protection of underground utility services (e.g. gas, water, sewer, electrical, telecommunications); demolition; tree and stump removals; storm drain vault modifications; excavation; construction of concrete stairways, repair of concrete retaining walls; new concrete curb, gutter, island medians, curb ramps, sidewalk, guardrail; new signing and pavement delinations; and asphalt concrete paving.

Scope of Work: Intersection Work at Woolsey Street & Eton Avenue (Bid Package B): The work done under this component includes but is not limited to: sawcutting and removing existing asphalt concrete pavement, Portland cement concrete pavement, and associated base materials; utility cover and manhole adjustments for communications, sanitary sewer, storm drain, and domestic water utilities; removal of existing trees, stumps, and roots; new Portland cement concrete sidewalks, curb, gutter, curb ramps, roadway medians, and traffic circle; new asphalt concrete pavement sections, including a raised crosswalk; pavement markings; and signage.

4. Contractor's License: State SB #223

State Senate Bill No. 223, signed into law by the Governor on September 27, 1985, requires all public entities to specify the type of Contractor's license which a prime Contractor must possess at the time a contract is awarded. In order to be considered for award of this contract, the prime Contractor must possess the following Contractor's license:

- A - General Engineering Contractor

5. State Senate Bill SB #854

Per State Senate Bill No. 854, signed into law by the Governor on June 20, 2014:

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

6. Performance Bond

The required 100% performance bond must be submitted on the attached performance bond form provided by the City. The form must be properly executed by the Contractor and a duly authorized representative of a surety company licensed to offer surety bonds in the State of California. All signatures must be properly authorized and notarized.

7. Labor and Material Bond

The required Labor and Material Bond in the sum of not less than 100% of the amount of the contract may be submitted on your Surety Company's standard certificate with original signatures.

8. Oppressive States Compliance Statement

"Oppressive State" means: **Tibet Autonomous Region and the Provinces of Aho, Kham and U-Tsang; and Burma (Myanmar)**

Resolution No. 59,853-N.S., 60,382-N.S., and 70,606-N.S. allows the City to refrain from entering into personal services contracts with certain entities that maintain business relationships with morally repugnant regimes.

A Contractor is not eligible to receive or retain a City contract if at the time the contract is

executed, or at any time during the term of the contract, it provides Personal Services to:

- a. The governing regime in any Oppressive State.
- b. Any business or corporation organized under the authority of the governing regime of any Oppressive State.
- c. Any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

The Contractor must further understand and agree that Contractor's failure to comply with the Resolution shall constitute a default of the contract and the City Manager may terminate the contract and bar Contractor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.

In compliance with this Section, the Contractor must submit the attached Oppressive States Compliance Statement along with the bid.

9. Nuclear Free Zone Disclosure Form

Contractor agrees to comply with the provisions of Nuclear Free Berkeley Ordinance No. 5784-N.S. as described in the Nuclear Free Zone Disclosure Form included herein. Contractor must submit said Disclosure Form along with the bid.

10. Equal Benefits Ordinance Disclosure Form

Contractor agrees to comply with the provisions of Berkeley Equal Benefits Ordinance No. 6623-N.S. Contractor must submit both the Equal Benefits Ordinance Disclosure Form and the Certification of Compliance with Equal Benefits Ordinance (Form EBO-1) included herein along with the bid prior to execution of the contract.

11. Sanctuary City Compliance Statement

Contractor agrees to comply with the provisions of Berkeley Sanctuary City Contracting Ordinance No. 7650-N.S., Berkeley Municipal Code Chapter 13.105. In accordance with this Chapter, Contractor agrees not to provide the U.S. Immigration and Customs Enforcement Division of the United States Department of Homeland Security with any Data Broker or Extreme Vetting Services as defined herein:

- a. "Data Broker" means either of the following:
 - i. The collection of information, including personal information about consumers, from a wide variety of sources for the purposes of reselling such information to their customers, which include both private-sector business and government agencies;
 - ii. The aggregation of data that was collected for another purpose from that for which it is ultimately used.

- b. “Extreme Vetting” means data mining, threat modeling, predictive risk analysis, or other similar services. Extreme Vetting does not include:
 - i. The City’s computer-network health and performance tools;
 - ii. Cybersecurity capabilities, technologies and systems used by the City of Berkeley Department of Information Technology to predict, monitor for, prevent, and protect technology infrastructure and systems owned and operated by the City of Berkeley from potential cybersecurity events and cyber-forensic based investigations and prosecutions of illegal computer based activity.

In compliance with this Section, the Contractor must submit the attached Sanctuary City Compliance Statement along with the bid.

12. Community Workforce Agreement

Contractor and any subcontractor at any tier shall comply with the City’s Community Workforce Agreement included herein as Appendix A.

Under the Community Workforce Agreement, Contractor must sign and comply with the Agreement to be Bound prior to execution of the Contract. Subcontractors at any tier must also sign and comply with an Agreement to be Bound prior to execution of their respective subcontracts. The signing of an Agreement to be Bound is a condition precedent to entering into any contract for this project.

13. Insurance Certificate

The required insurance certificate must be accompanied by the General and Automobile Liability Endorsement contained herein. The endorsement must be properly executed by a duly authorized representative of the insurance company. All signatures must be original in blue ink.

14. Progress Schedule

A detailed progress schedule will be required for this contract. The progress schedule shall be submitted prior to commencement of work and updated weekly. The Contractor shall provide a graphic description, in the form of a bar chart that outlines the items of work to be completed, and provide weekly updated written documentation that the work is proceeding on schedule and will be completed within the specified time frame. This schedule will assist the City in advanced notification of adjacent residents and businesses. Therefore, the schedule and any changes to the schedule must be approved by the City and adhered to by the Contractor.

Contractor shall coordinate operations with other contractors for work being performed

by others (EBMUD) on La Loma and Rose Steps at the bridge abutment.

Contractor shall coordinate operations with other contractors for work being performed by others (PG&E) at Upper Columbia Path staircase.

Contractor shall coordinate operations with City's Zero Waste pickup schedules for refuse, recycling and plant debris.

Due to fire danger that exists during a Red Flag Warning event, the City is implementing restrictions for work within City of Berkeley Fire Zones 2 and 3. Restrictions may include but are not limited to prohibition of work deemed a potential ignition risk or work that may restrict full use of the street in the event of an evacuation or impede access by emergency services. Red Flag days requiring a work stoppage shall be treated as inclement weather delays per Section 801.8 of the General Provisions.

A map of City Fire Zones can be viewed at the website below.

<https://www.arcgis.com/home/webmap/viewer.html?webmap=c83555684940467b9c103c12eb3ac3bf&extent=-122.3095,37.851,-122.2084,37.8925>.

Contractors are responsible to stay informed of the Warnings during the High Fire Season. Information regarding Red Flag Warning alerts is available at AC Alert – Alameda County. View notifications or sign up for AC Alert texts at <https://member.everbridge.net/453003085612570/notif>

15. **Holidays**

The full width of the street's traveled way shall be opened for use by public traffic on designated legal holidays.

No work shall be performed on City of Berkeley holidays unless previously authorized by the Engineer.

<https://berkeleyca.gov/your-government/city-holidays>

No work shall be performed during the Christmas holiday season from November 21 through January 3 within the designated City streets in the business districts and all designated highway routes.

Designated streets and their limits are listed below:

Telegraph Ave.	Bancroft Way	To	South City Limits
Bancroft Way	Piedmont Ave.	To	Shattuck Ave.

Durant Ave.	Shattuck Ave.	To	Bowditch St.
College Ave.	Webster St.	To	Russell St.
Sacramento St.	University Ave.	To	South City Limits
Shattuck Ave.	Rose St.	To	Ashby Ave.
Adeline St.	Shattuck Ave.	To	Alcatraz Ave.
University Ave.	Sixth St.	To	Oxford St.
Hearst Ave.	Frontage Rd.	To	Sixth St.
Gilman St.	Frontage Rd.	To	Hopkins St.
Center St.	Fulton St.	To	Martin Luther King Jr.
Kittredge St.	Fulton St.	To	Milvia St.
Vine St.	Walnut St.	To	Shattuck Ave.
Solano Ave.	The Alameda	To	West City Limits
Allston Way	Fulton St.	To	Milvia St.
Addison St.	Fulton St.	To	Milvia St.
Fourth St.	Addison St.	To	Virginia St.
Euclid Ave.	Hearst Ave.	To	Ridge Rd.
Oxford/Fulton St.	Hearst Ave.	To	Dwight Way

Designated highway routes are:

Ashby Avenue
Tunnel Road
San Pablo Avenue

Due to budgetary constraints, City of Berkeley offices will be closed approximately one day every month (typically 2nd Fridays) for “Reduced Service Days”. When a holiday falls on that day, the previous day shall be a Reduced Service Day. Despite the City’s reduced level of service, the contractor shall plan to perform work during such days.

16. Obstructions

Attention is directed to the possible existence of abandoned underground utilities, manholes, monuments, or any other facilities which may exist within the limits of work. The Contractor shall exercise due caution in performing his work so as not to damage said facilities.

Attention is also directed to the presence of overhead and underground utilities in the construction area. The Contractor shall exercise due caution in performing his work so as not to damage said utilities.

The work specified shall be so conducted as to permit the utility companies to maintain their services without interruption.

Utilities and underground pipelines are to remain in place and shall be worked around and protected from damage or interruption of service. All costs caused by delays or extra work associated with maintaining utilities and pipelines shall be borne by the Contractor.

The Contractor shall determine the unknown location of main and service utilities in advance in order not to delay the schedule of construction. Advance potholing shall be included in the planning and execution of the work. No additional compensation will be paid by the City for the performance of this work. At the direction of the Engineer, it is the Contractor's responsibility to make corrections if conflicts arise among utilities. If conflict arises, the Contractor shall inform the Engineer in advance before any correction is made.

Where various utilities are to be relocated or set to grade by the utility companies, the Contractor shall notify the various utility companies well in advance so as not to impede this work. Contractor shall mark locations of such utilities and maintain said markings for a period of 30 days after final paving.

17. Weight Certificates

A duplicate certified ticket, giving weight of material in the truck and the date and time of weighing, shall be given to the Engineer on the job as soon as the truck arrives at the site. All trucks used for hauling hot mix asphalt shall be weighed empty daily at such times as directed by the Engineer.

18. Public Relations Requirements

Public Relations Policy. In the course of serving its citizens, it is the policy of the City of Berkeley to be responsive, helpful and courteous to its residents at all times. Any City employee or CITY CONTRACTOR that will be in contact with residents, in person or by telephone, will adhere to this policy.

The Contractor is required to prepare a Public Relations Plan to implement the above policy. The Plan shall be submitted for approval before commencing the work under this contract. The Contractor shall certify that he understands and will adhere to the City's Public Relation Policy, and that all Contractor employees will be briefed on proper relations with the public in accordance with above policy statement.

Contractor employees without specific public relations responsibilities shall be informed of the name of the Contractor's and the City's Public Relation Coordinators for referral purposes.

ANY CONTRACTOR EMPLOYEE WHO DOES NOT ADHERE TO THE ABOVE PUBLIC RELATIONS POLICY BY DISPLAYING RUDE, OFFENSIVE AND UNCOOPERATIVE BEHAVIOR SHALL BE DISCHARGED IMMEDIATELY ON WRITTEN REQUEST OF THE ENGINEER PER SUBSECTION 801.4.

Public Relations Plan. The Public Relations Plan shall include but is not limited to the following:

- a. Name of the Contractor's Public Relations Coordinator and his/her experience with interfacing with the public.
- b. Plans for conducting public impact assessments prior to commencing the total project, each stage of the project, as necessary to execute the provisions of this contract without undue impact on the public.
- c. Techniques or plans for interfacing with the public and agencies at various stages of the project.
- d. Method of notifying and informing the public and agencies prior to construction stages, providing ample time to address their concerns.
- e. Plans for coordinating public relations matters with the City during the pre-construction conference, weekly meetings and during review of the construction schedule.
- f. Provisions for and frequency of briefing employees on the details of executing the Public Relations Plan.

POOR PERFORMANCE AND NON-ADHERENCE TO THE CITY'S PUBLIC RELATIONS POLICY ARE GROUNDS FOR BEING DECLARED A NON-RESPONSIVE CONTRACTOR THAT MAY RESULT IN THE CITY REJECTING BIDS ON FUTURE CONTRACTS.

No additional compensation will be paid by the City for implementing Public Relations Policy requirements. All such related effort is a mandatory requirement of the contract.

19. Lines and Grades

This section hereby revises section 501.7 of the General Provisions of these specifications.

Construction surveys and stakes to establish the lines and grades and to establish the replacement position for Survey Monuments will be the responsibility of the Contractor and not provided by the City.

The Contractor will be responsible for setting lines and grades for the execution and completion of the work in accordance with the Plans and Specifications. The Contractor will be held responsible for all errors in staking discovered during the performance of the work and no additional compensation shall be charged to the City for correction of such deficiency.

Stakes or marks will be set by the Contractor, utilizing a qualified land surveyor in conformance with the requirements in Chapter 12, "Construction Surveys," of the California Department of Transportation's Surveys Manual.

In all other respects, Section 501.7 and the General Provisions of these specifications remain in full force and effect.

20. Protection and Preservation of Survey Monuments

The Contractor shall be responsible for the preservation of existing survey monuments, benchmarks, reference points, and stakes. The Contractor shall replace City Monuments and reference marks removed during the performance of the work. Whenever a City Monument is designated to be removed during the performance of the work, the Contractor shall replace the monument in accordance with Standard Plan 7940, 8090, 8091 or 8179, as applicable. Monument casings (boxes and lids) shall be provided by the contractor, and dome brass markers shall be supplied by the City.

Monument replacement must be done in a neat, workman-like manner. Pavement cuts shall be accurate, with vertical cuts to exact dimensions as shown on the Standard Plan. Each replacement monument shall be constructed such that the center of the dome brass marker is set within 0.04 foot of the referenced position. Monument boxes and lids shall be placed at the proper finished grade and as detailed by Standard Plan 7940, 8090, 8091 or 8179, as applicable. Existing monument lids shall be salvaged by the Contractor and delivered to the City Survey Staff or Project Inspector.

Monument referencing shall be done by a Professional Land Surveyor licensed in the State of California hired by the contractor, and copies of the corner records for the referenced monuments shall be provided to the City prior to the start of construction. For each monument that has been removed, the replacement monument location(s) will be established by the referencing surveyor after final pavement is completed. The new dome brass marker shall not receive final punching prior to seven (7) days after completion of the monument construction.

In the event that any non-referenced monuments or monument reference points become in danger of being disturbed due to construction, the Contractor shall cease the threatening activity and notify the Project Manager and City Survey Staff immediately. Response to endangered monuments or reference points is a priority and they shall be referenced in accordance with the City of Berkeley Monument Reference Guidelines (see Appendix). In no case may an unreferenced monument or monument reference point be damaged during construction.

Should any monument not designated for replacement be disturbed or sustain damage during construction, the Contractor shall bear the expense for rebuilding it as well as for the survey work that a Professional Land Surveyor licensed in the State of California hired by the contractor must perform in the process. In any instance where the City deems a damaged monument to be irreplaceable, whether designated or not designated for replacement, the Contractor shall be fined \$20,000 per monument.

21. Revocable Bid Items

Bid items noted as "revocable items" may be deleted entirely or in part from the Work at the option of the City. The provisions in Section 401.2, "Alterations and Increased or Decreased Quantities," of the Standard Provisions shall not apply to such omission, and no compensation will be allowed the Contractor by reason of such omission.

22. Construction on Hill Streets

When streets or sidewalks to be rehabilitated are located in the hill areas, lightweight trucks, loads, or equipment, (e.g., 10 wheelers) shall be required in order to deter subgrade damage (pumping or distortion) and due to accessibility issues on narrow, winding roads.

23. Overage Permits

Contractor is hereby notified that permits must be obtained for transporting overheight, overwidth, and/or overweight loads within the limits of the City of Berkeley. These permits which may be obtained from the Engineering Counter of the City's Permit Service Center **are enforced** by the Berkeley Police Department. **Truck routes shall be approved by the City's Traffic Engineer prior to start of work. Truck traffic is not allowed on Marin Avenue within the City of Albany.**

24. Stormwater Pollution Control

The intent of these requirements is compliance with federal, state, City, and other local agencies' regulations that prohibit non-stormwater discharges from construction sites. Pollutants (any substance, material, or waste other than rainfall derived stormwater) discharged to storm drains is strictly prohibited. Further, the Contractor is informed that Federally Endangered species have been identified in creeks within the City limits. Point source, pollutants, stormwater, and other relevant information are defined in Berkeley Municipal Code (BMC) Chapter 17.20 – DISCHARGE OF NON-STORMWATER INTO CITY'S STORM DRAIN SYSTEM – REDUCTION OF STORMWATER POLLUTION, and the City's stormwater NPDES (National Pollutant Discharge Elimination System) Permit No. CAS612008. These documents are available upon request.

Best Management Practices (BMP) and Source Control. The Contractor shall use appropriate BMPs and source control techniques on the site(s) at all times, regardless of time of year or rainfall conditions, in order to prevent non-stormwater discharges from construction sites. BMPs shall be in conformance with the California Stormwater Quality Association's "Stormwater Best Management Practice Handbook," current edition.

Water Pollution Control Plan (WPCP) and Coordinator. The Contractor shall prepare, submit for favorable review by the City, and implement a WPCP which shall contain at a minimum the items included in this section. The WPCP shall show the locations of all storm drains, storm drain pipes, creeks, creek culverts, points of entry (catch basins, inlets, outlets), and other features through which stormwater flows. The WPCP shall identify each point of entry and show how each entry point will be protected. The WPCP shall include a protocol for allowing drainage to flow properly during rainfall events WHILE STILL PREVENTING non-stormwater discharges from entering the storm drains, creeks, and Bay. The Contractor shall designate an individual (to be approved by the City) available at all times of sufficient authority to halt work and implement BMPs and source control measures for the Contractor and all sub-contractors, suppliers, and other personnel that may be at the construction site(s), to prevent non-stormwater discharges from the construction site(s). This individual shall be

the contact person for all matters of the project regarding non-stormwater discharges. The WPCP shall include descriptions and sketches of all BMPs, show locations and describe protocols for implementing and maintaining the following BMPs for but not limited to material storage, dewatering operations, bypass pumping, saw-cutting operations, pavement operations, concrete operations, grading and excavation operations, spill prevention and control, vehicle and equipment cleaning, vehicle and equipment operation and maintenance, litter control, dust control, pavement cleaning, and construction waste management. All employees, subcontractors, suppliers, and any others involved with the construction site(s) shall be trained in implementing, the importance of, and purpose of the WPCP. Training records shall be submitted to the City along with requests for progress payment. Where BMPs affect traffic or parking, they shall be shown on the traffic control plans for the construction site(s). The WPCP shall be updated to meet changing stages of the construction site(s). Work shall not begin without the City completing its review and finding no exceptions taken on the WPCP and finding at City's sole discretion that the WPCP meets the intent and goals of the project.

In addition, the Contractor shall observe the following guidelines:

- Paving during wet weather:
 - a. No paving while it is raining.
 - b. No paving of the top lift of asphalt concrete (AC) on any day that experiences ¼" of rain in a twenty-four period
 - c. No paving of bottom lift if previous seventy-two (72) hour period experienced more than ½" of rain, unless directed by the City Engineer or his/her designee.
- Store materials as required under Section 6-1.01, "Control of Materials, General," of the Standard Specifications.
- Cover inlets and manholes when applying asphalt, seal coat, tack coat, slurry seal, fog seal, etc. in conformance with the provisions in Section 13-4.03E(7), "Paving, Sealing, Sawcutting, Grooving, and Grinding Activities," of the Standard Specifications.
- Place drip pans or absorbent materials under paving equipment when not in use.
- During wet weather store paving equipment indoors or cover with tarp or other waterproof covering.
- Sweep site daily to prevent sand, gravel or excess asphalt from entering or being transported by rain into the storm drain system.
- Keep ample supplies of drip pans or absorbent materials on-site.
- If paving involves Portland cement concrete, refer to Concrete Waste Management Section of the Standard Specifications.

Do not wash out concrete trucks into storm drains, open ditches, streets, streams, etc. The Contractor shall prevent the discharge of pollutants from concrete operations by using measures to prevent run-on and run-off pollution, properly disposing of wastes, and by implementing the following BMPs:

- Store all materials in waterproof containers or under cover away from drain inlets or drainage areas.
- Avoid mixing excess amounts of Portland cement materials. Dispose of any excess materials properly.
- Whenever possible, perform washout of concrete trucks off-site where discharge is controlled and not permitted to discharge to the storm drain system. For on-site washout:
 - Locate washout area at least fifty (50) feet from storm drains, open ditches or other water bodies, preferably in a dirt area. Confine run-off from this area by constructing a temporary pit or bermed area large enough for the liquid and solid waste.
- Wash out concrete wastes into the temporary pit where the concrete can set, be broken up and then disposed of properly. If the volume of water is greater than what will allow concrete to set, allow the wash water to infiltrate and/or evaporate, if possible. Remove or vacuum the remaining silt and debris from the ponding or bermed area and dispose of it properly.
- Dispose of waste water from washing of exposed aggregate to dirt area. The dirt area shall be adequate to contain all the waste water and once the waste water has infiltrated, any remaining residue must be removed.
- Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in trash container.

Training. The Contractor is responsible for ensuring all personnel, laborers, sub-contractors, suppliers, and any other personnel that are involved with the construction site(s) are trained in the importance of preventing non-stormwater discharges. Each worker shall be certified as being trained before being allowed to work. Before any work begins, the Contractor shall submit and certify under penalty of perjury a list of all workers who have been trained on the importance of pollution prevention, BMP and source control operation and maintenance, and recognize the authority of the City to stop the work in the event of a non-stormwater discharge. The training shall include as a minimum, review of the BMP and WPCP, and all BMPs (including BMP operation and maintenance) that are planned for the construction site(s).

Enforcement. The City has the authority through this contract and appropriate sections of the BMC to enforce any portions of this section. City enforcement may include but is not limited to: citations, orders to abate, bills for City cleanup costs and administration, civil suits, and criminal charges and enforcement. Enforcement action by the City does not void or suspend any enforcement actions by other agencies and actions by the City and other agencies shall be cumulative.

Submittals and Contract Time. Contractor is cautioned and advised to have appropriately trained staff with any applicable certifications prepare all submittals for Storm Water Pollution Controls including the WPCP, and have appropriately trained staff available to meet with City staff to review the submittals. It is considered reasonable that the Contractor shall make a complete and acceptable submittal at least by the second submission. City reserves the right to deduct monies from payments due Contractor to

cover additional costs of project manager's and Architect/Engineer's review beyond the second submission. Illegible submittals will be rejected and returned to the Contractor.

25. Creek Protection

The Contractor shall be responsible for and conduct all aspects of the work within the requirements of BMC Chapter 17.08 – PRESERVATION AND RESTORATION OF NATURAL WATERCOURSES (Creek Ordinance), and any other creek protection requirements by other agencies. Portions of the Work involving a creek channel may not be permitted starting October 15 through April 15, or other dates as may be stipulated in applicable permits. Any work between the creek banks shall be conducted to not create conditions, which will allow erosion, and shall be fully restored to equal or better than the erosion resistant condition as before the work undertaken. Complying with the requirements of creek protection shall include but not be limited to scheduling the Work around any time periods prohibiting work within creek limits, installing erosion control measures and employing appropriate BMPs for controlling erosion, monitoring, updating and modifying BMPs to meet the requirements for changing site conditions to comply with erosion control and creek protection, and replanting creek banks to reestablish erosion resistance and bank stability.

26. Audio/Video Survey

The Contractor shall perform a pre-construction audio/video survey in order to adequately document the condition of existing improvements and supplemented by still photographs as needed. It is the responsibility of the Contractor to adequately document the condition of existing improvements and the Contractor may be held liable for any damage or condition whose pre-existence he/she is unable to document. No additional compensation for such audio/video survey and still photographs will be allowed. A copy of this audio/video documentation shall be provided to the City prior to construction.

27. Tree and Root Protection and Root Pruning

Care shall be taken when working near trees, public or private. For all phases of the work, the Contractor is responsible for protecting trees. The Contractor shall replace trees determined to be damaged as a result of contractor's operations.

In the event that root pruning would compromise the structural stability of the tree, the tree will be removed. Trees may also be removed based on their condition or location. Tree removal will be decided by the Urban Forestry Representative or Certified Arborist provided by the City.

For tree/root protection, root pruning, tree removal, and stump grinding as required, the Contractor shall adhere to the Technical Provisions set forth for the applicable bid item.

28. Conformance to Plans and Specifications

The Contractor's work shall conform to these specifications and project plans.

Upon notification of the Engineer, the Contractor shall correct any deficiencies within 72 hours. The City may request the City crews or contract with another Contractor to perform the necessary work and repairs if the deficiencies have not been corrected after the 72-hour notification. The Contractor shall pay the cost of the work performed by the City crews or other contractor plus an additional seventy percent (70%) surcharge by deduction from payment due on the contract.

29. Bond Riders for Additional Work during Construction

During construction, the City may request or authorize additional work as part of the contract. Prior to commencement of any Contract Change Order (CCO) or Contract Amendment (CA), the Contractor shall submit Surety Company Bond Riders for the new contract amount. The new contract amount is the Contractor's bid amount or authorized contract amount plus the CCO or CA. The Riders for any additional work shall be provided at no cost to the City. Typically, the maximum authorized contract amount requiring a Rider is the Contractor's bid amount plus 20%.

30. Retained Funds

Pursuant to Assembly Bill 2173 (AB 2173), , the City shall retain five percent (5%) of such estimated value of work done as part security for the fulfillment of the Contract by the Contractor. Section 901.4.1 Retained Funds of the General Provisions of these specifications is hereby revised, decreasing the amount of retained funds from ten percent (10%) to five percent (5%). In all other respects, Section 901.4.1 and the General Provisions of these specifications remain in full force and effect.

31. Mobilization and Demobilization

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site.

The Contractor shall insure that adequate existing sanitation facilities are available or the Contractor shall provide and maintain adequate sanitation facilities. All wastes and refuse from sanitary facilities provided by the Contractor's operations shall be disposed of away from the site in accordance with all laws and regulations pertaining thereto.

Demobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the removal of personnel, equipment, supplies and incidentals from the project site and for all other work and operations which must be performed or costs incurred after completion of the various contract items on the project site.

32. Existing Utilities

It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Engineer assumes no responsibility therefor. Whenever any such utilities are indicated thereon, the Contractor shall be responsible for verifying their actual location and depth in the field. The Contractor shall notify Underground Service Alert at 811 or (800) 227-2600 prior to excavation.

The position of the utilities shown on the Plans is derived from records of utility owners and limited utility locating services. The service connections to these utilities may be, but are not necessarily, shown on the drawings. Overhead utilities including wires, poles and guys are not necessarily shown on the Plans and shall be determined from the Contractor's visit to the site.

It shall be the Contractor's responsibility to coordinate with the utility agencies for relocation or adjustment of utilities. Utilities to notify include:

PG&E	(800) 468-4743	Notify 5 working days in advance
AT&T	(925) 823-0774	Notify 2 weeks in advance
East Bay Municipal Utility District (EBMUD)	(510) 287-0600	Notify 2 weeks in advance and 48 hours.
Comcast	(925) 370-3721	Notify 2 weeks in advance

Contact EBMUD before working in the vicinity of all EBMUD facilities.

The Contractor shall be cognizant of the existing utility lines in the proximity of the work area and take precautions, as necessary, to not disturb these facilities.

Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to determine their exact depth and location. Extreme care shall be exercised to avoid damage, and it will be the Contractor's responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

Styrofoam shall be placed between new storm drain and existing utilities where vertical clearance between utility crossings is less than six (6) inches.

Attention is directed to the possible existence of underground facilities not indicated on the plans or in the Special Provisions and to the possibility that underground main or trunk lines may be in a location different from that which is indicated on the plans or in the Special Provisions. The Contractor shall ascertain the exact location of underground main or trunk lines whose presence is indicated on the plans or in the Special Provisions, the location of their service laterals or other appurtenances, and of existing service lateral or appurtenances of any other underground facilities which can be inferred from the presence

of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage any of the facilities or interfere with their service.

If the Contractor cannot locate an underground facility whose presence is indicated on the plans or in the Special Provisions, the Contractor shall so notify the Engineer in writing. If the facility for which the notice is given is in a substantially different location from that indicated on the plans or in the Special Provisions, the additional cost of locating the facility will be paid for as extra work as provided in Section 401.3 and 901.2 of the General Provisions.

If the Contractor discovers underground main or trunk lines not indicated on the plans or in the Special Provisions, the Contractor shall immediately give the Engineer and the Utility Company written notification of the existence of those facilities. The main or trunk lines shall be located and protected from damage as directed by the Engineer, and the cost of that work will be paid for as extra work as provided in Sections 401.3 and 901.2 of the General Provisions. The Contractor shall, if directed by the Engineer, repair any damage that may occur to the main or trunk lines. The cost of that repair work, not due to the failure of the Contractor to exercise reasonable care, will be paid for as extra work as provided in Sections 401.3 and 901.2 of the General Provisions. Damage due to the Contractor's failure to exercise reasonable care shall be repaired at the Contractor's cost and expense.

Where it is determined by the Engineer that the rearrangement of an underground facility is essential in order to accommodate the highway improvement and the plans and specifications do not provide that the facility is to be rearranged, the Engineer shall provide for the rearrangement of the facility by other forces or the rearrangement shall be performed by the Contractor and will be paid for as extra work as provided in Sections 401.3 and 901.2 of the General Provisions.

When ordered by the Engineer in writing, the Contractor shall rearrange any utility or other non-highway facility necessary to be rearranged as a part of the street improvement, and that work will be paid for as extra work as provided in Sections 401.3 and 901.2 of the General Provisions.

Should the Contractor desire to have any rearrangement made in any utility facility, or other improvement, for the Contractor's convenience in order to facilitate the Contractor's construction operations, which rearrangement is in addition to, or different from, the rearrangements indicated on the plans or in the Special Provisions, the Contractor shall make whatever arrangements are necessary with the owners of the utility or other non-highway facility for the rearrangement and bear all expenses in connection therewith.

The Contractor shall immediately notify the Engineer of any delays to the Contractor's operations as a direct result of underground main or trunk line facilities which were not indicated on the plans or in the Special Provisions or were located in a position substantially different from that indicated on the plans or in the Special Provisions, or as a direct result of utility or other non-highway facilities not being rearranged as herein provided (other

than delays in connection with rearrangements made to facilitate the Contractor's construction operations or delays due to a strike or labor dispute). These delays shall be considered within the meaning of Section 8-1.07, "Delays," of the Standard Specifications, and compensation for the delay will be determined in conformance with the provisions in Section 8 of the Standard Specifications. The Contractor shall be entitled to no other compensation for that delay.

Any delays to the Contractor's operations as a direct result of utility or other non-highway facilities not being rearranged, due to a strike or labor dispute, shall entitle the Contractor to an extension of time as provided in Section 8-1.07B, "Time Adjustments," of the Standard Specifications. The Contractor shall be entitled to no other compensation for that delay.

33. General Conditions Compensation

Full compensation for complying with the General Conditions shall be considered as included in the contract prices paid for the various items of work and no separate payment will be made therefor.

34. Termination of Contract for Convenience

- A. Owner may terminate performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever Owner shall determine that termination is in Owner's best interest. Termination shall be effected by Owner delivering to the Contractor notice of termination specifying the extent to which performance of the Work under the Contract Documents is terminated, and the effective date of the termination.
- B. Contractor shall comply strictly with Owner's direction regarding the effective date of the termination, the extent of the termination, and shall stop work on the date and to the extent specified.
- C. Contractor shall be entitled to a total payment on account of the Contract work so terminated measured by:
 - a. the actual cost to Contractor of Work actually performed, up to the date of the termination, with profit and overhead limited to twelve percent (12%) of actual cost of work performed, up to but not exceeding the actual contract value of the work completed as measured by the Schedule of Values and Progress Schedule,
 - b. offset by payments made and other contract credits. In connection with any such calculation, however, Owner shall retain all rights under the Contract Documents, including but not limited to claims, indemnities, or setoffs.
- D. Under no circumstances may Contractor recover legal costs of any nature, nor may Contractor recover costs incurred after the date of the termination.

PART C - TECHNICAL PROVISIONS FOR FY 2023 RETAINING WALL AND STORM DRAIN IMPROVEMENT PROJECT – “BID PACKAGE A”

BID ITEM NO. A-1 – TRAFFIC CONTROL..... 1

BID ITEM NO. A-2 – WATER POLLUTION CONTROL 5

BID ITEM NO. A-3 – CONSTRUCTION STAKING AND MONUMENT REFERENCING 6

BID ITEM NO. A-4 – EXCAVATION SAFETY..... 9

BID ITEM NO. A-5 – MOBILIZATION/DEMobilIZATION 11

BID ITEM NO. A-6 - CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING..... 13

BID ITEM NO. A-7 – TREE REMOVAL – 0 to 12” DIAMETER..... 13

BID ITEM NO. A-8 – TREE REMOVAL – 13” to 24” DIAMETER..... 13

BID ITEM NO. A-9 – STUMP GRINDING up to 48” DIAMETER – 15” BELOW GRADE (REVOCABLE)..... 13

BID ITEM NO. A-10 – ROADWAY EXCAVATION 19

BID ITEM NO. A-11 – NOT USED 21

BID ITEM NO. A-12 – REMOVE CONCRETE PAVEMENT 21

BID ITEM NO. A-13 – REMOVE CURB & GUTTER 21

BID ITEM NO. A-14 – REMOVE RETAINING WALL..... 21

BID ITEM NO. A-15 – REMOVE STORM DRAIN ACCESS HATCH..... 21

BID ITEM NO. A-16 – REMOVE METAL BEAM GUARDRAIL AND FENCE 21

BID ITEM NO. A-17 – CONCRETE FLATWORK (NON-TRAFFIC RATED)..... 25

BID ITEM NO. A-18 – CONCRETE THICKENED EDGE 25

BID ITEM NO. A-19 – (NOT USED) 25

BID ITEM NO. A-20 – CONCRETE 12-INCH WIDE CHANNEL 25

BID ITEM NO. A-21A - CONCRETE CURB AND GUTTER (12-INCH)..... 25

BID ITEM NO. A-21B - CONCRETE CURB AND GUTTER (24-INCH)..... 25

BID ITEM NO. A-22A – PEDESTRIAN BARRIER MEDIAN 25

BID ITEM NO. A-22B – PEDESTRIAN PASSAGEWAY..... 25

BID ITEM NO. A-23A – CONCRETE RETAINING WALL – HILGARD AVENUE..... 25

BID ITEM NO. A-23B – CONCRETE RETAINING WALL – LA LOMA AVENUE..... 25

BID ITEM NO. A-24 – CONCRETE CRACK REPAIR..... 30

BID ITEM NO. A-25 – CONCRETE STAIRCASE (UPPER COLUMBIA PATH) 34

BID ITEM NO. A-26 – DRILLED (CAST IN PLACE) PIERS 38

BID ITEM NO. A-27 – HOT MIX ASPHALT (TYPE A) 39

BID ITEM NO. A-28 – AGGREGATE BASE 43

BID ITEM NO. A-29 – PEDESTRIAN METAL FENCE 45

BID ITEM NO. A-30 – METAL BEAM GUARDRAIL 46

BID ITEM NO. A-31 – CONVERT SD VAULT TO MH ACCESS..... 46

BID ITEM NO. A-32A – ADJUST UTILITY BOX TO GRADE - EBMUD (REVOCABLE)..... 48

BID ITEM NO. A-32B – ADJUST SURVEY MONUMENT BOX TO GRADE (REVOCABLE)..... 48

BID ITEM NO. A-33 – 6” WHITE LINE 50

BID ITEM NO. A-34 – 12” WHITE CROSSWALK/LIMIT LINE 50

BID ITEM NO. A-35 – STRIPING DETAIL 22 – MODIFIED 50

BID ITEM NO. A-36 – YIELD LINE..... 50

BID ITEM NO. A-37 – PLASTIC LANE SEPARATOR..... 50

BID ITEM NO. A-38A – REMOVE AND REPLACE ROADSIDE SIGN AND POST 52

BID ITEM NO. A-38B – REPLACE ROADSIDE SIGN ON EXISTING POST 52

BID ITEM NO. A-39 - SUPPLEMENTAL WORK 53

BID ITEM NO. A-40 – (NOT USED) 54

BID ITEM NO. A-41 – POTHOLES..... 54

BID ITEM NO. A-42 – CONCRETE PATH REPAIR (INCL. CLASS II AB)..... 55

These Specifications were prepared under the direction of:



A handwritten signature in black ink, appearing to read "R. Stevens", positioned below the professional seal.

Robert C. Stevens
Project Engineer

Date 04.04.2024

FY 2023 RETAINING WALL AND STORM DRAIN
IMPROVEMENT PROJECT

SPECIFICATION NOs. 23-11616-C & 23-11614-C
(RE-ISSUED)

DESCRIPTION OF BID ITEM

BID ITEM NO. A-1 – TRAFFIC CONTROL

Traffic control during construction shall be the responsibility of the Contractor. All traffic control devices shall be in accordance with the latest edition of the 2014 California Manual on Uniform Traffic Control Devices (California MUTCD), herein after referred to as Traffic Control Manual. The Traffic Control Manual may be obtained online at <https://dot.ca.gov/programs/safety-programs/camutcd>

The Contractor shall implement and maintain traffic control devices at each of the sites that are to receive improvements.

The Contractor shall submit to the City Traffic Engineer project specific traffic control plans prior to implementing traffic control measures. The City of Berkeley reserves the right to modify any portion of the submitted and approved traffic control plans.

In general, the following guidelines for traffic control plans shall be followed:

- Detailed traffic control plans shall be prepared professionally in accordance with the latest edition of the 2014 California Manual of Uniform Traffic Control Device (CA-MUTCD) and must be formatted similarly to the example provided in Appendix B of the Special Provisions.
 - Specify if the work will be scheduled one block at a time or several blocks at a time.
 - Specify if side streets will remain open or if the work will affect the intersections.
 - Specify how the traffic will be handled with flaggers, if required.
- The traffic control plan shall identify a traffic coordinator responsible for responding to complaints related to traffic, parking, and driveway access.
- Submit a complete set of Traffic Control Plans for approval at least one (1) month prior to the start of construction.
- “No Parking Signs” must be posted no later than a minimum 72 hours in advance for restricted parking.
- Berkeley Dispatch shall be notified by the contractor by calling (510) 981-5900 prior to implementation of this plan by 8:15 a.m. daily of work locations.
- The lane closure is not permitted on major/collector/arterial roadways during the peak morning period (7:00-9:00 AM) and evening peak period (4:00-6:00 PM).

All holes, trenches, etc., in project area, shall be covered with 1-inch steel plates, shimmed with temporary asphalt on edges, by 3 p.m. or at the end of each workday. As an option to the Contractor, the holes, trenches, etc., can be backfilled and all areas within pavement areas have temporary asphalt toppings. The temporary asphalt shall be regularly maintained. All areas shall be completely restored within ten (10) working days after the work has been completed at that location. All open excavations which are not actively involved in construction activity shall be adequately barricaded against entry by pedestrians or animals.

At the end of any working day when work operations have obscured existing traffic striping, the striping shall be restored via permanent reflective painting or other interim materials subject to the approval of the Engineer. Temporary delineation shall be of the same color and type, including nighttime reflectivity.

At the end of each day's work, and at other times when construction operations are suspended, all equipment and other obstructions shall be removed from that portion of roadway open for use by public traffic. No longitudinal joint shall be left during non-working hours.

Where existing road signs conflict with the proposed work, the Contractor shall relocate such signs to temporary or permanent locations as directed by the Engineer.

If it becomes necessary, in the opinion of the City Engineer, to properly move traffic through the construction area, flagmen shall be present to slow down and reroute traffic, in which case flagmen shall be on duty the entire period the roadway is constructed. Where flagmen are not visible to each other, additional flagmen shall be added as required by the Engineer or the Contractor shall use radios.

The Contractor shall take all necessary measures to obtain a normal flow of traffic to prevent accidents and to protect the work throughout the construction stages until completion of the work. The Contractor shall make the necessary arrangements to provide and maintain barriers, cones, guards, barricades, and construction warnings and regulatory signs. The Contractor shall take measures necessary to protect all other portions of the work during construction and until completion, providing and maintaining all necessary barriers, barricade lights, guards, temporary crossovers and watchmen.

In addition to the preceding traffic control and safety measures, the Contractor shall undertake immediately to implement any measures requested by the Engineer, as they deem necessary to ensure the proper flow of traffic and the protection of the public and the safety of the workers. The Contractor shall maintain at all times the ability to respond to calls from the City of Berkeley Police and Fire Departments during non-working hours to replace or provide additional traffic control or safety devices as shall be required by the Police Department.

The Contractor shall be responsible for posting "No Parking" signs a minimum of seventy-two (72) hours in advance of saw cutting, demolition, tree work, concrete work, and resurfacing operations, to comply with the City's construction notification requirement of seventy-two (72) hours. Cones shall not be used as barricades. "No Parking" signs may be obtained from the City at no cost to the

Contractor. "No Parking" signs must be posted every twenty (20) feet. The "No Parking" signs shall be updated as necessary. The Contractor shall check and maintain (e.g., re-install missing signs, reposition displaced barricades, etc.) postings regularly prior to start of work.

If traffic is to be detoured over a centerline or detoured in advance of the work, detour plans must be submitted to and approved by the Engineer prior to starting work. Police, Fire and Public Works Department/Zero Waste shall be notified at least two days in advance of any work which will interfere with the normal flow of vehicular or pedestrian traffic. Intersection closure may only occur if the two adjacent intersections remain open unless otherwise approved by the Engineer. The Contractor shall coordinate his traffic control/diversion plan with City personnel, a minimum of three (3) weeks prior to starting work, to assure that traffic is diverted in a safe and convenient manner.

Truck routes shall be approved by the City's Traffic Engineer prior to the start of work.

Personal vehicles of the Contractor's employees shall not be parked within the area of work. A minimum of one (paved) traffic lane, not less than twelve (12) feet wide, shall remain open for use by public traffic during construction operations unless noted otherwise in the contract traffic control plans. When construction operations are not actively in progress, not less than two such lanes shall be open to public traffic. No work that interferes with public traffic shall be performed between 5:00 p.m. and 8:00 a.m.

Start of work shall be no earlier than 7:30 a.m. No work process, including starting, warm up, and delivery of equipment, shall be done outside of work hours. The use of vehicle horns to alert residents to move their vehicles out of the construction zone is not permitted. The Contractor should attempt to locate vehicle owners by knocking on doors. If the Contractor violates these provisions, a fine of \$1,000 will be assessed for the first violation, \$5,000 for the second and \$10,000 for the third.

No lane closures shall be permitted on the following streets Monday through Friday between 7:00-9:00 AM, 4:00-6:00 PM and Saturdays between 10:00 AM – 2:00 PM, unless approved in advance by the Traffic Engineer if it can be explained why such closure cannot be reasonably avoided. On days when University of California football games are scheduled, all construction-related lane closures along these corridors must be re-opened at least 4 hours before the start of the game.

Major Streets:

- University Avenue
- San Pablo Avenue
- Shattuck Avenue
- Sacramento Street
- Martin Luther King Jr. Way
- Ashby Avenue
- College Avenue
- Gilman Street
- Adeline Street

Minor deviations from the requirements of this section concerning hours of work may be permitted upon the written request of the Contractor if in the opinion of the Engineer, public traffic will be better served and the work expedited. Such deviations shall not be adopted until the Engineer provides written approval.

If any component in the traffic control system is damaged, displaced or ceases to operate or function as specified, from any cause during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

The Contractor, at the end of each day, shall provide pedestrian and vehicle crossings at all street intersections. If the project is left open overnight, it shall be graded in such a way that pedestrians and vehicles can safely pass through the project. Temporary concrete, asphalt, or wood ramps shall be installed and maintained at all locations where existing ramps have been temporarily removed.

Cleanliness is extremely important. Dust producing conditions shall be eliminated as soon as they are created.

Access and Egress

Work shall be accomplished in such a manner as to provide access to all intersecting streets and adjacent properties whenever possible. The Contractor shall endeavor to cooperate with all business owners and residents occupying properties fronting on the streets in the matter of access and egress.

If during the course of the work, it is necessary to restrict access to certain driveways for an extended period of time, the Contractor shall notify the affected residents, in writing, at least forty-eight (48) hours in advance.

Contractor shall maintain a clear and accessible pedestrian corridor through the work site at all times.

Where a business property has more than two vehicular paths of access, one path, ten (10) feet in width, shall remain open during all business hours, unless exempted by the Engineer.

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in the latest edition of the 2014 California Manual on Uniform Traffic Control Devices (California MUTCD) Revision 6, these Special Provisions, and as directed by the Engineer.

Maintaining traffic control devices for the duration of the root pruning, tree removal, and stump grinding process as described in the Technical Provisions for tree-related Bid Item Nos. 2 through 6 is included as contract work and no additional compensation will be allowed therefor.

MEASUREMENT AND PAYMENT

The Lump Sum contract price paid for “Traffic Control” (Bid Item A-1) shall include full compensation for furnishing all labor (including preparation of the Traffic Control Plan and flaggers when necessary), materials (including barricades, door hangers and temporary traffic delineation), including placing, maintaining, removing and disposing of signage, tools, equipment, and incidentals and for doing all the work, complete in place, including all work necessary to provide for the convenience and safety of the public and to facilitate the performance of the contract work as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

The Contractor will be paid on pro-rata basis for the work done per month and said payment shall be for providing all labor, material, equipment, devices, supervision, and all incidentals as are needed to provide traffic control as specified herein, and as required to complete the work.

BID ITEM NO. A-2 – WATER POLLUTION CONTROL

The Contractor shall be responsible for implementing and managing these systems during the life of the project. The Stormwater Pollution Control Plan (SPCP) shall conform to all applicable requirements in Section 13-2, “Water Pollution Control,” of the State Standard Specifications, Section 24, “Stormwater Pollution Control” of the Special Provisions, and these Specifications.

The Contractor shall submit a Water Pollution Control Program (WPCP) to address the storm drain and various improvements to the Engineer for approval. The WPCP shall conform to the Section 13 Water Pollution Control of the Standard Specifications, requirements of the City of Berkeley, and these Specifications.

Water pollution control work to be included in the WPCP shall include:

- a. Cleaning of vehicles by removing loose soil from the exterior of the equipment using brushes or brooms before leaving the Site.
- b. Sweep adjacent streets as required by Engineer.
- c. Installation of temporary inlet protection.
- d. Use of concrete washout containment facility.
- e. Covering of stockpiles.
- f. Decontamination of construction equipment before leaving the premises.
- g. Covering of soil loads taken offsite to prevent soil tracking.
- h. Installation of silt fences.
- i. Installation of fiber rolls.
- j. Dewatering of excavations and disposal of water

Dewatering work shall include:

- a. Keep all excavations, including drilled shaft foundations, reasonably free from water during construction.
- b. Disposal of water shall not damage property or create a public nuisance.
- c. Have on hand pump equipment and machinery in good working condition for emergencies and workmen available for its operation.
- d. Dewatering systems shall operate continuously until foundations are poured or trenches are backfilled.
- e. Groundwater shall be controlled to prevent softening of the bottom of excavations, or formation of “quick” conditions.
- f. Dewatering systems shall not remove natural soils.
- g. Control surface runoff to prevent entry or collection of water excavations.
- h. Release of groundwater shall be controlled to prevent disturbance of the natural foundation soils or compact fill.
- i. There shall be no discharge of turbid water on site.
- j. Discharge or disposal of water shall be controlled to prevent erosion

The Contractor shall not perform work that may cause water pollution until the WPCP has been approved by the Engineer. The Engineer's review and approval shall not waive any contract requirements and shall not relieve the Contractor from complying with Federal, State and local laws, regulations, and requirements.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for “Water Pollution Control” (Bid Item A-2) shall include full compensation for furnishing all labor, materials, tools, equipment, dewatering, and incidentals for doing all the work involved in preparing, obtaining approval of, and amending the WPCP and inspecting water pollution control practices as specified in the Standard Specifications, these Specifications, and as directed by the Engineer.

Full compensation for implementation and maintenance of the water pollution control program shall be considered as included in the contract lump sum price paid for Water Pollution Control and no additional compensation will be allowed therefor.

BID ITEM NO. A-3 – CONSTRUCTION STAKING AND MONUMENT REFERENCING

CONSTRUCTION STAKING

This section specifies the work for construction staking which consists of providing all labor, tools, equipment, materials and incidentals necessary to locate by staking all improvements, to the line and grade shown on the Plans and as indicated in Section 19, “Lines and Grades” in the Special Provisions.

Contractor shall furnish all land surveys, establish all base lines and benchmarks and make sufficient detailed surveys needed for working points, lines and elevations. The Contractor shall develop all slope stakes and batter boards. Contractor shall also develop all additional working points, lines and elevations as he or she may desire to facilitate his or her methods and sequence of construction.

All work shall be staked in order to meet the lines and grades shown on the Plans. Copies of all survey cut sheets shall be provided to the City Engineer two (2) working days before the planned work begins.

Finished grade elevations, pipe flowlines, and walls shall be within minus five hundredths (-0.05) foot of elevation and plan location.

Prior to concrete pouring, formwork and survey staking shall be reviewed and approved by the City Engineer.

MONUMENT REFERENCING

The Contractor shall be responsible for the preservation of existing survey monuments. Refer to Appendix D for a list of survey monuments to be referenced within the project area.

Pre-Construction Monument Referencing:

All City of Berkeley Survey Monuments located within the project area must be referenced, prior to work commencing, by a land surveyor licensed in the State of California pursuant to the requirements of State of California Streets and Highways Code Sections 732.5, 1492.5 and 1810.5 and Business and Professions Code Section 8771. Corner Records of this work must be submitted for filing to both the County Surveyor of Alameda County, and the City of Berkeley, Public Works Department, Engineering Division, Survey Section.

The Contractor shall file the applicable Corner Records. Corner Records **MUST BE COMPLETED PRIOR TO MOBILIZATION ON SITE.**

Should the Contractor, during the course of construction, encounter a survey monument or benchmark, they shall promptly notify the Engineer, in writing, so that the monument or benchmark may be properly referenced, preserved and/or restored.

The Contractor's surveyor shall search the project area to confirm the location of the monuments. The Contractor and Engineer shall meet to review the locations to define the following:

1. A monument that could be disturbed and a corner record shall be completed and filed.
2. A monument that will be disturbed and corner record shall be completed and monument re-set.

Whenever a monument appears to be threatened with removal or disturbance, the monument must be referenced, both horizontally and vertically, by or under the direction of a licensed land surveyor or civil engineer, hired by the Contractor, legally authorized to practice land surveying in the State of California. For each monument referenced, a minimum of four (4) reference points must be set and tagged with the appropriate license number of the land surveyor or civil engineer.

All reference points shall be durable and have a known location relative to the monument so that the monument can be accurately replaced from the references. When available, sound concrete shall be the best site for setting reference points. Brass or bronze disks, Mag Nails (or similar concrete nail) with washers, surveyor's nails & tags, etc., shall be used in those cases where the reference can be set on sound concrete curb, gutter, sidewalk, wall, etc.

If no suitable concrete is available, a metal bar or pipe, with a tagged cap or plug, shall be used provided that it is set flush in sound soil or pavement. No reference point shall be set on private property without the surveyor performing the referencing first obtaining permission from the property owner.

In the event that any non-referenced monuments or monument reference points become in danger of being disturbed due to construction, the Contractor shall cease the threatening activity and notify the Project Manager and City Survey Staff immediately. Response to endangered monuments or reference points is a priority and they shall be referenced in accordance with the City of Berkeley Monument Reference Guidelines (see Appendix). In no case may an unreferenced monument or monument reference point be damaged during construction.

Should any monument not designated for replacement be disturbed or sustain damage during construction, the Contractor shall bear the expense for rebuilding it as well as for the survey work that a Professional Land Surveyor licensed in the State of California hired by the contractor must perform in the process. In any instance where the City deems a damaged monument to be irreplaceable, whether designated or not designated for replacement, the Contractor shall be fined \$20,000 per monument.

Documentation

Within two (2) weeks of the completion of any monument referencing, a Corner Record for each monument referenced shall be filed with Alameda County, and copies of the signed sealed submittals of the Corner Record(s) shall be provided to the Engineer.

Corner Record Monument and Reference Point Conditions and Descriptions

Corner Records shall include a detailed description of the monument referenced and reference points set:

1. Description of monument character and setting (2" brass disc stamped CITY OF BERKELEY UNLAWFUL TO DEFACE in monument well, 3/4" brass pin in monument well, 1" square iron bar in monument well, 1-1/2" iron pipe in soil, etc.).

2. Description of monument reference point character and setting (1” brass disc stamped LS ##### in concrete, mag nail & washer stamped LS ##### in top of curb, nail & tag LS ##### in concrete walk, rebar & cap LS ##### in asphalt pavement, etc.).
3. Labeled with the official City of Berkeley monument designation (B#####).
4. North arrow and graphic scale.
5. Note pertaining to the method used for establishing the reference point elevations.

Unacceptable Reference Points

In no case will lead, or any other material that may cause harm, be used in any portion of the referencing process. Sole responsibility for the removal of such products and any harm they cause will be borne by the surveyor responsible for using the product in the referencing process.

Cut crosses, scribed lines, permanent marker, paint, wood hubs, etc., due to their limited lifecycle, shall not be used as a reference point.

No reference point may be set on any fire hydrant or similarly temporary fixture.

Post-Construction Monument Checking:

After construction is complete, a surveyor’s report, signed and stamped, is required. The report shall detail the post-construction findings at each monument, either verifying that the monument remains in its pre-construction location, or that the monument has indeed been disturbed.

Post-Construction Monument Replacement:

Should any monument be found disturbed, the contractor shall replace said monument and file the associated Post-Construction Corner Record with the County and provide a copy to the City

MEASUREMENT AND PAYMENT

The contract lump sum price paid for “Construction Staking and Monument Referencing” (Bid Item A-3) shall include full compensation for furnishing all labor, materials, tools, equipment, supervision, and incidentals and for doing all the work involved as specified in the Standard Specifications and these Specifications, and as directed by the Engineer as may be required to complete the work.

BID ITEM NO. A-4 – EXCAVATION SAFETY

This work shall consist of furnishing and installing temporary sheeting, shoring, benching, and bracing in accordance with the requirements of OSHA and the Construction Safety Orders of the State of California, pursuant to the provisions of Section 6707 of the California Labor Code. Sheeting, shoring, benching, and bracing plans and calculations shall be signed and sealed by a California Registered Professional Engineer and submitted to the City prior to the start of work.

"Excavation Safety" shall conform to the provisions in Section 7-1.02K (6)(b) "Excavation Safety", and these Special Provisions.

Attention is directed to the requirements in Section 6705 of the Labor Code concerning trench excavation safety plans. Excavations shall be adequately shored and braced so that the earth will not slide, move, or settle and so that all existing improvements of any kind will be fully protected from damage.

Attention is called to Article 6 of "Construction Safety Orders" of the California Division of Industrial Safety, that the Contractor is required by law to obey and which are adopted by reference as part of these special provisions.

Attention is directed to Public Contract Code Section 7104, which requires the Contractor to promptly notify the City of Berkeley when working on a contract involving the digging of trenches or excavations in excess of four feet below the surface, and when any of the following are encountered:

- 1) Material that the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.
- 2) Subsurface or latent physical conditions at the site differing from those indicated.
- 3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for the contract. Such notification shall be in writing and shall be submitted to the Engineer prior to disturbing any of the above conditions.
- 4) Entry and receiving pits shall conform to the following requirements:
 - Protected by the placement of a 6-foot chain-link fence or Type K barrier.
 - Shoring in accordance with Cal-OSHA requirements.

The shoring method's choice shall be left to the Contractor's judgment based on experience, economic considerations, and adjacent improvements such as utilities, pavements, and foundation loads. Temporary shoring should support adjacent improvements without distress and shall be the Contractor's responsibility.

In addition to soil earth pressures, the shoring system will need to support adjacent loads such as construction vehicles and incidental loading, existing structure foundation loads, and street loading. Heavy construction loads (cranes, etc.) and material stockpiles shall be kept at least 15 feet behind the shoring. Where this loading cannot be set back, the shoring will need to be designed to support the loading. The shoring designer shall provide for timely and uniform mobilization of soil pressures that will not result in excessive lateral deflections.

A California-licensed civil or structural engineer must design and be in responsible charge of the temporary shoring design. The Contractor is responsible for means and methods of construction, as well as site safety. Temporary shoring design calculations shall be submitted to the Engineer for review and approval prior to installation.

The Contractor's attention is directed to Section 7-1.02K(6) (a, b and d), "Occupational Safety and Health Standards" of the Standard Specifications and these special provisions.

MEASUREMENT AND PAYMENT

The contract price paid per Lump Sum for "Excavation Safety" (Bid Item A-4) shall include total compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in providing excavation safety, including shoring plans and calculations (prepared by a California- licensed Civil or Structural Engineer), installing and maintaining shoring, bracing, shielding, and sheeting, and include conformance to applicable safety orders, and any necessary subsurface investigations, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

BID ITEM NO. A-5 – MOBILIZATION/DEMOBILIZATION

The provisions of Section 9-1.16D, "Mobilization," of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

When the final contract price for which the Contractor has bonded for a project increases by over twenty-five percent (25%) of the original base bid price due to change orders and/or increases in the quantities of items incorporated into the project, the Contractor shall be entitled to payment for additional bonding costs that have been paid to the surety company due to this increase. Payment for this cost shall be made via change order and included on the final project billing statement with supporting documentation from the Contractor.

When the final contract price decreases by over twenty-five percent (25%) of the original base bid price due to change orders and/or a decrease in the quantities of items incorporated into the project, the City shall be entitled to a reimbursement of the decrease in bonding costs paid by the Contractor. The refund of these costs shall be made via change order and deducted from the final payment for the release of retention.

It is the responsibility of the Contractor to locate a staging area, construction laydown areas, or the like and is an appropriate area for mixing and storing materials and equipment. The staging area may be

located inside or outside the Berkeley City Limits. Temporary utility controls shall be arranged solely by the Contractor. It is the Contractor's responsibility to inspect the site to determine its suitability for his operations to execute this contract. The contractor is required to obtain and show proof of all permits required by the State and/or local agencies for the use of the staging area.

The City is not responsible for providing said staging area. However, the City will assist the Contractor in identifying City property available for the staging area. If City property is used for staging area temporary chain link fencing with privacy screening will be required on-site and shall be provided by the Contractor.

It is the Contractor's responsibility to secure a staging area for contract work, and any associated costs are considered to be included in the various contract prices paid, with no additional compensation allowed therefor. However, if the Contractor only uses City property for a staging area, no additional costs associated with securing a staging area shall be covered by the City. The contractor is not required to obtain permits for the use of City property for the staging area.

The Contractor's proposed staging site(s) shall be approved by the Engineer. If Contractor utilizes the private property for a staging area, Contractor shall submit proof of an agreement for the use of said staging area with the private property owner(s) prior to mobilization.

The staging area(s) shall be maintained throughout the duration of the project such that it is not construed as visual blight in the opinion of the Engineer. All adjoining streets, sidewalks, and gutters shall be swept free of construction materials tracked onto them at the end of each day. Failure to do so will result in City forces cleaning the area at the Contractor's expense. The City of Berkeley labor rate to be used shall be \$150 per hour per person.

Sanitary restroom facilities shall be provided and maintained by the Contractor. The Contractor's proposed locations for restroom facilities shall be reviewed with the Engineer prior to delivery of the restroom facility. If the Contractor and/or subcontractors are working at multiple sites simultaneously, then a restroom facility will be required at each site. Failure to provide sanitary restroom facilities is grounds for suspension of work. Contractor shall note that the count of working days will continue.

For job sites in the hills and/or those with narrow roadway access, only ten-wheel type dump trucks or "transfer" type trucks with trailers will be allowed for off-hauling material from the job site or hauling material to the job site, as directed by the Engineer. For job sites in the hills and/or those with narrow roadway access, ten-wheel trucks with extra axles, or "super-dumps," will not be allowed, as directed by the Engineer.

MEASUREMENT AND PAYMENT

The Lump Sum contract price paid for "Mobilization/Demobilization" (Bid Item A-5) shall include full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals, and for all the work involved in mobilization, including, but not limited to, furnishing all specified contract bonds and insurance certificates, public notification, furnishing and installing project

identification signs and signposts, transporting equipment, establishing a storage area (revocable item), sanitary restroom facilities and all other work as specified in the Caltrans Standard Specifications and these Special Provisions and as directed by the Engineer and no additional compensation will be allowed therefor. Payment will be made as follows:

- a. When 5 percent (5%) of the original contract amount is earned, 50 percent (50%) of the amount bid for mobilization, or 5 percent (5%) of the original contract amount, whichever is lesser, may be paid.
- b. When 10 percent (10%) of the original contract amount is earned, 75 percent (75%) of the amount bid for mobilization or 7.5 percent (7.5%) of the original contract amount, whichever is lesser, may be paid.
- c. When 20 percent (20%) of the original contract amount is earned, 95 percent of the amount bid for mobilization, or 9.5 percent (9.5%) of the original contract amount, whichever is lesser, may be paid.
- d. When 50 percent (50%) of the original contract amount is earned, 100 percent (100%) of the amount bid for mobilization, or 10 percent (10%) of the original contract amount, whichever is lesser, may be paid.

Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent (10%) of the original contract amount will be paid.

BID ITEM NO. A-6 - CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING

BID ITEM NO. A-7 – TREE REMOVAL – 0 to 12” DIAMETER

BID ITEM NO. A-8 – TREE REMOVAL – 13” to 24” DIAMETER

BID ITEM NO. A-9 – STUMP GRINDING up to 48” DIAMETER – 15” BELOW GRADE (REVOCABLE)

Clearing, Grubbing, Tree Protection, and Root Pruning shall consist of (but not limited to) removal and disposal of all objectionable material from the project site, including existing vegetable growth, deleterious materials in tree wells, tree roots, grass, weeds, brush, shrubs, asphalt concrete fill in driveways and planter areas, masonry, other unsuitable material, and obstructions interfering with the new construction.

The limits of the clearing, grubbing, tree protection, and root pruning shall be of sufficient area and depth to complete the work as suggested by City’s Urban Forestry Representative.

Clearing, grubbing, tree protection, and root pruning shall conform to Section 17-2, "Clearing and Grubbing," of the Standard Specifications. Clearing, grubbing, tree protection, and root pruning shall include limb, trunk, and root protection and tree and root pruning.

Clearing, grubbing, tree protection, and root pruning must be performed in advance of any other grading or construction operations. The area to be cleared and grubbed must be within the building work construction area.

Prior to starting clearing and grubbing operations, the Contractor shall inform the Engineer of the intended limits of his/her clearing and grubbing operations and shall obtain the Engineer's approval on such proposed limits. The Contractor shall not clear and grub any area not essential to their construction obligations and protect from injury or damage resulting from his/her operations all vegetation, facilities, or improvements, which are to remain. All edges of existing paving to remain shall be sawcut in a neat, clean manner.

Shrubs and hedges shall be designated for removal in the project plans or as directed by the Engineer. Existing landscaping and trees which are to remain in place must be protected from injury or damage. Existing trees must be protected with a temporary fence around the drip line, the edge of the tree well or planting strip, or adhere to the requirements set forth in the "Tree and Root Protection and Root Pruning" section. Unless otherwise specified, the Contractor shall protect trees at the Contractor's expense.

Unless otherwise specified, all materials as field marked and as directed by the Engineer to be removed shall be disposed of outside the project limits. The work area shall be left with a neat and finished appearance.

The Contractor shall not store or permit debris to accumulate on site. If the Contractor fails to remove excess debris promptly, the City reserves the right to cause removal at the Contractor's expense.

Residue from cutting operations shall not be permitted to flow into storm drains or across lanes occupied by traffic and shall be removed from the pavement surface, concurrent with the cutting operation.

When hauling is done over highways or City streets, and when directed by the Engineer, the loads must be trimmed and all material removed from shelf areas of the vehicles.

Contractor is advised of the existence of overhead utility lines that may interfere with tree removal operations.

Clearing, grubbing, tree protection, and root pruning must be conducted to ensure minimum interference with sidewalks, or other occupied areas.

Under direction of the Engineer, the Contractor shall taper and reduce the width of improvements to accommodate existing trees.

Bird Protection

The Contractor shall protect migratory and nongame birds, their occupied nests, and their eggs. The City anticipates nesting or attempting nesting from February 1 to September 30.

The federal Migratory Bird Treaty Act, 16 USC § 703–711, 50 CFR 10, and Fish & Game Code §§ 3503, 3513, and 3800 protect migratory and nongame birds, their occupied nests, and their eggs.

The federal Endangered Species Act of 1973, 16 USC § 1531 and § 1543, and the California Endangered Species Act, Fish & Game Code §§ 2050–2115.5, prohibit the take of listed species and protect occupied and unoccupied nests of threatened and endangered bird species.

The Bald and Golden Eagle Protection Act, 16 USC § 668, prohibits the destruction of bald and golden eagles and their occupied and unoccupied nests.

If an injured or dead bird is found, or migratory or nongame bird nests are discovered that may be adversely affected by construction activities, the Contractor shall immediately stop all work within a 100-ft radius of the discovery and notify the Engineer. The City will investigate the discovery and authorize when work can resume.

The City may require the Contractor to supply a qualified biologist or implement protection measures for a portion or remainder of the work. Such work will be considered extra work.

Tree and Root Protection and Root Pruning

The Contractor shall protect existing street, park, or median trees, and protected coast live oak trees where the drip line of the tree extends over the area where the improvements are being made. The Contractor shall protect trees with a temporary fence around the drip line or the edge of the tree well or planting strip; or adhere to the requirements set forth in Section (II) – “Limb and Trunk Protection” below.

Should tree or root pruning be necessary to construct the improvements specified in these Special and Technical Provisions, and as directed by the Engineer, the Contractor shall inform the City’s Urban Forestry Representative of the schedule for when the roots will be exposed. The Contractor shall notify the Engineer and contact the City’s Urban Forestry Representative at least three (3) business days in advance of tree or root pruning to allow for inspection of the roots prior to any work.

For each round of inspection, the contractor shall prepare for inspection a minimum of five (5) trees, where practical. The Urban Forestry Representative will inspect each site to approve the tree or root pruning, or work with the Engineer and Contractor to modify the work to accommodate the tree roots. In cases where the proposed root pruning may jeopardize the health or structure of the tree, the Urban Forestry Representative may not allow the root pruning or may require the tree be removed in accordance with the appropriate bid item.

I. Underground Service Alert (USA) of Northern/Central California and Nevada

- a. The Contractor shall contact the Urban Forestry Representative at 510-981-6660 at least three (3) business days in advance if it is expected that root pruning will be necessary to facilitate the repairs.
- b. The Contractor shall contact USA North 811 Call before You Dig in accordance with all applicable requirements.
- c. The Contractor shall ensure that the utility location marks are offset so that they are placed on a permanent surface that will not be removed. Offset marks locate the utility by showing the orientation of the utility and the distance from the marks to the utility.
- d. Contractor shall adhere to USA timeline requirements prior to proceeding with any subsurface work.

II. Limb and Trunk Protection

This section shall apply when trees are not surrounded by protective fencing, unless noted otherwise in the plans. Trees situated in a tree well or sidewalk planting strip shall have the trunk protected by wrapping it with straw tubes/wattles, or vertical wood slats (ex. 2x4), up to a minimum of 8 feet from grade. Wooden slats shall be angled to protect the root flare at the base of the tree and bound securely on the outside. Closed cell foam or approved equivalent shall be used to protect the trunk of the tree where it contacts the slats. Do not retain wattling around tree trunks for more than 2-3 weeks to avoid damaging trunks from excess moisture. Lateral branches below 8 feet shall also be protected. Contractor shall keep deleterious materials from contacting any part of the trees, or being placed or stored in the tree well or planting strip.

III. Root Protection and Preparation for Root Pruning

Existing sidewalk shall be removed in a manner that prevents any machinery, such as a backhoe, or mini-excavator, from traveling over the exposed root zone.

- a. Where roots must be pruned, the area shall be excavated down to the depth required for the improvements prior to the Urban Forestry Representative inspecting the site; and all rock, concrete or other loose material removed.
- b. Contractor shall contact the Engineer and Urban Forestry Representative to request an inspection of no fewer than five (5) trees at a time.
- c. Exposed roots shall be covered with soil, mulch, or wet burlap if they will be exposed for more than 72 hours without measurable precipitation.

IV. Root Pruning Requirements

- a. Root pruning that has been approved by the Urban Forestry Representative shall be performed using a stump/root cutting machine, saw, axe, or any other sharp blade tool; resulting in a flat surface with the adjacent bark firmly attached.
- b. No roots shall be torn or pulled using any other tools or machinery unless already severed on each end by one of the approved pruning tools.
- c. Roots 2 inches in diameter or greater shall be pruned by the Contractor in accordance with these provisions.

- d. Roots smaller than 2 inches in diameter shall be pruned by the Contractor in accordance with these provisions, with the exception of contacting the Urban Forestry Representative.
- e. Large roots may be shaved to a depth of no more than one-third of their thickness, or as approved by the City's Urban Forestry Representative.
- f. At no time shall contractor cut into the root flare as defined by the City Arborist.
- g. Tree damage resulting from failure to adhere to these requirements is subject to the provisions of Section VI – Damages.

The size of the tree well or planting strip will be assessed by the City Engineer or his/her designee to determine if it can be increased in size and still meet the minimum requirements. **All debris resulting from root pruning shall be removed and disposed by the Contractor.**

If root pruning would compromise the structural stability of the tree, the tree may be identified for removal by the Urban Forestry Representative. Trees may also be removed based on their condition or location. Tree removal will be decided by the Urban Forestry Representative. Tree removal will be coordinated by the Urban Forestry Representative and scheduled in conjunction with the Contractor.

Tree Removal

Tree removal determinations are made in conjunction with root inspections. The contractor shall expose roots in accordance with Section (III) – “Root Protection and Preparation for Root Pruning,” and Section (IV) – “Root Pruning.” If upon inspection, a Certified Arborist identifies the tree for removal, this section shall apply.

Prior to any tree removal, there will be a mandatory Public Outreach Period as outlined below:

- a. The City will post signage indicating the tree is planned for removal for a minimum of seven (7) days. Additionally:
 - If there is one tree identified for removal within one block, the City will notify the adjacent property owner
 - If there are multiple trees identified for removal within the same block, the City will notify all properties along the entire block
 - If the City receives more than 2 objections during the 7-day Public Outreach Period, the City will extend this period an additional 14 days in order to hold a community meeting.
- b. At the conclusion of the Public Outreach Period, the City will inform the Contractor of its final determination with respect to the tree removal. Trees damaged or removed prior to receiving a final determination by the City is subject to the provisions of the section titled “Damages” below.
- c. No additional compensation or time adjustment will be provided to the Contractor for the maintenance or protection of the site during this Public Outreach period.

Tree identified for removal shall be removed in its entirety along with the stump and roots greater than 1-inch in diameter to a minimum of fifteen (15) inches below grade. Grade is defined as the elevation of surrounding soil that has not been displaced by the tree or its roots. The resultant void shall be backfilled with clean material free of organics and deleterious material, and compacted to 90% relative compaction or as approved by the Engineer.

Revocable Bid Items

Where existing tree stumps are identified to be grinded down, contractor shall grind the stump and roots greater than 1-inch in diameter to 15” below grade unless otherwise directed by City staff, noted in the plans or these specifications. Grade is defined as the existing surface elevation. Where noted on the plans, stumps shall be grinded down to the elevation of the subgrade required to construct the improvements. The resultant void shall be backfilled with clean material free of organics and deleterious material, and compacted to 90% relative compaction or as approved by the Engineer.

Damages

The Contractor shall make every effort to avoid damaging any City-owned property, including roots, trunk, and canopy of City maintained trees. If damages to trees are found to be as part of contractor negligence, the Contractor shall be responsible for damages as follows:

- a. The contractor shall provide full reparation to include: removal of irreparable tree and replacement with approved species. The Contractor shall remove and replace the approved tree under the supervision of the City’s Urban Forestry Representative, and/or,
- b. The contractor shall reimburse City for City expenses incurred in the related reparation work, consisting of but not limited to, site inspections, corrective pruning, tree removal, and tree replacement.
- c. Damages will be graded 1 (minor) through 5 (replacement), as determined by the City, with monetary values noted below.

Grade	Description	Value of Damages
1	Minor Damage	\$200
2	Avoidable Damage to a Major Limb or Root	\$400
3	Moderate Damage	\$600
4	Severe Damage, but Recovery Expected	\$800
5	Replacement	\$1,000

In lieu of direct payment from the contractor, the City reserves the right to deduct the cost as determined herein from monies due or to become due the contractor.

MEASUREMENT AND PAYMENT

The Lump Sum contract price paid for “Clearing, Grubbing, Tree Protection, and Root Pruning” (Bid Item A-6) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in clearing, grubbing, tree protection, and root pruning, including, but not limited to, removal and disposal of plantings, implementing tree protection measures, and limb pruning as shown on the plans and all other work as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

The contract price paid for each “Tree Removal – 0 to 12” Diameter” (Bid Item A-7), and “Tree Removal – 13” to 24” Diameter (Bid Item A-8)” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in tree removal complete in place, including but not limited to, root and stump removal/grinding as necessary for project improvements, offhaul and disposal including all debris resulting from removal, associated regrading of the subgrade, import material, backfill, grading and compaction, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer. Diameter shall determine which bid item applies to tree removal, and shall be measured to the nearest whole inch at a point on the tree approximately 4.5 ft above existing grade.

The contract price paid for each “Stump Grinding up to 48” Diameter – 15” Below Grade (Revocable)” (Bid Item A-9) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in stump removal complete in place, including but not limited to, root and stump removal, offhaul and disposal including all debris resulting from removal, associated regrading of the subgrade, import material, backfill, grading and compaction, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer. Grade is defined as the elevation of surrounding soil that has not been displaced by the stump or its roots. Depth is defined as the final measured distance from grade to the subgrade elevation required to construct the new improvements.

BID ITEM NO. A-10 – ROADWAY EXCAVATION

Roadway Excavation shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Special Provisions. Attention is directed to Section 16, "Clearing and Grubbing," and Section 19-1.03D, "Buried Man-Made Objects," of the Standard Specifications and these Special Provisions.

Roadway Excavation shall include excavation and removal of all material and objects within the limits of the work to be performed including, but not limited to: existing asphalt concrete pavement, aggregate base, and unsuitable material. All excavated material shall be removed from the project site and disposed of by the Contractor.

All excess and unsuitable excavated material shall be removed from the project site and disposed of by the Contractor. The Contractor is required to dispose of excess materials at an appropriate recycling facility. All materials shall be excavated as shown on the plan. **If you dispose of any surplus material prematurely and later find a material shortage, you must replace it with authorized material at your expense.**

The outline of the asphalt concrete to be removed full depth shall be cut in a neat line with a power-driven saw, or a grinder, to a depth of not less than 2 inches before removing the surfacing. Surfacing and base shall be removed without damage to surfacing that is to remain in place. Damage to pavement, which is to remain in place, shall be repaired to a condition satisfactory to the Engineer. The damaged pavement shall be removed and replaced with new asphalt concrete if ordered by the Engineer. Repairing or removing and replacing pavement damaged outside the limits of pavement to be replaced, shall be at the Contractor's expense and will not be measured nor paid for.

All asphalt concrete, concrete, soft or spongy, or deleterious materials, structures, and other unsuitable material encountered during the excavation operation (whether shown or not shown on the plan) shall be removed and disposed of. When the planned excavation or subgrade is made all undesirable material then encountered shall be removed and disposed of as directed by the Engineer.

The accumulation of water in excavated areas shall be prevented by means of pumping or other approved methods. At no time shall ground water or storm water be allowed to flow into sanitary sewer lines.

Excavation shall be carried to the exact depth indicated on the drawing or as specified. Should the Contractor, through his negligence or other fault, excavate below the designated lines, he or she shall replace such excavations with approved materials at his or her own expense.

The subgrade, including any base material, shall be thoroughly compacted by an approved mechanical device to not less than 95% relative compaction as determined by California Test 216 or 231 or approved equivalent.

MEASUREMENT AND PAYMENT

Roadway Excavation shall include excavation and removal of material and objects within the limits of the work to be performed, including, but not limited to: existing asphalt concrete pavement, aggregate base, native soil, and unsuitable material.

Excavation for sidewalk and curb, including but not limited to any concrete, dowels, base, and subbase, will be measured and paid for as “Remove Concrete Pavement” (Bid Item A-12) and “Remove Curb & Gutter” (Bid Item A-13) accordingly.

Excavation and removal of material and objects within the limits of the landscape and median island area, shall be included in the contract price paid per cubic yard for “Roadway Excavation” and no additional payment will be allowed therefore.

The contract price paid per cubic yard for “Roadway Excavation” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in performing roadway excavation, complete in place, including sawcutting, asphalt concrete removal, base and surfacing removal, excavation, grading, compaction, hauling, and disposing of excess material as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

BID ITEM NO. A-11 – NOT USED

BID ITEM NO. A-12 – REMOVE CONCRETE PAVEMENT

BID ITEM NO. A-13 – REMOVE CURB & GUTTER

BID ITEM NO. A-14 – REMOVE RETAINING WALL

BID ITEM NO. A-15 – REMOVE STORM DRAIN ACCESS HATCH

BID ITEM NO. A-16 – REMOVE METAL BEAM GUARDRAIL AND FENCE

Demolition work shall consist of and include all demolition, saw cutting, removals, salvaging, and stockpiling, including concrete pavement, asphalt pavement, signs, signal posts, foundations, metal hatches, guardrail, fence, and other miscellaneous demolition as necessary for construction of project improvement indicated in the Contract Plans or specified herein.

Protection and preservation of existing facilities, including utilities and preservation of public or private property shall conform to the provisions of Section 15 "Existing Facilities", Section 7 "Legal Relations and Responsibility to the Public", and Section 5-1.36 "Property and Facility Preservation," of the State Standard Specifications, and these Special Provisions.

Nothing in these Special Provisions shall relieve the Contractor of the Contractor's responsibilities as specified in Section 7-1.04, "Public Safety," of the Standard Specifications.

The Contractor shall fully document pre-construction conditions at all points around the work area, in case of any restrictions for replacement of concrete. This documentation shall consist of notes, still photographs, and/or video, and shall be provided to the Engineer prior to the work.

Contractor shall provide erect and maintain temporary barricades, signs, and other measures to protect the public, workers, and adjoining property from damage.

Removed facilities shall be disposed of, salvaged, re-laid, reset, relocated or reconstructed as directed by the Engineer and in accordance with the Standard Specifications and these Special Provisions. Removed facilities to be disposed of shall become the property of the Contractor.

Material designated to be salvaged or used in the reconstruction work and which has been damaged or destroyed as a result of the Contractor's operations, shall be repaired or replaced by the Contractor, at their expense.

The Contractor shall restore in kind all landscaping around the work area after construction is complete as directed by the Engineer.

The Contractor shall protect from damage, any utilities that are to remain in place, be installed, relocated, or otherwise rearranged. City-owned electrical facilities may be shallow in the sidewalk, curb ramp, curbs, and driveway areas. The Contractor shall protect such facilities during construction. Damage to such facilities and required repairs to return functionality shall be at the Contractor's expense.

Removals

Existing street facilities to be removed under this section shall include, but not be limited to, removing existing concrete sidewalk, curb, gutter, guardrails, fence, asphalt pavement, baserock, storm drain hatches, and miscellaneous items as necessary for the construction improvements.

Existing concrete and pavers to be removed shall be sawcut on the nearest joint or score line. Sawcuts in concrete must be the full concrete depth unless otherwise as directed by the Engineer. All sawcut lines shall be approved by the Engineer prior to sawcutting.

Where no joint exists between concrete to be removed and concrete to remain in place, the concrete shall be cut on a neat line to a minimum depth of four (4) inches with a power-driven saw before the concrete is removed.

Slurry from saw cut operations shall be removed sufficiently by vacuuming or similar method from the concrete surface and shall be prevented from entering any waterway or storm drain system in accordance with best management practices.

Sawcut line on the pavement in front of curb or gutter lip, including gutter for curb ramps and driveways, and valley gutters, shall be 2 feet beyond the concrete edge to allow for construction of forms and eight (8) inches deep, per City Standard Detail 8144. This area shall be restored as per City Standard Detail 8148 "Curb and Gutter Retrofit" and 8136, "Trench Excavation and Surface Restoration." Payment for the restoration of this portion of pavement shall be included in the unit cost for the appropriate concrete bid item.

Cut concrete and pavers shall be removed without damaging any existing surface or facility to remain in place. Damage to concrete or any adjacent existing structure or improvement, which is to remain in place, shall be repaired or replaced. The repair or replacement must be equal or better quality than the original. Repairing or replacing structures, improvements, and/or the concrete to remain in place, that are damaged outside the limits of concrete to be replaced, shall be at the Contractor's expense and will not be measured nor paid for.

Concrete removal shall include removal and disposal of any steel embedded in the concrete. Concrete and paver removal shall include excavation of existing native or base material to the depth described for placement of new base material at the specified thickness. Areas over-excavated without authorization from the Engineer shall be backfilled and compacted with an authorized material at Contractor's expense.

Where authorized, Contractor may backfill areas with native material provided that: the material is free of organic matter, deleterious material, and aggregate greater than four (4) inches in greatest dimension; and is approved by the Engineer for use. Native material shall be compacted to 90% relative compaction.

The Contractor shall note that the retaining wall shown to be removed as a variable width that widens as it becomes deeper.

Cold Plane Asphalt Pavement: Cold plan asphalt pavement along Second Street below the University Avenue Overpass as indicated in the plans in accordance with SP-13 Cold Plane, of the Standard Specifications, or as directed by the Engineer.

Remove Concrete: Existing concrete sidewalk, retaining wall, foundations, curb and shall be completely removed and disposed of in conformance with the provisions in Section 15-1.03B, "Removing Concrete" of the Standard Specifications and these Specifications, as shown on the Plans, and as directed by the Engineer. This bid item also includes removal of base rock as required for the improvements. The Contractor shall restore all sewer, gas and waterline system markings on the top of curbs. All markings shall be referenced prior to curb removal.

Remove Storm Drain Access Hatch: This work involves the removal of metal access covers of storm drainage infrastructure, twelve inches typical sawcut from outer edge of storm drainage infrastructure, and HMA removal along Second Street near Jones Street and below the University Avenue Overpass. At the Jones and Second Street location, the Contractor shall remove an existing steel plate and deliver it to the City of Berkeley Corporation Yard.

The Contractor shall be prepared to construct the new access covers immediately upon the removal of the existing features. This work shall include the installation of steel plates as necessary to allow for vehicle circulation.

Remove Metal Beam Guardrail and Fence: Existing metal beam guardrail, fence, and foundations shall be removed and disposed as necessary for project improvements as shown in the Contract Plans and as directed by the Engineer. Portions of existing guardrail and fence, not indicated in the Contract Plans to be replaced, shall be protected. If the Contractor damages these portions of guardrail and/or fence, they shall replace at their own expense.

MEASUREMENT AND PAYMENT

The contract price paid per square foot for “Remove Concrete Pavement” (Bid Item A-12) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, including removing existing asphalt, cold planning, baserock removal, complete in place, as shown in the plans, specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract price paid per linear foot for “Remove Curb and Gutter” (Bid Item A-13) and “Remove Retaining Wall” (Bid Item A-14) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, complete in place, including foundation and baserock removal, as shown in the plans, specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract unit price paid per each for “Remove Storm Drain Access Hatch” (Bid Item A-15) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, complete in place, as shown on the plans, specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract lump sum price paid for “Remove Metal Beam Guardrail and Fence” (Bid Item A-16) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, complete in place, as shown in the plans, specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-17 – CONCRETE FLATWORK (NON-TRAFFIC RATED)

BID ITEM NO. A-18 – CONCRETE THICKENED EDGE

BID ITEM NO. A-19 – (NOT USED)

BID ITEM NO. A-20 – CONCRETE 12-INCH WIDE CHANNEL

BID ITEM NO. A-21A - CONCRETE CURB AND GUTTER (12-INCH)

BID ITEM NO. A-21B - CONCRETE CURB AND GUTTER (24-INCH)

BID ITEM NO. A-22A – PEDESTRIAN BARRIER MEDIAN

BID ITEM NO. A-22B – PEDESTRIAN PASSAGEWAY

BID ITEM NO. A-23A – CONCRETE RETAINING WALL – HILGARD AVENUE

BID ITEM NO. A-23B – CONCRETE RETAINING WALL – LA LOMA AVENUE

Specifications are for providing concrete flatwork, thickened edge, curb, gutter, pedestrian barrier median, and retaining wall as indicated in the plans and specified herein. Damage to the street, sidewalk, curbs and gutters from construction activities shall be repaired to the satisfaction of the City Engineer.

Concrete sidewalk shall conform to the City of Berkeley Sidewalk Standard Detail Plan 8153, Section 73 “Concrete Curbs and Sidewalks” of the Standard Specifications, as modified in the Plans, these Specifications and as directed by the Engineer.

Concrete Curb and Gutter shall conform to the City of Berkeley Curb & Gutter Standard Detail Plan 8145, Section 73 “Concrete Curbs and Sidewalks” of the Standard Specifications, as modified in the Plans and as directed by the Engineer.

All Work, including subgrade compactions, shall be done to the satisfaction of the Engineer.

The Contractor shall submit the concrete mix design and strength data to the Engineer for favorable review. Supplier's certificates showing conformance with this specification shall be delivered to the Engineer with each shipment of materials delivered to the job site.

MATERIALS

- Portland Cement Concrete for fixed form concrete surface improvements shall be minor concrete conforming to the requirements of Section 90-2 “Minor Concrete” of the Standard Specifications with at least 505 pounds of cementitious material per cubic yard and 1-inch maximum graded coarse aggregate. No bagged mix is permitted. Hand mixing of Portland Cement Concrete for use in concrete surface improvements shall not be permitted. Strength of concrete in place shall be 3,000 psi at 28 days. See structural plan Sheet S-1.0 for slab-on-grade, concrete wall, and drilled pier comprehensive strength and aggregate size. No

admixtures shall be used without approval of the Engineer. Maximum slump of fresh concrete permitted in these items shall be 4 or 6 inches as indicated in structural plan Sheet S-1.0. Slump shall be determined by either ASTM C-143 or California Test Method No. 520 at the Engineer's discretion.

- Concrete curb shall be secured by No. 4 reinforcing bars grouted vertically with Class "B" mortar into holes drilled into the pavement at a spacing not greater than 4 feet on centers measured along the centerline of the curb. Such bars shall be 10 inches long and the holes therefore 6 inches deep. The Contractor shall reinforce the curb longitudinally with a continuous No. 4 bar seated one inch below the top of the vertical reinforcing and tied to it with no. 14 wire.
- Epoxy Coating A934 (Purple) rebar conforming to the requirements of ASTM Designation A615 for Grade 40 bars.
- Tie wire for reinforcement shall be eighteen (18) gauge or heavier black annealed conforming to the requirements of ASTM Designation A82.
- Bar reinforcement to be ASTM A615, Grade 60 or as indicated in structural plan Sheet S-1.0
- Wire mesh shall conform with ASTM A185-64
- Class 2 permeable aggregate base
- Truncated Domes shall be approved by the Engineer and meet requirements listed in the Part 2 of Title 24 of the California Code of Regulations Chapter 11B-705. Truncated domes shall be prefabricated. The color of the detectable warning surface shall be yellow conforming to Federal Standard 595B, Color No. 33538.
- Mortar used in resetting maintenance hole covers shall conform to the provisions in Section 51-1.02F, "Mortar" of the State Standard Specifications.
- Waterproof membrane shall be 10 mil minimum thickness

The Contractor shall place a minimum 2-foot wide hot mix asphalt (HMA) plug along the edge of all concrete work per City Standard Detail 8144.

The Contractor shall adhere to the following timeline for each site:

- The Contractor shall pour concrete no later than 7 calendar days from the date of initial demolition
- For curb ramps, the Contractor shall pour concrete no later than 3 calendar days from the date of initial demolition
- The Contractor shall place HMA plug or complete shoulder paving no later than 7 calendar days from the date of final concrete pour
- The Contractor shall clean up and remove all construction-related debris no later than 5 calendar days from the date of HMA plug placement or shoulder paving completion

Formwork

- a. Prior to forming for concrete surface improvements, the Contractor shall pass the compaction test for the subgrade from the Geotechnical Engineer.
- b. Forms for concrete surface improvements shall be subject to the approval of the Engineer. No concrete shall be placed prior to Contractor obtaining such approval.
- c. Forms for concrete surface improvements shall have a smooth and true upper edge and the side of the form to be placed next to concrete shall have a smooth finish. Forms shall be constructed rigid enough to withstand the pressure of the fresh concrete to be placed without any distortion.
- d. All forms shall have been thoroughly cleaned prior to placement and shall be coated with an approved form oil sufficient to prevent adherence of concrete prior to filling.
- e. Forms shall be carefully set to the alignment and grade required by the Plans. Forms shall be rigidly held in place by stakes set at intervals satisfactory to the Engineer. Sufficient clamps, spreaders and braces shall be installed to ensure the rigidity of the forms.
- f. Forms shall be equal to the full depth of the concrete as shown, noted or called for on the Plans or detail drawings. Composite forms made up from benders or thin planks of sufficient ply to ensure rigidity of the form in the shape required may be used on curves and curb returns.
- g. Forms shall be removed and be backfilled within 3 days after pouring.

Concrete Placement

- a. Where a portion of existing concrete surface improvements is to be reconstructed, the section to be removed shall first be separated from that to remain by means of a cut with an approved concrete saw to a minimum depth of one and one-half (1-1/2) inches at the first score line beyond the area to be replaced.
- b. All repairs to concrete surface improvements shall be made by completely removing and replacing the entire portion between the score lines or joints.
- c. Prior to subgrade work and concrete placement, all debris and trash will be removed from all areas related to this work. Existing subgrade surface shall be re-graded (if necessary) and re-compacted to conform to the grades shown on the Plans.
- d. Any concrete discolored, defaced, or otherwise damaged before official acceptance shall be cleaned, repaired or replaced at the Contractor's expense.

- e. If existing utilities are found to interfere with the permanent facilities being constructed under this Contract, immediately notify the Engineer and secure instructions. Do not proceed with permanent relocation of utilities until written instructions are received from the Civil Engineer.
- f. Contractor shall accurately grade and prepare the site to the lines and grades called for on the Plans and detail drawings with due provision for future surface improvements.
- g. Surface tolerance: Finished paving surfaces shall not vary more than 1/4 inch measured with a 10-foot metal straight edge, except at grade changes. No birdbaths or other surface irregularities will be permitted. Correct irregularities to the satisfaction of the Engineer without additional cost to the project.
- h. Concrete shall be transported in truck mixers or agitators and discharged within 70 minutes of leaving the plant.
- i. All new curb and gutter, sidewalk, driveways, and PCC pads adjacent to existing concrete curb or sidewalk shall be dowelled to the existing concrete. The dowels shall be #4 rebar, 18 inches long at 18 inches maximum spacing. Dowels shall be embedded a minimum of 8-inches in a 5/8-inch drilled hole (existing concrete).
- j. Concrete shall be given a median broom finish. The surface shall first be given a floated finish and final troweling shall be done with a steel trowel. The finished surface shall be free of all trowel marks and shall be uniform in texture and appearance. Broom texture shall be in the longitudinal direction.
- k. New concrete work shall match existing in finish, score pattern, and color, or as shown on the Plans, or as directed by the Engineer.
 - Rose colored concrete shall contain 6 pounds of Davis #160 (Rose) per cubic yard
 - All other concrete shall contain 1.5 pound of lampblack per cubic yard.

Joints

- a. Expansion joints incorporating premolded joint fillers for fixed form concrete surface improvements shall be constructed at sixteen (16) foot intervals or as appropriate to match existing pattern and at the ends of curb returns. Expansion joint filler strip shall be an approved one piece premolded 1/2" thick strip conforming to the requirements of ASTM Designation D1751 or ASTM D 994. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated. Expansion joint material shall be shaped to fit the cross section of the concrete prior to being placed.

- b. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: Joint sealant shall conform to ASTM D 5893, Type SL. Install per manufacturer's guidelines.
- c. Scoring pattern and weakened plane joints (deep joints) shall be as indicated in the Plans and approved by the Engineer.
- d. Any tree well forming required by the engineer when placing concrete sidewalk or sawcutting necessary to conform to adjacent sidewalk shall be included in this bid item.
- e. Existing asphalt concrete shall be sawcut, removed and reconstructed for a minimum of 2-feet within edges of concrete work. Hot mix asphalt shall be a minimum thickness of 8-inches and class 2 aggregate base shall match existing thickness. As approved by the City Engineer, see plan 8148 "Curb and Gutter Retrofit" for additional requirements.

Slump tests shall be performed by the General Contractor in the presence of the Engineer at the beginning of each day's pour and at such additional times as required by the Engineer. Slump tests shall be made in accordance with current ASTM Designation C-143 or California Test Method No. 520 at the Engineer's discretion.

The City shall hire an accredited materials testing laboratory to perform Quality Control tasks, including slump tests and compressive strength (per ASTM C39/C39M) tests. The Contractor shall sample and test three (3) cylinders at each of the following locations, or as directed by the Engineer:

- Retaining Wall (Hilgard Ave), Retaining Wall (La Loma Ave), Retaining Wall (Queens Rd)
- Pedestrian Barrier Median (Piedmont Ave)
- Pedestrian Passageway (Piedmont Ave)

Truncated dome panels shall be installed per manufacturer specifications in new curb ramps.

The Engineer shall inspect and approve formwork and reinforcing steel placement prior to concrete pours. The General Contractor shall provide at least 24 hours' notice that inspections are required.

MEASUREMENT AND PAYMENT

The contract prices paid per square foot for "Concrete Flatwork (Non-Traffic Rated)" (Bid Item A-17) shall include full compensation for furnishing all labor, materials, tools, formwork, testing, equipment, and incidentals, and for doing all the work involved including excavation, subgrade preparation, placement of aggregate base, and disposal of unsuitable materials as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The linear foot cost paid for “Concrete Thickened Edge” (Bid Item A-18), “Concrete 12-inch Wide Channel” (Bid Item A-20), “Concrete Curb and Gutter (12-inch)” (Bid Item A-21A), and “Concrete Curb and Gutter (24-inch)” (Bid Item A-21B) shall include full compensation for furnishing all labor, materials, tools, formwork, equipment, testing, and incidentals, and for doing all the work involved in, complete in place including hot mix asphalt plug, excavation, subgrade preparation, rebar, placement of aggregate base, and disposal of unsuitable materials as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract price paid per square foot for “Pedestrian Barrier Median” (Bid Item A-22A), “Pedestrian Passageway” (Bid Item A-22B) shall include full compensation for furnishing all labor, materials, tools, equipment, truncated domes, and incidentals, and for doing all the work involved complete in place including excavation, subgrade preparation, rebar placement of aggregate base, and disposal of unsuitable materials as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract lump sum price paid for “Concrete Retaining Wall – Hilgard Avenue” (Bid Item A-23A) and “Concrete Retaining Wall – La Loma Avenue” (Bid Item A-23B) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, excavation, subgrade preparation, rebar, subdrainage system, cleanouts, weep holes, pilasters, select engineered backfill, and drain rock, and disposal of unsuitable materials, complete in place, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-24 – CONCRETE CRACK REPAIR

Specification includes, but is not limited to, the requirements for materials and installation for preparation and repair of concrete cracks at Hilgard Avenue and La Loma Avenue retaining walls, and retaining wall at La Loma Avenue and Quarry Road bridge abutment, as indicated on the plans and approved by the Engineer.

Sawcutting broken portion of retaining wall at La Loma Ave and Quarry Road shall be as indicated on the plans and approved by the Engineer. See Removal section in Bid Item No. A-12 for additional sawcut requirements.

EPOXY

- Epoxy Resin Repair Materials: Sikadur 35, Hi-Mod LV manufactured by Sika Corporation, Lyndhurst, New Jersey; Concrecive Standard LVI manufactured by Master Builders, Inc., Cleveland Ohio, or Engineer approved equal, shall be used to pressure inject cracks in concrete surfaces as directed by the Engineer.
- Adhesive anchor system shall be Simpson Strong-Tie Co Inc. Set-XP (ESR-2508) Hilti, Inc. (Hilti HIT HY-200)
- Epoxy binder shall comply with ASTM C881/C881M, Type IV, Grade 1, Class C

- Epoxy mortar shall comply with ASTM C307, C882, C884, C790, and C579B

The epoxy resin injection materials shall meet the following requirements and physical properties:

Physical Properties	Test Method	Requirements
Tensile Strength	ASTM D-638	7,000 psi
Elongation at break	ASTM D-638	1% min.
Bond Strength	ASTM C-882	2,000 psi
Shear Strength	ASTM D-732	5,000 psi
Compressive Strength	ASTM D-695	11,000 psi

Automated Type: The equipment used to meter and mix the two components of the injection adhesives into the crack shall be portable, positive displacement type pumps with interlock to provide positive ratio control of exact proportions of the two components at the nozzle. The pumps shall be electric or air powered and shall provide in-line metering and mixing. The equipment shall have the capability of maintaining the volume ratio for the injection adhesive prescribed by the manufacturer of the adhesive.

Automatic Shut-off Control: The injection equipment shall be equipped with sensors on both the component A and the component B reservoirs that will automatically stop the machine immediately when either reservoir becomes dry.

Inspect all cracks with the Engineer and measure, identify, and mark cracks to be filled by Epoxy injection methods.

1. Cracks ranging in width from 0.010 to 0.25 inches will be Epoxy injected as directed by the Engineer.

Prior to setting injection ports and applying surface sealing material, the Engineer will inspect all cracks identified for injection for cleanliness. Cracks containing dust, laitance, foreign particles, and materials which would reduce bond shall be re-cleaned until approved by the Engineer.

SURFACE PREPARATION

Set injection ports following guidelines contained in ACI 546R Guide for Repair of Bridge Superstructures.

1. Entry ports shall be provided along the crack at intervals of not more than half the thickness of the concrete at that location.

Surface must be clean and sound. Surface may be damp but with no standing water. Remove dust laitance, grease, waxes, foreign particles, and materials which would reduce bond.

Surface seal material shall be applied to the face of the crack between the entry ports. For through cracks, surface seal shall be applied to both faces.

Enough time for the surface seal material to gain adequate strength shall pass before proceeding with the injection.

MIXING AND APPLICATION - EPOXY

General: The mixing and application procedures following describe general requirements for specified products. Follow manufacturer's guidelines and recommendations pertaining to their products.

Mixing the epoxy resin adhesive for sealing the cracks and porting devices: Premix each component. Proportion two parts of Component "A" to one part Component "B" by volume into a clean, dry mixing pail. Mix thoroughly for 3 minutes min. with a jiffy paddle on a low-speed (400-600 rpm) drill.

Mix only that quantity of material that can be used within its pot life (25-45 minutes at 73F).

Mixing of the epoxy resin adhesive used for the pressure injection grouting:

1. Manual: Premix each component. Proportion two parts of Component "A" to one part Component "B" by volume into a clean, dry mixing pail. Mix thoroughly for 3 minutes min. with a jiffy paddle on a low-speed (400-600 rpm) drill. Mix only that quantity of material that can be used within its pot life (20-30 minutes at 73F).
2. Automated: The injection equipment is used to meter and mix the two components of the epoxy resin adhesive and dispense the product into the prepared cracks. The unit shall be portable and be equipped with positive displacement-type pumps with interlock to provide positive ratio control of exact proportions of the two components of the epoxy resin adhesive at the nozzle. The pumps shall be air powered or electric and shall provide an in-line mixing and metering system and shall contain drain-back plugs.

Placement procedure:

1. The epoxy resin adhesive for sealing the cracks and porting devices: Set porting devices as required by the manufacturer. Spacing of the porting devices should not exceed the thickness of the substrate. Spacing of the porting devices shall be accomplished as required to achieve the travel of the epoxy resin adhesive for the pressure injection grouting between ports and fill the cracks to the maximum. On structures open on both sides, provide porting devices on opposite sides at staggered elevations. Apply the

mixed epoxy resin adhesive for sealing over the cracks and around each porting device to provide an adequate seal to prevent the escape of the epoxy resin adhesive for the injection grouting. Where required by the Engineer, apply the epoxy resin adhesive per manufacturer's recommendations for sealing in such a manner that minimal defacing or discoloration of the substrate shall result.

2. The epoxy resin adhesive for the pressure injection grouting:
 - a. Manual: Load the mixed epoxy resin adhesive for grouting into a disposable caulking cartridge or bulk-loading caulking gun. Inject the prepared cracks with a constant pressure in order to achieve maximum filling and penetration without the inclusion of air pockets or voids in the epoxy resin adhesive. Begin the pressure injection at the lowest port and continue until there is the appearance of the epoxy resin adhesive at an adjacent port, thus indicating travel. When travel is indicated, the decision to discontinue or continue the pressure injection from that port should be made by the contractor, based on their experience, with the approval of the Engineer. Continue the procedure until all pressure injectable cracks have been filled.
 - b. Automated: Dispense the epoxy resin adhesive for grouting under constant pressure in accordance with procedures recommended by the equipment manufacturer or as required to achieve maximum filling and penetration of the prepared cracks without the inclusion of air pockets or voids in the epoxy resin adhesive at an adjacent port, thus indicating travel. When travel is indicated, the decision to discontinue or continue the pressure injection from that port should be made by the contractor, based on their experience, with the approval of the Engineer. Continue the procedure until all pressure injectable cracks have been filled.

If penetration of any cracks is impossible, consult the Engineer before discontinuing the injection procedure. If modification of the proposed procedure is required to fill the cracks, submit said modification in writing to the Engineer for acceptance prior to proceeding.

Adhere to all limitation and cautions for the epoxy resin adhesives in the manufacturers current printed literature. After the epoxy resin adhesive for grouting has cured, the epoxy resin adhesive for sealing cracks and porting devices shall be removed as required by the Engineer. Clean the substrate in a manner to produce a finish appearance acceptable to the Engineer and ready for concrete repair or concrete resurfacing.

INSPECTION FOR EPOXY INJECTION

Engineer will verify that ambient and surface conditions meet manufacturer's recommendations prior to and during the injection process. Conditions not meeting the manufacturer's recommendations shall be mitigated to the satisfaction of the Engineer; or the epoxy injection shall be terminated or postponed until conditions are deemed satisfactory. Terminating and

postponing the work will be at no additional cost to the City. Labor and equipment used to alter ambient and surface conditions shall be at no additional cost to the City.

Surface sealing, setting of injection ports, and epoxy injection work shall be continuously inspected. No work under this section shall be performed without the presence of the Engineer or Inspector. Engineer may elect to take core samples to verify penetration and bond. Contractor will comply with such requests and repair cored areas at no additional cost to the City.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for “Concrete Crack Repair” (Bid Item A-24) shall include full compensation for furnishing all labor, materials, rebar, tools, equipment, supervision, and incidentals and for doing all the work involved as indicated in the plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer as may be required to complete the work.

BID ITEM NO. A-25 – CONCRETE STAIRCASE (UPPER COLUMBIA PATH)

This section is for installing the Concrete Staircase, handrails, and related features as shown on the Plans.

The Contractor shall submit and/or complete the following:

- Concrete mix design and strength data.
- Steel reinforcement.
- Shop drawing for stairway handrailing. Nothing shall be fabricated until the Engineer provides a favorable review of the shop drawing.
- At least two weeks before the Contractor intends to pour the concrete staircase, they shall provide 4 feet wide by 4 feet long mockup of the concrete’s color and texture for the Engineer’s review and approval. If the Engineer rejects the mockup, the Contractor shall make at least one additional mockup at no additional cost to the Engineer.

MATERIALS

- Portland Cement Concrete for fixed form concrete surface improvements shall be minor concrete conforming to the requirements of Section 90-2 “Minor Concrete” of the Standard Specifications with at least 505 pounds of cementitious material per cubic yard and 1-inch maximum graded coarse aggregate. No bagged mix is permitted. Hand mixing of Portland Cement Concrete for use in concrete surface improvements shall not be permitted. Strength of concrete in place shall be 3,000 psi at 28 days. No admixtures shall be used without approval of the Engineer. Maximum slump of fresh concrete permitted in these items shall

be 4 inches. Slump shall be determined by either ASTM C-143 or California Test Method No. 520 at the Engineer's discretion.

- Dowels, where noted or called for on the Plans or detail drawings, shall be smooth billet-steel bars conforming to the requirements of ASTM Designation A615 for Grade 40 bars.
- Tie wire for reinforcement shall be eighteen (18) gauge or heavier black annealed conforming to the requirements of ASTM Designation A82.
- Bar reinforcement to be ASTM A615, Grade 60.
- Class 2 permeable aggregate base
- Bolts, Nuts and Washers: All bolts, bolts and nuts on all connections to be ASTM A276, Stainless Steel, Grade "A" unless noted otherwise. Washers to be of the same material and finish as the bolt used. Beveled washers to be used with structural members.
- ¾" Anchor Rods
 - Typical – ASTM F1554 Grade 36 with ASTM A563 Heavy Hex Nuts
 - Weldable – ASTM F1554 Grade 55 S1 with ASTM A563 Heavy Hex Nuts
 - High Strength – ASTM F1554 Grade 105 with ASTM A563 Grade DH Heavy Hex Nuts
- All steel plates, brackets and railing to be ASTM A36 steel.
- Mirafi 140N Filter Fabric or approved equal
- CCW MiraDrain 6000XL or approved equal
- HDPE Perforated Pipe (PVC Perp)
Pipe: HDPE Perforated pipe conforming to ASTM D3212, or ASTM 1417. Perforations shall be 2 rows of ½" holes on 5" centers, 120° apart.

EXECUTION

Contractor shall complete excavation to construct the staircase in accordance with Section 19, "Earthwork," of the Standard Specifications, these Technical Provisions, and as directed by the Engineer. The Contractor shall note the area is underlain by igneous bedrock. The Contractor shall employ tools and equipment as required to complete excavation to the lines and grades shown in the Plans.

The Contractor shall note that there are overhead utilities and a gas line within the work zone. He or she shall use equipment that does not conflict with these existing conditions.

The Contractor shall use extreme care while excavating within the rock so as to avoid over excavation. For fill that is required below the staircase, it shall be Class II aggregate base. The Engineer will make no separate payment for the placement of select fill.

All surplus and/or unsatisfactory excavated material shall be disposed of outside the roadway right of way.

The Contractor shall complete a preconstruction condition survey before the beginning of construction on homes, sheds, and similar structures within approximately 50 feet of proposed construction activities. The Contractor shall coordinate these surveys with the property owners. The preconstruction condition surveys should include the exterior and interior of the adjacent neighboring structures. Surveys should include photographs and measurements of relevant site features and hardscape features, including distress features, such as cracks and/or separations that may be present. This shall include a videotaping of the properties to document the existing conditions. This information shall be submitted to the Engineer prior to commencing construction.

With approval of the property owners, the Contractor shall install crack meters on existing exterior and interior cracks in existing structures during the pre-construction surveys or at a point prior to the start of construction. The Contractor shall monitor the crack meters twice daily. The Contractor shall report any increase in the size of the crack to the Engineer immediately and stop work.

The Contractor shall install form work and place concrete consistent with the description included in Bid Item numbers 17 to 21.

The concrete staircase's interior and exterior shall have a tannish brown color and feature a stamped rock surface matching the existing hillside conditions and as shown below.



The Contractor can achieve this finish by either using a sculpted shotcrete or a form liner.

The concrete stairs' treads and risers shall have a similar color to as previously described, but they shall have a medium broom finish.

The Contractor shall install a perforated pipe and backfill the staircase with Class II permeable material as shown on the Plans.

Handrails and barriers shall be welded to conform to the latest edition of ANSI/AWS D1.1 and to be performed by certified welders qualified under the procedures contained therein. All steel work shall conform to the AISC "Manual of Steel Construction," Ninth Edition. All steel assemblies are to be galvanized after the steel has been thoroughly cleaned of rust and scale, in accordance with ASTM 123. Any galvanized part that becomes warped during the galvanizing operation shall be straightened. All metal parts that are to be threaded, bent, and/ or deformed shall be galvanized after working. Any field galvanizing shall be done as approved by the Engineer.

Anchor rods shall be embedded 36 inches minimum into competent bedrock and installed per manufacturer's recommendation.

MEASUREMENT AND PAYMENT

The contract price paid per ton for "Earthwork" (Bid Item A-25A) for the concrete staircase shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved complete in place including utility agency coordination, hard rock excavation, subgrade preparation, hauling, and disposal of unsuitable material, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract price paid per cubic yard for "Concrete Flatwork (Incl. Class II AB & Sub-Drain System)" (Bid Item A-25B) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved complete in place including mockup preparation, forming, rebar, foundation, anchor rods, subdrainage pipe, filter fabric, permeable class II aggregate base, sleeving of gas line through foundation as necessary, and disposal of materials, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract price paid per linear foot for "Handrail (Top-mounted)" (Bid Item A-25C) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved complete in, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract price paid per linear foot for “Handrail (Side-mounted)” (Bid Item A-25D) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved complete in, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-26 – DRILLED (CAST IN PLACE) PIERS

The Contractor shall provide drilled piers in the locations shown on the Plans for the retaining wall. Drilled pier shall be constructed in accordance with applicable requirements of ACI 336.1, ACI 336.3R and ADSC Standards and Specifications for the Foundation Drilling Industry.

The General Contractor shall submit the following:

- Concrete mix design and strength data
- Steel reinforcement
- Drilling and concrete pumping plan

MATERIALS

- Portland Cement Concrete for fixed form concrete surface improvements shall be minor concrete conforming to the requirements of Section 90-2 “Minor Concrete” of the Standard Specifications with at least 505 pounds of cementitious material per cubic yard and 1-inch maximum graded coarse aggregate. No bagged mix is permitted. Hand mixing of Portland Cement Concrete for use in concrete surface improvements shall not be permitted. Strength of concrete in place shall be 4,000 psi at 28 days. No admixtures shall be used without approval of the Engineer. The maximum slump of fresh concrete permitted in these items shall be 4 inches. Slump shall be determined by either ASTM C-143 or California Test Method No. 520 at the Engineer’s discretion.
- Bar reinforcement to be ASTM A615, Grade 60 or as indicated in structural plan Sheet S-1.0
- Tie wire for reinforcement shall be eighteen (18) gauge or heavier black annealed conforming to the requirements of ASTM Designation A82.

EXECUTION

The Contractor shall note that trees with low limbs are located within the project area. The street is narrow and steep. Thus, the Contractor shall select equipment capable of installing the piers consistent with the existing conditions.

The Contractor shall have the steel reinforcement constructed and on site prior to excavation. All holes shall be filled within one day of excavation.

The Contractor shall provide 72-hours of advance notice prior to drilling the piers. As noted on the Plans, the depth of the piers will vary based upon the depth of bedrock. The Engineer shall observe excavation and provide guidance to the Contractor when they meet the required depth per pier.

The Contractor shall install steel reinforcement as well as a 2 inch polyvinyl chloride pipe along the entire pier entire length.

The Engineer will collect samples of the concrete for compaction tests as well as complete Gamma-Gamma Logging according to the Caltrans CT-233 test standard. All failed tests will require replacement by the Contractor at no cost to the Engineer.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for “Drilled Pier” (Bid Item A-26) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved complete in place, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-27 – HOT MIX ASPHALT (TYPE A)

Specifications are for providing asphaltic concrete paving as indicated on drawings. Contractor shall protect concrete pavements and walks, curbs and bases, and other improvements adjacent to the operations with suitable materials. The Contractor shall be responsible for any damage caused by the Contractor’s employees or equipment and shall make necessary repairs. All damage caused by the Contractor’s operations shall be prepared or replaced as required.

Contractor shall submit Certificate of Compliance from manufacturer for approval prior to installation.

Contractor shall provide submittal for each Respective manufacturer’s product data for manufactured products.

MATERIALS

- Hot Mix Asphalt shall be Type A using the Method process and shall conform to the provision in Section 39 “Hot Mix Asphalt” of the Standard Specifications and these Specifications. Hot Mix Asphalt shall be compacted to a relative compaction of not less than 95 percent.

Aggregate grading for the hot mix asphalt shall conform to the grading specified in Section 39-2.02B “Aggregate Gradations” of the Standard Specifications. The base and leveling courses shall be dense graded, 3/4-inch maximum aggregate size and the surface course shall be medium graded 1/2-inch maximum aggregate size. When material used in the surface course is to be hand raked, 3/8-inch maximum size shall be used.

The amount of asphalt binder to be mixed with the aggregate shall be between 4 percent and 6 percent by weight of the dry aggregate. The exact amount of asphalt binder to be mixed with the aggregate will be approved by the Engineer. The Contractor must submit mix design for approval to the Engineer.

Asphalt binder to be mixed with aggregate shall be a steam-refined asphalt conforming to the provisions in Section 92, "Asphalt Binders" and have a viscosity grade of PG 64-10. The pavement surface upon which hot mix asphalt is to be placed and all adjacent vertical surfaces of existing pavement, curbs, gutters, etc. shall be thoroughly cleaned prior to paving. The Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles before and after paving operations where feasible. All other areas will require hand sweeping. The pavement shall be free of dust, dirt, water, and vegetation prior to paving.

Asphaltic emulsion shall be applied to the surface of existing pavements preparatory to resurfacing with hot mix asphalt, and to all concrete surfaces which will be in contact with hot mix asphalt surfacing. Asphalt emulsion shall be SS-1H. The Contractor shall submit a copy of Certificate of Compliance for asphaltic emulsion

EXECUTION

1. Placing of Base Course

- a. The Contractor shall call for an inspection by the Engineer and obtain written approval of the subgrade before proceeding with the base course.
- b. Base course shall be minimum uniform thickness after compaction of dimensions indicated. Where not indicated, compacted thickness shall be six inches for parking stalls and eight inches for roads, driveways, and aisles of parking areas.
- c. Base course shall be placed over finished subgrade and compacted in accordance with Section 26-1.03E Compacting of the State Standard Specifications.
- d. After base course has been completed, the Contractor shall call for an inspection by the Engineer and obtain written approval before proceeding with application of the asphalt wearing surface.

2. Placing Asphalt Concrete

- a. Areas to be paved shall be covered with a layer of hot asphalt concrete surfacing not less than the thickness indicated after compaction. Where not indicated, compacted thickness shall three inches for roads, driveways, and aisles of parking areas.

- b. Paving asphaltic concrete shall be delivered, laid, rolled, and finished in accordance with Section 39 of the Caltrans Standard Specifications.
- c. Before placing asphalt concrete, a tack coat (paint binder) shall be applied to all vertical surfaces against which asphalt concrete surfacing will be placed. Asphaltic emulsion shall be applied to the surface of existing pavements at the approximate rate of one-sixteenth (1/16) gallon per square yard. Pools or unevenly distributed areas shall be redistributed by means of hand brooms. The emulsion shall be applied only so far in advance of the surfacing work that it has sufficient time to set, as required by the Engineer.
- d. After a tack coat of asphalt emulsion has been applied, hot mix asphalt shall be spread and compacted. It is contemplated that hot mix asphalt will be laid to a compacted thickness as specified. All loose material tracked out onto the new compacted surface shall be removed before an adjacent pass is made by the asphalt paver. All layers of hot mix asphalt shall be laid using an asphalt paving machine as specified in Section 39, Hot Mix Asphalt, of the Standard Specifications.
- e. The Contractor shall taper the new pavement thickness adjacent to the gutters in the streets designated by the Engineer. Tapering to the edge of the gutters shall be performed in such manner that adequate binding of the very fine asphalt material to the existing surface is obtained. Contractor shall, at the direction of the Engineer and pursuant to field conditions, apply additional binding material in these areas prior to the placement of the new hot mix asphalt, and shall adequately rake the coarse material so as to obtain the desired result. Crown heights may be adjusted at the direction of the Engineer. Aggregate segregation will be grounds for rejection.
- f. The location of all utility and City-owned structures that are covered over by the new pavement shall be legibly marked with paint on the new pavement and on the adjacent curb and/or sidewalk. In addition, the Contractor must make a list of each utility cover that is paved over and not raised to grade during the paving job (e.g. PG&E utility covers) and must notify the utility in writing of the location of said utility cover and the date that it was paved over. A copy of this written notification must be sent to the City. If utility cover is paved over and not raised to grade during the paving job, the pavement must be at least 1-1/2 inches thick over the utility cover and no depression in the roadway surface can be left over the utility cover. If 1-1/2 inches of pavement cannot be laid over a recessed utility cover, then the hot mix asphalt shall be feathered to the grade of the utility cover and arrangements with the utility must be made to raise it to grade. Hot mix asphalt rolled gutters shall be resurfaced as directed by the Engineer as part of the overlay resurfacing work and no additional payment will be made therefor.

- g. Hot mix asphalt shall not be placed when the atmospheric temperature is below 50 degrees F (10 degrees C) or during unsuitable weather.
- h. Asphalt concrete shall be compacted to an average relative density of 96.5 percent of the laboratory compacted unit weight (Cal TM 304). Tests will be run at random locations to verify compaction. No single test shall be less than 95 percent. Compaction of the mix will be determined by the Owner by use of a nuclear density gauge and/or cores. There is no compaction requirement for the asphalt concrete leveling course, except break down with rubber tire 1012 pneumatic roller. The laboratory compacted unit weight will be determined from the mix design, a prequalified sample, or a production sample of the asphalt concrete. Finish rolling shall be started after the pavement has cooled sufficiently to permit removal of the roller marks and shall be continued in whatever direction is necessary to produce a pavement free of indentations. Roller marks shall be removed by reheating the pavement with hand torches and rerolling if necessary.
- i. Areas inaccessible to the rollers shall be compacted by use of a power compactor of the high impact vibration plate type capable of attaining the same compaction as the rolled areas. An adequate number of rollers shall be used with each paving operation.
- j. The completed surface shall be thoroughly compacted, smooth, and true to grade and cross section, free from ruts, humps, depression, irregularities, or segregated material.
- k. Finish paving shall conform to finish elevations within plus or minus 0.01 of a foot and shall be level to within plus or minus 1/4 inch in 10 feet when measured with a 10 foot straightedge in any direction. Finish surface of the wearing course shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, cold joints, or other irregularities.
- l. Public traffic shall be permitted the use of the street area providing that such traffic does not interfere with the continuity of the paving operations. When street operations are suspended, all equipment shall be removed from portions of the streets that are to be used by the public traffic. Where work is unfinished at a pedestrian crosswalk at the end of a working day, the edge of the paved surface to said crosswalk shall be feathered to provide a smooth pathway for foot traffic. The pavement shall be protected from traffic until thoroughly cooled and set. Hot mix asphalt rolled gutters shall be compacted as directed by the Engineer as part of the overlay resurfacing work and no additional payment will be made therefor.
- m. Any rollers shall be equipped with pads and water systems that prevent sticking of asphalt mixtures to the steel-tired wheels. A parting agent, which will not damage

the asphalt mixture, as determined by the Engineer, may be used to aid in preventing the sticking of the mixture to the wheels.

- n. The finished surface shall be cat-tracked within 24 hours of completion of paving work. Final striping shall be applied within one week of completion of paving work.

3. Field Quality Control

- a. The Contractor shall control the quality of the work and shall provide adequate testing to assure compliance with these Specifications.
- b. After completion of paving work, all paving shall be inspected. Any resulting “ponds” shall be ringed with chalk. Such hollows shall be corrected with addition of asphalt paving materials and rerolling until all paving is completely level and free from hollows and high spots.

MEASUREMENT AND PAYMENT

The work of Hot Mix Asphalt (Type A) will be measured by the tons of asphalt installed. The Contractor will not be paid for asphalt thickness above that which is specified. Contractor shall submit asphalt tags upon arrival of the delivery truck, or as directed by the Engineer.

The contract price paid per ton for “Hot Mix Asphalt (Type A)”, (Bid Item A-27) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and placing hot mix asphalt, applying paint binder, and performing in-place density and compaction tests, complete in place as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The provisions of Section 9-1.06B Increases of More Than 25 Percent and Section 9-1.06C Decreases of More Than 25 Percent, of the Standard Specifications shall not apply.

BID ITEM NO. A-28 – AGGREGATE BASE

Specifications for all work associated with installation of aggregate base as indicated.

Contractor shall provide submittal for Respective manufacturer’s product data.

The Contractor shall submit tickets indicating proof of tonnage of material delivered as the material arrives at the job site, or at any time upon request of the Engineer. If the Contractor does not submit the tickets at the end of each day when aggregate base is installed, a temporary stop work order may be issued on the construction activity with no associated cost incurred by the City. The construction activity may resume with the Engineer’s written approval upon receiving and reviewing all tickets.

Aggregate base shall be Class 2 and conform to the grading and quality requirements for 3/4" maximum as specified in Section 26-1.02A of the State Standard Specifications.

1. Examination

- a. Call for an inspection by the Engineer and obtain written acceptance of the prepared subgrade or subbase before proceeding with the placement of aggregate base course.
- b. The subgrade or subbase to receive aggregate base course, immediately prior to spreading, shall conform to the compaction and elevation tolerances indicated for the material involved and shall be free of standing water and loose or extraneous material.

2. Installation Standards

- a. Aggregate base course shall be applied over the prepared subgrade or subbase and compacted in accordance with Section 26 of the Caltrans Standard Specifications or as approved by the Geotechnical Engineer.
- b. Aggregate base course shall be minimum uniform thickness after compaction of dimensions indicated. Where not indicated, compacted thickness shall be six inches for driveways/sidewalks and eight inches for roadways.
- c. All compaction expressed in percentages in this section refers to the maximum dry density as determined by California Test Method No. 216.

3. Spreading of Material

- a. Aggregate for base course shall be delivered as uniform mixture of fine and coarse aggregate and shall be spread in layers without segregation.
- b. Aggregate base course material shall be free from pockets of large and fine material. Segregated materials shall be remixed until uniform.
- c. Aggregate base material shall be moisture-conditioned to near optimum moisture content in accordance with the applicable requirements of Section 17 of the Caltrans Standard Specifications.
- d. Aggregate base course six inches and less in thickness may be spread and compacted in one layer. For thicknesses greater than six inches, the base course aggregate shall be spread and compacted in two or more layers of uniform thickness not greater than six inches each.

4. Compacting

- a. Relative compaction of each layer of compacted aggregate base material shall be not less than 95 percent based on maximum dry density as determined by California Test Method No. 216 or as noted in the design plan.
- b. Thickness of finished base course shall not vary more than 3/4 inch from the indicated thickness at any point. Base which does not conform to this requirement shall be reshaped or reworked, watered, and recompact to achieve compliance with specified requirements.
- c. The surface of the finished aggregate base course at any point shall not vary more than 3/4 inch above or below the indicated grade.

5. Field Quality Control

- a. Perform field tests in accordance with ASTM D2922 or ASTM D1557 as directed by the Geotechnical Engineer to determine compliance with specified requirements for density and compaction of aggregate base material, and with ASTM D3017 to determine moisture-content compliance of the installed base course.

MEASUREMENT AND PAYMENT

The contract price paid per cubic yards for “Aggregate Base (Class II)” (Bid Item A-28) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and placing aggregate base, complete in place as shown on the plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-29 – PEDESTRIAN METAL FENCE

Specifications for providing Metal Railing and footings as indicated in Plans.

Contractor shall provide submittal for each Respective manufacturer’s product data for manufactured products.

Contractor shall provide detailed shop drawings. No assemblies to be fabricated or placed until shop drawings have been reviewed favorably by the Engineer.

MATERIALS

- Sch 40 steel pipe
- Concrete for post support shall be Class B (5 Sack Mix) with 1-inch maximum aggregate.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for “Pedestrian Metal Fence” (Bid Item A-29) shall include furnishing all labor, materials, foundation, equipment, foundations, and incidentals, and for doing all the work involved in furnishing and placing aggregate base, complete in place as shown on the plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-30 – METAL BEAM GUARDRAIL

Specifications for providing Metal Beam Guardrail as indicated in Plans.

Contractor shall provide submittal for each Respective manufacturer’s product data for manufactured products.

Contractor shall provide detailed shop drawings. No assemblies to be fabricated or placed until shop drawings have been reviewed favorably by the Engineer.

MATERIALS

- Metal Beam Guardrail (does not included steel posts) shall be per State Std Plan A77L2
- Hardware shall be per Standard Plan A77M1 and as modified in the plans
- Steel posts shall be per Standard Plan A77N2 and as modified in the plans
- End anchor assembly per Standard Plan A77S1 and as modified in the plans

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for “Metal Beam Guardrail” (Bid Item A-30) shall include furnishing all labor, materials, equipment, and incidentals, and for doing all the work involved, including foundation and end anchor assembly, complete in place as shown on the plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-31 – CONVERT SD VAULT TO MH ACCESS

This work involves the installation of an access opening to storm drainage infrastructure along Second Street near Jones Street and below the University Avenue Overpass. This work occurs after the cover removal described in Bid Item Number A-15.

The Contractor shall be prepared to construct the new access covers immediately upon the removal of the existing features. This work shall include the installation of steel plates as necessary to allow for vehicle circulation.

The General Contractor shall submit the following:

- Concrete mix design and strength data
- Mortar mix
- Steel Reinforcement
- Cover and related appurtenances

MATERIALS

- Portland cement concrete used for concrete collars shall be minor concrete conforming to the requirements of Section 90-2 "Minor Concrete" of the Standard Specifications with at least 590 pounds of cementations material per cubic yard and 1-inch maximum graded coarse aggregate. No bagged mix is permitted.
- Mortar used in resetting maintenance hole covers shall conform to the provisions in Section 51-1.02F, "Mortar" of the State Standard Specifications.
- Maintenance Hole Frame and Cover
 - i. Pre-manufactured access assembly shall be EJCO 24" STORMSURGE Access Assembly Model 00103243A01 H-20 Rated Traffic Rated or approved equal.
- Ferrous Castings
 - i. Metal used in manufacture of castings shall conform to ASTM A48, Class 35B for Gray Iron, or ASTM A536, Grade 65-45-12 for Ductile Iron.
 - ii. Castings shall be of uniform quality, free from blowholes, shrinkage, distortion or other defects. Castings shall be smooth and cleaned by shot blasting.
 - iii. Minimum tensile strength shall be 35,000 psi.
 - iv. Castings shall be manufactured true to pattern; component parts shall fit together in a satisfactory manner. Round frames and covers shall have continuously machined bearing surfaces to prevent rocking and rattling. Covers shall be of a type that overlaps box edges.
 - v. Where castings will be subjected to loads of H20 or greater, as indicated, provide ductile iron castings.

Upon removal of the exiting access opening, the Contractor shall cut, grind, and/ or modify the existing concrete to facilitate the installation of the concrete cover as shown on the Plans. The Contractor shall use extreme care to protect the existing culvert and to prevent debris from falling into the culvert.

The Contractor shall plan the work to avoid high flow conditions. This should include the installation of formwork as required to adapt the opening for the new slab. At the end of each day, the opening shall be covered.

Upon completion of concrete construction, the Contractor shall provide asphalt paving as shown on the Plans.

Use of metal riser rings for storm drain maintenance holes is not acceptable.

MEASUREMENT AND PAYMENT

The contract price paid per each for “Convert SD Vault to MH Access” (Bid Item A-31) shall include furnishing all labor, materials, equipment, dewatering, traffic controls, and incidentals, and for doing all the work involved, in replacing the access openings, complete in place, as shown on the plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-32A – ADJUST UTILITY BOX TO GRADE - EBMUD (REVOCABLE)

BID ITEM NO. A-32B – ADJUST SURVEY MONUMENT BOX TO GRADE (REVOCABLE)

ADJUST UTILITY BOX TO GRADE

The Contractor shall be responsible for adjusting all existing facilities, public or private to new finish grades unless noted otherwise on the plans or specifications. If a facility has existing damage or is damaged by the Contractor, the Contractor must coordinate with the utility owner to procure replacement material from the respective utility company. It shall be the Contractor’s responsibility to coordinate with the utility owner for adjustment of facilities or procurement of replacement material in an expedient manner. Replacement material is not paid for by the City.

When replacement material are long-lead items, at the direction of the Engineer, the Contractor shall block out the immediate vicinity of the facility and implement measures to protect the facility in place. When the replacement material is procured, the Contractor shall return to the site to complete the surface restoration in accordance with the appropriate bid item, and no additional compensation for demobilization/remobilization or loss in efficiency will be allowed therefor.

Maintenance hole frames shall be raised by removing any existing concrete collar, raising the frame and cover to finished grade using riser rings, and if required constructing a new concrete collar as shown on the Plans and directed by the Engineer.

Covers shall be adjusted so that there will not be any perceptible difference in elevation between the finished surface and the cover. The Engineer shall be the sole judge of the acceptable degree of smoothness of passage of a motor vehicle or pedestrians over the adjusted covers.

Portland cement concrete used for adjusting covers shall be 3,000 psi concrete conforming to the provisions in Standard Specification Section 51, “Concrete Structures,” and shall be one (1) inch maximum grading specified in Section 90-1.02C(4)(d), “Combined Aggregate Gradation,” of the State Standard Specifications.

Mortar used in resetting maintenance hole covers shall conform to the provisions in Section 51-1.03E(2), “Placing Mortar,” of the State Standard Specifications.

Contractor shall provide at least 48 hours advance notice to each respective utility agency for facilities to be adjusted to grade.

ADJUST SURVEY MONUMENT BOX TO GRADE

When the corner records are recorded by Alameda County and with the approval of the Engineer (see Bid Item A-3 for additional notes), the Contractor shall remove the monument. Upon completion of the work, the Contractor shall install a new monument or benchmark consistent with City of Berkeley Standard Plan 7940, 8090, 8091 or 8179, as applicable. Monument casings (boxes and lids) shall be provided by the contractor, and dome brass markers shall be supplied by the City.

Monument replacement must be done in a neat, workman-like manner. Pavement cuts shall be accurate, with vertical cuts to exact dimensions as shown on the Standard Plan. Each replacement monument shall be constructed such that the center of the dome brass marker is set within 0.04 foot of the referenced position. Monument boxes and lids shall be placed at the proper finished grade and as detailed by Standard Plan 7940, 8090, 8091 or 8179, as applicable. Existing monument lids shall be salvaged by the Contractor and delivered to the City Survey Staff or Project Inspector. The new dome brass marker shall not receive final punching prior to seven (7) days after completion of the monument construction.

MEASUREMENT AND PAYMENT

The price paid for each “Adjust Utility Box to Grade – EBMUD (Revocable)” (Bid Item A-32A) shall include full compensation for furnishing all labor, materials, coordination with utility agency, and equipment necessary to complete the work as shown on the Plans and specified herein and as directed by the Engineer and no additional payment will be allowed therefore.

The contract unit price paid for each “Adjust Survey Monument Box to Grade (Revocable)” (Bid Item A-32B) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, complete in place, as specified in the Standard Specifications, these Specifications, and as directed by the Engineer.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for preconstruction surveys, filing corner records and/or record of surveys, recordation fees, preserving and/or replacing existing survey monuments as specified in the Standard Specifications, these Specifications, and as directed by the Engineer, shall be included in the various bid item prices and no additional compensation shall be allowed therefore.

BID ITEM NO. A-33 – 6” WHITE LINE

BID ITEM NO. A-34 – 12” WHITE CROSSWALK/LIMIT LINE

BID ITEM NO. A-35 – STRIPING DETAIL 22 – MODIFIED

BID ITEM NO. A-36 – YIELD LINE

BID ITEM NO. A-37 – PLASTIC LANE SEPARATOR

Specifications for providing traffic striping, control markings and plastic lane separators on pavement as indicated.

Contractor shall provide submittal for each Respective manufacturer’s product data for manufactured products.

Contractor shall submit evidence or affidavit which certifies that paint to be used complies with latest CARB/VOC regulations.

MATERIALS

- Traffic stripes and pavement markings shall be installed per Section 84 of the Standard Specifications and these Specifications.
- All striping and pavement markings shall be Thermoplastic and conform to either State Specifications 8020-41G-19 or 8010-41G-21. State Specifications for thermoplastic material and glass beads may be obtained from the Transportation Laboratory, P.O. Box 19128, Sacramento, California, 95819- (916) 739-2400. Thermoplastic material for all pavement markings shall be applied at a minimum thickness of 0.070-inch.
- Plastic lane separators posts shall Zilcla Zipper (BAB) as indicated in the plans or Engineer approved equal.

All existing pavement markers and thermoplastic stripes and legends within the roadway reconstruction shall be completely removed immediately prior to hot mix asphalt paving. Markers, stripes, or legends which are removed shall be replaced with temporary markers, stripes and legends prior to opening the roadway to vehicular or pedestrian traffic.

All traffic striping, pavement markings (legend), and pavement markers removed prior to excavation or grinding shall be replaced except as modified in the Plans or as directed by the Engineer. Prior to replacement, the Contractor shall layout all striping patterns and marking locations by cat tracking or other suitable means for review and approval by the Engineer. Any striping and/or markings installed by the Contractor that the Engineer has not pre-approved, and that the Engineer determines are installed improperly or in the wrong location, shall be removed and replaced to the satisfaction of the Engineer at the Contractor’s sole expense.

Surfaces which are to receive markings shall be thoroughly cleaned, free from loose materials and dry. Such areas shall be prepared by the Contractor to the satisfaction of the Engineer.

Any damage to existing or newly placed traffic striping due to the failure of the Contractor to protect the work, and correction of errors, shall be repaired by the Contractor at no additional cost.

All new traffic stripes and pavement markings shall meet the following requirements for applications with enhanced wet night visibility:

Quality Control and Assurance

1. Within 14 days of applying a thermoplastic traffic stripe or pavement marking with enhanced wet night visibility, the retroreflectivity must be a minimum of 700 millicandelas per square meter per lux for white stripes and markings and 500 millicandelas per square meter per lux for yellow stripes and markings. Test the retroreflectivity under ASTM E 1710. Have a reflectometer as described in ASTM E 1710 at the job site for making these measurements.
2. Thermoplastic traffic stripes and pavement markings with enhanced wet night visibility must consist of a single uniform layer of thermoplastic and 2 layers of glass beads as follows:
 - a. The first layer of glass beads must be on the Authorized Material List under high-performance retroreflective glass beads for use in thermoplastic traffic stripes and pavement markings. The color of the glass beads must match the color of the stripe or marking to which they are being applied.
 - b. The 2nd layer of glass beads must comply with AASHTO M 247, Type 2.
3. Both types of glass beads must be surface treated for use with thermoplastic under the bead manufacturer's instructions.

Construction

1. Use a ribbon extrusion or screed type applicator to apply a thermoplastic traffic stripe.
2. Operate the striping machine at a speed of 8 mph or slower during the application of thermoplastic traffic stripe and glass beads.
3. Apply a thermoplastic traffic stripe at a rate of at least 0.38 pounds per foot of 4-inch wide solid stripe. The applied thermoplastic traffic stripe must be at least 0.090 inch thick.
4. Apply a thermoplastic pavement marking at a rate of at least 1.06 pounds per square foot. The applied thermoplastic pavement marking must be at least 0.100 inch thick.
5. Apply a thermoplastic traffic stripe and both types of glass beads in a single pass. Apply the thermoplastic 1st, followed immediately by consecutive applications of high-performance glass beads and then AASHTO M 247, Type 2 glass beads. Use 2 separate applicator guns for the glass beads, 1 applicator gun for each type of glass bead.
6. Contractor may apply glass beads by hand methods on pavement markings.

7. Distribute all glass beads uniformly on traffic stripes and pavement markings. Apply high-performance glass beads at a rate of at least 6 pounds per 100 square feet of stripe or marking. Apply AASHTO M 247, Type 2 glass beads at a rate of at least 8 pounds per 100 square feet of stripe or marking. The combined weight of the 2 types of glass beads must be greater than 14 pounds per 100 square feet of stripe or marking.

MEASUREMENT AND PAYMENT

The contract unit price paid per linear foot for “6-inch White Line” (Bid Item A-33), “12-inch White Line/Limit Line” (Bid Item A-34), and “Striping Detail 22 – Modified” (Bid Item A-35) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the surface (including pavement marking removals, cat-tracking and marker removal) and installation of pavement striping as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract unit price paid per square foot for “Yield Line” (Bid Item A-36) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the surface (including pavement marking removals, cat-tracking and marker removal) and installation of pavement markings as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract unit price paid per each “Plastic Lane Separator” (Bid Item A-37) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the surface and installation of posts as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-38A – REMOVE AND REPLACE ROADSIDE SIGN AND POST

BID ITEM NO. A-38B – REPLACE ROADSIDE SIGN ON EXISTING POST

Roadside signs shall be placed in the locations shown on the Plans or where directed by the Engineer, and shall conform to the provisions in Section 56-2, "Overhead Sign Structures" of the Standard Specifications and these Special Provisions. This work includes the following:

- Remove and Replace Roadside Sign and Post – Removing and disposing existing post and foundation as occurs and as needed for new improvements. Salvage existing sign and mount on a new pole and foundation at La Loma Avenue new retaining wall as indicated in plans.
- Replace Roadside Sign on Existing Post – Removing and disposing existing sign and mount new sign on existing pole at Piedmont Avenue as indicated in plans.

All fasteners shall be galvanized steel or as approved by the Engineer.

The following notation shall be placed on the lower right side of the back of each sign where the notation will not be blocked by the signpost or frame:

- Name of the sign manufacturer,
- Month and year of fabrication,
- Manufacturer's identification and lot number of retroreflective sheeting.

The contract unit price paid per each “Remove and Replace Roadside Sign and Post” (Bid Item A-38A) shall include full compensation for furnishing all labor, materials, tools, equipment, fasteners, and incidentals, and for doing all the work involved, complete in place, as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The contract unit price paid per each “Replace Roadside Sign on Existing Post” (Bid Item A-38B) shall include full compensation for furnishing all labor, materials, tools, equipment, fasteners, and incidentals, and for doing all the work involved, complete in place, as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. A-39 - SUPPLEMENTAL WORK

The City may authorize supplemental work in the form of Contract Change Orders for changes or deviations in the scope of work as described in the Project Plans and Specifications. The Engineer shall determine such changes. The City may compensate the contractor the actual cost plus 10% to cover overhead.

All work performed under an Administrative Contract Change Order must be authorized by the Engineer’s written order. All additional work shall be paid for at the unit cost bid for the various items.

At the option of the City, the Contractor shall pay an independent testing company retained by the City for testing concrete and other materials. The City shall pay the Contractor the actual cost of the material testing plus 5% to cover overhead.

The amount of this item may be nothing but will not exceed the amount shown for this item on the Proposal.

MEASUREMENT AND PAYMENT

The Lump Sum contract price paid for “Supplemental Work” (Bid Item A-39) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in supplemental work, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The Contractor shall be paid on pro rata basis for the work done per month, and said payment shall be for providing all labor, material, equipment, devices, supervision, and all incidentals as are needed and as may be required to complete the work.

BID ITEM NO. A-40 – (NOT USED)

BID ITEM NO. A-41 – POTHOLE

As the first order of work, the Contractor shall pothole all existing utilities to identify potential conflicts, as necessary for completion of work. Existing utilities to be located shall include, but not limited to water and gas services, street light conduit, all manholes (including storm drain, sanitary sewer, and telecommunications), valve boxes (including traffic signal, electrical, water and gas valve boxes), monuments and monument boxes, and all other miscellaneous boxes and facilities.

Prior to commencing any excavation, the Contractor shall notify Underground Service Alert (USA) three (3) days in advance of any excavations: **Underground Service Alert: Dial 811 or (800) 227-2600**

All existing facilities in conflict with the proposed improvement shall be relocated by the contractor, or as directed by the Engineer.

It is not the intent of the plans to show the exact locations of existing underground utilities or structures and the agency Engineer assumes no responsibility therefore. Whenever any such utilities are indicated thereon the Contractor shall be responsible for verifying their actual location and depth in the field, by potholing if necessary. The Contractor shall be responsible for any damage to utilities shown on the plans, located by Underground Service Alert, or as specified herein, as a result of his operations.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions to protect the health, safety and welfare of the workmen and of the public. These facilities include, but are not limited to: irrigation lines and peripherals, parking light electric supply system conductors or conduits, telephone and cable service lines, either directly buried or in duct or conduit, and underground water, gas and electrical distribution systems.

The Contractor shall not be entitled to any right of way delays associated with the relocation or repair of these utilities and other facilities and shall cooperate fully with the owners of these utilities and other facilities for their relocation and repair work.

Existing utilities in the easements on private property are not shown on the plans and the Contractor shall be responsible for locating said utilities prior to any construction and shall keep said utilities continuously functioning during the course of the work. If the Contractor for his/her own reasons needs to shut off or relocate any of said utilities, the Contractor shall give advance notice to and coordinate with the owner of the property and the occupant.

Equipment operating under PG&E electric and AT&T communications lines shall observe minimum clearance from the lines, and all other requirements, as set forth in Article 86 of the Electrical Safety Orders of the State division of Industrial Safety and AT&T requirements.

Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to determine their exact depth and location. Extreme care shall be exercised to avoid damage, and it will be the Contractor's responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

If applicable the Contractor shall keep the existing drainage system and sanitary sewer system fully functional at all times. If the Contractor for his own reasons desires to block off any portion of these systems, he shall construct a bypass system capable of handling the flow. This bypass system, if constructed, will be for the convenience of the Contractor and shall be constructed at his own expense.

The Contractor shall exercise care not to damage existing property including but not limited to trees, shrubs and landscaping outside the work area. Any damage caused by the contractor shall be replaced by the Contractor at his expense.

Nothing in these Special Provisions shall relieve the Contractor from his responsibilities as provided in Section 7-1.04, "Public Safety," of the State Standard Specifications.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for "Pothole" (Bid Item No. A-41) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in potholing, complete in place, including but not limited to sawcutting, demolition, removal, disposal, excavation, backfill, compaction, and surface restoration, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

BID ITEM NO. A-42 – CONCRETE PATH REPAIR (INCL. CLASS II AB)

Specifications are for providing concrete path repair as indicated in the plans and specified herein. Damage to the street, sidewalk, curbs and gutters, fences, retaining walls, landscape, and utilities from construction activities shall be repaired to the satisfaction of the City Engineer.

Concrete sidewalk shall conform to the City of Berkeley Sidewalk Standard Detail Plan 8144 and 8153, Section 73 "Concrete Curbs and Sidewalks" of the Standard Specifications, as modified in the Plans, these Specifications and as directed by the Engineer.

All Work, including subgrade compactions, shall be done to the satisfaction of the Engineer.

The Contractor shall submit the concrete mix design and strength data to the Engineer for favorable review. Supplier's certificates showing conformance with this specification shall be delivered to the Engineer with each shipment of materials delivered to the job site.

MATERIALS

- Portland Cement Concrete – See Bid Item No. A-17.
- Class 2 permeable aggregate base

The Contractor shall adhere to the following timeline for each site:

- The Contractor shall pour concrete no later than 7 calendar days from the date of initial demolition
- The Contractor shall clean up and remove all construction-related debris no later than 5 calendar days from the date of paving completion

Formwork – See Bid Item No. A-17

Concrete Placement – See Bid Item No. A-17

Joints – See Bid Item No. A-17

Slump tests shall be performed by the General Contractor in the presence of the Engineer at the beginning of each day's pour and at such additional times as required by the Engineer. Slump tests shall be made in accordance with current ASTM Designation C-143 or California Test Method No. 520 at the Engineer's discretion.

The City shall hire an accredited materials testing laboratory to perform Quality Control tasks, including slump tests and compressive strength (per ASTM C39/C39M) tests. The Contractor shall sample and test three (3) cylinders at each of the following locations, or as directed by the Engineer:

- Visalia Steps (near 495 Vincente Avenue)
- Tunbridge Lane Path (near 89 Southampton Avenue)
- Mendocino Path (near 45 San Mateo Road)
- Indian Rock Path (near 900 Arlington Road)
- Oxford School Way Path (near 1125 Walnut Street)

The Engineer shall inspect and approve formwork and reinforcing steel placement prior to concrete pours. The General Contractor shall provide at least 24 hours' notice that inspections are required.

MEASUREMENT AND PAYMENT

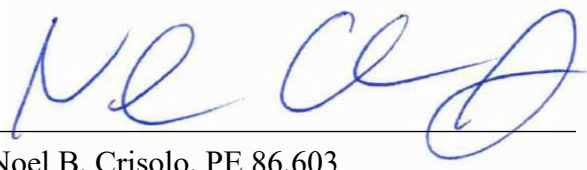
The contract lump sum price paid for “Concrete Path Repair” (Bid Item A-42) shall include full compensation for furnishing all labor, materials, tools, formwork, testing, equipment, and incidentals, and for doing all the work involved including excavation, subgrade preparation, placement of aggregate base, and disposal of unsuitable materials as shown in the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

**PART D- TECHNICAL PROVISIONS FOR PEDESTRIAN IMPROVEMENTS AT THE
INTERSECTION OF WOOLSEY ST AND ETON AVE – “BID PACKAGE B”**

BID ITEM NO. B-1 – CONSTRUCTION PHASING AND TRAFFIC CONTROL	1
BID ITEM NO. B-2 – WATER POLLUTION CONTROL.....	1
BID ITEM NO. B-3 – CONSTRUCTION STAKING AND MONUMENT REFERENCING	1
BID ITEM NO. B-4 – (NOT USED).....	2
BID ITEM NO. B-5 – MOBILIZATION/DEMobilIZATION.....	2
BID ITEM NO. B-6 - CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING	2
BID ITEM NO. B-7 – (NOT USED).....	2
BID ITEM NO. B-8 – TREE REMOVAL – 13” to 24” DIAMETER	2
BID ITEM NO. B-9 – (NOT USED).....	2
BID ITEM NO. B-10 – ROADWAY EXCAVATION (FINAL PAY ITEM)	2
BID ITEM NO. B-11 – (NOT USED).....	2
BID ITEM NO. B-12 – REMOVE CONCRETE PAVEMENT.....	2
BID ITEM NO. B-13 – REMOVE CONCRETE CURB & GUTTER.....	2
BID ITEM NO. B-14 – (NOT USED).....	2
BID ITEM NO. B-15 – (NOT USED).....	2
BID ITEM NO. B-16 – (NOT USED).....	2
BID ITEM NO. B-17 – CONCRETE FLATWORK (NON-TRAFFIC RATED).....	3
BID ITEM NO. B-18 – (NOT USED).....	3
BID ITEM NO. B-19 – CONCRETE VERTICAL CURB	3
BID ITEM NO. B-20 – (NOT USED).....	3
BID ITEM NO. B-21A – (NOT USED).....	3
BID ITEM NO. B-21B - CONCRETE CURB AND GUTTER (24-INCH)	3
BID ITEM NO. B-22 – (NOT USED).....	3
BID ITEM NO. B-23 – (NOT USED).....	3
BID ITEM NO. B-24 – (NOT USED).....	3
BID ITEM NO. B-25 – (NOT USED).....	3
BID ITEM NO. B-26 – (NOT USED).....	3
BID ITEM NO. B-27 – HOT MIX ASPHALT (TYPE A).....	3
BID ITEM NO. B-28 – (NOT USED).....	4
BID ITEM NO. B-29 – (NOT USED).....	4
BID ITEM NO. B-30 – (NOT USED).....	4
BID ITEM NO. B-31 – NOT USED).....	4
BID ITEM NO. B-32 – ADJUST UTILITY BOX TO GRADE (REVOCABLE ITEM).....	4
BID ITEM NO. B-33 – 6” WHITE LINE	4
BID ITEM NO. B-34 – (NOT USED).....	4
BID ITEM NO. B-35 – (NOT USED).....	4
BID ITEM NO. B-36 – YIELD LINE	4
BID ITEM NO. B-37– (NOT USED).....	4
BID ITEM NO. B-38 – (NOT USED).....	4
BID ITEM NO. B-39 – (NOT USED).....	4
BID ITEM NO. B-40- CHANGEABLE MESSAGE BOARDS	4
BID ITEM NO. B-41 – POTHOLE.....	5
BID ITEM NO. B-42 – (NOT USED).....	5
BID ITEM NO. B-43 – REMOVE EXISTING SIGNAGE	5
BID ITEM NO. B-44 – ADJUST GAS VALVE COVER TO FINISH GRADE (REVOCABLE)	6
BID ITEM NO. B-45 – ADJUST CITY MAINTENANCE HOLE COVER TO FINISH GRADE	6
BID ITEM NO. B-46 – ADJUST MAINTENANCE HOLE COVER TO FINISH GRADE (REVOCABLE).....	6
BID ITEM NO. B-47 – RAISED CROSSWALK	7

BID ITEM NO. B-48 – CONCRETE CURB AND GUTTER AT RAISED CROSSWALK.....	8
BID ITEM NO. B-49 – CONCRETE MOUNTABLE CURB AT TRAFFIC CIRCLE	8
BID ITEM NO. B-50 – CONCRETE DRIVEWAY	8
BID ITEM NO. B-51 – CONCRETE CURB RAMP.....	8
BID ITEM NO. B-52 – CONCRETE RAISED MEDIAN.....	8
BID ITEM NO. B-53 – CONCRETE RAISED MEDIAN (TRAFFIC RATED).....	8
BID ITEM NO. B-54 – CONCRETE MOUNTABLE MEDIAN (TRAFFIC RATED).....	8
BID ITEM NO. B-55 – CONCRETE FLUSH MEDIAN (TRAFFIC-RATED).....	8
BID ITEM NO. B-56 – INSTALL ROADSIDE SIGN AND POST.....	9
BID ITEM NO. B-57 – REMOVE AND REINSTALL EXISTING SIGNAGE	9
BID ITEM NO. B-58 – WHITE TRIPLE FOUR CROSSWALK (THERMO)	14
BID ITEM NO. B-59 – STRIPING DETAIL #25 (THERMO AND MARKERS).....	14
BID ITEM NO. B-60 – STRIPING DETAIL #29 (THERMO AND MARKERS).....	14
BID ITEM NO. B-61 – 4” YELLOW LINE (THERMO).....	14
BID ITEM NO. B-62 – RED CURB PAINT	14
BID ITEM NO. B-63 – INSTALL BLUE RPM AT FIRE HYDRANT	14
BID ITEM NO. B-64 – INSTALL ARMADILLOS	19
BID ITEM NO. B-65 – INSTALL TOPSOIL	20
BID ITEM NO. B-66 – TREE REMOVAL – GREATER THAN 24” DIAMETER.....	21

**These Specifications for
Pedestrian Improvements at Intersection of Woolsey Street and Eton Ave – “Package B”
were prepared under the direction of:**



Noel B. Crisolo, PE 86,603

LCC Engineering & Surveying, Inc.



DESCRIPTION OF BID ITEMS

BID ITEM NO. B-1 – CONSTRUCTION PHASING AND TRAFFIC CONTROL

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-1, Construction Phasing and Traffic Control with the following additions:

Construction Area Signs

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in the latest edition of the California Manual on Uniform Traffic Control Devices (California MUTCD), these Special Provisions, and as directed by the Engineer.

The Contractor shall provide a set of the following construction signs for this project per contiguous work area:

- Type 3-barricade mounted – 3’ high x 4’ wide Project Signs
- Single post – W20-1, 36” x 36”, “Road Work Ahead” Signs
- Single post – G20-2, 36” x 18”, “End Road Work” Signs
- C48(CA) SB1 Funding Sign – 48” x 30”

Signs shall be in place on the project site a minimum of fourteen (14) calendar days in advance of performing work on the street. Locations of these signs shall be coordinated with the Engineer before installation of the sign post. Attaching signs to existing poles or using of skid plate will not be permitted unless agreed in advance by the Engineer.

The Project signs to be provided by the Contractor shall be three (3) by four (4) feet in size with white ASTM D4956 Type I retroreflective sheeting, black border, black lettering, and City logo. The sign shall contain project name, project funding information, Contractor name/contact information, and estimated project completion. The type size for the Contractor information should be no more than half the size of the funding information. The exact wording and design of the sign shall be provided to the Contractor.

BID ITEM NO. B-2 – WATER POLLUTION CONTROL

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-2, Water Pollution Control Program.

BID ITEM NO. B-3 – CONSTRUCTION STAKING AND MONUMENT REFERENCING

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-3, Construction Staking and Monument Referencing.

BID ITEM NO. B-4 – (NOT USED)

BID ITEM NO. B-5 – MOBILIZATION/DEMobilIZATION

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-5, Mobilization/Demobilization.

BID ITEM NO. B-6 - CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-6, Clearing, Grubbing, Tree Protection, and Root Pruning.

BID ITEM NO. B-7 – (NOT USED)

BID ITEM NO. B-8 – TREE REMOVAL – 13” to 24” DIAMETER

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-8, Tree Removal – 13” to 24” Diameter.

BID ITEM NO. B-9 – (NOT USED)

BID ITEM NO. B-10 – ROADWAY EXCAVATION

The description of this Bid Item, including Measurement and Payment provisions, is the same as for Bid Item No. A-10, Roadway Excavation.

BID ITEM NO. B-11 – (NOT USED)

BID ITEM NO. B-12 – REMOVE CONCRETE PAVEMENT

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-12, Remove Concrete Pavement.

BID ITEM NO. B-13 – REMOVE CONCRETE CURB & GUTTER

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-13, Remove Concrete Curb & Gutter.

BID ITEM NO. B-14 – (NOT USED)

BID ITEM NO. B-15 – (NOT USED)

BID ITEM NO. B-16 – (NOT USED)

BID ITEM NO. B-17 – CONCRETE FLATWORK (NON-TRAFFIC RATED)

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-17, Concrete Flatwork (Non-Traffic Rated).

BID ITEM NO. B-18 – (NOT USED)

BID ITEM NO. B-19 – CONCRETE VERTICAL CURB

The description of this Bid Item is the same as for Bid Item Nos. A-17, Concrete Flatwork (Non-Traffic Rated), to A-23, Concrete Retaining Wall A-19, with the following addition:

Measurement and Payment

The linear foot cost paid for “Concrete Vertical Curb” (Bid Item B-19) shall include full compensation for furnishing all labor, materials, tools, formwork, equipment, testing, and incidentals, and for doing all the work involved in, complete in place including hot mix asphalt plug, excavation, subgrade preparation, rebar, placement of aggregate base, and disposal of unsuitable materials as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. B-20 – (NOT USED)

BID ITEM NO. B-21A – (NOT USED)

BID ITEM NO. B-21B - CONCRETE CURB AND GUTTER (24-INCH)

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-21B, Concrete Curb and Gutter (24-Inch).

BID ITEM NO. B-22 – (NOT USED)

BID ITEM NO. B-23 – (NOT USED)

BID ITEM NO. B-24 – (NOT USED)

BID ITEM NO. B-25 – (NOT USED)

BID ITEM NO. B-26 – (NOT USED)

BID ITEM NO. B-27 – HOT MIX ASPHALT (TYPE A)

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-27, Hot Mix Asphalt (Type A).

BID ITEM NO. B-28 – (NOT USED)

BID ITEM NO. B-29 – (NOT USED)

BID ITEM NO. B-30 – (NOT USED)

BID ITEM NO. B-31 – NOT USED)

BID ITEM NO. B-32 – ADJUST UTILITY BOX TO GRADE (REVOCABLE ITEM)

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-32, Adjust Utility Box to Grade Revocable Item).

BID ITEM NO. B-33 – 6” WHITE LINE

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-33, 6” White Line.

BID ITEM NO. B-34 – (NOT USED)

BID ITEM NO. B-35 – (NOT USED)

BID ITEM NO. B-36 – YIELD LINE

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-36, Yield Line.

BID ITEM NO. B-37– (NOT USED)

BID ITEM NO. B-38 – (NOT USED)

BID ITEM NO. B-39 – (NOT USED)

BID ITEM NO. B-40- CHANGEABLE MESSAGE BOARDS

This item is to provide compensation for additional notification near the work area. The Contractor shall provide portable changeable message boards for use on the project at the City’s request. Each portable message sign unit shall consist of a controller unit, a power supply, and a structural support system, all mounted on a trailer, per Caltrans Standard Specification Section 12-3.12. Message board shall be installed as directed by the Engineer one (1) week prior to start of construction and shall be relocated to the next street location as job progresses or as directed by the Engineer. Construction signs are included under Bid Item “Traffic Control”. Board shall be maintained to the satisfaction of the Engineer.

Changeable Message Boards are required on the following major streets and/or collector streets where the project construction activities occur adjacent to these major/collector streets, and any other locations identified by the Traffic Engineer during the course of construction. The changeable message sign locations and types shall be included on the Traffic Control Plans.

- Woolsey St at Eton Ave – 3 signs

MEASUREMENT AND PAYMENT

The contract unit price paid for “Changeable Message Boards” (Bid Item No. B-40) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in changeable message boards, complete in place, including, providing and properly maintaining changeable message boards for the duration of construction, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

BID ITEM NO. B-41 – POTHOLE

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-41, Pothole.

BID ITEM NO. B-42 – (NOT USED)

BID ITEM NO. B-43 – REMOVE EXISTING SIGNAGE

CONSTRUCTION

Salvage Sign Panel

Roadside sign panel and mounting hardware shall be removed from post at the locations shown on the plans and as directed by the Engineer. Sign panel shall be removed from mounting hardware. Sign post shall be protected if to remain in place. Hardware shall be disposed of. Concrete planters for signs shall be carefully removed from work area and stored.

The roadside sign panels and concrete planters for signs not reset on-site shall be salvaged and delivered to the City Maintenance Yard as directed by the Engineer.

Remove Existing Sign Post

Remove and dispose of existing sign post and sign post foundation as indicated on plan, directed by the Engineering, or if all existing signs are removed. Restore foundation hole to native condition (landscape, base material, or concrete).

MEASUREMENT AND PAYMENT

The contract unit price paid for “Remove Existing Signage” (Bid Item No. B-43) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in signage, and related incidental work, as shown on the plans, as specified in the standard specifications and these special provisions, and as directed by the Engineer.

**BID ITEM NO. B-44 – ADJUST GAS VALVE COVER TO FINISH GRADE
(REVOCABLE)**

**BID ITEM NO. B-45 – ADJUST CITY MAINTENANCE HOLE COVER TO FINISH
GRADE**

**BID ITEM NO. B-46 – ADJUST MAINTENANCE HOLE COVER TO FINISH GRADE
(REVOCABLE)**

The description of these Bid Items are the same as for Bid Item No. A-32, Adjust Utility Box to Grade, with the following additions:

GENERAL

Maintenance Holes shall be adjusted to grade per City Standard Detail 8193 or 8194, EBMUD Standard Details or other utility provider’s standards, as shown on the plans, and as directed by the Engineer.

CONSTRUCTION

The Contractor shall properly locate and tie all existing facilities to be raised in advance of paving operations.

Lower frames and covers of existing facilities before cold planing or replacing concrete surfacing. Temporarily fill utility depression with HMA (Type A) before opening the lanes to public traffic. Where frames and covers cannot be lowered flush after cold planing or before replacing asphalt surfacing, frames and covers shall be protected utilizing the following alternatives:

1. Ramp section (cut-back) around “iron” and paint white
2. Place lighted Portable Barricade over iron

Care shall be taken to keep frames and covers clean. The Contractor shall completely protect with heavy plastic or other suitable material all utility covers or other items that are visible on the surface and will be covered by his operations. This shall be completed prior to the start of operations and approved by the Engineer. Any materials that adhere to the frames and covers shall be removed. Facilities damaged by the Contractor shall be replaced at the Contractor’s expense. Facilities (box and lid or frame and cover) found existing in a damaged condition, and reported to the Engineer before disturbing, shall be replaced by the Contractor with materials furnished by the Owner. The Contractor shall notify owners of private utility facilities seven days prior to the start of the resurfacing work. Such owners may request the contractor to raise the private facilities.

SCHEDULE

All utility adjustments shall be accomplished within 7 working days of the roadway surfacing.

WORK BY UTILITY COMPANIES

Utility companies reserve the right to perform the work using their own forces after the contract is awarded. The Contractor shall notify the utility agencies prior to start of construction for any coordination effort and to determine if the utility owners will perform the work using their own forces.

TERMS OF REVOCATION

Bid items designated as “Revocable” are contingent upon the City reaching a mutual reimbursement agreement with the respective owner/Utility Company. Should the City fail to reach such an agreement prior to the start of the work, the relevant bid items shall be revoked and no payment shall be made for the respective utility adjustment work. Utility adjustments per revoked items shall be made at the cost and discretion of the Contractor, and shall adhere to the Project Specifications where applicable.

MEASUREMENT AND PAYMENT

The contract unit price paid per each for “Adjust Gas Valve Cover to Finish Grade (Revocable)” (Bid Item No. B-44), “Adjust City Maintenance Hole Cover to Finish Grade” (Bid Item No. B-45), and “Adjust Maintenance Hole Cover to Finish Grade (Revocable)” (Bid Item No. B-46), shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Lowering and Adjusting Existing Utility Facilities to Grade, complete in place, including coordination with the utility companies, disposing or returning old frame and covers, concrete, mortar and HMA (Type A), as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

BID ITEM NO. B-47 – RAISED CROSSWALK

The description of this Bid Item are the same as for Bid Item No. A-27, Hot Mix Asphalt (Type A), with the following additions:

New raised crosswalk shall be constructed per City of Berkeley Plan No. 8209, as modified in the Plans, these Specifications and as directed by the Engineer. New raised crosswalk shall be constructed after placement of new roadway surfacing.

MATERIALS

Aggregate

The hot mix asphalt to be used will be as follows unless modified by the Engineer:

Raised Crosswalk: 3/8-inch, Type A

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA (Type A) shall be as follows:

Raised Crosswalk: PG 76-22 PM

MEASUREMENT AND PAYMENT

The contract unit price paid per each for “Raised Crosswalk” (Bid Item B-47) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Hot Mix Asphalt (HMA), complete in place, including surface preparation; tack coat; furnishing, placing and compacting HMA; thermoplastic white marking detail; JMF preparation, testing and production cost for verification and quality control testing; Contractor’s Quality Control Plan; and cleanup, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer

BID ITEM NO. B-48 – CONCRETE CURB AND GUTTER AT RAISED CROSSWALK

BID ITEM NO. B-49 – CONCRETE MOUNTABLE CURB AT TRAFFIC CIRCLE

BID ITEM NO. B-50 – CONCRETE DRIVEWAY

BID ITEM NO. B-51 – CONCRETE CURB RAMP

BID ITEM NO. B-52 – CONCRETE RAISED MEDIAN

BID ITEM NO. B-53 – CONCRETE RAISED MEDIAN (TRAFFIC RATED)

BID ITEM NO. B-54 – CONCRETE MOUNTABLE MEDIAN (TRAFFIC RATED)

BID ITEM NO. B-55 – CONCRETE FLUSH MEDIAN (TRAFFIC-RATED)

The description of these Bid Items, including Measurement and Payment provisions, are the same as for Bid Item Nos. A-17, Concrete Flatwork (Non-Traffic Rated), through A-23, Concrete Retaining Wall, with the following additions:

GENERAL

Concrete Curb and Gutter at Raised Crosswalk shall conform to the City of Berkeley Concrete Curb and Gutter Standard Detail Plans 8145, Vertical Concrete Curb Standard Detail Plan 8146, Section 73 “Concrete Curbs and Sidewalks” of the Standard Specifications, as modified in the Plans and as directed by the Engineer.

Concrete Mountable Curb at Traffic Circle shall conform to City of Berkeley Traffic Circle Standard Detail Plan (no number), Section 73 “Concrete Curbs and Sidewalks” of the Standard Specifications, as modified in the Plans and as directed by the Engineer

Concrete Driveway shall conform to the City of Berkeley Driveway Standard Detail Plan 8151, Section 73 “Concrete Curbs and Sidewalks” of the Standard Specifications, as modified in the Plans and as directed by the Engineer.

Concrete Curb Ramp shall conform to the State Standard Plan A88A, Section 73 “Concrete Curbs and Sidewalks” of the Standard Specifications, as modified in the Plans and as directed by the Engineer.

All Work shall be done to the satisfaction of the Engineer. Damage to the street from construction activities shall be repaired to the satisfaction of the City Engineer.

MEASUREMENT AND PAYMENT

The linear foot cost paid for “Concrete Curb and Gutter at Raised Crosswalk” (Bid Item No. B-48) and “Concrete Mountable Curb at Traffic Circle” (Bid Item No. B-49) shall include full compensation for furnishing all labor, materials, tools, formwork, equipment, testing, and incidentals, and for doing all the work involved, complete in place including placing aggregate base or subbase as required, rebar, subgrade preparation as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

The square foot cost paid for “Concrete Driveway” (Bid Item No. B-50), “Concrete Curb Ramp” (Bid Item No. B-51), “Concrete Raised Median” (Bid Item No. B-52), “Concrete Raised Median (Traffic Rated)” (Bid Item No. B-53), “Concrete Mountable Median (Traffic Rated)” (Bid Item No. B-54), and “Concrete Flush Median (Traffic-Rated)” (Bid Item No. B-55) shall include full compensation for furnishing all labor, materials, tools, formwork, equipment, testing, and incidentals, and for doing all the work involved, complete in place including placing aggregate base or subbase as required, rebar, subgrade preparation, thermoplastic markings, reflectors, as shown on the Plans, as specified in the Standard Specifications and these Specifications, and as directed by the Engineer.

BID ITEM NO. B-56 – INSTALL ROADSIDE SIGN AND POST

BID ITEM NO. B-57 – REMOVE AND REINSTALL EXISTING SIGNAGE

The description of these Bid Items are the same as for Bid Item No. A-38, Roadside Sign, with the following additions:

GENERAL

Furnish and install regulatory signs and wayfinding signs and related work thereto. Signs shall be fabricated and furnished in accordance with details shown on the plans, the Traffic Sign Specifications, and these special provisions.

Traffic Sign Specifications for California sign codes are available for review at:

<https://dot.ca.gov/programs/safety-programs/sign-specs>

Traffic Sign Specifications for signs referenced with Federal MUTCD sign codes can be found in Standard Highway Signs Book, administered by the Federal Highway Administration, which is available for review at:

http://mutcd.fhwa.dot.gov/ser-shs_millennium.htm

Information on cross-referencing California sign codes with the Federal MUTCD sign codes is available at:

<https://dot.ca.gov/programs/safety-programs/camutcd/camutcd-files>

QUALITY CONTROL

The requirements of "Quality Control for Signs" in this section shall not apply to construction area signs.

No later than 14 days before sign fabrication, the Contractor shall submit a written copy of the quality control plan for signs to the City's Representative for review. The City's Representative will have ten (10) days to review the quality control plan. Sign fabrication shall not begin until the City's Representative approves the Contractor's quality control plan in writing. The Contractor shall submit to the City's Representative at least three (3) copies of the approved quality control plan. The quality control plan shall include, but not be limited to the following requirements:

1. Identification of the party responsible for quality control of signs
2. The basis of acceptance for incoming raw materials at the fabrication facility
3. Type, method and frequency of quality control testing at the fabrication facility
4. List (by manufacturer and product name) of process colors, protective overlay film, retroreflective sheeting, and black nonreflective film
5. Recommended cleaning procedure for each product
6. Method of packaging, transport, and storage for signs

Temporary or permanent signs shall be free from blemishes that may affect the serviceability and detract from the general sign color and appearance when viewing during daytime and nighttime from a distance of 25 feet. The face of each finished sign shall be uniform, flat, smooth, and free of defects, scratches, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front,

back, and edges of the sign panels shall be free of router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive overspray and aluminum marks.

INSPECTION

The City's Representative will inspect signs at the Contractor's facility and delivery location, and in accordance with Section 6, "Control of Materials," of the Standard Specifications. The City's Representative will inspect signs for damage and defects before and after installation.

Signs exhibiting a significant color difference between daytime and nighttime shall be replaced immediately.

Repairing sign panels will not be allowed except when approved by the City's Representative.

When requested, the Contractor shall provide the City's Representative test samples of signs and materials used at various stages of production. Sign samples shall be 12" x 12" in size with the applied background, letter or numeral, and border strip.

MATERIALS

Regulatory Signs shall be per Sign Schedule, available from Traffic and Parking Control (TAPCO), 1255 East Shore Hwy., Berkeley, CA 94710-1095, (510) 525-4040 or other manufacturer approved by the City.

The wayfinding signs are per sign schedule with content to be provided by City of Berkeley Public Works Transportation Division Bicycle Program Coordinator. They can also be procured from Traffic and Parking Control (TAPCO), or other manufacturer approved by the City.

Concrete for sign post foundation shall be 2500 PSI concrete, either prepackaged or ready mix.

Roadside sign posts shall be Ulti-Mate sign support system, with EZ Installation anchor, as manufactured by Western Highway Products or approved equal. Ulti-Mate posts for roadside signs shall conform to State Standard Plan RS1 and RS4. Posts shall be 12-gage galvanized steel 1.75-inch square tube with perforations, weighing 2.09 pounds per linear foot.

EXECUTION

Final sign placements shall be verified and approved by the City prior to installation.

Install signs square and plumb. Where possible, align signposts in a straight, continuous line. Sleeves shall extend 4 inches above top of finish concrete elevation.

Contractor shall install appropriate size galvanized steel bolt and nut at base of post and sleeve.

Posts shall be placed so that sign panel is 12" clear minimum from face of curb, or as directed by the City. Where monolithic sidewalks are 5' or less in width, verify placement of post with the City.

Sign panels shall be mounted such that the bottom edge is 7' clear from the finish grade of sidewalk.

Post Foundations

Landscape Area: Post holes shall be 8 inches in diameter and 30 inches deep. Concrete shall be thoroughly mixed to 4-inch maximum slump. Place concrete to the surface of the turf or mulch. Even up vertical edges with trowel at least 2 inches below top. Finish top of concrete with trowel and slope away from pole. Apply medium broom finish to exposed concrete base.

Sidewalks and Concrete Areas: Core 8-inch diameter hole in concrete. Excavate 8" diameter hole 30 inches deep. Thoroughly mix concrete to 4-inch maximum slump. Finish top of concrete even with existing concrete. Match ex. Finish.

Signs

No legend shall be installed at the project site. Legend shall include letters, numerals, tildes, bars, arrows, route shields, symbols, logos, borders, artwork, and miscellaneous characters. The style, font, size, and spacing of the Regulatory Sign legend shall conform to the Standard Alphabets published in the FHWA Standard Highway Signs Book. The legend shall be oriented in the same direction in accordance with the manufacturer's orientation marks found on the retroreflective sheeting. On multiple panel signs, legend shall be placed across joints without affecting the size, shape, spacing, and appearance of the legend. Background and legend shall be wrapped around interior edges of formed panel signs as shown on plans to prevent delamination.

The following notation shall be placed on the lower right side of the back of each regulatory sign where the notation will not be blocked by the signpost or frame:

1. PROPERTY OF CITY OF BERKELEY
2. Name of the sign manufacturer
3. Month and year of fabrication
4. Type of retroreflective sheeting
5. Manufacturer's identification and a lot number of retroreflective sheeting.

The above notation shall be applied directly to the aluminum sign panels in 1/4 inch upper case letters and numerals by die stamp and applied by a similar method to the fiberglass reinforced plastic signs. Painting, screening, or engraving the notation will not be allowed. The notation shall be applied without damaging the finish of the sign.

Signs with a protective overlay film shall be marked with a dot of 3/8 inch in diameter. The dot placed on the white border shall be black, while the dot placed on black border shall be white. The dot shall be placed on the lower border of the sign before application of the protective overlay film

and shall not be placed over the legend and bolt holes. The application method and exact location of the dot shall be determined by the manufacturer of the signs.

For sign panels that have a minor dimension of 48 inches or less, no splice will be allowed in the retroreflective sheet except for the splice produced during the manufacturing of the retroreflective sheeting. For sign panels that have a minor dimension greater than 48 inches, only one horizontal splice will be allowed in the retroreflective sheeting.

Unless specified by the manufacturer of the retroreflective sheeting, splices in retroreflective sheeting shall overlap by a minimum of one inch. Splices shall not be placed within 2 inches from edges of the panels. Except at the horizontal borders, the splices shall overlap in the direction from top to bottom of the sign to prevent moisture penetration. The retroreflective sheeting at the overlap shall not exhibit a color difference under the incident and reflected light.

Regardless of kind, size, type, or whether delivered by the Contractor or by a common carrier, signs shall be protected by thorough wrapping, tarping, or other methods to ensure that signs are not damaged by weather conditions and during transit. Signs shall be dry during transit and shipped on pallets, in crates, or tier racks. Padding and protective materials shall be placed between signs as appropriate. Finished sign panels shall be transported and stored by a method that protects the face of signs from damage. The Contractor shall replace wet, damaged, and defective signs.

Signs shall be stored in a dry environment at all times. Signs shall not rest directly on the ground or become wet during storage. Signs, whether stored indoor or outdoor, shall be free standing. In areas of high heat and humidity, signs shall be stored in enclosed climate controlled trailers or containers. Signs shall be stored indoor if the duration of the storage will exceed 30 days.

Screen processed signs shall be protected, transported and stored as recommended by the manufacturer of the retroreflective sheeting.

The Contractor shall assume the costs and responsibilities resulting from the use of patented materials, equipment, devices, and processes for the Contractor's work.

Salvage Sign Panel

Roadside sign panel and mounting hardware shall be removed from post at the locations shown on the plans and as directed by the Engineer. Sign panel shall be removed from mounting hardware. Sign post shall be protected and remain in place. Hardware shall be disposed of.

Existing sign panels relocated to new post shall be measured as "Remove and Reinstall Existing Signage" (Bid Item No. B-57).

The roadside sign panels not reset on-site shall be salvaged and delivered to the City Maintenance Yard as directed by the Engineer.

Roadside Sign / Roadside Sign on Existing Post

Retro-reflective sheeting shall be applied to sign panels as recommended by the retroreflective sheeting manufacturer without stretching, tearing, and damage.

All new sign panels shall be fabricated from 1/16-inch minimum thickness aluminum, and have High Intensity Prismatic (HIP) sheeting meeting current MUTCD retroreflectivity requirements. New signs shall match existing panel sizes, and shall have the manufacture date stamped on the lower back in a manner that is clearly visible after installation.

Roadside sign on existing pole shall be installed with galvanized fastening hardware to existing pole at the locations shown on the plans and as directed by the engineer. Roadside sign posts shall be Ulti-Mate sign support system, with EZ Installation anchor, as manufactured by Western Highway Products or approved equal. Ulti-Mate posts for roadside signs shall conform to State Standard Plan RS1 and RS4. Posts shall have a bolt installed at the base of the post, as recommended by the manufacturer and as directed by the Engineer.

Posts shall be 12-gage galvanized steel 1.75-inch square tube with perforations, weighing 2.09 pounds per linear foot.

The Contractor shall protect from damage, any utilities and other non-highway facilities that are to remain in place, be installed, relocated, or otherwise rearranged.

MEASUREMENT AND PAYMENT

The contract price per each “Install Roadside Sign and Post” (Bid Item No. B-56) and “Remove and Reinstall Existing Signage” (Bid Item No. B-57) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing new signage, removing and disposing of existing signs, posts, and foundations, salvaging existing sign panels, relocating existing sign panels, and related incidental work, as shown on the plans, as specified in the standard specifications and these special provisions, and as directed by the Engineer.

Full compensation for furnishing and installing protective overlay on signs shall be considered as included in the contract price paid per each sign of the various types and no separate payment will be made therefor.

BID ITEM NO. B-58 – WHITE TRIPLE FOUR CROSSWALK (THERMO)
BID ITEM NO. B-59 – STRIPING DETAIL #25 (THERMO AND MARKERS)
BID ITEM NO. B-60 – STRIPING DETAIL #29 (THERMO AND MARKERS)
BID ITEM NO. B-61 – 4” YELLOW LINE (THERMO)
BID ITEM NO. B-62 – RED CURB PAINT
BID ITEM NO. B-63 – INSTALL BLUE RPM AT FIRE HYDRANT

The description of these Bid Items, including Measurement and Payment provisions, are the same as for Bid Item Nos. A-33, 6" White Line, through A-37, Plastic Lane Separator, with the following additions:

Traffic striping, pavement markings, and paint shall comply with Section 84, "Markings" of the Standard Specifications except as modified in these special provisions.

RPMs shall comply with Section 81-3, "Pavement Markers" of the 2018 Standard Specifications except as modified in these special provisions.

MATERIALS

Curb Paint

White and Yellow paint shall be Waterborne traffic line conforming to State Specification PTWB-01R2.

Blue, Red and Green paint shall be Waterborne traffic line for the international symbol of accessibility and other curb markings conforming to Federal Specification TT-P-1952E.

Curb paint should be Ennis Flint Standard Fast Dry Waterborne Traffic Paint, or an approved equivalent. Color codes for Ennis Flint are as follows:

- Red 985204
- White 985201
- Blue 985205
- Yellow 985202
- Green 985206

CONSTRUCTION

Existing Striping, Marking, and Markers

Contractor shall remove existing traffic stripes, pavement markings, pavement markers and traffic delineators as designated on the plans, the Engineer, and where in conflict with the new stripes, markings and improvements.

Existing thermoplastic pavement markings, striping, markers and delineators shall be removed in accordance with Section 81-8 "Existing Pavement Markers and Delineators" and Section 84-9 "Existing Markings" of the State Standard Specifications and all applicable state laws and regulations.

Paint and thermoplastic is present in the project area and will be removed by the project. Since the date of installation is either unknown, or prior to 1997 (paint) or 2006

(thermoplastic), Contractor shall sample existing painting and thermoplastic and prepare a lead compliance plan.

The project area may contain Aerially Deposited Lead (ADL). ADL sampling followed by a lead compliance plan shall be prepared and implemented.

In areas to be resurfaced, the contractor shall remove all existing thermoplastic and markers by sand blasting, grinding, or other methods as specified in the Standard Specifications or by the Engineer. Contractor shall dispose of pavement with yellow striping as required by all state and local restrictions in its removal and disposal process.

For areas where striping is to be replaced and there is no demolition, white traffic stripes, legends and pavement markings shall be removed by sandblasting or as directed by the Engineer. No painting over existing markings will be allowed. Yellow stripes shall be removed by grinding. The Contractor must comply with all state and local restrictions in its removal and disposal.

Where blast cleaning is used for the removal of painted pavement striping or for removal of objectionable material, and such removal operation is being performed within 10 feet of a lane occupied by public traffic, the residue including dust shall be removed immediately after contact between the sand and the surface being treated. Such removal shall be by a vacuum attachment operating concurrently with the blast cleaning operation.

Striping removal process and removal of pavement markers shall not materially damage the surface or the texture of the pavement outside of the demolition area.

The Contractors shall remove traffic stripes and pavement markings before making any change to the traffic pattern. Contractor shall completely remove traffic stripes and pavement markings, including any paint in the gaps, by methods that do not remove pavement to a depth of more than 1/8 inch.

Remove pavement marking such that the old message cannot be identified. Make any area removed by grinding rectangular. Water must not puddle in the ground areas. Fog seal ground areas on asphalt concrete pavement. Sweep up or vacuum any residue before it can (1) be blown by traffic or wind, (2) migrate across lanes or shoulders, or (3) enter a drainage facility.

Remove pavement markers such that the old marker cannot be identified.

In locations where Traffic stripes, pavement markings and markers are removed, the Contractor shall replace pavement section or apply slurry seal as indicated in the Plans and these Specifications

Nothing in these special provisions shall relieve the Contractor from his/her responsibilities as provided in Section 7-1.04, "Public Safety," of the Standard Specifications.

Raised Pavement Markers (RPMs)

RPMs shall be placed to the line established by the Contractor and approved by the Engineer, which will consist of temporary painted line or new or existing stripes one for each line of markers.

All additional work necessary to establish satisfactory lines for RPMs shall be performed by the Contractor.

RPMs shall be cement to the pavement using a rapid set epoxy adhesive as specified in Section 95-1.02E, "Rapid Set Epoxy Adhesive for Placement Markers", of the Standard Specifications. At the option of the Contractor, a hot melt bituminous adhesive may be used as specified in Section 81-3.02D, "Hot Melt Bituminous Adhesive", of the Standard Specifications

The filler material used in bituminous adhesive shall be Type PC, Grade III, calcium carbonate complying with ASTM D1199, and shall conform to the gradations as specified in Section 81-3.02D.

Bituminous adhesive shall be heated indirectly in an applicator with continuous agitation or recirculation. Bituminous adhesive shall not be heated above the maximum safe heating temperature recommended by the manufacturer and shall not be applied at temperatures greater than 425°F nor less than 375°F.

Immediately after application of the adhesive, RPMs shall be placed in position and pressure applied until firm contact is made with the pavement.

Curb Paint

If painted curb is removed and replaced with new curb, Contractor shall paint new curb in the same color and length as the removed curb. Contractor shall also paint curb as shown to the color and length shown on the plans.

All existing curb paint shall be removed prior to application of new curb paint.

Use abrasive blast cleaning to remove laitance and curing compound from the surface of new concrete that is to receive the curb paint.

Application shall consist of **two separate coats** of traffic paint of the appropriate color applied to the face and top of the curb.

SCHEDULE

Temporary tab markers shall be placed the same day that the existing traffic striping and markings are removed, and the same day that any new pavement surface is placed. Tabs shall be placed for all lane lines, centerlines, crosswalk, and limit lines obliterated as part of the Contractor's work. Tabs shall be the same color as the traffic stripe that they are replacing, and shall measure 2 inches tall by 3-1/2 inches wide, and have a reflective lens across the width of the marker. Temporary yellow marking tape shall be used to denote school crosswalks.

Permanent traffic striping and pavement markings including centerlines, lane lines, legends, crosswalks and limit lines shall be placed no earlier than 14 days and no later than 21 days after paving or surfacing, unless otherwise directed by the Engineer.

When utilizing hot melt bituminous adhesive, RPMs shall be placed after the surface has been open to traffic for at least 7 days. When utilizing epoxy adhesive, RPMs shall be placed after the surface has been open to traffic for at least 14 days. Regardless of which adhesive is utilized, RPMs shall not be placed more than 21 days after paving or surfacing.

Failure to comply with these requirements shall result in a liquidated damage of \$1,900 per day for each street that has not received temporary tab markers and marking tape, or permanent installation of the required traffic striping, pavement markings or RPMs.

Clean-up

Upon completion of installing of traffic striping, pavement markings, raised pavement markers, and curb paint, the Contractor shall thoroughly clean the work site of all waste, rubbish, construction debris, drips, over sprays, improper markings, tracked thermoplastic materials and curb markings, all of which shall be removed immediately from the pavement surface by methods approved by the Engineer.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for "White Triple Four Crosswalk" (Bid Item No. B-58), "Striping Detail #25" (Bid Item No. B-59), "Striping Detail #29" (Bid Item No. B-60), "4" Yellow Line (Thermo)" (Bid Item No. B-61), "Red Curb Paint" (Bid Item No. B-62), shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Striping, Markings and Raised Pavement Markers, complete in place, including proper removal and disposal of traffic striping, markings and markers; temporary striping; cat-tracking; coordination with City's Traffic Engineering Division; and clean-up, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

The contract unit price paid for each "Install Blue RPM at Fire Hydrant" (Bid Item No. B-63), shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Striping, Markings and Raised Pavement

Markers, complete in place, including proper removal and disposal of traffic striping, markings and markers; temporary striping; cat-tracking; coordination with City's Traffic Engineering Division; and clean-up, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for removing existing striping, markings, or markers as specified in the Standard Specifications, these Specifications, and as directed by the Engineer, shall be included in the various bid items of work and no additional compensation shall be allowed therefor.

BID ITEM NO. B-64 – INSTALL ARMADILLOS

GENERAL

The work consists of installing armadillos as shown on the Plans and as specified in these Special Provision, or as directed by the Engineer.

SUBMITTALS

Contractor shall submit product data sheet for product specified on Plans and these Special Provisions. Contractor shall also submit product data sheet of equal product and obtain written approval from City.

MATERIALS

Contractor shall procure Black/White Premium Rubber Speed Bump System (armadillos), 4' in length from TreeTop Products, 222 State St. Batavia, IL 60510, <https://www.speedbumpsandhumps.com/blackwhite-premium-rubber-speed-bump-systems>, or City approved equal.

EXECUTION

Contractor shall install armadillos per manufacturer's recommendations. Contractor shall verify placement with City prior to installation.

MEASUREMENT AND PLACEMENT

The lump sum contract price paid for "Install Armadillos" (Bid Item No. B-64) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing armadillos, complete in place including site restoration; and clean-up, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

BID ITEM NO. B-65 – INSTALL TOPSOIL

GENERAL

The work consists of imported topsoil and fine grading for planting areas and filling any voids left between new concrete and existing unpaved areas adjacent to sidewalks and curbs resulting from excavation, removal, or other construction-related activities, behind improvements.

The work shall also include installing mulch over topsoil where shown on plans, or as directed by the Engineer.

SUBMITTALS

1. The Contractor shall submit to the City Engineer at least fourteen (14) calendar days prior to installation samples of materials for approval. For standard products, also submit the supplier's certified analysis. For other materials, submit an analysis by a recognized laboratory made in accordance with the current methods established by the Association of Official Agricultural Chemists.
2. The Contractor shall submit to the City Engineer written certification stating quantity, type, composition, weight, and origin of all materials delivered to the site for planting soil import work.
3. Verification of Material: The Contractor shall, upon demand, produce records to verify the ordering and delivery of specified quantities and types of material for this job.

MATERIALS

Topsoil must comply with the following requirements: Imported topsoil must consist of fertile, friable soil of loamy character that contains organic matter in amounts natural to the region and is capable of sustaining healthy plant life. Imported topsoil must be free from deleterious substances such as litter, refuse, toxic waste, stones larger than 1 inch in size, coarse sand, heavy or stiff clay, brush, sticks, grasses, roots, noxious weed seed, weeds, and other substances detrimental to plant, animal, and human health. The thickness of topsoil layer must be 3" minimum, as shown on the Plans, or as directed by the Engineer.

Mulch

Mulch shall consist of wood chips or tree bark, or any combination thereof, at the Contractor's option. Wood chips shall be manufactured from clean wood. The particle size of the chips shall be between 1/2 inch and 3 inches in length, and not less than 3/8 inch in width and 1/16 inch in thickness. Wood chips produced from tree trimmings which contain leaves or small twigs will not be accepted. At least 85 percent (85%), by volume, of wood chips shall conform to the sizes specified.

Tree bark shall have a particle size between 1/2 inch and 1-1/2 inches and shall be free of salt and foreign materials such as clods, coarse objects, sticks, rocks, weeds or weed seeds.

EXECUTION

Contractor shall fill the excavated areas with clean fill material conforming to these Special Provisions and graded as shown on the Plans, (1) inch below finished grade of the adjacent curb, sidewalk, or other hardscape, unless otherwise shown on Plans.

Do not work the soil when the moisture content is so great that excessive compaction will occur, or when the soil is so dry that clods will not break readily or dust will form in the air. Apply water as required to prevent the formation of an airborne dust nuisance and to provide ideal soil moisture content for tilling. Topsoil shall be compacted to 85% relative compaction.

MEASUREMENT AND PAYMENT

The lump sum contract price paid for “Install Topsoil” (Bid Item No. B-65) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing, disposing, furnishing and placing top soil and mulch, complete in place including excavation, subgrade preparation, compaction, irrigation repairs; salvaging and resetting pavers within landscape strips; site restoration; and clean-up, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

BID ITEM NO. B-66 – TREE REMOVAL – GREATER THAN 24” DIAMETER

The description of this Bid Item, including Measurement and Payment provisions, are the same as for Bid Item No. A-6, Clearing, Grubbing, Tree Protection, and Root Pruning and Bid Item No. A-8, Tree Removal – 13” to 24” Diameter with the following exceptions:

MEASUREMENT AND PAYMENT

The Each contract price paid for “Tree Removal – Greater than 24” Diameter” (Bid Item No. B-66) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in tree removal complete in place, including but not limited to, root and stump removal, offhaul and disposal including all debris resulting from removal, associated regrading of the subgrade, import material, backfill, grading and compaction, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer. Diameter shall determine which bid item applies to tree removal, and shall be measured to the nearest whole inch at a point on the tree approximately 4.5 ft above existing grade.

APPENDIX A

COMMUNITY WORKFORCE AGREEMENT

RESOLUTION NO. 70,926-N.S.

CONTRACT AMENDMENT: COMMUNITY WORKFORCE AGREEMENT EXTENSION WITH BUILDING AND CONSTRUCTION TRADES COUNCIL ET AL. FOR CONSTRUCTION PROJECT AT OR ABOVE \$500,000

WHEREAS, since its January 18, 2011 adoption, the Community Workforce Agreement (hereafter CWA) has incorporated community interests by providing Berkeley residents access to quality union jobs with better standards for pay and benefits; and

WHEREAS, by Resolution No. 65,157-N.S. on January 18, 2011, Council approved the CWA for a term of three years and authorized the City Manager to execute the Agreement with the Alameda County Building and Construction Trades Council, AFL-CIO and twenty-two labor organizations regarding the provision of union labor to City construction projects in excess of \$1 million dollars; and

WHEREAS, on May 15, 2012, City Council maintained the CWA's \$1 million dollar threshold for publicly-funded construction projects for an additional twelve months; and

WHEREAS, on June 23, 2015, Council approved Resolution No. 67,111-N.S. reducing the threshold from \$1 million to \$500,000, with that threshold continuing to be based on the engineer's estimate and authorizing the City Manager to extend the then-current CWA for three years; and

WHEREAS, on January 23, 2018, and December 15, 2020, City Council again authorized the City Manager to extend the CWA, the latter extension until June 30, 2023; and

WHEREAS, the CWA will support the efforts of the City to increase employment opportunities for Berkeley residents, including youth, through apprenticeship and pre-apprenticeship programs; and

WHEREAS, the CWA helps to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thus promoting the public interest in assuring the timely and economical completion of the projects.


NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract amendment with the Building Trades Council and twenty-two labor organizations regarding the provision of labor to construction projects in Berkeley with an estimated value in excess of \$500,000 for a three-year term that will expire June 30, 2026.

The foregoing Resolution was adopted by the Berkeley City Council on June 27, 2023 by the following vote:

Ayes: Bartlett, Hahn, Harrison, Humbert, Kesarwani, Robinson, Taplin, Wengraf, and Arreguin.

Noes: None.

Absent: None.



Jesse Arreguin, Mayor

Attest: 

Mark Numainville, City Clerk

CITY OF BERKELEY
COMMUNITY WORKFORCE AGREEMENT

Table of Contents

Preamble

Purpose

Recitals

Article 1 Definitions

Article 2 Scope of Agreement

Article 3 Effect of Agreement/Subcontractors

Article 4 Work Stoppages, Sympathy Strikes and Lockouts

Article 5 Pre-Job Conference

Article 6 No Discrimination

Article 7 Union Security

Article 8 Referral and Local Hiring Program

Article 9 Helmets to Hardhats

Article 10 Grievance Procedure

Article 11 Joint Administrative Committee

Article 12 Grievance Arbitration Procedure

Article 13 Jurisdictional Disputes

Article 14 Apprentices

Article 15 Management Rights

Article 16 Wage/ Benefits

Article 17 Modified Master Labor Agreements

Article 18 Drug and Alcohol Testing

Article 19 Savings Clause

Article 20 Entire Agreement

Article 21 Term

Signatures

Agreement to be Bound

COMMUNITY WORKFORCE AGREEMENT
For the
City of Berkeley

This Agreement is made and entered into retroactively from July 1, 2020, by and between the City of Berkeley (“City”) together with other contractors and/or sub-contractors, who shall become parties to this Agreement by signing the “Agreement to be Bound” (Attachment A), and the Local Unions signatory hereto and the Alameda County Building & Construction Trades Council (“Council”) and its affiliated local unions who have executed this Agreement.

PURPOSE

The purpose of this Agreement is to support the efforts of the City to increase employment opportunities for workers who reside in Berkeley, to help increase training and employment opportunities for Berkeley residents in the construction trades through apprenticeship and pre-apprentice programs as the students graduate from the City's schools, to promote efficiency of construction operations performed for and within the City of Berkeley and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the projects.

RECITALS

WHEREAS, the successful completion of the City's construction projects is of the utmost importance to the City of Berkeley; and

WHEREAS, the interests of the general public, the City, the Unions and Contractor(s) would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and calendar conditions for the workers employed on construction work for and within the City of Berkeley by the Contractor(s), and further, to encourage close cooperation among the Contractor(s) and the Union(s) to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, contracts for construction work within the City of Berkeley will be awarded in accordance with the applicable provisions of the Charter of the City of Berkeley, the California State Public Contract Code and the Labor Code, including but not limited to requiring competitive bidding and prevailing wages; and

WHEREAS, the City of Berkeley has the absolute right to select the lowest responsive and responsible bidder for the award of the construction contracts on the Projects; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards a mutually satisfactory completion of the Projects;

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE 1 **DEFINITIONS**

1.1 "Agreement" means this Community Workforce Agreement.

1.2 "Berkeley Resident" means any individual who is a current resident of Berkeley can certify through a utility bill, or other similar means acceptable to the parties to this Agreement that the individual resides within the boundaries of the Berkeley City Limits.

1.4 "City" means the City of Berkeley.

1.5 "Completion" means that point at which the City accepts a project at issue by filing a Notice of Completion, or as otherwise provided by applicable state law. "Punch list" items and any other work within the scope of this Agreement not completed prior to commencement of revenue service shall nonetheless be included within the scope of this Agreement. It is understood by the parties that portions of the Projects may be completed in phases and Completion of any such phase may occur prior to Completion of the Projects.

1.6 "Contractor(s)" and/or "Subcontractor(s)" means any individual, firm, partnership or corporation, or combination thereof, including joint ventures, which is an independent business enterprise and has entered into a contract with the City or any of its contractors or subcontractors of any tier, with respect to the construction work necessary for any part of the Projects. This shall include subcontractors not required to be listed in the bid documents. As applicable depending on its context, "Contractor" shall refer to Contractor or Contractor and Subcontractor.

1.7 "Construction Contract(s)" means all of the contract(s) for construction of any of the Projects.

1.8 "Council" means the Alameda County Building and Construction Trades Council, AFL-CIO.

1.9 "New Apprentice" is a Berkeley Resident who is enrolled in a State of California approved apprenticeship program that is a joint labor management apprentice program for no more than twenty-four months

1.11 “Projects” mean any construction project of the City whose value as estimated by the City meets or exceeds \$500,000 (Five hundred thousand) dollars.

1.12 “Union” or “Unions” means the Council and any other labor organization signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

1.13 “Project Manager” means the person or persons or business entity designated by the City to oversee all phases of construction on the Projects.

1.14 “Master Labor Agreement” or “MLA” shall mean the collective bargaining agreement of each craft Union that is Signatory to this Agreement

1.15 “Calendar Day” shall mean any day, relating to any day of the week including Saturday, Sunday and public holidays.

1.16 “ Apprenticeship Program” -Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor(s)/Employer(s) shall employ apprentices of a California State-approved Joint Apprenticeship Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

The apprentice ratios will be in compliance with the applicable provisions of the applicable “Master Labor Agreement”.

ARTICLE 2

SCOPE OF AGREEMENT

21 Parties: This Agreement shall apply and is limited to all Contractors and subcontractors performing Construction Contracts necessary for the Projects, the City, the Council and any other labor organization signatory to this Agreement, acting in their own behalf and behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

22 Project Description: This Agreement shall govern the award of all of the Construction Contracts identified by the City as part of the Projects. The City has the absolute right to combine, change, consolidate, suspend or cancel Construction Contract(s) or portions of Construction Contract(s) identified as part of the Projects. Should the City suspend or remove any contract from the Projects and thereafter authorize that construction work be commenced on such contract, then such contract shall be performed under the terms of this Agreement. Once a Construction Contract is completed it is no longer covered by this Agreement except when a Contractor is directed to engage in repairs, warranty work or modifications required by its

Construction Contract with the City. For the purposes of this Agreement, a Construction Contract shall be considered Completed as set forth in Section 1.5 of this Agreement.

23 Covered work:

2.3.1 This Agreement covers, without limitation, all on-site construction, demolition, alteration, painting or repair of buildings, structures, landscaping, temporary fencing and other works and related activities for the Projects that is within the craft jurisdiction of one of the Unions and that is part of the Projects, including, without limitation, pipelines, site preparation, survey work, demolition of existing structures and all construction, demolition or improvements required to be performed as a condition of approval by any public agency. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.3.2 The Projects include work necessary for the Projects and/or in temporary yards or areas adjacent to and dedicated to the Projects, and at any on-site batch plant(s) constructed solely to supply materials to the Projects, when those sites are dedicated exclusively to the Projects. This Agreement covers all on-site fabrication work over which the City, Contractor(s) or subcontractor(s) possess the right of control (including work done for the Projects in any temporary yard or area established for the Projects.)

2.3.3 The furnishing of supplies, equipment or materials which are stockpiled for later use shall in no case be considered subcontracting. Construction trucking work, such as the delivery of ready-mix, asphalt, aggregate, sand or other fill material which are directly incorporated into the construction process as well as the off-hauling of debris and excess fill material and/or mud, shall be covered by the terms and conditions of this Agreement, to the fullest extent provided by law and by prevailing wage determinations of the California Department of Industrial Relations. Employers, including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) calendar days of written request or as required by bid specifications.

24 Exclusions: The following shall be excluded from the scope of this Agreement:

2.4.1 This Agreement is not intended to, and shall not affect or govern the award of public works contracts by the City which are outside the identified scope of work of the Projects.

2.4.2 This Agreement is not intended to, and shall not affect the current or anticipated operation, maintenance, access or use of any of the City's buildings or facilities, whether or not such facilities are identified in Section 1.7 above.

2.4.3 This Agreement shall not apply to a Contractor or subcontractor's executives, managerial employees, engineering employees, design employees, supervisors (except

those covered by existing building and construction trades collective bargaining agreements), office and clerical employees.

2.4.4 This Agreement shall not apply to any work performed on or near or leading to the site of work covered by this Agreement that is undertaken by state, county or other governmental bodies or their contractors; or by public or private utilities or their contractors; or by the City or its contractors for work not part of the scope of the Projects. Parties performing work shall notify in writing, The Council and The District of any work being performed near or leading to the site work that is not covered by this agreement. Further, this Agreement shall not be construed to prohibit or restrict the City or its employees from performing work on or around the Project construction sites or from entering the sites for any purposes deemed necessary or appropriate by the City.

2.4.5 This Agreement shall not apply to the off-site maintenance of leased equipment or the on-site supervision of such work.

2.4.6 This Agreement shall not apply to any start-up, calibration, performance testing, repair, maintenance, operational revisions to systems and/or subsystems performed after Completion.

2.5 Termination, Suspension and/or Delay of Work: It is understood and agreed that the City, at its sole option, may change, terminate, delay and/or suspend any and all portions of the covered work at any time. Further, the City may prohibit some or all work on certain days or during certain hours of the day to comply with applicable codes, laws or regulations, permits or to accommodate the ongoing operations of the City's facilities and/or to mitigate the effect of the ongoing Projects' work on the businesses and residents in the neighborhood of the Project sites; and/or require such other operational or schedule changes that it may be deemed necessary, in its sole judgment, to effectively maintain the primary purpose of the City's facilities and to remain a good neighbor to the residents and businesses in the area of any Projects. In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the affected Contractor and Union(s) with reasonable notice of any changes it requires pursuant to this Section.

2.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles 4, 8, 12 and 13 of this Agreement shall apply to such work.

ARTICLE 3

EFFECT OF AGREEMENT/SUBCONTRACTORS

3.1 By executing this Agreement, the Unions and the City agree to be bound by each and every provision of this Agreement.

3.2 By accepting the award of a Construction Contract for the Projects, whether as contractor or subcontractor at any tier, the Contractor/Subcontractor agrees to be bound by each and every provision of this Agreement.

3.3 This Agreement shall only be binding on the signatory parties hereto and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any other party.

3.4 It is understood that this Agreement, together with the referenced MLA , constitute an integrated, self-contained, stand-alone agreement, and that by virtue of having become bound to this Agreement, the Contractor will not be obligated to sign any other local, area, or national agreement as a condition of performing work within the scope of this Agreement. In addition, it is understood and agreed that all grievances and disputes involving the interpretation or application of this Agreement, including the MLA, shall be resolved according to the procedures set forth in Article 12 of this Agreement; provided, however, that should a dispute involve a single MLA and a Contractor signatory thereto, and not involve interpretation or application of this Agreement, then such dispute shall be processed and resolved pursuant to the grievance provisions of that MLA. Should there be a dispute in the first instance as to whether the provisions of Article 12 of this Agreement or the grievance procedures of a MLA apply, the dispute shall be presented initially to arbitrator Judge William Cahill or, if unavailable, arbitrator Earnest Brown, for resolution as to the applicable procedure. Such referral of a dispute as to the applicable procedures shall be done by an immediate conference call among the parties and the arbitrator, and heard and decided within three (3) calendar days. Should the arbitrator hold that Article 12 applies, the parties may, by mutual agreement, submit the issue to the same arbitrator pursuant to the provisions of Article 12, or, absent mutual agreement, commence processing the dispute at Step 1 of that Article.

3.5 Subcontractors. At the time that any Contractor enters into a subcontract with any subcontractor of any tier for the performance of construction or construction trucking work within the scope of this Agreement, the Contractor shall provide a copy of this Agreement, as it may from time to time be modified by the negotiating parties, to said subcontractor and shall require the subcontractor as a part of accepting an award of a construction subcontract to agree to be bound by each and every provision of the Agreement prior to the commencement of work.

3.5.1 Each Contractor and Subcontractor shall evidence their agreement to be bound to this Agreement by executing the Agreement To Be Bound form attached hereto as Appendix A. A copy of the Agreement To Be Bound executed by the Contractors and Subcontractors shall be submitted to the Union(s) prior to both the commencement of work and the Pre-Job Conference and will be a required submittal within the City's bid packages. If the Contractor or Subcontractor refuses to execute the Agreement To Be

Bound, then such Contractor or Subcontractor shall not be awarded a Construction Contract to perform work on the Projects. A Contractor or Subcontractor who executes the Agreement to Be Bound shall be considered a signatory party to this Agreement.

36 It is understood that the liability of each Contractor and Subcontractor and the liability of each Union under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the City and/or any Contractor or Subcontractor.

37 With regard to any Contractor or subcontractor that is independently signed to any MLA, this Agreement shall in no way supersede or prevent the enforcement of any subcontracting clause contained in such MLA, except as specifically set forth in section 3.7.1 of this Agreement. Any such subcontracting clause in a MLA shall remain and be fully enforceable between each craft union and its signatory employers and no provision of this Agreement shall be interpreted and/or applied in any manner that would give this Agreement precedence over subcontracting obligations and restrictions that exist between craft Unions and their respective signatory employers under a MLA, except as specifically set forth in section 3.7.1 in this Agreement. To the extent that the provisions of this Agreement are inconsistent with any other provisions contained in a MLA, the provisions of this Agreement shall prevail

3.7.1 If a craft Union (“Aggrieved Union”) believes that an assignment of work on this Project has been made improperly by a Contractor or subcontractor, even if that assignment was as a result of another craft Union’s successful enforcement of the subcontracting clause in its MLA, as permitted by section 3.7 of this Agreement, the Aggrieved Union may submit a claim under the jurisdictional dispute resolution procedure contained in Article 13 of this Agreement and the decision rendered as part of that process shall be enforceable to require the Contractor or subcontractor that made the work assignment to assign that work prospectively to the Aggrieved Union. An award made to a craft Union under the subcontracting clause of its MLA, as permitted under section 3.7 of this Agreement, shall be valid and fully enforceable by that craft Union unless it conflicts with a jurisdictional award made pursuant to Article 12 of this Agreement. If the award made under MLA conflicts with the jurisdictional award, the award of any damages under the former shall be null and void *ab initio*.

ARTICLE 4
WORK STOPPAGES, STRIKES, SYMPATHY STRIKES, JURISDICTIONAL
DISPUTES AND LOCKOUTS

4.1 The Unions, City and Contractor agree that for the duration of the Projects:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, hand-billing or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or construction persons employed on the Projects, at a job site of the Projects or at any other facility of the City because of a dispute on the Projects. Nor shall the Unions or construction persons employed on the Projects participate in any strikes, sympathy strikes, work stoppages, picketing, hand billing,

slowdowns, or otherwise advising the public that a labor dispute exists at a Project jobsite because of a dispute between Unions and Contractor(s) on any other project.

4.1.2 As to construction persons employed on the Projects, there shall be no lockout of any kind by a Contractor covered by this Agreement. It shall not be a violation of this Article if a Contractor or Subcontractor (1) suspends or terminates a portion of the Project work or (2) discharges an employee for just cause.

4.1.3 If a MLA between a Contractor and the Union expires before the Contractor completes the performance of a Construction Contract and the Union or Contractor gives notice of demand for a new or modified MLA, the Union agrees that it will not strike, picket, hand-bill, slowdown or engage in any other disruptive activity against the Contractor and the Contractor will not lockout construction persons of the Union on said Construction Contract for work covered under this Agreement and the Union and the Contractor agree that the expired MLA shall continue in full force and effect for work covered under this Agreement until a new or modified MLA is reached between the Union and Contractor. If the new or modified MLA reached between the Union and Contractor provides that any terms of the new MLA shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified MLA which are applicable to construction persons employed on the Projects within seven (7) calendar days.

4.2 A party to this Agreement shall institute the following procedure, prior to invoking any other action at law or equity when a breach of this Article 4 is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify, by the most expeditious means available, with notice by facsimile, electronic mail or telephone to the City, to the party alleged to be in violation, to the Council and to the involved local Union if a Union is alleged to be in violation.

4.2.2 Upon receipt of said notice, the City will contact the designated permanent arbitrator, Judge William Cahill, or if unavailable, his alternate Ernest Brown, who shall attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The Arbitrator shall notify the parties by facsimile, electronic mail or telephone of the place and time for the hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article 4, Section 4.1 of this Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation or mitigation of such violation or to

award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article 4 and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 4.2.4 of this Article 4, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings provided in this Article and the party alleged to be in breach of its obligations under this article.

4.3 Liquidated Damages. If the arbitrator determines that a violation of Section 4.1 has occurred, the breaching party shall, within eight (8) hours of the issuance of the decision take all steps necessary to immediately cease such activities and return to work. If the breaching party involved does not cease such activities by the beginning of the next regularly scheduled shift following the expiration of the eight (8) hour period after the arbitrator's issuance of the decision, then the breaching party shall pay the sum of ten thousand dollars (\$10,000) as liquidated damages to the City per shift until the breach is remedied. The arbitrator shall retain jurisdiction for the sole purpose of determining compliance with this obligation and determining the amount of liquidated damages, if any; but such retention shall not prevent the moving party from seeking judicial enforcement of the initial decision.

ARTICLE 5

PRE-JOB CONFERENCE

5.1 A mandatory pre-job conference shall be held prior to the commencement of each Construction Contract. Such conference shall be attended by a representative each from the participating Contractor(s) and Union(s) and the Project Manager. All efforts will be made to hold the pre-job conference in sufficient time to ensure all parties the ability to properly raise and resolve any issue that may arise out of such meeting, with a

goal that such conferences will be held at least 21 work days before the work commences.

ARTICLE 6
NO DISCRIMINATION

6.1 The Contractors and Unions agree not to engage in any form of discrimination on the ground of or because of race, color, creed, national origin, ancestry, age, religious or political affiliation, gender, sexual orientation or disability against any person, or applicant for employment on the Projects.

ARTICLE 7
UNION SECURITY

7.1 The Contractors recognize the Union(s) as the sole bargaining representative of all construction persons working within the scope of this Agreement.

7.2 All construction persons who are employed by the Contractor(s) shall, as a condition of employment, on or before the eighth (8th) day of consecutive or cumulative employment on the Projects, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the applicable local union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union construction persons from joining the local union.

ARTICLE 8
REFERRAL AND LOCAL HIRE PROGRAM

8.1 Referral

8.1.1 Contractor (s) performing construction work on the Projects described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory hereto ("Job Referral System"). Such Job Referral System will be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and nondiscrimination.

8.1.2 The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.1.3 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions(s).

8.1.4 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a seventy-two (72) hour period after

such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain employees from any source. Contractor(s) shall promptly notify the Union(s) of any applicants hired from other sources. This provision does NOT affect core employees as defined below.

8.15 Unions shall exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s).

8.16 Core Employees

All parties agree to make a good faith effort to refer on a priority basis, consistent with the non-discriminatory referral procedures of the hall, qualified and available, and bona-fide Berkeley Residents for Project work.

8.17 The parties also recognize and support the City's commitment to provide opportunities for participation on the Projects to Berkeley Residents who are regular, experienced employees ("Core" employees) of contractors and subcontractors awarded work on the Projects and who do not traditionally work under a local collective bargaining agreement(s). In furtherance of this commitment, the parties agree that such contractors and subcontractors awarded work on the Projects may request by name, and the local will honor, referral of persons who have applied to the local union for Project work and who demonstrate the following qualifications:

- (1) Possess any license required by state or federal law for the Project work to be performed;
- (2) Have worked a total of at least one thousand (1,000) hours in the construction craft during the prior three (3) years;
- (3) Were on the Contractor's active payroll for at least sixty (60) out of the one hundred and eighty (180) calendar days prior to the contract award;
- (4) Have the ability to perform safely the basic functions of the applicable trade, and
- (5) Are Berkeley residents.

The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired five (5) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work the ratio shall be maintained and when the Contractor's workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

8.1.8 The Contractor shall notify the appropriate Union of the name and social security number of each direct hire and each direct hire shall register with the Union's hiring hall before commencing Project work. If there is any question regarding an employee's eligibility under this Subsection 8.2.1, the City Representative, at a Union's request, shall obtain satisfactory proof of such from the Contractor.

8.2 Local Hire

8.2.1 To the extent allowed by law and consistent with the non-discriminatory referral procedures of the Union hiring halls, the Parties agree to a goal that Berkeley Residents will perform a minimum of 20% of the hours worked, on a craft by craft basis for the Projects. The Contractor(s) shall make good faith efforts to reach this goal through the utilization of the Unions' hiring hall procedures. The Unions shall exercise their best efforts in their recruiting and training of Berkeley Resident workers and in their hiring hall procedures to facilitate this 20% goal on the Projects. In the event that referral facilities maintained by the Union(s) are unable to fulfill the 20% local hire requirement, paragraph 8.2.2 of this Article shall not apply. Contractors shall document all efforts to hire locally and provide such documents to the City of Berkeley. The Council will provide an annual census of Berkeley residents, in each of the crafts party to this agreement, to the City of Berkeley. This report will be provided by August 1 of each year of this agreement.

8.2.2 Should any of the contractors performing work on the Projects fail to meet this 20% goal and fail to demonstrate efforts to do so, through a specific submittal process to be included in their contractual requirements and enforced by the grievance procedure. The contract's 10% retention will be held until such time that this failure is remedied, but not longer than sixty (60) calendar days after the date of substantial completion of the Projects or as required by law, in addition to the breach of contract remedies available to the parties for non-performance under this Agreement.

8.2.3 Apprenticeship & Workforce Development

A) Consistent with the requirements of California Labor Code §§ 1776, 1777.5 and 1777.6, Contractor(s) will be required to hire 1 New Apprentice Berkeley resident as for every \$500,000 dollars or more of total construction bid amount. The New Apprentice(s) must work a minimum of 10% of the projects work hours. The contractor may deploy the apprentice to work on another concurrent project in order to meet the minimum hours, and those hours will be counted towards the total hours of the craft on the Berkeley project. Certified Payroll must reflect the hours worked.

Contractor must fully document efforts to hire a New Apprentice, through the following steps: 1) requesting New Apprentices through the Union dispatch procedure, 2) contacting a minimum of three MC3-approved pre-apprenticeship training programs for referral of Berkeley residents. Unions shall provide written documentation to the contractor in response to dispatch requests to fulfill the New Apprentice requirement, the next tier of residents will come from the Green Corridor.

B) There can be no more than 1 entry-level New Apprentices for each craft, provided said crafts have apprenticeship openings and the general contractor will be able to include New Apprentices hired by their subcontractor to meet this requirement. Unions will agree to cooperate with Contractor(s) in furnishing apprentices as requested and the hiring of the apprentices will be in accordance to the Apprenticeship provisions listed in the Master Agreements and or the union agreements with the division of apprenticeship standards, and the apprentices shall be properly supervised and paid in accordance with provisions contained within the MLA'S. The Unions and Contractors will agree to cooperate with local pre-apprenticeship programs to ensure Berkeley residents have the opportunity to apply for and enter the into the apprenticeship programs.

C) The intent of this provision is to utilize Berkeley Resident New Apprentices to the fullest extent permissible by state law and the MLA. Failure of Contractor(s) and their subcontractors to maintain qualified apprentices on the job will be subject to further penalties as determined by the Grievance Committee as identified in Article 12.

8.11 Enforcement, Compliance & Reporting.

Contractors will be required to submit Certified Weekly Payrolls to the City along with monthly workforce utilization reports documenting the Contractor's compliance with the requirements described in this article. At a minimum the monthly reports must include 1) data on Berkeley Resident's work hour utilization on a craft by craft basis, 2) number of New Apprentices hired and the hours they have worked, 3) documentation showing any requests made to the union dispatchers for Berkeley Residents and the Union's response to the request. Enforcement of this article shall be according to the Grievance and Arbitration procedure outlined in Article 12.

ARTICLE 9 **HELMETS TO HARDHATS**

9.1 The parties recognize a desire to facilitate the entry into the Building and Construction Trade Union(s) of Veterans who are interested in careers in the building and construction industry. The parties agree to utilize the services of the Center for Military Recruitment, Assessment and Veteran's Employment ("Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

9.2 The Union(s) and Contractor(s) agree to coordinate with the Center to participate in an integrated database of Veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Union(s) will give credit to such Veterans for bona fide, provable past experience.

ARTICLE 10
GRIEVANCE PROCEDURE

10.1 Any Contractor which is not otherwise bound through an agreement with a Union to a grievance procedure which confers jurisdiction to consider and resolve disputes over the imposition of discipline or dismissal of its construction persons working on this Project shall be bound to the arbitration procedure contained in the MLA of the craft representing the employee(s) involved in the dispute. For the purposes of this Article, such grievance procedure shall be limited to disputes regarding the imposition of discipline or dismissal arising from work covered by the Agreement. Such Contractor shall not impose discipline or dismissal on its construction persons covered by this Agreement without just cause.

ARTICLE 11
JOINT ADMINISTRATIVE COMMITTEE

11.1 The parties to this Agreement shall establish a five (5) person Joint Administrative Committee comprised of at least one and up to two (2) representatives representing the City; two (2) representatives of the signatory Unions and The Council; and one industry representative, mutually selected by the City and The Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

11.2 The Joint Administrative Committee shall meet at the request of either party, but not less than once each quarter, to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, Workforce development and Industry trends. Requests for certified payroll made by a Joint Labor/Management Committee to which the Union(s) signatory to this Agreement are a party shall be provided as allowed by law.

ARTICLE 12
GRIEVANCE ARBITRATION PROCEDURE

12.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set out herein. No grievance shall be recognized unless the grieving party provides notice in writing to the signatory party with whom it has a dispute within seven (7) calendar days after becoming aware of the dispute, but in no event more than thirty (30) calendar days after it reasonably should have become aware of the event giving to the dispute. The time limits in this Article 12 may be extended by mutual written agreement of the parties.

12.2 Grievances shall be settled according to the following procedures:

Step 1: Within seven (7) calendar days after the receipt of the written notice of grievance, the Business Representative of the involved Local Union, the City's authorized representative, representative of the construction person, and the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within seven (7) calendar days after its referral to Step 1, either involved party may submit it within three (3) calendar days to Grievance Committee. The Grievance Committee shall consist of one (1) person selected by the City and one (1) person selected by the Council, which shall meet within seven (7) calendar days after such referral (or such longer time as mutually agreed upon by all representatives of the subcommittee), to confer in an attempt to resolve the grievance. The decision of the Grievance Committee shall be legal, final and binding. If the dispute is not resolved within such time seven (7) calendar days after its referral or such longer time as mutually agreed upon) it may be referred within seven (7) calendar days by either party to Step 3.

Step 3: Within seven (7) seven calendar days after referral of a dispute to Step 3, the representatives shall submit the matter to the designated permanent Arbitrator, Judge William Cahill.

12.3 In the event that Judge Cahill is unavailable, the arbitrator shall be Earnest Brown.

12.4 The Arbitrator shall arrange for a hearing no later than fourteen days (14) calendar days after the matter has been submitted to arbitration. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the Arbitrator. The time limits specified in any step of the Grievance Procedure set forth in Section 12.1 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without the request for an extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

12.5 The decision of the Arbitrator shall be binding by all parties. The Arbitrator shall not have authority to change, amend, add, or detract from any of the provisions of the Agreement. The expense of the Arbitrator shall be borne equally by both parties.

12.6 In order to encourage the resolution of disputes and grievances at Step 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE 13 **JURISDICTIONAL DISPUTES**

131 The assignment of Covered Work will be solely the responsibility of the Contractor/Employer(s) performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

132 All jurisdictional disputes on this Project between or among the Union(s) and the Contractor/Employer(s), parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department, or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractor/Employer(s) and Union(s) parties to this Agreement.

13.2.1 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch and Thomas Pagan and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California, within fourteen (14) calendar days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

133 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor/Employer(s)' assignment shall be adhered to until the dispute is resolved. Individuals violating this Section shall be subject to immediate discharge.

134 Each Contractor/Employer(s) shall conduct a Pre-Job Conference with the Council prior to commencing Covered Work. The Primary Employer, Coordinator and the District will be advised in advance of all such conferences and may participate if they wish. Pre-job conferences for different Contractor(s) may be held together.

ARTICLE 14 **APPRENTICES**

14.1 Recognizing the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry, the Contractor (s) shall employ apprentices in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

14.2 The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination.

14.3 There shall be no restrictions on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

14.4 All Apprentices will come from a State approved Labor Management Apprenticeship program.

ARTICLE 15 **MANAGEMENT RIGHTS**

15.1 The Contractor shall retain full and exclusive authority for the management of their operations, including the right to direct their work force in their sole discretion with regard to the following: the hiring, promotion, transfer, layoff, corrective action or discharge for just cause of its employees (in accordance with Article 9); the determination of the number of employees needed for the Project work; the selection/hiring of foremen and supervisors; the assignment and schedule of work; the requirement of overtime work, the determination of when it will be worked, and the number of employees engaged in such work, except as otherwise limited by the terms of this Agreement and/or the MLA. No rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of construction persons except that the lawful manning provisions of the MLA shall be recognized.

ARTICLE 16 **WAGES/BENEFITS**

16.1 **Wages.** All construction persons covered by this Agreement shall be classified in accordance with work performed and paid the hourly wage rates for those classifications in the applicable MLA for such craft work and in compliance with the applicable prevailing wage rate determination.

16.2 **Benefits.** Contractor agrees to pay contributions into established construction person benefit funds in the amounts designated in the appropriate MLA; provided, however, that each Contractor and Union agree that only such bona fide construction person benefits as included in the prevailing wage determination shall be included in this requirement and required to be paid by the Contractor under this Agreement; provided further, however, that this provision does not relieve Contractors signatory to a local collective bargaining agreement with a signatory Union which would be applicable to the Projects from making

any other fund contributions (including, but not limited to, those for contract administration), required by such local agreement. Contractor shall not be required to pay contributions to any other trust funds to satisfy their obligation under this Article. By signing this Agreement, the Contractors adopt and agree to be bound by the written terms of the legally established Trust Agreements, specifying the detailed basis on which the payments are to be made into, and the benefits paid out of, such Trust Funds.

16.3 Compliance. It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of the agreement contained in Article 15. Nothing in this agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project.

ARTICLE 17

MODIFIED MASTER LABOR AGREEMENTS

17.1 Certain Provisions Shall Not Apply. Provisions negotiated into the new or modified MLA which are less favorable to the Contractor than those uniformly required of employers for construction work normally covered by those agreements or which may be construed to apply exclusively or predominately to work covered by this Agreement shall not apply to work covered by this Agreement. Any disagreement between the parties regarding the application of the provisions of any new or modified collective bargaining agreement to work covered by this Agreement shall be resolved under the dispute and grievance arbitration procedures set forth in Article 12 hereof.

ARTICLE 18

DRUG and ALCOHOL TESTING

18.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

18.2 Employer shall be allowed to utilize employment drug screens. All personnel are subject to random alcohol and drug/alcohol testing at any time, except, the following changes will apply. Employer shall follow said Unions Master Labor Agreement drug polices, regulations and limits. Body fluid tests will utilize urine and saliva specimens. Employer may also selectively require an employee to undergo alcohol or drug/alcohol testing if Employer has reasonable cause to believe that an employee's ability to work safely may be impaired. All requirements and activities of the Employer with regard to drug/alcohol testing shall comply with the provisions of State law.

ARTICLE 19
SAVINGS CLAUSE

19.1 The parties agree that in the event any article, provision, clause, sentence or word of this Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by the court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

19.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of this Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

ARTICLE 20
ENTIRE AGREEMENT

20.1 This Agreement represents the complete understanding of the parties. The provisions of this Agreement, including the MLA, shall apply to the work covered by this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a MLA, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a MLA and is not covered by this Agreement, the provisions of the MLA shall prevail. Nothing contained in a MLA, working rule, by-laws, constitution or other similar document of the Unions shall in any way affect, modify or add to this Agreement unless otherwise specifically set forth in this Agreement or mutually agreed to in writing executed by the parties.

20.2 The parties agree that this Agreement covers all matters affecting wages, hours, and other terms and conditions of employment and that during the term of this Agreement the parties will not be required to negotiate on any further matters affecting these or any other subject not specifically set forth in this Agreement except by mutual agreement of the parties.

20.3 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages and when bound together all necessary signatures shall constitute an original. Facsimile signature pages transmitted to other parties to this Agreement shall be deemed the equivalent to original signatures.

ARTICLE 21
TERM

21.1 The Agreement shall be included as a condition of the award of the Construction Contracts.

21.2 The Agreement shall continue in full force and effect for a term of three years from the Effective Date of June 30, 2020 through June 30, 2023 and shall be applicable to all Projects until completion that are advertised for bidding during the term.

21.3 This Agreement shall continue in full force and effect until Completion of the Project. The parties may mutually agree to extend and/or amend this Agreement.

SIGNATURES

City of Berkeley

By: Dee Williams-Ridley

Dee Williams-Ridley, City of Berkeley City Manager

Date: 2/10/21

Alameda County Building & Construction Trades Council, AFL-CIO

DocuSigned by:
Andreas Cluver
By: 5C9F6AE6571848E

Andreas Cluver, Secretary-Treasurer for the Building Trades Council of Alameda County on behalf of the Signatory Unions

Date: 1/26/2021

Signatory Unions

Asbestos Workers, Local 16 Boilermakers, Local 549

Bricklayers & Allied Craftsmen

Local 3 Cement Masons, Local 300

Electrical Workers, Local 595

Elevator Constructors, Local 8

Hod Carriers, Local 166

Iron Workers, Local 378

Laborers, Local 67

Laborers, Local 304

Operating Engineers,

Local 3 Plasterers, Local 66

Roofers, Local 81

Sheet Metal Workers, Local 104

Sign Display, Local 510

Sprinkler Fitters, Local 483

Teamsters, Local 853

**United Association of Journeymen and Apprentices Fitting Industry,
Underground Utility & Landscape, Local 355**

**United Association of Steamfitters, Ironworkers City and the RDA Council
of Pipefitters, Plumbers, & Gas California Fitters, Local 342**

Council No. 16 Northern California

International Union of Laborers

Painters & Allied Trades (On behalf
of Painters, Local 3; Carpet & Linoleum
Layers, Local 12; Glass Workers, Local
169; Auto& Marine Painters, Local 1176)

Northern California Carpenters

Regional Council (on behalf of Carpenters,
Local 713; Carpenters, Local 2236; Lathers,
Local 68L; Millwrights, Local 102; Pile
Drivers, Local 34)

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor ("Contractor") on a City Project ("Project"), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the Project's Community Workforce Agreement ("Agreement"), a copy of which was received and is acknowledged, hereby:

1. Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made to said Agreement.
2. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement;
3. Agrees to secure from any Contractor (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, and from any successors, a duly executed Agreement to be bound in form identical to this document.
4. Contractor agrees that it shall be bound by all applicable trust agreements and plans for the provision of such fringe benefits as accrue to the direct benefit of the construction persons, including Health and Welfare, Pension, Training, Vacation, and/or other direct benefits provided pursuant to the appropriate craft agreement contained in Schedule "A" of Agreement.

Date: _____

Company Name: _____

Name of Prime Contractor or Higher Level Subcontractor:

Name of Project: _____

Signature: _____

Print Name: _____

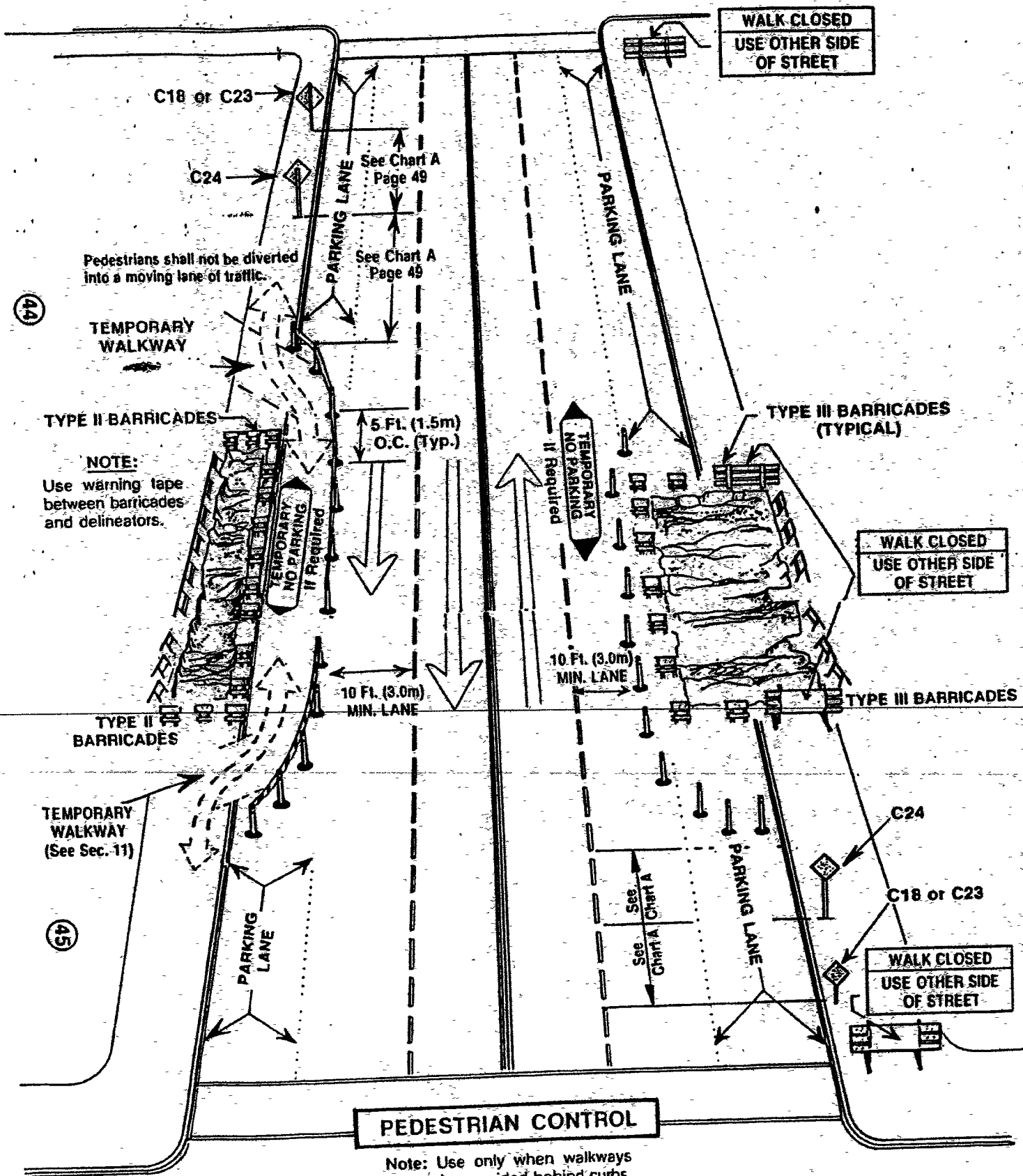
Title: _____

Contractor's License #: _____

Motor Carrier Permit (CA) #: _____

APPENDIX B

PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS





PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS

- ◆ **The purpose of these standards for construction in the public right-of-way is to ensure pedestrian safety and access**
- ◆ **Standards apply to City of Berkeley crews, Contractors with the City, and all others working in the right-of-way**
- ◆ **Each project is unique and requires thorough review to ensure complete, safe, usable and accessible paths of travel**

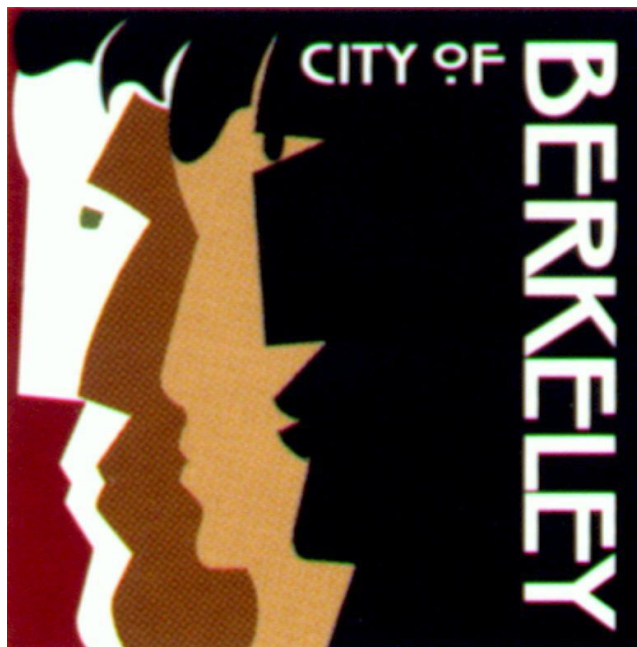
<p>MAINTENANCE OF A CLEAR AND ACCESSIBLE PEDESTRIAN CORRIDOR <i>The Contractor or permittee shall maintain an accessible corridor that provides at least one safe path of travel for all pedestrians at all times for the duration of the project.</i></p> <ul style="list-style-type: none"> • Pedestrian corridor shall be a nominal width of 6' whenever feasible, and shall conform to ADAAG guidelines. It shall not be less than 48" wide at single point of contact or obstruction. • Accessible pedestrian corridor shall connect with facilities throughout the project area. • Equipment, debris, construction materials or vehicles shall not obstruct the corridor. • No parked vehicles can obstruct blue curb parking spaces unless permitted by the City. • Temporary closure of designated pedestrian routes and crossings shall be allowed only when flaggers are present and safely directing pedestrians around hazards. 	<p>TEMPORARY RAMPS CONFORMING TO ACCESSIBILITY STANDARDS <i>The Contractor or permittee shall install and maintain temporary concrete, asphalt or wood ramps to provide a safe path of travel for mobility-impaired pedestrians at all locations where ramps have been temporarily removed OR needed to route pedestrians.</i></p> <ul style="list-style-type: none"> • Temporary ramps shall be constructed so installation and removal will not damage existing pavement, curb and/or gutter. • Ramps shall have a minimum 4' wide walking surface and a slope not to exceed 8%. • Ramps shall snugly meet existing surfaces without gaps. When required for drainage • Schedule 40 PVC pipe minimum 2" diameter shall be installed through ramp. • Transitions between ramps and the street surface shall be smooth such that no lip exists at the base of the ramp. • Sides of a ramp shall be protected where there is any drop-off.
<p>CONSTRUCTION OF SIGNPOSTS, BARRICADES AND FENCING <i>Barricades that are impenetrable shall be used to separate pedestrians from hazards on all sides of excavations that may be exposed to pedestrians. Use materials and methods suitable to site conditions. Signs and fencing material shall not protrude into the clear pathway.</i></p> <ul style="list-style-type: none"> • A-frames used for defining path of travel (not barricading trenches) shall be placed end-to-end without spacing, shall be connected and maintained to ensure stability to help a person who is blind negotiate a safe path while using a cane. • Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade. • Fencing material requires a minimum 3" height, solid, uninterrupted toe-board. • Signposts, scaffolding and fencing supports shall be placed entirely outside the pedestrian path of travel, minimum 4' wide and 80" high without obstruction. • Construction barriers shall be maintained in a sound, neat and clean condition. 	<p>IDENTIFICATION OF SAFE PATH OF TRAVEL <i>If a portion of the pedestrian way is rerouted due to construction, the path of travel shall be clearly defined. Traffic Engineer shall review any pedestrian access limitations and notification requirements for pedestrians with mobility or vision impairments.</i></p> <ul style="list-style-type: none"> • Paths of travel that DO NOT continue to the next corner or to a safe crosswalk shall be closed to pedestrian traffic. Signs a minimum of 36" x 36" must be posted stating the sidewalk is closed and detour pedestrians to accessible sidewalk. • Pedestrian access corridors shall be clearly delineated with cones or barricades, as approved by the Engineer. • If a crosswalk is closed, curb ramps leading into that crosswalk must be barricaded in such a manner that walkways that are not closed remain accessible to use. • Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade
<p>SURFACING OF PEDESTRIAN CORRIDORS <i>During construction, tripping hazards and barriers for people with mobility impairments must be removed to maintain an accessible pedestrian corridor.</i></p> <ul style="list-style-type: none"> • Any change of level, which exceeds 1/4" height, must be beveled at 45°. • Closed trenches, temporary paving surfaces, walking surfaces, steel plates; etc. shall have a smoothly finished, firm walking surface made even w/surrounding walkways. • Aisle or loading area adjacent to a parking space is part of the pedestrian corridor. 	<p>RESTORATION OF PEDESTRIAN ROUTES <i>After construction, the site shall be returned to its former condition, or new condition as required.</i></p> <ul style="list-style-type: none"> • Temporary ramps shall be removed as soon as construction and approval of permanent ramp is completed. • After work is completed, surface of the pedestrian path shall be restored free from all ridges, gaps, bumps and rough edges. • Construction that affects existing curb ramp shall include replacement or repair of the curb ramp to meet current City standards.

PLEASE NOTE: City of Berkeley Engineers may stop work when any hazardous conditions are present.

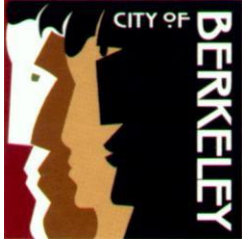
APPENDIX C

CITY OF BERKELEY MONUMENT REFERENCE GUIDELINES

City of Berkeley Monument Reference Guidelines



**A guide to Monument Referencing in the City of Berkeley as required by
the Professional Land Surveyors' Act (Business and Professions Code)
Section 8771 et. seq.**



City of Berkeley Monument Reference Guidelines

May 13, 2019

GENERAL

City Monuments consist of many different kinds of physical objects but regardless of the specific description of the object deemed to be a City Monument, the actual physical location must be accurately preserved.

STANDARD PRACTICE

Standard Practices detailed below are to be followed when referencing a City of Berkeley Monument.

FIELD PRACTICES

Whenever a monument appears to be threatened with removal or disturbance, the monument must be referenced, both horizontally and vertically, by or under the direction of a licensed land surveyor or civil engineer legally authorized to practice land surveying in the State of California. For each monument referenced, a minimum of four (4) reference points must be set and tagged with the appropriate license number of the land surveyor or civil engineer. All reference points shall be durable and have a known location relative to the monument so that the monument can be accurately replaced from the references. When available, sound concrete is the best site for setting reference points. Brass or bronze disks, Mag Nails (or similar concrete nail) with washers, surveyor's nails & tags, etc., should be used in those cases where the reference can be set on sound concrete curb, gutter, sidewalk, wall, etc. In no case shall lead be used as any part of the reference point. The important criteria are that any concrete structure meets the following basic tests:

1. Good condition (not cracked, lowered or raised as compared to the adjacent concrete, or otherwise damaged);
2. Accessible for setup, not blocking traffic and preferably on public right of way. If a reference point must be set outside the public right of way, permission to do so must be acquired by the surveyor performing the referencing. The City of Berkeley, by promulgation of these standards, is not giving permission to perform any task on private property;
3. Positioned to survive the conditions that put the original monument at risk, such as a street rehabilitation

project, a sanitary sewer rehabilitation project, etc.;

4. Positioned to survive any foreseeable (as evidenced by a visual inspection of the site) construction such as curb ramp construction/replacement, curb replacement, sidewalk replacement, utility relocation, etc. The City of Berkeley has a strong commitment to insuring accessibility throughout the City. Existing curb ramps are frequently replaced with code compliant curb ramps with truncated domes. Damaged sidewalks and curbs are replaced as well. Additionally the City commonly installs curb ramps at crosswalks where none currently exist, therefore those locations shall be avoided when placing reference points;
5. The primary consideration in choosing the placement of a reference point shall be to assure its safety and stability in perpetuity. For example, no reference point should be set near any trees with roots likely to raise or damage the surface upon which the reference point has been set.

If no suitable concrete is available, a metal bar or pipe, with a tagged cap or plug, may be used provided that it is set flush in sound soil or pavement. Setting metal bars or pipes has the possibility of damaging subsurface infrastructure. It shall be the duty of the surveyor performing the referencing to assure that the site is properly evaluated for subsurface infrastructure. Sole responsibility for any resulting damage thereto shall be borne by the surveyor responsible for the damage. No reference point shall be set on private property without the surveyor performing the referencing first obtaining permission from the property owner.

DOCUMENTATION

Within two (2) weeks of the completion of any monument referencing, a Corner Record for each monument referenced shall be filed with Alameda County, and copies of the signed sealed submittals of the Corner Record(s) shall be provided to the City of Berkeley, Public Works Department, Engineering Division, Survey Section.

CORNER RECORD MONUMENT AND REFERENCE POINT CONDITIONS AND DESCRIPTIONS

Corner Records shall include a detailed description of the monument referenced and reference points set:

1. Description of monument character and setting (2" brass disc stamped CITY OF BERKELEY UNLAWFUL TO DEFACE in monument well, 3/4" brass pin in monument well, 1" square iron bar in monument well, 1-1/2" iron pipe in soil, etc.);
2. Description of monument reference point character and setting (1" brass disc stamped LS ##### in concrete, mag nail & washer stamped LS ##### in top of curb, nail & tag LS ##### in concrete walk, rebar & cap LS ##### in asphalt pavement, etc.);
3. Labeled with the official City of Berkeley monument designation (B#####);
4. North arrow and graphic scale;
5. Note pertaining to the method used for establishing the reference point elevations.

UNACCEPTABLE REFERENCE POINTS

In no case will lead, or any other material that may cause harm, be used in any portion of the referencing process. Sole responsibility for the removal of such products and any harm they cause will be borne by the surveyor responsible for using the product in the referencing process.

Cut crosses, scribed lines, permanent marker, paint, wood hubs, etc., due to their limited lifecycle, may not be used as a reference point.

No reference point may be set on any fire hydrant or similarly temporary fixture.

VERTICAL REFERENCE POINTS

When performing the vertical referencing of a monument, differential leveling practices shall be used. The Corner Record shall include a minimum of four (4) vertical reference points. It is preferable that the horizontal reference points also be used for the vertical referencing.

All vertical references shall be based on a value and datum provided by the City of Berkeley, Public Works Department, Engineering Division, Survey Section, at the time of the request for referencing. Note that the value associated with any control point in the City's vertical and horizontal network is subject to change as the City periodically recalculates its position.

APPENDIX D

SURVEY MONUMENTS TO BE REFERENCED

CITY OF BERKELEY PLAN 8278 SPEC 23-11616-C PACKAGE A MONUMENTS TO BE REFERENCED

DESIGNATION	DESCRIPTION	ELEVATION	LOCATION
		(Berkeley Datum)	(Street Intersection or Nearest Address)

MONUMENTS TO BE REFERENCED BOTH HORIZONTALLY AND VERTICALLY: (note: Elevations of 5000.00 are assumed elevations)

1	B3304	BDCM16P-CoB-LS4520	336.56	Channing Way / Piedmont Avenue - west side (see plan 8278 sheets 7 & 8)
2	B3305	BDCM16P-CoB	5000.00	Channing Way / Piedmont Avenue - east side (see plan 8278 sheets 7 & 8)
3	B3340	BDEBMUDM20P	3.22	Jones Street / Second Street (see plan 8278 sheet 10)

DESCRIPTION LEGEND:

BDCM16P-CoB = Brass Disk City Monument 16 times 1/8" (2") in diameter with a Punch mark and stamped CITY OF BERKELEY UNLAWFUL TO DEFACE (in standard monument well)

BDCM16P-CoB-LS4520 = Brass Disk City Monument 16 times 1/8" (2") in diameter with a Punch mark and stamped CITY OF BERKELEY UNLAWFUL TO DEFACE and also stamped LS4520 (in standard monument well)

BDEBMUDM20P = Brass Disk East Bay Municipal Utility District Monument 20 times 1/8" (2-1/2") in diameter with a Punch mark (in standard monument well)

CITY OF BERKELEY PLAN 8276 SPEC 23-11614-C PACKAGE B MONUMENTS TO BE REFERENCED

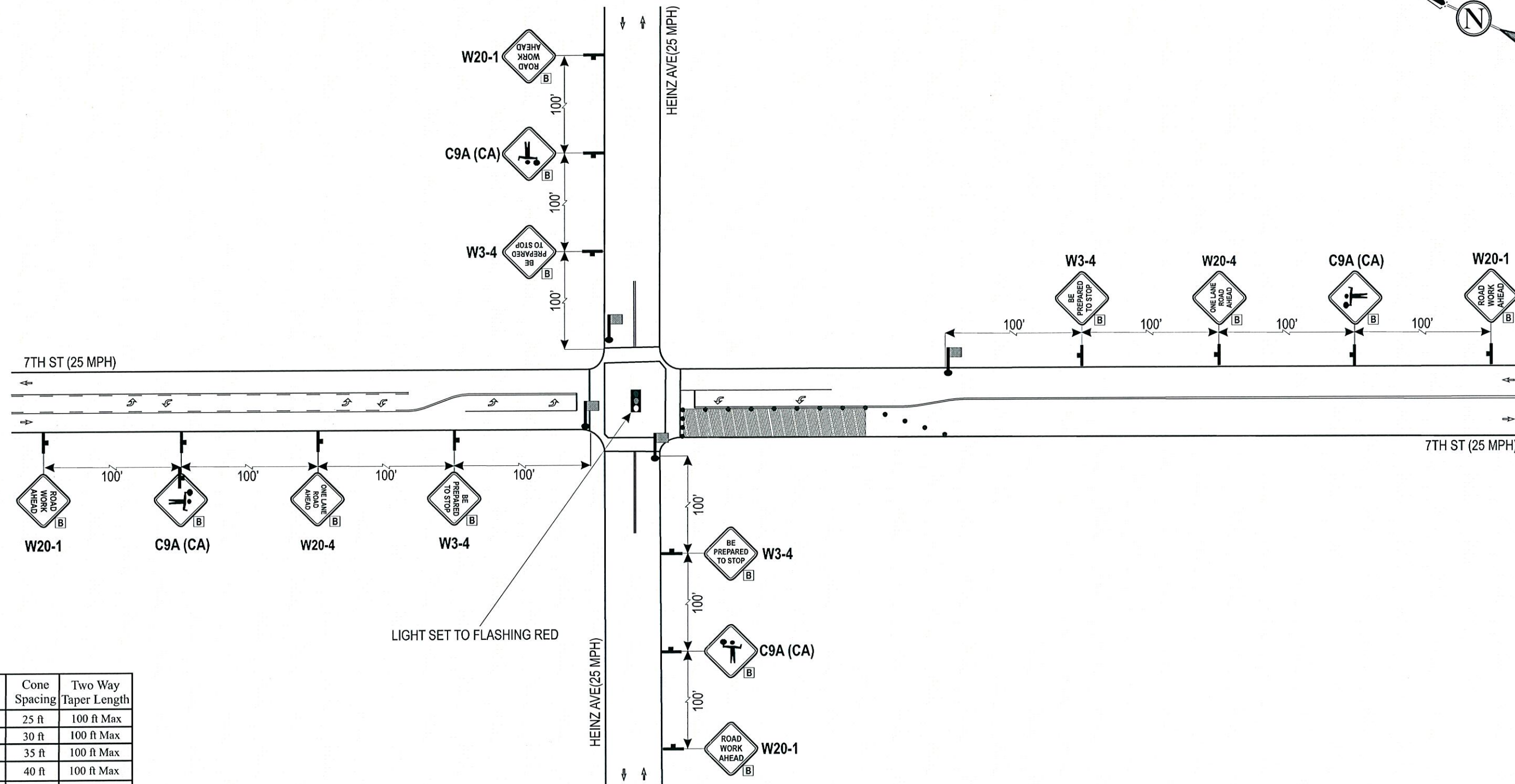
DESIGNATION	DESCRIPTION	ELEVATION	LOCATION	
		(Berkeley Datum)	(Street Intersection or Nearest Address)	
<u>MONUMENTS TO BE REFERENCED BOTH HORIZONTALLY AND VERTICALLY: (note: Elevations of 5000.00 are assumed elevations)</u>				
1	B1597	X_Sswk	5000.00	Woolsey Street (southern sidewalk) west of Eton Avenue (see plan 8276 sheet 3)
2	B1598	X_Wswk	5000.00	Eton Avenue (western sidewalk) south of Woolsey Street (see plan 8276 sheet 3)

DESCRIPTION LEGEND:

X_Sswk = cut cross ("X") in the South sidewalk

APPENDIX E

TRAFFIC CONTROL PLAN EXAMPLES



Speed Limit	Sign Spacing	Cone Spacing	Two Way Taper Length
25 mph	100 ft	25 ft	100 ft Max
30 mph	100 ft	30 ft	100 ft Max
35 mph	350 ft	35 ft	100 ft Max
40 mph	350 ft	40 ft	100 ft Max
45 mph	350 ft	45 ft	100 ft Max

LIGHT SET TO FLASHING RED

LEGEND

- 28" TRAFFIC CONE
- TEMPORARY SIGN STAND (Showing facing right)
- DIRECTION OF TRAFFIC
- FLAGGER STATION
- WORK ZONE

Contractor Notes:

1. All traffic control devices shall conform to the latest edition of California Manual of Uniform Traffic Control Devices (MUTCD) and the Standard Specifications for Public Work.
2. Each advanced warning sign on each side of the roadway shall be equipped with at least two flags. Flashing beacons shall be placed at the location indicated for lane closure during hours of darkness.
3. All workers shall be equipped with a reflective vest and hard hat. All Flaggers shall also be equipped with a C28 "Stop/Slow" paddle and shall be trained in the proper fundamentals of flagging traffic.
4. NO PARKING signs shall be placed 72 hours prior to set up. Signs shall be posted every 20 linear feet of occupied space with at least one sign at each end of occupied space.
5. Any conflicting signs will be covered for the length of the job.
6. Access to residents and businesses shall be maintained at all times. Access to be determined in field by existing conditions. Maintain a safe pedestrian route. Maintain 12 feet lane unless otherwise noted.
7. The contractor shall take all necessary precautions to allow emergency vehicles to pass through the construction zones without any delays.
8. Trench Plate Rental assumes no liability when Contractor does own set up or makes changes to the original traffic control plan.
9. City Engineer or his representative has the authority to initiate field changes to assure public safety.

SIGN PANEL SIZE (MIN)

- A** 48" X 48"
- B** 36" X 36"
- C** 36" X 18"
- D** 36" X 12"
- E** 24" X 24"
- F** 12" X 6"

Project Name:

HYDROTEST 7 LOCATION A

Prime Contractor:

ARB INC.

Job Location:

7TH ST AND HEINZ AVE, EMERYVILLE, CALIFORNIA

TRENCH PLATE RENTAL CO.

530 Garcia avenue
 Pittsburg, Ca 94565
 Office: (925) 432-4104
 Cell: (925) 382-4104 Josh De Hart
 Calif. Contractors Lic. # 787313 C31/ D42



Contractor Phone # 530-216-6451

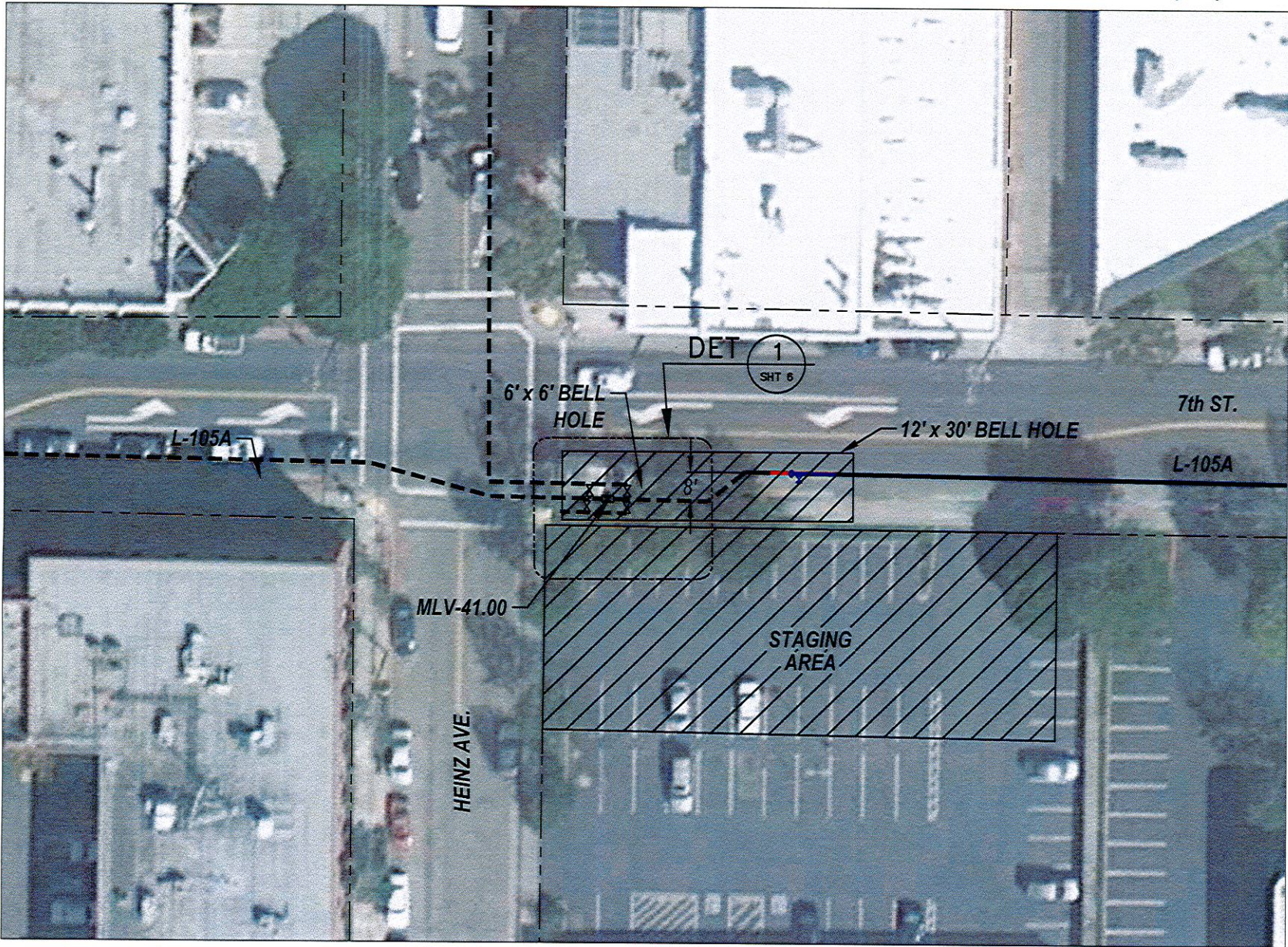
TPR Plan #	PITT 110-11	Scale:	Not to Scale
Project #		Sheet #	1
Date:	8/11/2011 Rev2		8 Sheet

PG&E HYDROTEST T7
HEINZ AVE. & 7th ST.
(NOT TO SCALE)

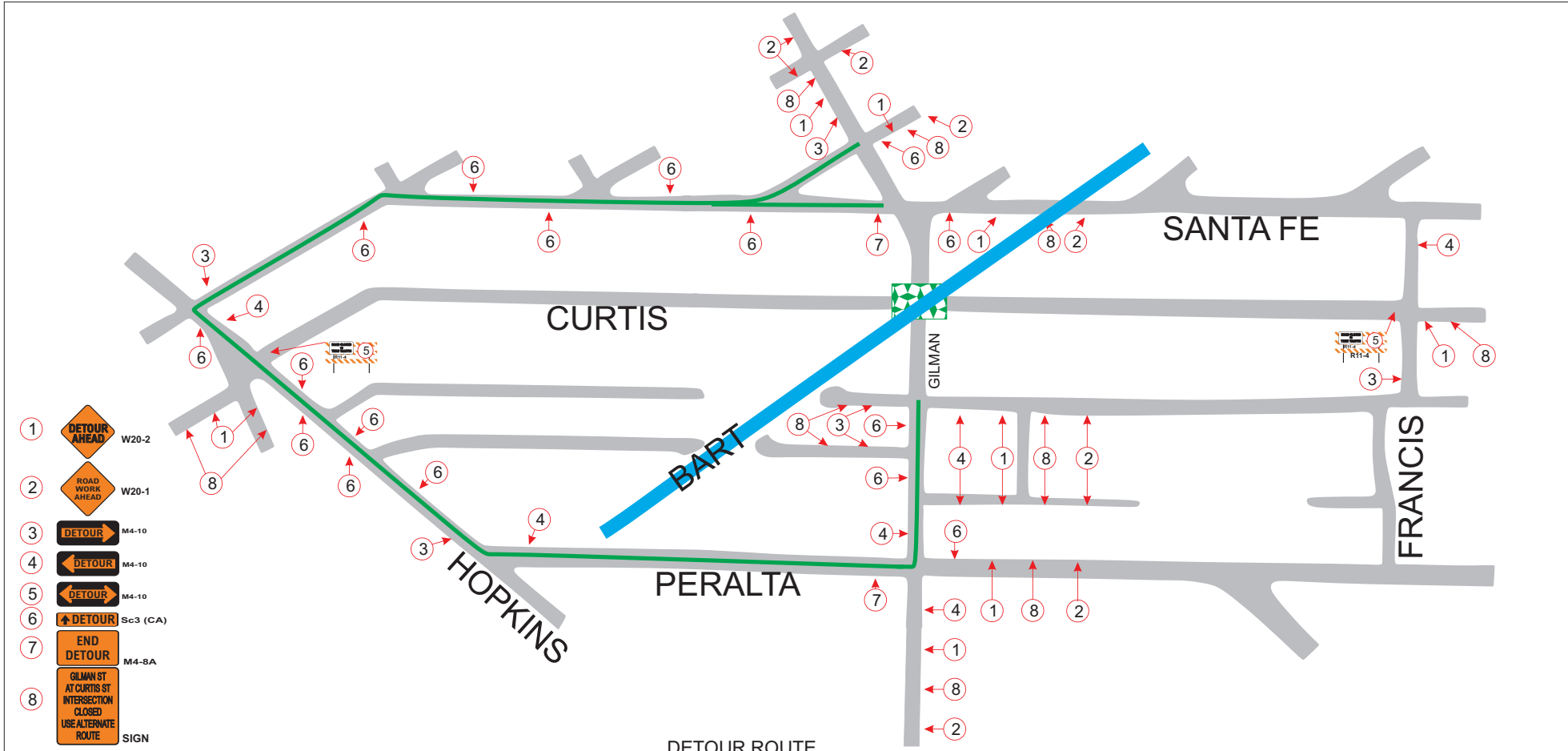
BERKELEY, CA. 94710



8/3/11



TEST LOCATION A



- 1 W20-2
- 2 W20-1
- 3 M4-10
- 4 M4-10
- 5 M4-10
- 6 Sc3 (CA)
- 7 M4-8A
- 8 GILMAN ST AT CURTIS ST INTERSECTION CLOSED USE ALTERNATE ROUTE SIGN



	WORK ZONE		LIGHT TOWER
	CERTIFIED FLAGGER		BARRICADE
	REFLECTIVE CONE		SAND FILLED CRASH CUSHION
	STATIONARY C.A.S.		ABSORB 350 ELEMENT
	ARROW BOARD		WATER WALL/WATER FILLED K RAIL
	CHANGEABLE MESSAGE SIGN		20' CONCRETE K RAIL

Owner:	BART	
Project Name:	BART OVERCROSSING	
Prime Contractor:	ATKINSON	
Phone Number:	510-483-1101	Date Prepared: 6/21/12
Prepared By:	STATEWIDE TRAFFIC SAFETY & SIGNS	STATEWIDE REFERENCE #: 24.2

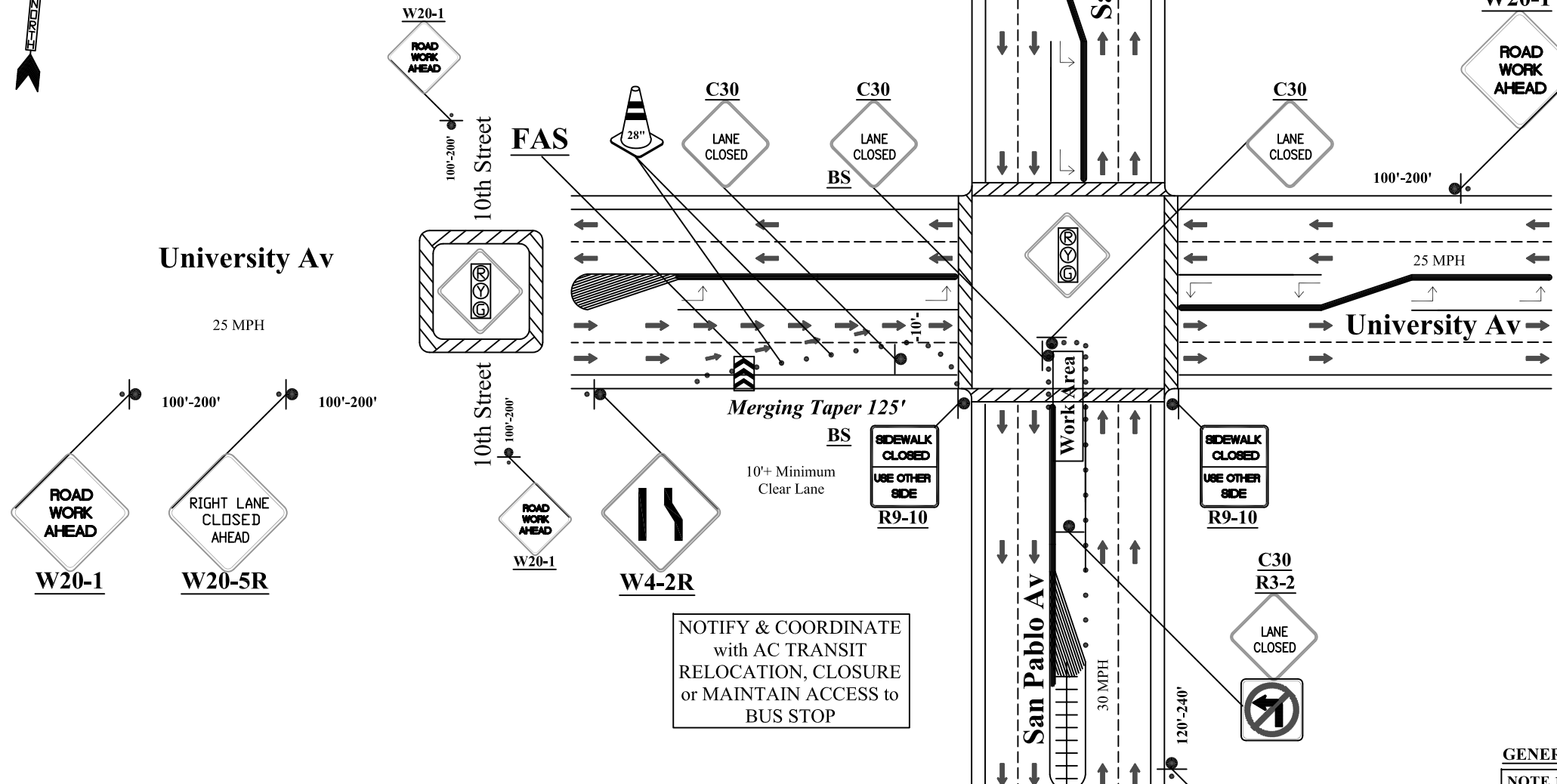
RIGHT LANE CLOSURE(T10/T11):
PEDESTRIAN CONTROL (TA28/29):
Sewer Installation.
University Ave & San Pablo Ave.

9:00 PM to 5:00 AM

PEDESTRIAN ESCORT TO ASSIST and/or ESCORT PEDESTRIANS and CYCLISTS AS NEEDED, REQUIRED OR DIRECTED DURING WORKING HOURS. **ALL PATHWAYS OPEN DURING NON-WORKING HOURS.**

NOTIFY & COORDINATE WITH CITY TRAFFIC ENGINEER WHEN ANY WORK IS PERFORMED WITHIN 200' OF SIGNALIZED INTERSECTION

REMOVE OR REDUCE CONTROL ZONE WHEN WORK AREA NO LONGER AFFECTS THAT AREA OF THE ROADWAY



NOTIFY & COORDINATE with AC TRANSIT RELOCATION, CLOSURE or MAINTAIN ACCESS to BUS STOP

Pedestrian Mitigation - (working hours)...

PEDESTRIANS WILL BE ESCORTED *THROUGH* and/or *AROUND* WORK AREA BY CONTRACTOR IN A SAFE MANNER. CONTRACTOR INITIALS: _____

Pedestrian Mitigation - (non-working hours)...

FOUR (4) FOOT MINIMUM CLEAR PATHWAY EXCLUSIVE OF CHANNELIZERS. PATHWAY SURFACE SHALL BE LEVEL AND SHALL NOT HAVE A SLOPE GREATER THAN 12 to 1 NOR A CROSS SLOPE GREATER THAN 2%. THE SURFACE OF THE PATH SHALL BE FIRM, STABLE & SLIP RESISTANT. THE PATHWAY SHALL BE CONSTRUCTED OF CONCRETE, ASPHALT, NON-SLIP PLYWOOD OR NON-SLIP STEEL PLATE. SURFACE DISCONTINUITIES SHALL NOT EXCEED ONE-HALF (1/2") INCH MAXIMUM.

GENERAL NOTES...

- NOTE 1: One 10'+ clear lane eastbound, access for emergency vehicles, public services, business & residents maintained at all times. All lanes open during non-working hours.
- NOTE 2: Sign spacing and tapers based on 25 MPH = 100'-200'; refer to and use CA/MUTCD 2010, Caltrans Standard Plans manual as a minimum standard and be in compliance with local City requirements. Remove or cover conflicting signs.
- NOTE 3: All signage and channelizers to be night visible retroreflective to approaching motorists for a minimum of 1,000'. Signage should be flagged and/or lighted.
- NOTE 4: The location of the signs as shown on this illustration are guidelines and actual locations will depend upon alignment (curves), grade (hills), location of street intersections and 85th percentile / posted speed limits / prima facie. Temporary traffic control signage to be removed or covered during non-working hours. TTC signage to be black on orange.
- NOTE 5: All open excavations to be steel plated and pinned or backfilled during non-working hours. Place bump/open trench signs as needed. Shoulders to have 4:1 slope.
- NOTE 6: Post No Parking signs 48 hours prior to start of work. Remove or reduce control zone when work area no longer affects that area of the roadway.
- NOTE 7: Pedestrians to be detoured around work area in a safe ADA compliant manner and in a fashion whereas they do not traverse private property or are directed into travelway.

CHART A-CA/MUTCD(Table 6C-1,2,3&4)based upon 10'-11'-12' offset. Adjust if different.

Speed MPH	Sign Spacing	Merging Taper 10' - 11' - 12'	Shifting Taper 10' - 11' - 12'	Shoulder Taper 10' - 11' - 12'	Buffer Space	Cone Spacing Taper	Conflict
25	100'-200'	105'-115'-125'	53'-58'-63'	35'-39'-42'	155'	25'	12'
30	120'-240'	150'-165'-180'	75'-83'-90'	50'-55'-60'	200'	30'	15'
35	140'-280'	205'-225'-245'	103'-113'-123'	69'-75'-82'	250'	35'	17'
40	160'-350'	267'-294'-320'	134'-147'-160'	89'-98'-107'	305'	40'	20'
45	350'-500'	450'-495'-540'	225'-248'-270'	150'-165'-180'	360'	45'	22'
50	500'-600'	500'-550'-600'	250'-275'-300'	167'-184'-200'	425'	50'	25'
55	1000'	550'-605'-660'	275'-303'-330'	184'-202'-220'	495'	50'	25'

CROSSWALKS, SIDEWALKS & BICYCLES:

R3-1 R3-2
 Place no right/left turn signage at all affected driveways and side streets in traffic control zone.

LEGEND...

- Reflective Sign.
- Reflective Channelizer.
- Flashing Arrow Sign.

PRECISION ENGINEERING
 92 Natoma Street
 San Francisco, CA. 94105
 415.621.4882 Fax:415.621.4812
 www.precision-engineering-inc.com

EQUIPMENT

- Sign Symbol ◀ HIGH-LEVEL
- x TUBES, x CONES, x BARRELS
- TYPE I'S — TYPE II'S
- ▭ TYPE III'S ◀ ARROW PANEL

PRE-WARNING SIGNS

- 36" X 36" — "A" Lights
- x 48" X 48" — "B" Lights
- Stand. Ints. — "C" Lights
- x SUPER ENGINEER GRADE

START DATE: 9:00 PM to 5:00 AM
TIME: 9:00 PM to 5:00 AM
DURATION: One (1) Day
DWG: Right Lane Closure
DATE: 10/27/10
DRAWING NOT TO SCALE

TRAFFIC CONTROL DRAFT NO. WCR10
CONTRACTOR: Precision Engineering
AGENCY: City of Berkeley
LOCATION: University Av & San Pablo Av

A DRAFT by Philip M. Sponable
ATSSA
 #00225176 exp. 12/18/12

CONTACT: Finbar Brody 415.760.8718 finbar.brody@precision-engineering-inc.com

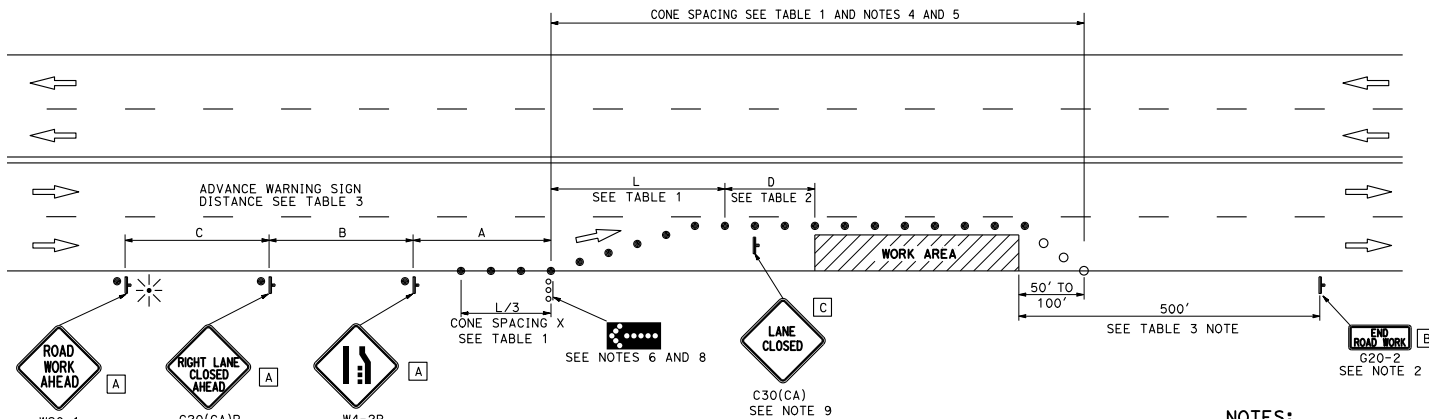
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Devinder Singh
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Devinder Singh
No. C50470
Exp. 6-30-17
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TYPICAL LANE CLOSURE

NOTES:

See Standard Plan T9 for tables.
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
All temporary warning signs shall have black legend on fluorescent orange background.
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- σσσ FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

NOTES:

1. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves).
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
8. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
MULTILANE CONVENTIONAL
HIGHWAYS**

NO SCALE

T11

NOTES:

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

All temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS

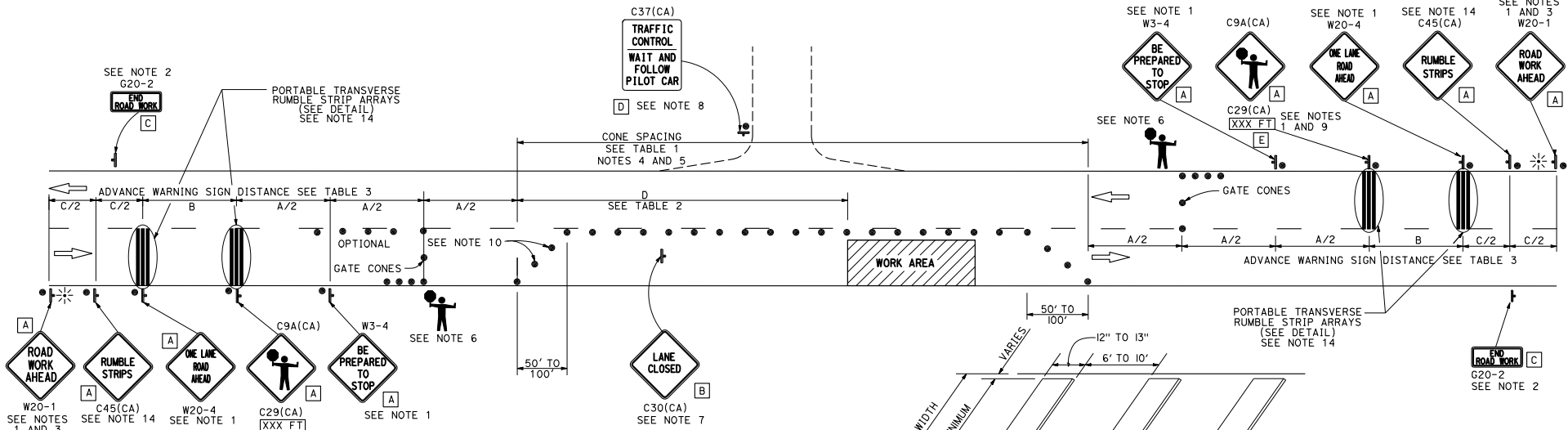
Devinder Singh
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Devinder Singh
No. C50470
Exp. 6-30-17
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

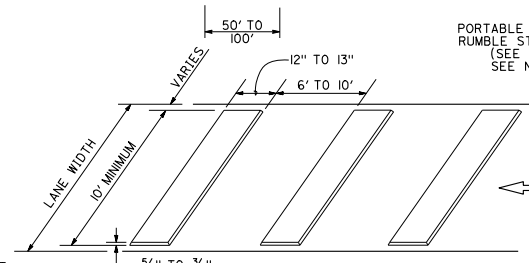
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TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



NOTES:

- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves).
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
- Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
- If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
- Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
 - Work duration occupies a location for four hours or less
 - Posted speed limit is below 45 MPH
 - Work is of emergency nature
 - Work zone is in snow or icy weather conditions



PORTABLE TRANSVERSE RUMBLE STRIP ARRAY DETAIL

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 30" x 30"
- C 36" x 18"
- D 36" x 42"
- E 20" x 7"

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 🚧 FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

T13

254

2015 STANDARD PLAN T13

APPENDIX F

GEOTECHNICAL INVESTIGATION REPORTS



Preliminary Geotechnical Investigation Report
Queens Rd Concrete Staircase
Berkeley, CA

Prepared for:

CSW/ST2

April 7, 2023

Geotechnical, Structural, Civil Engineering & Construction Support
7 Mt. Lassen Drive, Suite A-129, San Rafael, CA 94903
Phone : 415 - 499 - 1919



Darius Abolhassani Consultant & Associates, Inc.

7 Mt. Lassen Dr., Suite A-129, San Rafael, CA 94903

(415) 499-1919 Email: darius@dacassociates.net

April 7, 2023

Terrence Salonga, P.E.
City of Berkeley Engineering Division
1947 Center Street, 4th Floor
Berkeley, CA 94704-1196

Re: Preliminary Geotechnical Investigation Report
Queens Road Concrete Stairs
Berkeley, California
DAC Project No.: 1544-0923M

Dear Mr. Salonga:

As requested, we have performed a preliminary geotechnical investigation for the proposed concrete stairs to be located at the beginning of Upper Columbia Path on Queens Road, in Berkeley, California. Our preliminary investigation did not include any subsurface exploration such as drilling soil test borings and/or excavating test pits. This report presents the results of our preliminary site reconnaissance and preliminary engineering evaluation. The preliminary soil and foundation conditions are discussed and recommendations for the soil and foundation engineering aspects of the project are presented. Conclusions and recommendations contained herein are based upon our preliminary study and must be verified in the field during construction phase of the project.

The project consists of construction of public access stairs from Queens Road up the slope where the slope gradients are manageable for pedestrian travel. The project would involve excavations on the order of about 10-ft in depth and construction of retaining walls supporting the concrete stairway structure.

The purpose of our investigation was to evaluate the foundation soils and provide preliminary recommendations concerning the design and construction of the proposed project from a purely geotechnical engineering standpoint.

Our scope of work for this study included a site reconnaissance, review of available pertinent geologic and geotechnical information, preliminary engineering analysis of the collected data and preparation of this report. The data obtained and the analyses performed were for the purpose of providing preliminary geotechnical design and construction criteria for the proposed project.

In the event that there are any changes in the ownership, nature, design or location of the proposed project, the conclusions and recommendations contained in this report shall not be considered valid unless 1) the project changes are reviewed by our office and 2) conclusions and recommendations presented in this report are modified or verified in writing. Reliance on this report by another must be at their own risk unless of course, we are consulted on the use or limitations.

This study is purely a preliminary geotechnical investigation, and it does not include any environmental



examination or evaluation of the surface and subsurface conditions. We cannot be responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services without our further consultation. We can neither vouch for the accuracy of information supplied by others, nor accept consequences for unconsulted use of segregated portions of this report.

Site Surface and Subsurface Condition

Figure 1 shows the Vicinity Map of the project area, and Figure 2 shows the Site Plan indicating the area of proposed public access stairs.

Site coordinates are 37.8849 north latitude and -122.2518 west longitude. The site is located in the Queens Road right of way between residential properties at 1399 and 1407 Queens Road. A massive rock outcrop is present at the proposed location of the stairs. The average slope is 1:1 (horizontal: vertical) and steeper and there are portions of the exposed rock that are overhanging the slope.

Vegetation consists of coast live oak, California bay laurel, Eucalyptus, and other types of trees and shrubs.

Our preliminary site reconnaissance was performed on February 13, 2023. Based on our observations as well as the review of the geologic maps pertaining to the immediate site proximity, the site is primarily underlain by igneous bedrock.

Preliminary Geology and Seismicity

The project site is located about nine tenth of a mile northeast of downtown Berkeley. According to the map by Graymer (2000; Figure 3), the site is underlain by Moraga Formation (late Miocene) consisting of basalt and andesite flows and minor rhyolite tuff (Tmb). According to a preliminary geologic map of the Richmond Quadrangle by Dibblee (1980), the site underlain by unnamed basalt (Tbu) bedrock (Figure 4). The Seismic Hazard Zones Map of the Richmond Quadrangle (2003) shows the site as being in a seismically induced landslide zone (Figure 5). However, during our site reconnaissance, we did not observe any indication of landslide potential or any evidence of previous landslide movements at the proposed stairs location.

The project site is located in the San Francisco Bay Area, which is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in the San Francisco Bay Area and are believed to be associated with crustal movements along a system of subparallel fault zones that generally trend in a southwesterly direction (Figure 5). The site is located approximately 18.8 miles, 12.0 miles, and 0.5 miles, respectively, of the active San Andreas, Calaveras, and Hayward fault zones.

Earthquake intensities will vary throughout the Bay Area, depending upon the magnitude of earthquake, the distance of the site from the causative fault, and the type of materials underlying the site. The site will probably be subjected to at least one moderate to severe earthquake that will cause strong ground shaking.



We have obtained site-specific spectral seismic design parameters in accordance with the 2016 ASCE-7. These design parameters are for use by the structural engineer in designing the addition for potential seismic shaking.

Table 2. Seismic design parameters.

Parameter	Value
S_S , for 0.2-second period	2.37g
S_1 , for 1.0-second period	0.91g
S_{MS} , for 0.2-second period	2.85g
S_{M1} , for 1.0-second period	1.27g
S_{DS} , for 0.2-second period	1.90g
S_{D1} , for 1.0-second period	0.85g

These values were obtained online from a seismic design tool provided by Structural Engineers Association of California, assuming a Site Class C. Due to presence of igneous rock outcrop at the proposed site location, we classify the site as Site Class C (*very dense soil and soft rock*) for seismic design parameters.

Preliminary Conclusions and Recommendations

Based on the results of our preliminary geotechnical study, it is our opinion that the site is feasible for the proposed project from a geotechnical engineering standpoint. However, the conclusions and recommendations presented in this report should be incorporated in the design and construction of the project to help minimize potential future soil and/or foundation related problems. Please note that, we need to perform observation of the subsurface conditions during the construction phase of the project to verify or modify our preliminary recommendations presented in this report.

Primary geotechnical considerations to take into account in design and construction of the proposed project are the presence of igneous rock outcrop at the proposed location of the stairs and the requirement of relatively deep construction excavations. In addition, due to presence of very steep rock slopes and some overhanging blocks of rock, appropriate equipment and safety precautions should be used by the contractor for excavation. Discussion of these important issues and other design considerations as well as preliminary recommendations for addressing them, are provided in detail below.



Foundations

Due to the predominant presence of rock outcrop, we recommend supporting the stairs on spread footing foundations embedded into competent bedrock. We recommend that the footings be founded at least 12 inches below surface of competent bedrock.

Footings should be at least 12 inches wide and 12 inches deep, and they should be founded at least 12 inches below lowest adjacent finished grade. Footings located adjacent to other footings or utility trenches should bear below an imaginary 1.5:1 (horizontal to vertical) plane projected upward from the bottom edge of the adjacent footings or utility trench.

At the above depths and in competent bedrock, the footings should be designed for an allowable bearing pressure of 4000 pounds per square foot due to dead loads, 6000 pounds per square foot due to dead plus live loads and 8000 pounds per square foot for all loads including wind or seismic. These allowable bearing pressures are net values; therefore, the weight of the footing can be neglected for design purposes.

We recommend that we observe the footing excavations prior to placing reinforcing steel or concrete, to check that footings are founded on appropriate material.

Retaining Walls

Unrestrained retaining walls should be designed to resist an active pressure equivalent to a fluid pressure of 40 pcf for level backfill. Restrained retaining walls should be designed to resist an earth pressure equivalent to a fluid pressure of 55 pcf for level backfill. The pressure due to compaction equipment should be considered as an additional surcharge load on the retaining wall. For sloped backfill add a 1 pcf for every 2-degree slope angle.

In addition to the lateral earth pressure, vertical uniform surcharge loads (q_{sur}) in pounds per square foot (psf) behind retaining wall should be considered in development of lateral pressure. The minimum design surcharge load should be $0.35 \cdot q_{sur}$ in psf with rectangular distribution on retaining wall. The pressure due to compaction should be considered as an additional vertical surcharge load of $q_{sur} = 100$ psf. Other construction surcharge pressures are dependent on contractor's operations, such as placement of cranes and storage of materials, and should be determined by the contractor.

In addition, we recommend consideration of a seismic load in development of the lateral pressure. The minimum design seismic load should be $20 \cdot H$ in psf with rectangular distribution, where H is the retained height in feet. However, the factor of safety against sliding and/or overturning under seismic conditions can be reduced to a minimum of 1.1.

To prevent hydrostatic pressure buildup, the retaining walls should be provided with permanent backdrains. The above lateral pressures also assume drained conditions. Subdrains should consist



of a vertical blanket of Class 2 permeable material, a minimum of 1 foot thick and a 4-inch-diameter perforated pipe (SDR 35). The perforated pipes should have two rows of holes and be placed holes-down. The permeable blanket should extend up to about 1 foot of finished ground surface at the top. Subdrain pipes from behind the walls should be connected to solid collector pipes that outlet to an appropriate discharge point.

For retaining walls located very close to the property lines or other structure with only limited space available for drainage, we recommend the use of MiraDRAIN Aggregate-Free Drainage System or equivalent products.

Excavation for the retaining wall should conform to applicable state and federal industrial worker safety requirements. Where the excavation is more than 4 feet deep, the excavation wall may need to be sloped and/or shored.

Slab-on-Grade Recommendation

Concrete slab-on-grade structures should be supported on prepared subgrade. The existing grade should be overexcavated a minimum of 12 inches. Competent subgrade should be proof rolled to make sure it is firm and unyielding. Depending on the local subsurface conditions, it may be required to deepen the overexcavation. In that case, the overexcavation area should be backfilled with non-expansive granular compacted engineered fill. Engineered backfill should be placed in maximum 6-inch layers and compacted to 95 percent relative compaction.

The slab subgrade should receive a 6-inch layer of compacted Caltrans class 2 aggregate base. The concrete slab-on-grade should have a minimum thickness of 5 inches and as minimum be reinforced with a biaxial grid of #4 bars at 16-inch on centers. The design of the slab should be done by the project structural engineer.

Temporary Construction Slopes

The owner and the Contractor should make themselves aware and become familiar with applicable local, state, and federal regulations, including the current OSHA Excavation and Trench Safety Standards.

The Contractor should be aware that in no case should slope height, inclination, excavation depths (including utility trench excavations) exceed those specified in local, state, or federal safety regulations. Specifically, one needs to be aware of the current OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926. We understand that these regulations are strictly enforced and if they are not closely followed the Owner, Contractor, and/or his earthwork and utility subcontractors could be liable for substantial penalties. The overburden materials other than bedrock present at the site consist primarily of clay and gravel. This is considered to be a Type C material, when applying the OSHA regulations. OSHA recommends a maximum slope inclination of 1½: 1 for Type C material. However, if weak zones are encountered during the excavation



process, the temporary construction slopes may need to be graded to a gentler inclination. Alternatively, the excavation slopes may be supported by properly design and constructed temporary shoring. Temporary shoring should be designed by a professional engineer experienced in shoring design. Our preliminary classification is based solely on the materials visually examined during our site reconnaissance. The Contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are encountered at the time of construction, we recommend that we be contacted immediately to evaluate the conditions encountered.

Construction Monitoring

The contractor's responsibilities should include: (1) documenting the condition of the adjacent improvements prior to the commencement of site demolition and excavation activities; (2) designing demolition, excavation and construction programs that will keep surface settlements and vibrations within acceptable limits; and (3) coordinating with local agencies, as needed, to assure that adjacent facilities are not adversely affected during the geotechnical aspects of construction. Recommendations for construction monitoring are provided below.

An instrumentation program can be implemented to evaluate design assumptions, and monitor vibrations at adjacent structures, deformations of the excavations, and ground surface settlement. The monitoring program would include seismographs and an array of surface control points. The data obtained should be distributed to appropriate parties during the course of construction. To reduce the potential for damage claims from nearby property owners, an instrumentation and monitoring program should be implemented, consisting of the components presented in the following sections.

We recommend preconstruction conditions surveys be completed before the beginning of construction on structures within approximately 50 feet of proposed construction activities. Preconstruction condition surveys should include the exterior and interior of the adjacent neighboring structures. Surveys should include photographs and measurements of relevant site features and hardscape features, including distress features, such as cracks and/or separations that may be present. Consideration may be given to videotaping the survey.

Crack meters should be installed, subject to approval of the property owners, on existing exterior and interior cracks in existing structures during the pre-construction surveys or at a point prior to the start of construction. A crack meter monitoring plan should be developed by the design team prior to construction, and monitoring program threshold and limiting criteria should be incorporated into the Contract Documents.

Drainage and Erosion Protection Recommendations

Stormwater runoff should have a drainage system that conducts flows to an appropriate discharge point(s) away from the foundations. In addition, the ground surface should be sloped away from



the stairs with minimum slope gradients of about 5% for a minimum distance of about 10 ft away. Impervious surfaces within 10 ft of the foundation should be sloped a minimum 2% away from the foundation. The groundwater collected from retaining wall backdrains and other subdrains should be collected in solid pipes and directed to the designated discharge points. Under no circumstance, however, should surface runoff flows be directed into the subdrains.

In general, the discharge flows should be dispersed in such a way that protects the natural (unprotected) grade from erosion. This can be achieved by filtration of the surface runoff flows through a catch basin followed by a dissipation/ discharge system. The dispersion location should be verified by the geotechnical engineer during the construction phase of the project.

Review of Construction Plans and Specifications

We recommend that we review the final design and specifications to check that the earthwork and foundation recommendations presented in this letter have been properly interpreted and incorporated into the design and construction specifications. We can assume no responsibility for misinterpretation of our recommendations if we do not review final project plans and specifications.

Wet-weather Construction Recommendations

If construction proceeds during or shortly after wet weather conditions, the moisture content of the on-site soils could appreciably increase leading to potential slope stability problems. Consequently, working at the site may become difficult and even hazardous. In addition, construction excavations may become exposed to accumulated standing runoff water, which may adversely impact the project. Wet weather construction recommendations can be provided by the geotechnical engineer in the field at the time of construction, if appropriate.

Additional Services

Additional geotechnical engineering services will be needed for design and construction of the project. These include plan review, and responses to plan-check comments, and construction observations by our firm.

Our firm can provide engineering services for the above tasks. In addition, we should be accorded the opportunity to review the final plans and specifications to determine if the recommendations of this report have been implemented in those documents. Results of the review should be summarized in writing.

To a great degree, the performance of the site improvement depends on construction procedures and quality. Therefore, we should provide on-site soil observations of the contractor's procedures and the foundation soils, together with field testing during excavation. These observations will allow us to check the contractor's work for conformance with the intent of our recommendations



DAC Associates, Inc.

*Prelim. Geotechnical Investigation Report
Queens Road Concrete Stairs, Berkeley, CA
(Continued)*

and to observe any unanticipated soil conditions that could require modification of our recommendations. In addition, we would appreciate the opportunity to meet with the contractor before the start of construction to discuss the procedures and methods of construction. This can facilitate the performance of the construction operation and reduce possible misunderstandings and construction delays.

Closure

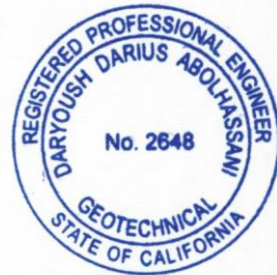
The analysis, designs, opinions, and recommendations submitted in this report are based in part upon the preliminary geotechnical data that was collected, and upon the conditions existing when services were performed. Variations of subsurface conditions from those analyzed or characterized in this report are possible as may become evident during construction. In that event it may be advisable to revisit certain analyses or assumptions. Submittal of this report completes the current scope of our preliminary geotechnical study for the project.

Please note that we did not perform any exploratory work such as drilling boreholes and/or excavating test pits at the project site. Therefore, our conclusions and recommendations are only preliminary. The recommendations presented in this preliminary report need to be verified or modified during the construction phase of the proposed project.

We appreciate the opportunity of providing you with our engineering services. If you have any questions or require additional information, please do not hesitate to contact us by phone at (415) 499-1919 or by email at darius@dacassociates.net

Sincerely,
DAC Associates, Inc.

Darius Abolhassani, P.E., G.E.
Principal
C58778, GE2648



Attachments:

- Figure 1 – Vicinity Map**
- Figure 2 – Site Plan**
- Figure 3 – Regional Geologic Map**
- Figure 4 – Dibblee Richmond Quad Map**
- Figure 5 – Seismic Hazard Map**
- Figure 6 – Fault Map**
- Figure 7 – Seismic Parameters**



DAC Associates, Inc.

*Prelim. Geotechnical Investigation Report
Queens Road Concrete Stairs, Berkeley, CA
(Continued)*

References

Thomas W. Dibblee, Jr. 1980, Preliminary Geologic Map of The Richmond Quadrangle, Alameda and Contra Cost A Counties, California

State of California 1982, Special Studies Zones (Alquist-Priolo Special Studies Zones Act), Richmond Quadrangle

R.W. Graymer 2000, Geologic Map and Map Database of The Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California

Scott B. Miles and David K. Keefer 2001, Seismic Landslide Hazard for The City of Berkeley, California

Alan Kropp & Associates, Inc., 1995, Landslides of The Berkeley Hills

Helley, E.J., and Graymer, R.W., 1997, Quaternary geology of Alameda County and parts of Contra Costa, Santa Clara, San Mateo, San Francisco, Stanislaus, and San Joaquin Counties, California: U.S. Geological Survey, Open-File Report OF-97-97.

M.C. Blake Jr., R.W. Graymer, and D.L.Jones, 2000, Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California

Structural Engineers Association of California, Seismic Design Tool
<https://seismicmaps.org/>

FIGURES



Google Maps 2022



Vicinity Map

**Queens Road Concrete Stairs
Berkeley, CA**

Report Date:

April 2023

Reviewed By:

DA

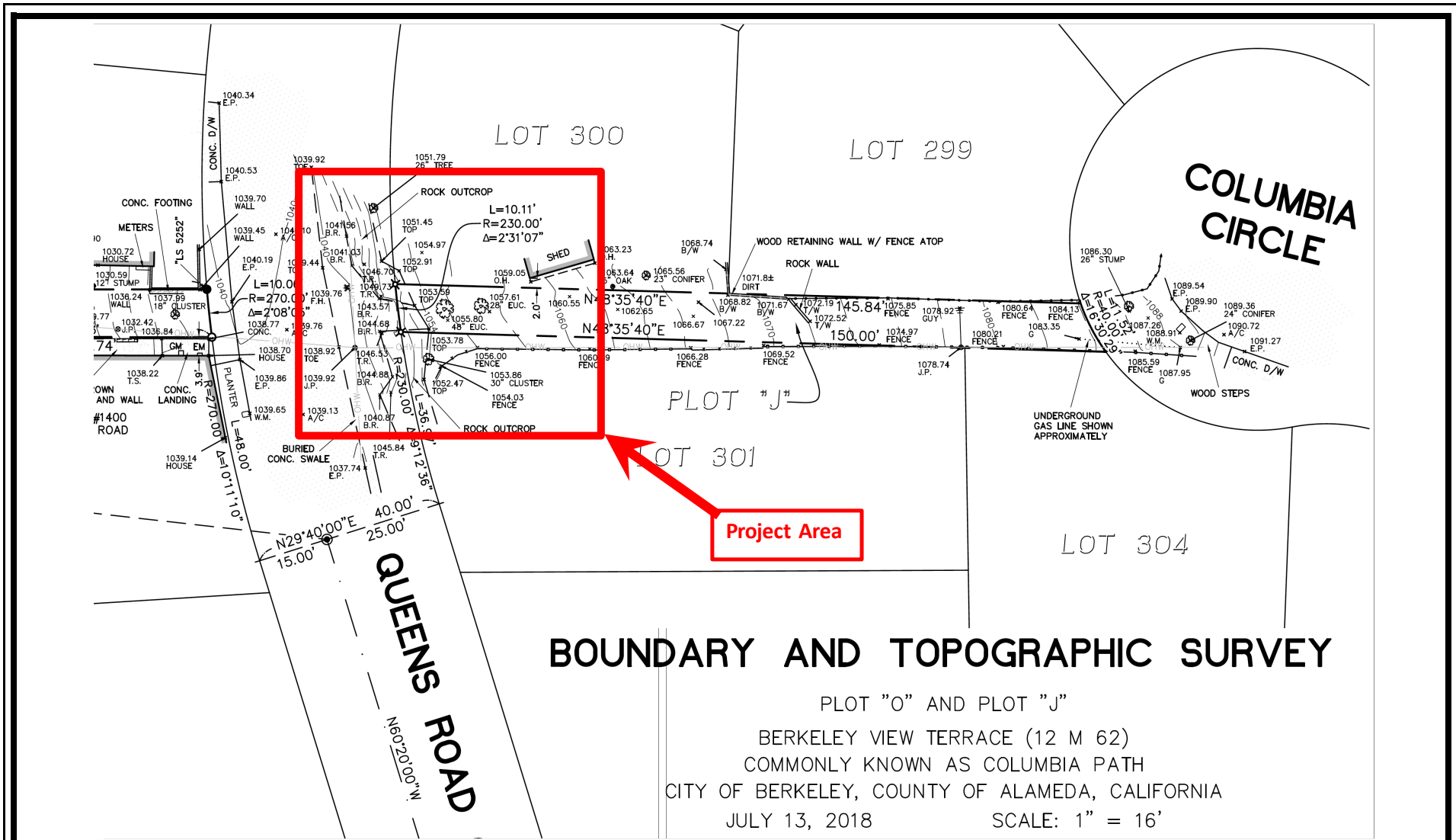
Proj. Manager:

DA

Job No.:

1544-0923M

Figure 1

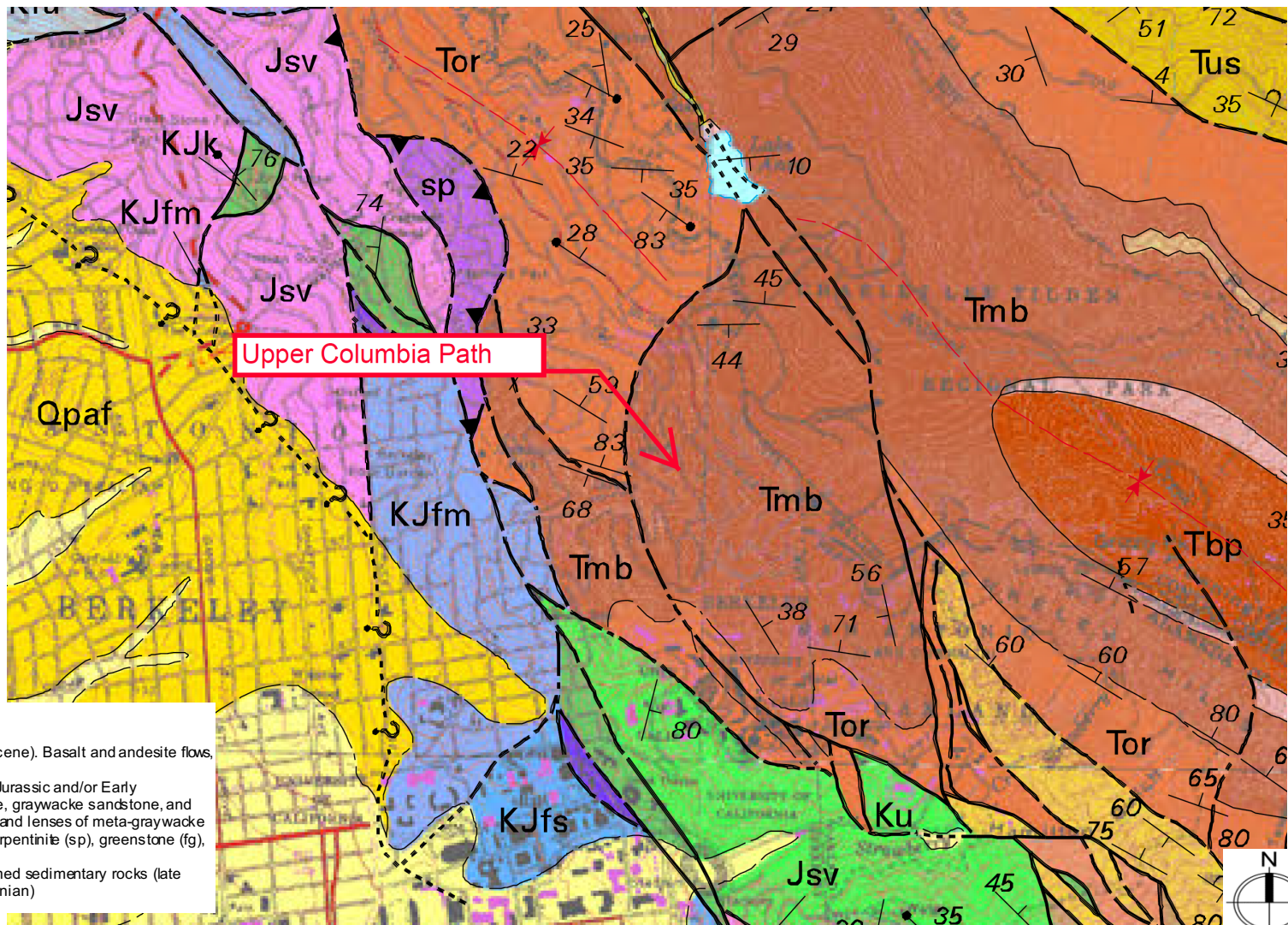


Site Plan

**Queens Road Concrete Stairs
 Berkeley, CA**

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Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 2



Legend

Tmb = Moraga Formation (late Miocene). Basalt and andesite flows, minor rhyolite tuff.
 KJfm = Franciscan melange (Late Jurassic and/or Early Cretaceous). Sheared black argillite, graywacke sandstone, and minor green tuff, containing blocks and lenses of meta-graywacke (fs), chert (fc), shale, metachert, serpentinite (sp), greenstone (fg), etc.
 Ku = Great Valley Complex, Unnamed sedimentary rocks (late Cretaceous, Turonian and Cenomanian)

Source: R.W. Graymer (2000), Geologic Map and Map Database of Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California

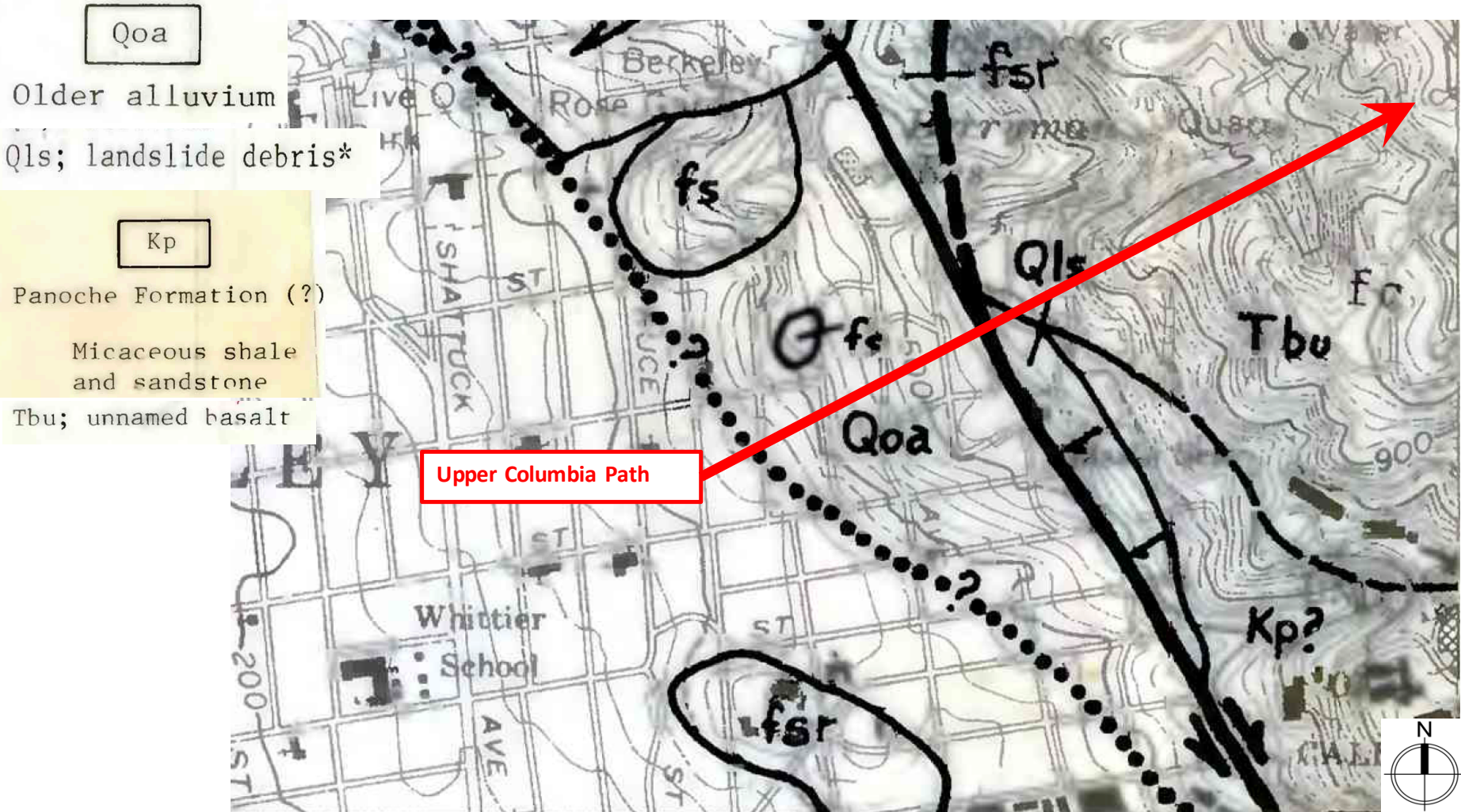


Regional Geologic Map

**Queens Road Concrete Stairs
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Job No.:	1544-0923M

Figure 3



Source: T.W. Dibblee, Jr., (1980), Preliminary Geologic Map of the Richmond Quadrangle

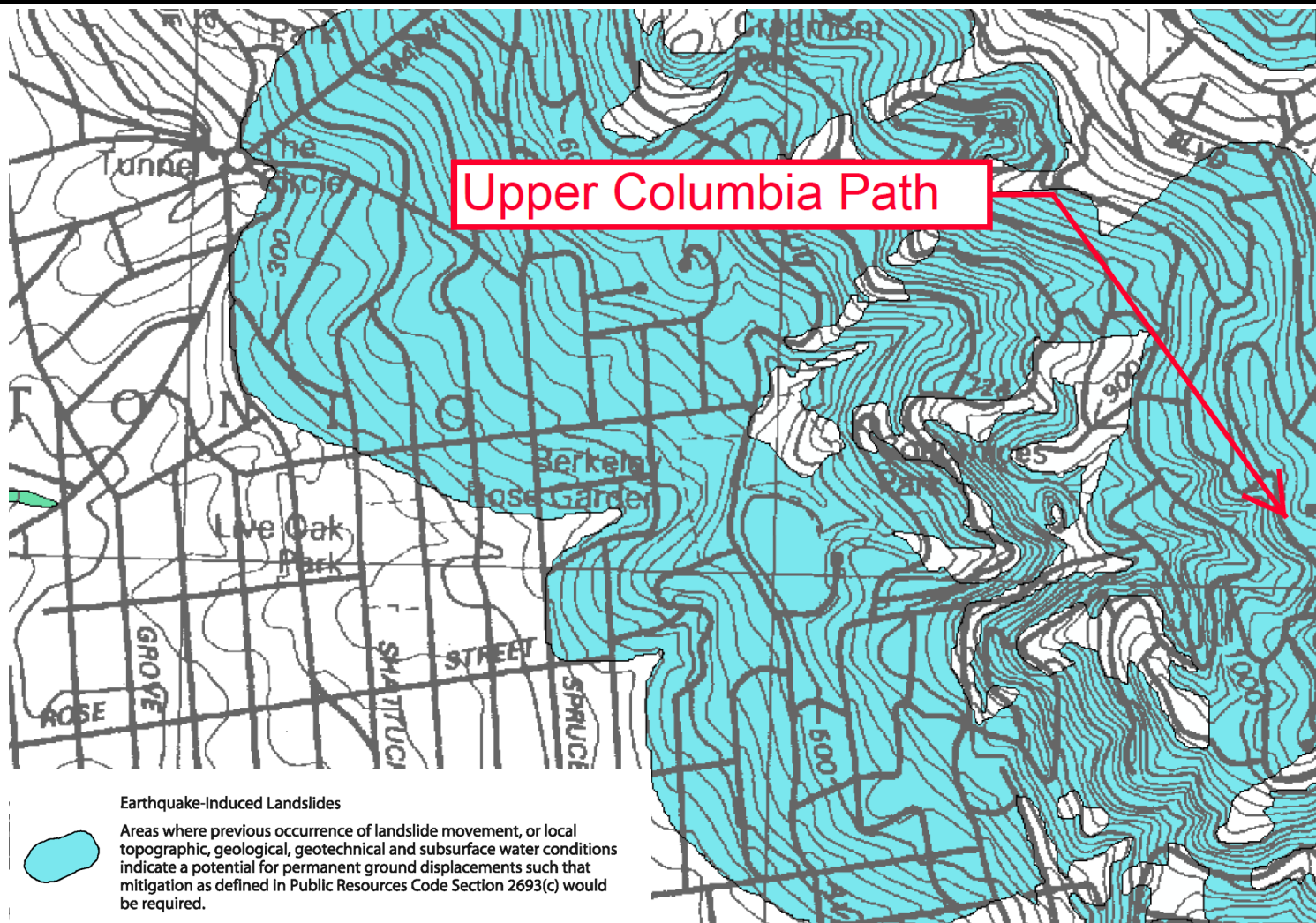


Preliminary Geologic Map of Richmod Quad

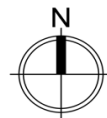
**Queens Road Concrete Stairs
Berkeley, CA**

Report Date:	April 2023
Reviewed By:	DA
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Job No.:	1544-0923M

Figure 4



Source: State of California (2003), Seismic Hazard Zones, Richmond Quadrangle



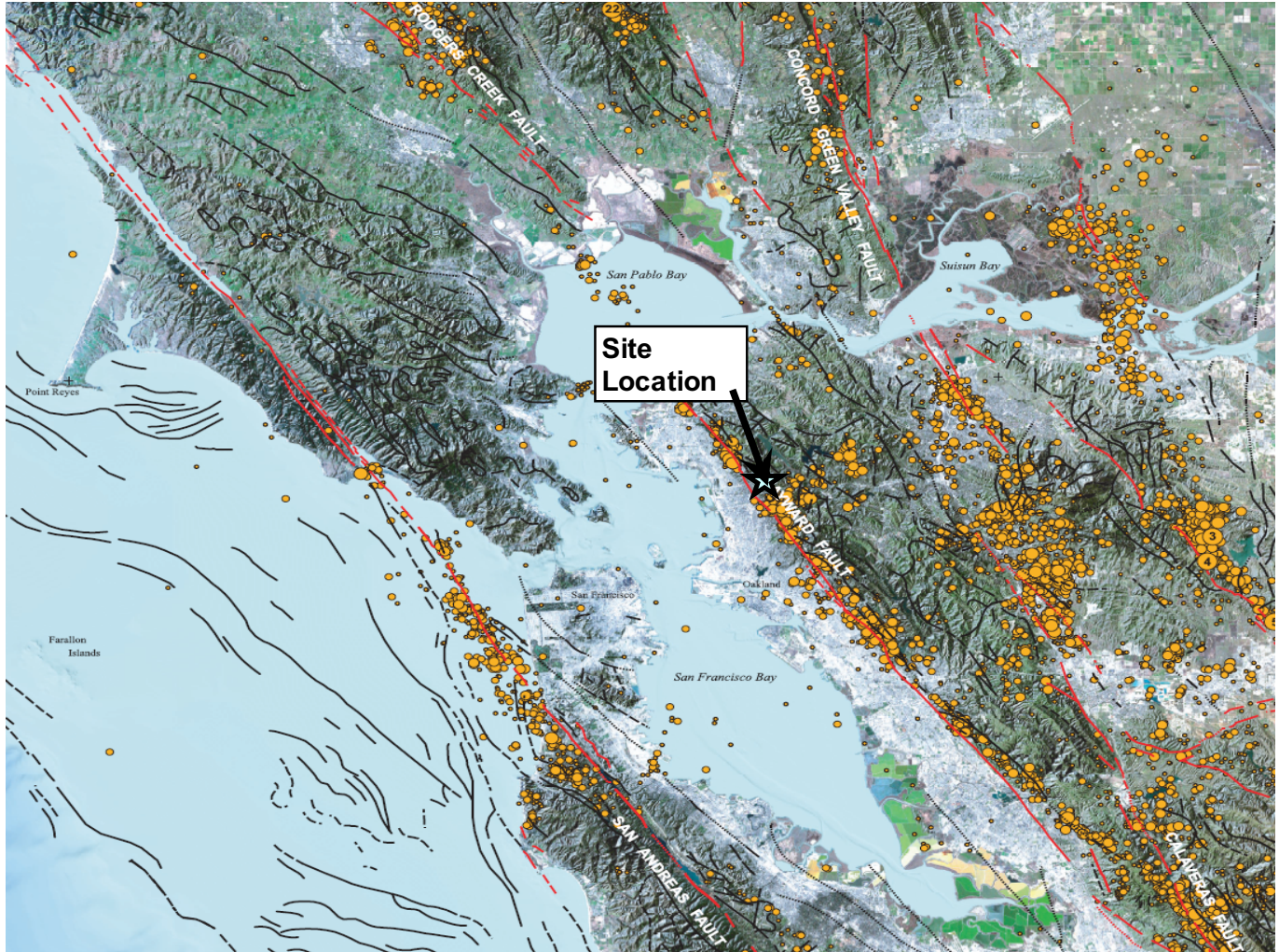
Seismic Hazard Zones Map

**Queens Road Concrete Stairs
 Berkeley, CA**

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Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

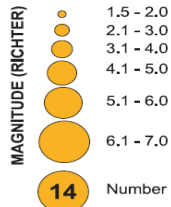
Figure 5

Major Faults in the San Francisco Bay Area

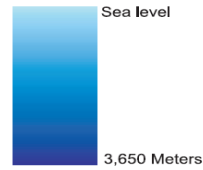


EXPLANATION

EARTHQUAKES



BATHYMETRY



FAULTS – Dashed where approximately located; dotted where inferred

- Active in last 700,000 years
- Active prior to 700,000 years ago

Source: Sleeter, B.M., Calzia J.P., Walter S.R., Wong F.L., and Saucedo G.J., "Earthquakes and Faults in the San Francisco Bay Area (1970-2003)", 2004.
Map Scale 1:300,000



Fault Map

Queens Road Concrete Stairs
Berkeley, CA

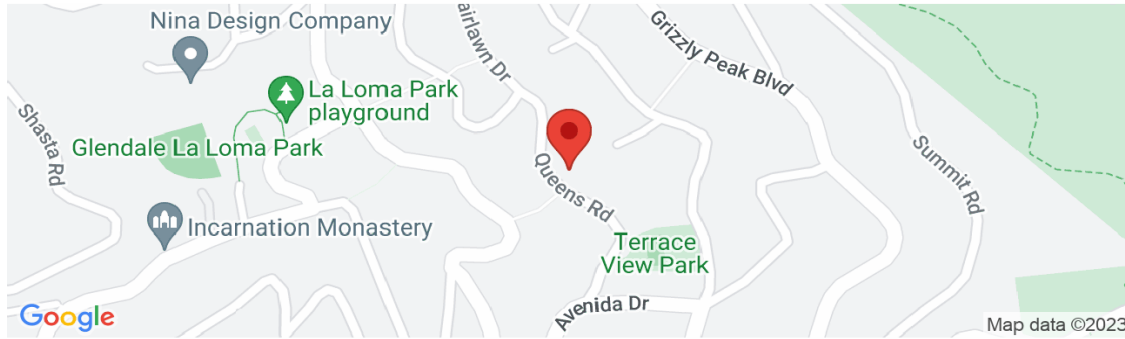
Report Date:	April 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 6



1399 Queens Rd, Berkeley, CA 94708, USA

Latitude, Longitude: 37.884928, -122.251786



Date	4/7/2023, 5:03:36 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S _S	2.375	MCE _R ground motion. (for 0.2 second period)
S ₁	0.909	MCE _R ground motion. (for 1.0s period)
S _{MS}	2.85	Site-modified spectral acceleration value
S _{M1}	1.273	Site-modified spectral acceleration value
S _{DS}	1.9	Numeric seismic design value at 0.2 second SA
S _{D1}	0.848	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	E	Seismic design category
F _a	1.2	Site amplification factor at 0.2 second
F _v	1.4	Site amplification factor at 1.0 second
PGA	0.995	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	1.195	Site modified peak ground acceleration
T _L	8	Long-period transition period in seconds
SsRT	2.695	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.993	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.375	Factored deterministic acceleration value. (0.2 second)
S1RT	1.016	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	1.14	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.909	Factored deterministic acceleration value. (1.0 second)
PGAd	0.995	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA _{UH}	1.162	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C _{RS}	0.9	Mapped value of the risk coefficient at short periods
C _{R1}	0.891	Mapped value of the risk coefficient at a period of 1 s
C _v	1.3	Vertical coefficient



Seismic Parameters

**Queens Road Concrete Stairs
Berkeley, CA**

Report Date:	April 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 7



**Revised Geotechnical Investigation Report
Hilgard Avenue Retaining Wall**

Berkeley, CA

Prepared for:

CSW/ST2

September 20, 2023

Geotechnical, Structural, Civil Engineering & Construction Support
7 Mt. Lassen Drive, Suite A-129, San Rafael, CA 94903
Phone : 415 - 499 - 1919



Darius Abolhassani Consultant & Associates, Inc.

7 Mt. Lassen Dr, Suite A-129, San Rafael, CA 94903

(415) 499-1919 Email: info@dacassociates.net

September 20, 2023

Terrence Salonga, P.E.
City of Berkeley Engineering Division
1947 Center Street, 4th Floor
Berkeley, CA 94704-1196

Re: Revised Geotechnical Investigation Report
Hilgard Avenue Retaining Wall
Berkeley, California
DAC Project No. 1544-0923M

Dear Mr. Salonga:

As requested, we have performed a geotechnical investigation for the proposed replacement retaining wall located at the above address, in Berkeley, California. This report presents the results of our review of available geologic and geotechnical information pertaining to the immediate site proximity and our exploratory work performed at the site. The soil and foundation conditions are discussed and recommendations for the design and construction of the replacement retaining wall are presented. Conclusions and recommendations contained herein are based on applicable standards of our profession at the time this report was prepared. Copies of this report are furnished only to provide the factual data that were gathered and summarized.

INTRODUCTION

Project Location and Description

The project is located along a segment of Hilgard Avenue between Le Roy Avenue and La Loma Avenue Figure 1. Site coordinates are 37.8790° north latitude by -122.2577° west longitude. The project consists of replacement of a roadside concrete retaining wall along Hilgard Avenue that has failed due to overstress resulting from soil pressures and tree root activity as well as potential activities of the Hayward Fault Zone. The overall length of the retaining wall is about 220 feet, and the average retaining wall height is about 4 feet.

The overall project area is exhibited on the site survey shown on Figure 2, Site Plan.

Purpose and Scope of Work

The purpose of our geotechnical investigation was to determine the overall characteristics of foundation soils within the proposed construction area and provide geotechnical recommendations concerning the proposed project. Our scope of work did not include landslide studies/evaluation and/or landslide repair. Our scope of work was as follows:



1. Drill two exploratory boring using a portable (minuteman) drill rig with 4-inch diameter solid-stem augers. The location of our borings are shown in Figure 2, and the logs are presented in Appendix A. The holes extended from the ground surface at the top of the slope down to a maximum depth of 22½ ft bgs (below the ground surface).
2. Perform geotechnical field and laboratory tests on selected samples of the soils obtained from the boring as deemed necessary. The test results are presented at their corresponding depths on the boring log (Appendix A) and in Appendix B.
3. Develop geotechnical conclusions and recommendations and design parameters for the foundations, including allowable soil bearing pressures, frictional resistance for drilled concrete piers, active and passive soil pressures, and seismic design parameters.
4. Provide recommendations for site preparation, earthwork operations, and geotechnical drainage as applicable to the proposed construction.
5. Prepare a geotechnical engineering report summarizing our findings, conclusions, and recommendations.

This report has been prepared in accordance with generally accepted geotechnical engineering practices, and with our agreement with you for exclusive use of yourself and your consultants for specific application to the proposed project. In the event there are any changes in the ownership, nature, design or location of the proposed development, the conclusions and recommendations contained in this report should not be considered valid unless (1) the project changes are reviewed by our office and (2) conclusions and recommendations presented in this report are modified or verified in writing.

Reliance on this report by others must be at their own risk unless we are consulted on its use or limitations. This study is purely a geotechnical investigation, and it does not include any environmental examination or evaluation of the surface and/or subsurface conditions. We cannot be responsible for impacts of any changes in engineering and environmental standards, practices, or regulations subsequent to performance of services without our further consultation. We can neither vouch for the accuracy of information supplied by others nor accept consequences for unconsulted use of segregated portions of this report.

FINDINGS

Surface Conditions

The site consists of a 4-ft high retaining wall about 220-ft long supporting slope on the north side of Hilgard Avenue. The grade behind the retaining wall slopes up northward at an average slope gradient of about 30 percent to three residential properties. Vegetation on the slope consists of grass and trees of different types and sizes with a few mature oak trees.



There is a concrete paved walkway referred to as Le Roy Steps, connecting Le Roy Avenue to La Loma Avenue and providing access to the residences. The walkway has experienced considerable deformation with sizable cracks as well as lateral and vertical offsets. The slope north of Le Roy Steps is supported by short retaining walls with heights ranging approximately from 2 to 4 feet. Most of these retaining walls have experienced cracking and/or undesirable movements. However, the scope of this project does not include evaluation and/or repair/replacement of the Le Roy Steps and the retaining walls beyond.

The Hilgard retaining wall joins another retaining wall supporting the La Loma Avenue when it is about to turn eastward. From that junction some 40 ft west, the retaining wall exhibits a total failure condition for the next 45 ft of its length with a continuous horizontal rupture a few inches above roadway pavement level. The upper portion of this stretch of the wall has been pushed a few inches out of the initial alignment. The La Loma retaining wall that merges with the Hilgard Avenue retaining wall exhibits foundation movement combined with downslope rotation and an open vertical crack running through the entire height of the wall (see Figure 2).

Subsurface Conditions

Our two exploratory boring, designated Boring BG-1 and BG-2, were located on the slope behind the Hilgard Avenue retaining wall. Our Boring BG-1 was located about 5 feet downslope from the La Loma retaining wall and about 15 feet north of Hilgard Avenue retaining wall (Figure 2). Boring BG-2 was located some 65 feet west of BG-1 and almost at midpoint between Le Roy Steps and Hilgard Avenue retaining wall.

The subsurface profile at BG-1 consisted of fill down to a depth of about 2 ft bgs, underlain by clayey deposits to depths of about 20 ft bgs. These clayey soils contained a mixture of variable size gravel and rock fragments up to about 1½ inch in greatest dimension. The shape of rock fragments indicated that the materials were highly disturbed and subjected to shearing and transportation due to faulting and land sliding. The clay fraction has a high plasticity and should be considered as highly expansive. Below these clayey deposits we encountered groundwater in a dense alluvial sandy gravel material. Our Boring BG-1 was terminated at a depth of 22½ ft bgs.

Boring BG-2 encountered topsoil and fill to depths of about 2 ft bgs followed by clayey sand with gravel and rock fragments similar to the materials encountered in BG-1 with lower clay content. The soil matrix in this boring was sandy but the shape and nature of gravels and rock fragments were similar to those observed in our Boring BG-1. Drilling was terminated at 18 ft bgs.

The groundwater was not encountered in our Boring BG-2. However, at the end of our drilling investigation we measured groundwater level in BG-1 and it was found to be at 16 ft bgs. It is probable that groundwater could not reach equilibrium within the span of our drilling investigation time. And also, groundwater levels will vary with the seasons and with variations in rainfall and other factors.



Our boring logs are presented in Appendix A of this report.

Site Geology and Seismicity

According to the map by Graymer (2000; Figure 3), the site is underlain by unnamed sedimentary rocks of Great Valley Complex (Ku), as well as Franciscan mélangé consisting of a blend of sheared black argillite, graywacke sandstone, and minor green tuff, and other materials (KJfm). According to a preliminary geologic map of the Richmond Quadrangle by Dibblee (1980), the site is on Hayward Fault line (Figure 4) and is primarily underlain by landslide deposits (Qls) on the east side of the fault and old alluvial deposits (Qoa) on the west.

Based on the Alquist-Priolo Fault map of Richmond Quadrangle (Figure 5), the project site is located within limits of the Hayward Fault Zones activity. Also, according to a landslide map of the Berkeley Hills area, prepared by Alan Kropp & Associates (1992), the site area is shown to be in a landslide potential zone (Figure 6). The Seismic Hazard Zones Map of the Richmond Quadrangle (2003) shows the site as being in a seismically induced landslide zone (Figure 7).

The Bay Area is considered a region of high seismic activity with numerous active and potentially active faults capable of producing significant seismic events (Figure 5). The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities has evaluated the probability of one or more earthquakes occurring in the Bay Area and concluded that there is currently a 63 percent likelihood of a magnitude 6.7 or higher earthquake occurring in the Bay Area by 2037.

The San Andreas and the Hayward faults are the two faults considered to have the highest probabilities of causing a significant seismic event in the Bay Area. These two faults are classified as strike-slip-type faults that have experienced movement within the last 150 years. The San Andreas fault is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates. Other principal faults capable of producing significant Bay Area ground shaking include the Calaveras fault, the Rodgers Creek fault, and the Concord–Green Valley faults. A major seismic event on any of these active faults could cause significant ground shaking and surface fault rupture, as was experienced during earthquakes in recorded history, namely the 1868 Hayward earthquake, the 1906 San Francisco earthquake, and the 1989 Loma Prieta earthquake. The estimated magnitudes (moment) in Table 1 represent characteristic earthquakes on particular faults. In addition, active blind and reverse-thrust faults in the region that accommodate compressional movement include the Monte Vista–Shannon and Mount Diablo faults.

Table 1. Active faults in the Bay Area¹

Fault	Recency of movement	Historical seismicity ²	Maximum moment magnitude earthquake (Mw) ³
-------	---------------------	------------------------------------	---



Hayward	1868 Holocene	M6.8, 1868, Many <M4.5	7.1
San Andreas	1989 Holocene	M7.1, 1989 M8.25, 1906 M7.0, 1838 Many	7.9
Rodgers Creek- Healdsburg	1969 Holocene	M6.7, 1898 M5.6, 5.7, 1969	7.0
Concord–Green Valley	1955 Holocene	Historic active creep	6.9
Marsh Creek- Greenville	1980 Holocene	M5.6 1980	6.9
San Gregorio– Hosgri	Holocene; Late Quaternary	Many M3-6.4	7.3
West Napa	2014 Holocene	M5.2 2000	6.0
Maacama	Holocene	Historic active creep	7.1
Calaveras	1990 Holocene	M5.6-M6.4, 1861 M4 to M4.5 swarms 1970,	6.8
Mt. Diablo Thrust	Quaternary (possibly active)	n/a	6.7

Notes:

1. See footnote 4 for definition of active faults.
2. Richter magnitude (M) and year for recent and/or large events. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.
3. The maximum moment magnitude earthquake (Mw), derived from the joint CGS/USGS Probabilistic Seismic Hazard Assessment for the State of California, 1996. (CGS OFR 96-08 and USGS OFR 96-706).
4. An active fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that faults lacking evidence of surface displacement are necessarily inactive. "Sufficiently active" is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, E. W., Fault-Rupture Hazard Zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with Index to Special Studies Zones Maps, California Geological Survey, Special Publication 42, 1990, revised 1997).

Sources: CGS, 1996, Hart, 1997; Jennings, 1997; Peterson, 1996, WGCEP, 2008.

The site is located approximately 18.3 miles northeast of the San Andreas fault trace, 12.2 miles southwest of the Calaveras fault trace, and right on the Hayward fault trace. These faults are active and pose a high risk of strong ground shaking at the site. Figure 8 shows the locations of these and other faults relative to the project site. It should be assumed that the site will probably be subjected to at least one moderate to severe earthquake that will cause strong ground shaking.



CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our geotechnical study, it is our opinion that the proposed project is feasible from a geotechnical engineering standpoint. The conclusions and recommendations presented in this report, however, should be incorporated into design and construction of the project to help minimize any potential soil and/or foundation related problems.

Primary geotechnical considerations to take into account in design and construction of the proposed project are (1) the location of the project site with respect to the Hayward Fault Zone and impact of the fault activity on the future improvements, (2) the location of the project site being within a seismically induced landslide hazard zone, (3) potential high ground accelerations during future seismic events on the Hayward fault and other active regional faults, (4) presence of fill materials potentially originated from landslide debris with considerable depth as observed in both our borings BG-1 and BG-2, and (5) presence of groundwater as encountered in our Boring BG-1. Discussion of these important issues and other design considerations and recommendations for addressing them are provided in detail below.

Due to presence of relatively deep overburden materials that cannot be considered as competent for support of the replacement retaining wall, we recommend a drilled pier foundation system for support of the new replacement retaining walls. In addition, due to potential ongoing fault activity the wall should have flexibility. Therefore, we recommend providing separation joints between the new wall segments, say at 16-ft on centers along the length of the wall. It should be noted that a drilled pier foundation system would also be preferred as it does not require extensive excavation beyond the wall footprint.

Drilled Pier Foundations

Drilled piers should have a minimum 18-inch diameter and should penetrate a minimum depth of about 6 feet into competent subgrade. The piers should have a minimum overall depth of about 14 feet below lowest adjacent surface grade. The actual depth of piers should be determined by our firm during the construction period when we are present to observe pier drilling. The allowable skin friction for dead plus live loads in competent subgrade should be taken as 1000 pounds per square foot (psf) in compression, and 800 psf in tension. These values may be increased by 1/3 under transient loads such as wind and seismic.

At a minimum, concrete piers should be reinforced with four #5 longitudinal and with #3 shear ties spaced at 12-inch intervals on centers. The actual design of the piers and grade beams, however, should be performed by the structural engineer. Drilled concrete piers should not be spaced closer than 3 pier diameters. If piers are spaced more closely than the minimum 3 diameter, the allowable vertical and lateral soil resistance should be reduced linearly, such that with 2 diameters there would be a 15 percent and 1 diameter a 30 percent reduction. In addition, we do not recommend spacing piers more than 12 feet apart.

Piers should be designed to resist structural loads and a soil creep pressure equivalent to a fluid



pressure of 65 pounds per cubic foot (pcf) applied against two pier diameters. Minimum depth of creep zone should be assumed as 6 feet. The lateral load capacity of piers installed per the above recommendations would be developed by passive soil pressure within the competent subgrade materials. The allowable passive soil pressure as referenced in this paragraph could be considered as an equivalent fluid pressure of 450 pcf acting against two pier diameters.

The drilling contractor should be aware of presence of intervals of potentially high drilling resistance. In addition, pier excavations may extend below the water table, and water could enter the holes. Under such conditions, the pier holes may need to be temporarily cased to prevent severe caving and/or collapse. If water collects in the pier holes, we recommend that the concrete be placed in the bottom of the hole using tremie methods. Alternatively, if the water can be pumped from the hole without causing instability in the pier hole walls, concrete may be placed in the dry hole without the use of a tremie pipe.

The rebar cages should be secured against lateral movement during placement of concrete in the pier holes by installing dobies or spacers. Concrete for the piers should be designed with a high slump equal to or greater than 6 inches to facilitate construction and help minimize the potential for development of air- or water-filled voids in the pier concrete. Concrete should be placed in all piers the same day that their excavations are completed.

Grade Beam and Tie Beam

Drilled piers should be interconnected with reinforced concrete grade/tie beams with minimum cross-sectional dimensions of 12 inches square. In addition, grade/tie beams should be reinforced with a minimum of two #4 bars, top and bottom. The actual dimensions and reinforcement of the grade/tie beams should be determined by the structural engineer.

Lateral Earth Pressures

The project site is in an area mapped as being susceptible to static and seismically induced land sliding. In addition, our borings encountered materials that exhibited transportation by faulting and land sliding. Additionally, the "bowing out" failure mechanism of the existing retaining wall follows shape of a landslide toe. However, our scope of the consultation for this project did not include landslide evaluation and or landslide repair. For this reason, the design of the replacement retaining wall should be based on earth pressures developed as a results of landslide mobilization.

Therefore, we recommend that the lateral earth pressure values for design of the subject retaining wall be related with passive pressures acting on the wall stem. In other words, the retaining wall will be designed to resist passive instead of active soil pressures. Due to the expansive nature of the site soils, a passive pressure equivalent to a liquid pressure of 450 pcf should be considered in design of the retaining wall. This value applies to level backfill. For backfill slopes 10 pcf should be added to the passive soil pressure for every 1 degree of slope angle.

Due to the proximity of the wall to the Hayward Fault Zone, we recommend including a lateral



seismic load in the design. The minimum design seismic load should be $20 \cdot H$ in psf, with a rectangular distribution, where H is the retained height in feet. The minimum safety factor for design of the support system under all loads including seismic should be 1.5.

The above lateral pressures also assume drained conditions. To prevent the buildup of hydrostatic pressure behind the wall, a groundwater drainage system should be provided. The groundwater drainage can be achieved by installing a drainage panel manufactured for such purposes and by installing weep holes. Weep holes should be located no more than 1 foot above grade in front of the wall and be at least 3 inches in diameter and no more than 5 feet apart on center.

Site Preparation

Site preparation should be performed before the placement of backfill behind the retaining wall. Existing failed concrete retaining wall including its foundation should be demolished and completely removed from the site. In addition, all deleterious and incompetent materials should be removed from the existing fill where the new wall will be installed. Such materials to be removed should include abandoned structures and utilities including existing debris, loose slumped or sloughed soil, tree roots, and other vegetation. Tree roots should be removed down to a depth of at least 3 feet below existing grade. It is possible that loose slumped or sloughed soil extends to a depth of 3 to 4 ft below the ground surface. Removal of such deleterious and incompetent materials should expose undisturbed native soil of the slope everywhere, and the depths of removal should be determined by the geotechnical engineer in the field at the time of removal.

Backfill Behind Retaining Wall

Backfill placed behind the retaining wall, following site preparation (i.e., loose material removal), should consist of properly moisture-conditioned, compacted soil. On-site or imported soil materials may be used as backfill material assuming that it meets with the approval of the geotechnical engineer. Imported material should have a plasticity index (PI) of less than 15%, be nearly free of rocks or lumps larger than 4 inches in diameter, be nearly free of organic matter and refuse, and be free of chemical contaminants. Backfill material should be dried if too wet or moistened if too dry so that its moisture content is at or about the optimum moisture content as determined using ASTM Test Method D-1557, latest edition. The backfill should be placed and compacted in horizontal layers less than 8 inches thick in uncompacted thickness. The backfill should be compacted to a minimum of 90% relative compaction as determined using ASTM Test Methods D-1557 and D-2992, latest editions.

Review of Construction Plans and Specifications

We recommend that we review the final design and specifications to check that the earthwork and foundation recommendations presented in this letter have been properly interpreted and incorporated into the design and construction specifications. We can assume no responsibility for misinterpretation of our recommendations if we do not review final project plans and



specifications.

Wet-Weather Construction

If construction proceeds during or shortly after wet weather conditions, the moisture content of the on-site soils could appreciably increase leading to potential slope stability problems. Consequently, working at the site may become difficult and even hazardous. In addition, construction excavations may become exposed to accumulated standing runoff water, which may adversely impact the project. Wet weather construction recommendations can be provided by the geotechnical engineer in the field at the time of construction, if appropriate.

Seismic Design Parameters

We have developed site-specific spectral seismic design parameters in accordance with the 2016 edition of Standard ASCE-7. These design parameters, presented below in Table 2, are for use by the structural engineer in designing the structure for potential seismic shaking.

Table 2. Seismic design parameters.

Parameter	Value
S_S , for 0.2-second period	2.28 g
S_1 , for 1.0-second period	0.88 g
S_{MS} , for 0.2-second period	2.736 g
S_{M1} , for 1.0-second period	TBD per Section 11.4.8
S_{DS} , for 0.2-second period	1.824 g
S_{D1} , for 1.0-second period	TBD per Section 11.4.8

These values were obtained from a seismic design tool provided by the Structural Engineers Association of California, after providing Site Class D-Default as input. We conclude that Class D is appropriate for the site, assuming an average N value ranging between 11 and 50 in the upper 100 feet of the subsurface, which is based on the subsurface data obtained from depths of 0 to 22 ft bgs.

S_{M1} and S_{D1} are to be determined by the project structural engineer in accordance with Section 11.4.8 of Standard ASCE-7. Figure 2 lists site-specific values from which the structural engineer may select to calculate S_{M1} and S_{D1} .

Additional Services

Additional geotechnical engineering services will be needed for design and construction of the project. These include plan review, and responses to plan-check comments, and construction



observations by our firm.

Our firm can provide engineering services for the above tasks. In addition, we should be accorded the opportunity to review the final plans and specifications to determine if the recommendations of this report have been implemented in those documents. Results of the review should be summarized in writing.

To a great degree, the performance of the site improvement depends on construction procedures and quality. Therefore, we should provide on-site soil observations of the contractor's procedures and the foundation soils, together with field testing during excavation. These observations will allow us to check the contractor's work for conformance with the intent of our recommendations and to observe any unanticipated soil conditions that could require modification of our recommendations. In addition, we would appreciate the opportunity to meet with the contractor before the start of construction to discuss the procedures and methods of construction. This can facilitate the performance of the construction operation and reduce possible misunderstandings and construction delays.

Closure and Limitations

Submittal of this letter completes the current scope of our geotechnical study for the project. By accepting this report, the recipients acknowledge their understanding of conditions described below.

Conclusions and recommendations contained herein are based upon our geotechnical investigation including our exploratory work performed at the site. For construction observation scheduling, our firm must be notified at least three business days in advance.

The analysis, designs, opinions, and recommendations submitted in this letter are based in part upon the geotechnical data that was collected, and upon the conditions existing when services were performed. Variations of subsurface conditions from those analyzed or characterized in this report are possible as may become evident during construction. In that event it may be necessary to revisit certain analyses or assumptions.

This report has been prepared for the exclusive use of CSW/ST2 and their consultants for specific application to the proposed addition as described herein. Our services consist of professional opinions and conclusions developed in accordance with generally accepted geotechnical engineering principles and current standards of practice. We provide no other warranty, either expressed or implied. Our conclusions and recommendations are based on the information provided to us pertaining to the proposed construction, and on the results of our field exploration, and our engineering analyses and our professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of project construction.



Our boring log only represents near-surface conditions at that specific location and on the date of drilling. It is not warranted that they are representative of such conditions elsewhere or at other times.

Changes in the surface and subsurface conditions may occur as a result of natural/environmental changes or human activities. Site conditions and site features described herein are those existing at the time of our field exploration and may not necessarily be the same or even comparable at other times. Therefore, the validity of subsurface conditions and our recommendations should be reviewed and confirmed by our firm after a period of 12 month from the date of issuance of this report.

Our investigation did not include any environmental assessment or investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, ground water or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of ecologically sensitive features. In addition, we did not perform any assessment or evaluation of the existing structures either from the environmental standpoint concerning the composition of onsite construction materials or integrity/stability of the facilities and building components.

We appreciate the opportunity of providing you with our engineering services. If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,
DAC Associates, Inc.

Darius Abolhassani, P.E., G.E.
Principal
C58778, GE2648



Attachments:

References

- Figure 1 – Vicinity Map**
- Figure 2 – Site Plan**
- Figure 3 – Regional Geologic Map**
- Figure 4 – Dibblee Richmond Quad Geologic Map**
- Figure 5 – Alquist-Priolo Fault Zones Map**
- Figure 6 – Landslide Map by Alan Kropp**
- Figure 7 – Seismic Hazard Zones Map**
- Figure 8 – Regional Faults and Seismicity**
- Figure 9 – Seismic Design Parameters**

Appendix A – Boring Log

Appendix B – Laboratory Test Results



References

Thomas W. Dibblee, Jr. 1980, Preliminary Geologic Map of The Richmond Quadrangle, Alameda and Contra Cost A Counties, California

State of California 1982, Special Studies Zones (Alquist-Priolo Special Studies Zones Act), Richmond Quadrangle

R.W. Graymer 2000, Geologic Map and Map Database of The Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California

Scott B. Miles and David K. Keefer 2001, Seismic Landslide Hazard for The City of Berkeley, California

Alan Kropp & Associates, Inc., 1995, Landslides of The Berkeley Hills

Helley, E.J., and Graymer, R.W., 1997, Quaternary geology of Alameda County and parts of Contra Costa, Santa Clara, San Mateo, San Francisco, Stanislaus, and San Joaquin Counties, California: U.S. Geological Survey, Open-File Report OF-97-97.

M.C. Blake Jr., R.W. Graymer, and D.L.Jones, 2000, Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California

Structural Engineers Association of California, Seismic Design Tool
<https://seismicmaps.org/>

Figures



Source: Google Map 2018



Vicinity Map

**Hilgard Avenue Retaining Wall
Berkeley, CA 94709**

Report Date:

Sept. 2023

Reviewed By:

DA

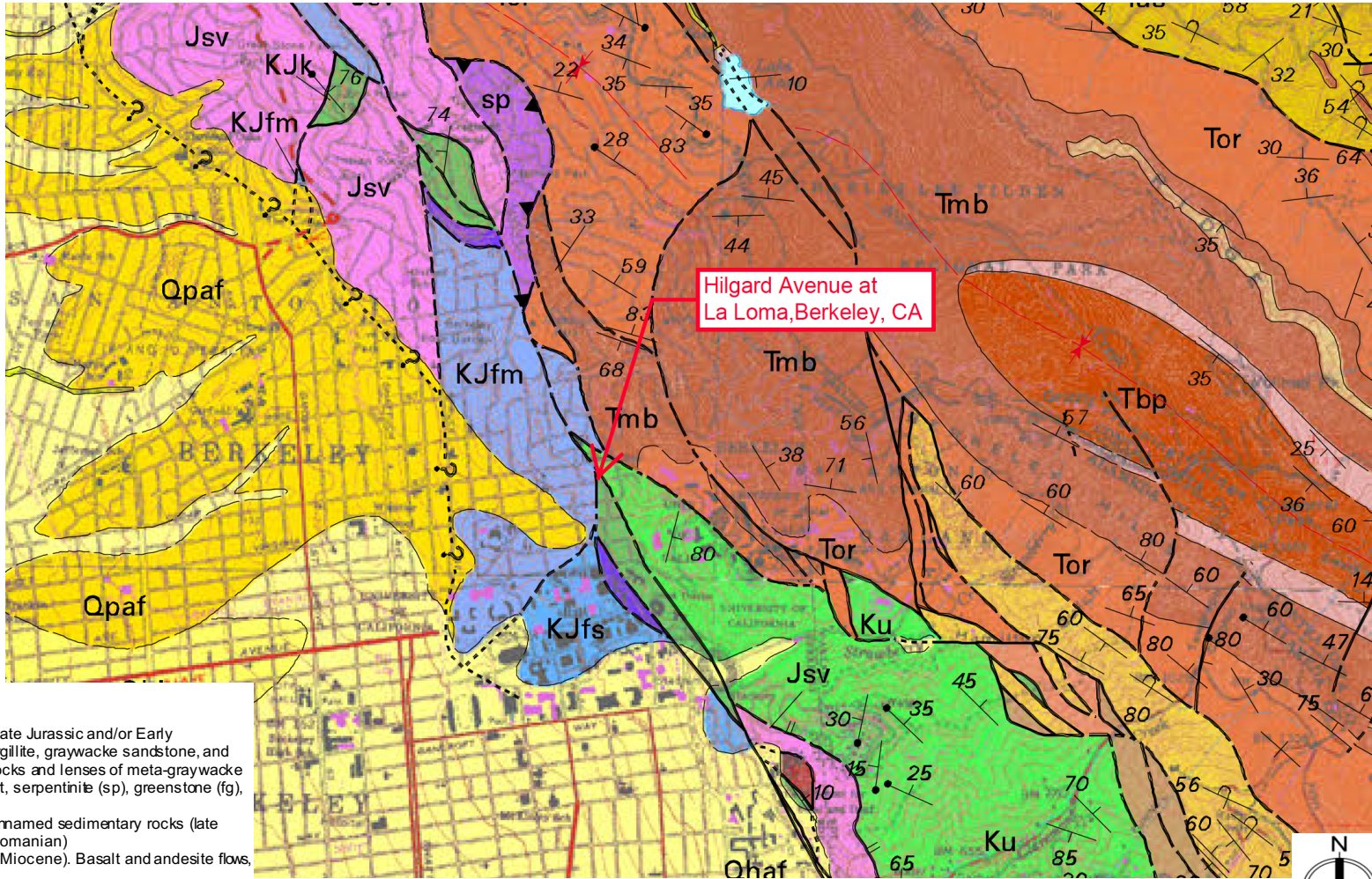
Proj. Manager:

DA

Job no.:

1544-0923M

Figure 1



Legend

KJfm = Franciscan melange (Late Jurassic and/or Early Cretaceous). Sheared black argillite, graywacke sandstone, and minor green tuff, containing blocks and lenses of meta-graywacke (fs), chert (fc), shale, metachert, serpentinite (sp), greenstone (fg), etc.
 Ku = Great Valley Complex, Unnamed sedimentary rocks (late Cretaceous, Turonian and Cenomanian)
 Tmb = Moraga Formation (late Miocene). Basalt and andesite flows, minor rhyolite tuff.

Source: R.W. Graymer (2000), Geologic Map and Map Database of Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California

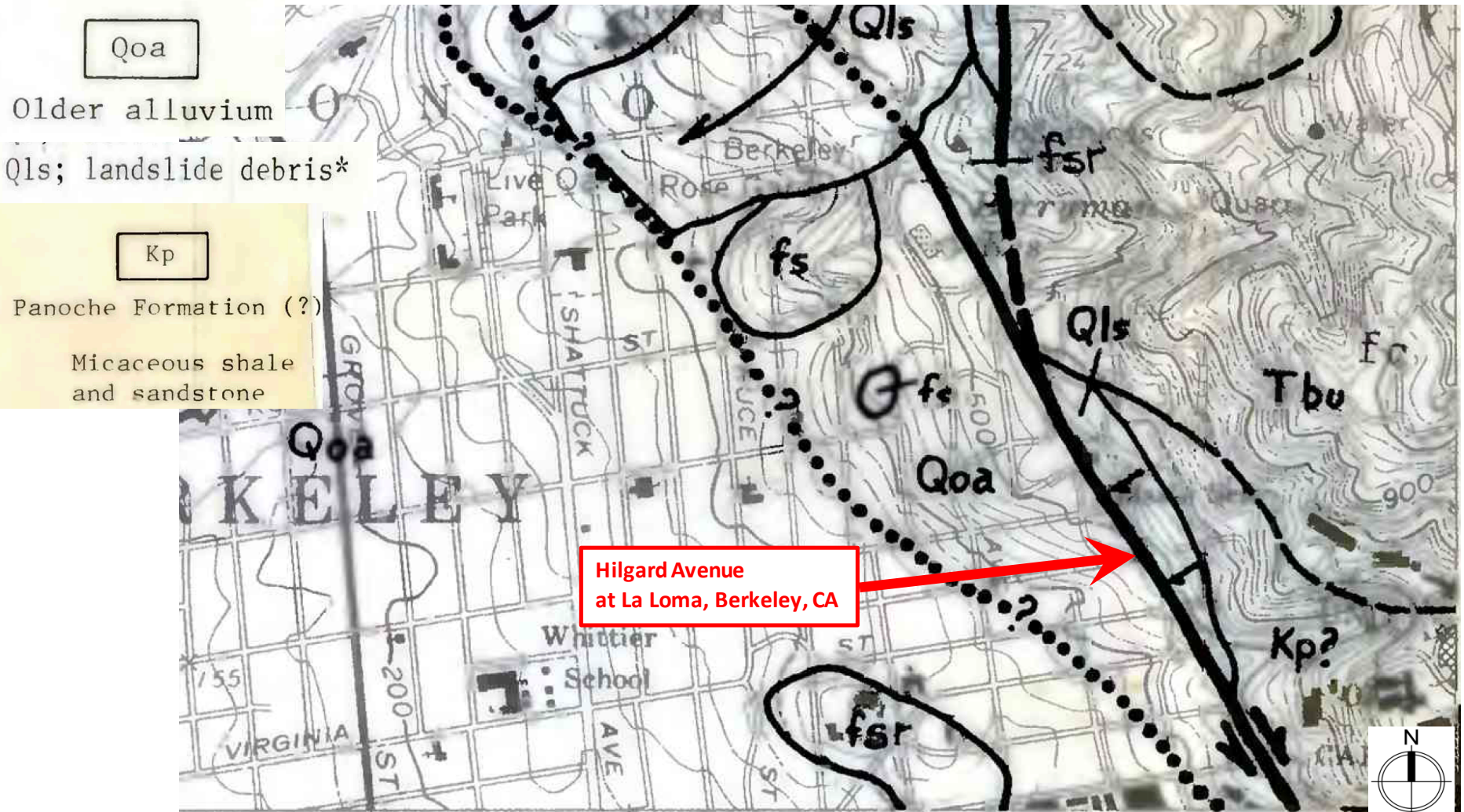


Regional Geologic Map

**Hilgard Avenue Retaining Wall
 Berkeley, CA 94709**

Report Date:	Sept. 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 3



Source: T.W. Dibblee, Jr, (1980), Preliminary Geologic Map of the Richmond Quadrangle

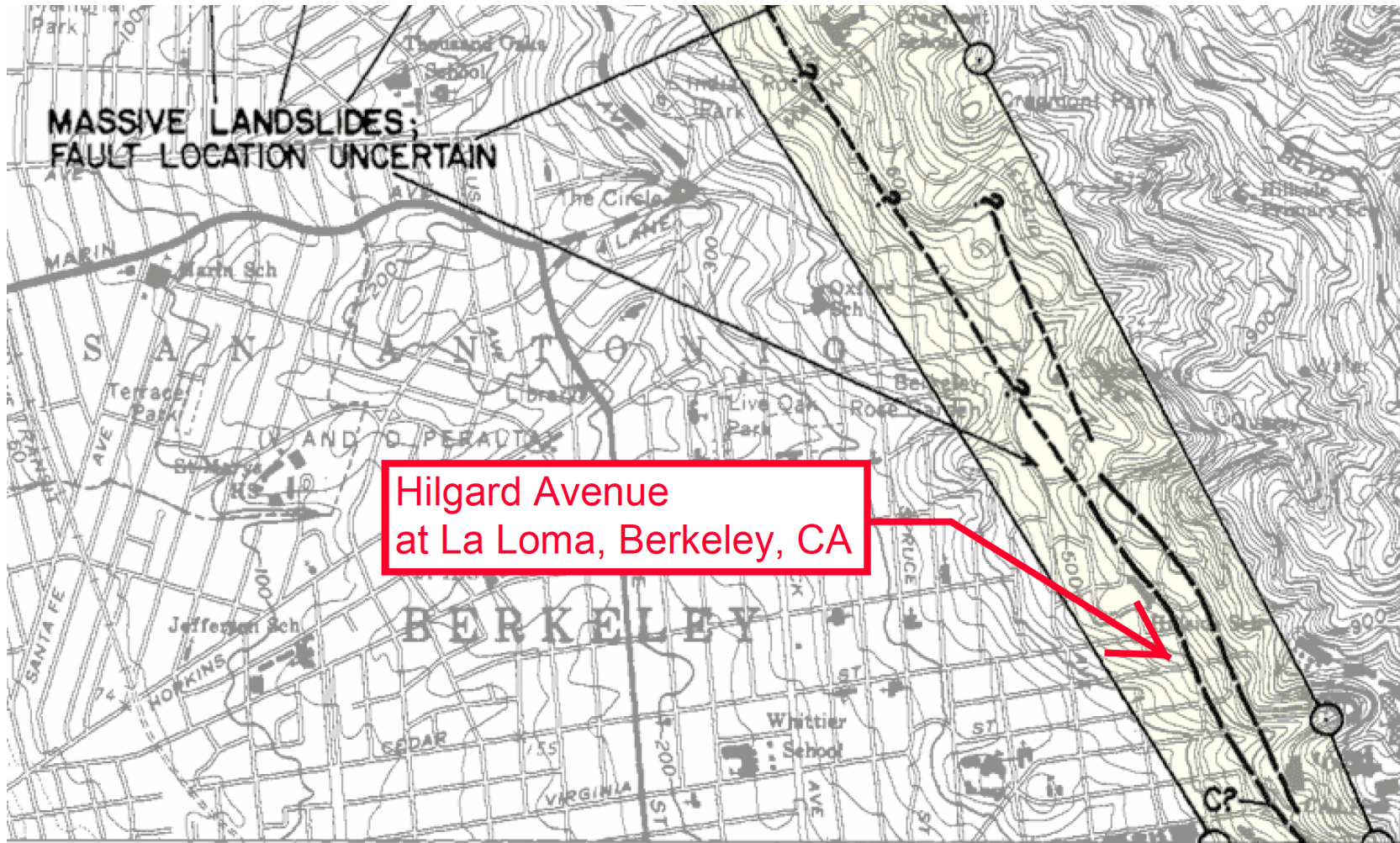


Preliminary Geologic Map of Richmod Quad

**Hilgard Avenue Retaining Wall
Berkeley, CA 94709**

Report Date:	Sept. 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 4



Source: State of California (1982), Special Studies Zones (Alquist-Priolo Special Studies Zones Act), Richmond Quadrangle



Alquist-Priolo Fault Zones Map

Hilgard Avenue Retaining Wall
Berkeley, CA 94709

Report Date:

Sept. 2023

Reviewed By:

DA

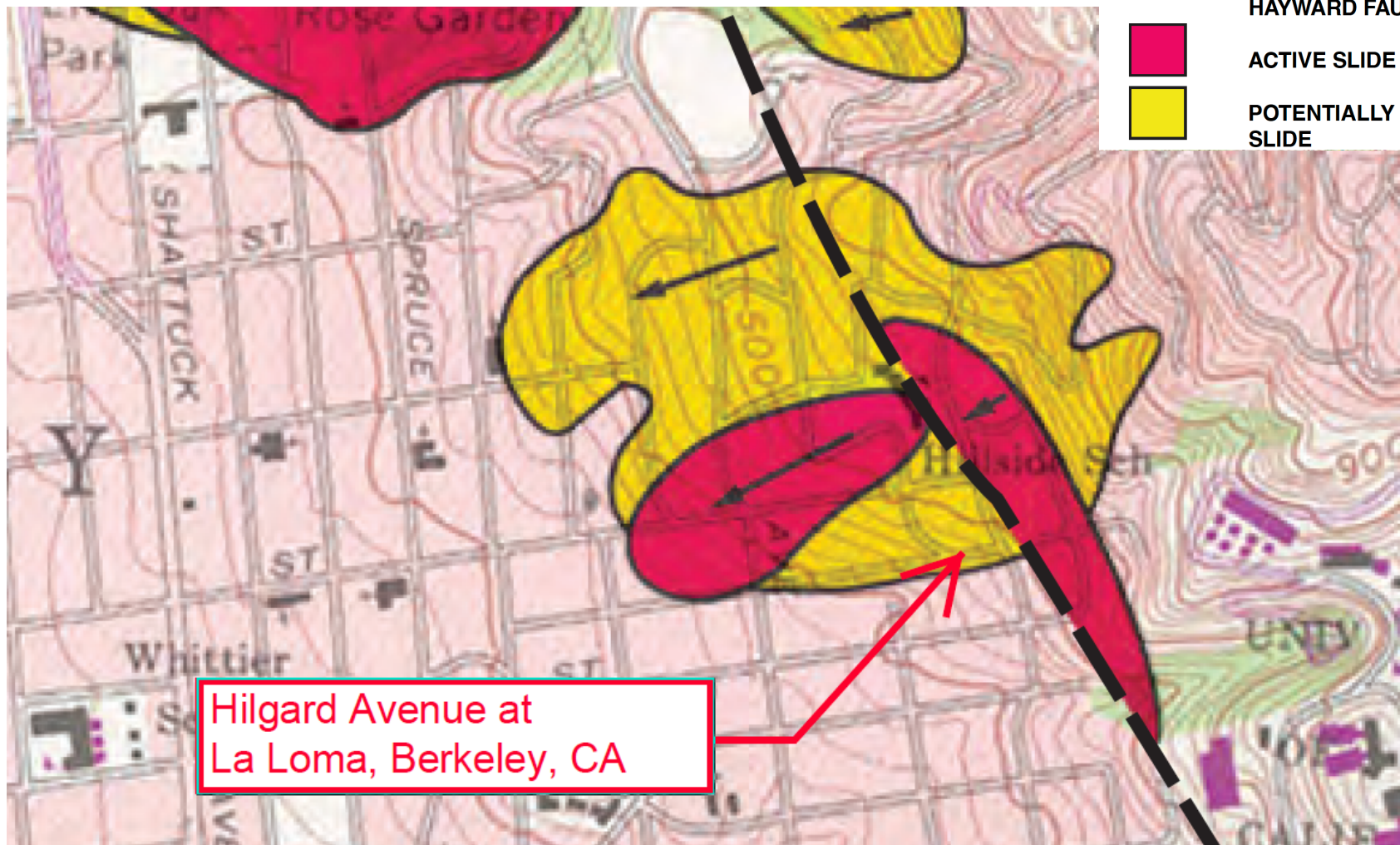
Proj. Manager:

DA

Job No.:

1544-0923M

Figure 5




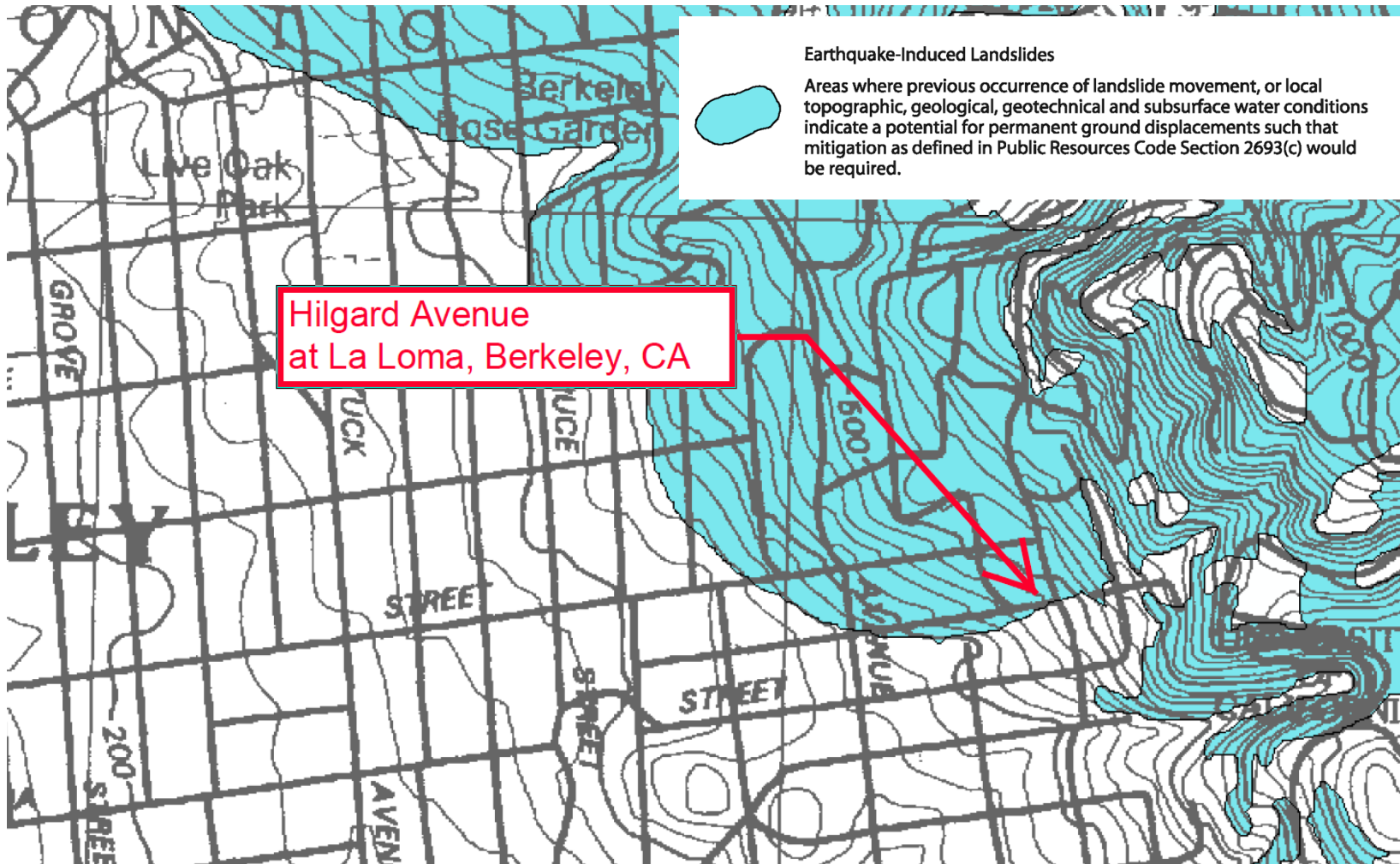
- - - - HAYWARD FAULT
 ACTIVE SLIDE
 POTENTIALLY ACTIVE SLIDE

Hilgard Avenue at
La Loma, Berkeley, CA



Source: Alan Kropp & Associates, Inc., Geotechnical Consultants, Latest Revision March 1995
 NOTE: Map is generalized in nature and all boundaries are approximate. Subject to revision.

	Landslide Potential Map	Report Date:	Sept. 2023	Figure 6
	Hilgard Avenue Retaining Wall Berkeley, CA 94709	Reviewed By:	DA	
	Proj. Manager:	DA		
	Job No.:	1544-0923M		



Source: State of California (2003), Seismic Hazard Zones, Richmond Quadrangle

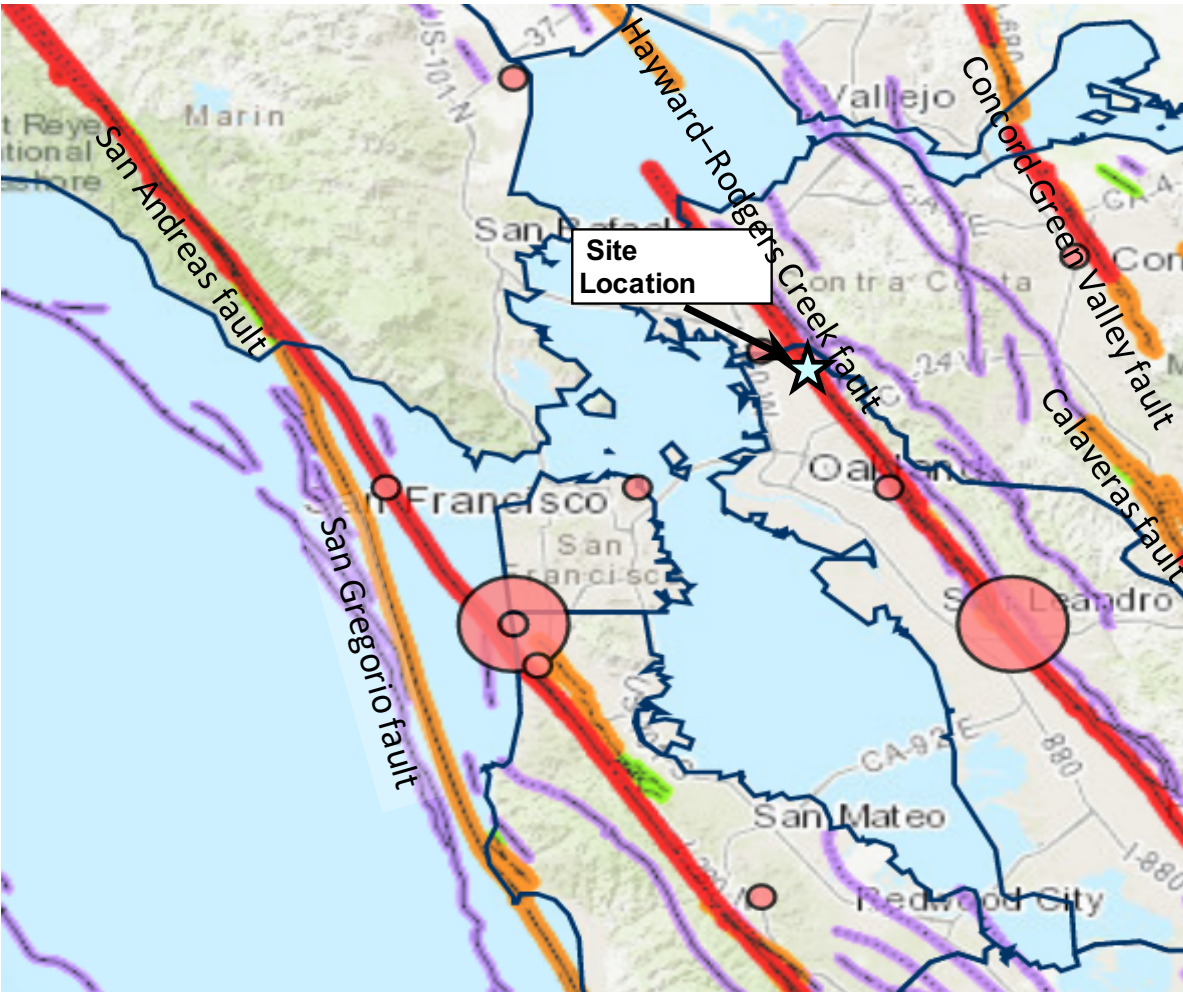


Alquist-Priolo Fault Zones Map



**Hilgard Avenue Retaining Wall
 Berkeley, CA 94709**

Report Date:	Sept. 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 7



Color coding of faults: red = rupture within previous 200 years, historically active; orange = Holocene, active; green = late Quaternary; violet = Quaternary

Recorded earthquake magnitudes:  <math>M < 6.0</math>  $M > 7.0$

Base: <http://maps.conservation.ca.gov/cgs/historicearthquakes/>. Fault names added.



Regional Faults and Seismicity

**Hilgard Avenue Retaining Wall
Berkeley, CA 94709**

Report Date:	Sept. 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 8

2/28/23, 3:52 PM

ATC Hazards by Location

⚠ This is a beta release of the new ATC Hazards by Location website. Please [contact us](#) with feedback.

🔔 The ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

ATC Hazards by Location

Search Information

Address: 1644 La Loma Ave, Berkeley, CA 94709, USA
Coordinates: 37.8792234, -122.2578101
Elevation: 501 ft
Timestamp: 2023-02-28T23:52:55.249Z
Hazard Type: Seismic
Reference Document: ASCE7-16
Risk Category: II
Site Class: D-default



Basic Parameters

Name	Value	Description
S _S	2.28	MCE _R ground motion (period=0.2s)
S ₁	0.88	MCE _R ground motion (period=1.0s)
S _{MS}	2.736	Site-modified spectral acceleration value
S _{M1}	* null	Site-modified spectral acceleration value
S _{DS}	1.824	Numeric seismic design value at 0.2s SA
S _{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F _a	1.2	Site amplification factor at 0.2s
F _v	* null	Site amplification factor at 1.0s
CR _S	0.902	Coefficient of risk (0.2s)
CR ₁	0.892	Coefficient of risk (1.0s)
PGA	0.958	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	1.149	Site modified peak ground acceleration
T _L	8	Long-period transition period (s)
SsRT	2.63	Probabilistic risk-targeted ground motion (0.2s)
SsUH	2.916	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.28	Factored deterministic acceleration value (0.2s)
S1RT	0.993	Probabilistic risk-targeted ground motion (1.0s)
S1UH	1.113	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.88	Factored deterministic acceleration value (1.0s)
PGA _d	0.958	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

Source: Structural Engineers Association of California, <https://seismicmaps.org/>



Seismic Design Parameters

**Hilgard Avenue Retaining Wall
Berkeley, CA 94709**

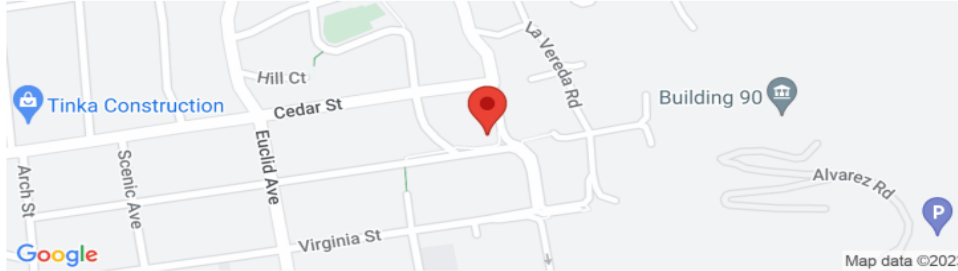
Report Date:	Sept. 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M

Figure 9a



1644 La Loma Ave, Berkeley, CA 94709, USA

Latitude, Longitude: 37.8792234, -122.2578101



Date	2/28/2023, 3:56:38 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_s	2.28	MCE_R ground motion. (for 0.2 second period)
S_1	0.88	MCE_R ground motion. (for 1.0s period)
S_{MS}	2.736	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1.824	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.958	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	1.149	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
S_{eRT}	2.63	Probabilistic risk-targeted ground motion. (0.2 second)
S_{eUH}	2.916	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
S_{eD}	2.28	Factored deterministic acceleration value. (0.2 second)
S_{IRT}	0.993	Probabilistic risk-targeted ground motion. (1.0 second)
S_{IUH}	1.113	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S_{ID}	0.88	Factored deterministic acceleration value. (1.0 second)
PGA_d	0.958	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	1.133	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.902	Mapped value of the risk coefficient at short periods

Type	Value	Description
C_{R1}	0.892	Mapped value of the risk coefficient at a period of 1 s
C_v	1.5	Vertical coefficient

Source: Structural Engineers Association of California, <https://seismicmaps.org/>



Seismic Design Parameters

**Hilgard Avenue Retaining Wall
Berkeley, CA 94709**

Report Date:	Sept 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.:	1544-0923M





Figure 9b
(Continued)

Appendix A – Boring Logs

Material Symbols

 Topsoil  Fill  Asphalt  High-Plasticity Clay (CH)  Low-Plasticity Clay (CL)  Silt	 Loose Sand  Dense Sand  Gravel  Cobbles  Rock / Concrete  Colluvium
---	---

Sample Types

 Standard Penetration Test (SPT)  Modified California Sample (MC)	 Bulk Sample (Bag)  Shelby Tube Sample (Push)
--	--

Grain Sizes

##	U.S. Standard Series Sieve			Clear Square Sieve Openings			
	40	10	4	3/4"	3"	12"	
Silts and Clays	Sand			Gravel		Cobble	Boulder
	Fine	Medium	Coarse	Fine	Coarse		

Relative Density

Sands and Gravels	Blows/ Foot*
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Consistency

Silts and Clays	Blows/Foot	Strength (tsf)**
Very Soft	0-2	0-1/4
Soft	2-4	1/4-1/2
Firm	4-8	1/2-1
Stiff	8-16	1-2
Very Stiff	16-32	2-4
Hard	Over 32	Over 4

* Number of blows for a 140-pound hammer falling 30 inches, driving a 2-inch O.D. (1-3/8" I.D.) split spoon sampler 12 inches into soil.

** Unconfined compressive strength.

Terminology & Abbreviations

W _n Natural Moisture Content	LL Liquid Limit	pp Pocket Penetrometer
γ _d Dry Density	PL Plastic Limit	C _u Undrained Shear Strength
O _c Organic Content	PI Plasticity Index	U _c Unconfined Compressive Strength



Key to Boring Logs

**Hilgard Avenue, Berkeley
California**

Report Date:	Sept. 2023
Reviewed By:	DA
Proj. Manager:	DA
Job No.: 1544-0923M	

Sheet A-0

Project 1544-0923M	Hilgard Avenue, Berkeley, California	Driller: DeNovo
Date: Feb. 13, 2023	Drill Rig: Portable Minuteman	Hammer: 140 pounds, automatic
Groundwater at 16'-0"	<h1>Boring Log BG-1</h1>	
		Borehole diam.: 3 in. Logged by DA

Depth (ft)	Sample type	Blow count	Test results	Graphic log	Material descriptions	Depth (ft)
1					Fill: dark brown/greyish dark brown gravelly fill, moist.	1
2					Dark grey to black silty clay, high plasticity, moist, stiff, some organic matter.	2
3						3
4	MC	6			Same material as above; color changed to dark brown.	4
5		8				5
6		11			Materials were geologically grouped by Dibblee (1980) as old alluvial deposits (Pleistocene) and landslide debris.	6
7						7
8					Dark brown sandy fat clay, contains coarse sand size particles, some gravel size	8
9						9
10	MC	11			Change to still lighter color, small rock fragments reported at 11' to 11.5'.	10
11		15				11
12					Light greenish brown, silty clay matrix, containing rock fragments, clay content dominant, high plasticity, saturated. Some gravel size particles exhibit shear planes. There are indications of the materials potentially being part of an old landslide that may have moved further down the slope as a result of activity of a	12
13						13
14					Classifies as stiff clay.	14
15						15
16	MC	15			Encountered groundwater	16
17		20				17
18					Brown coarse sand to fine gravel, some silt, wet, dense. Largest gravel about 1.5" diameter. The coarse grained material some rounded, some sunrounded and some angular.	18
19						19
20					Borehole terminated at depth of 22'-6" below surface	20
21						21
22	MC	17				22
		30				
		32				


DAC132-2007

	Hilgard Avenue, Berkeley California	Report Date:	Sept. 2023	<h2>Sheet A-1</h2>
		Reviewed By:	DA	
		Proj. Manager:	DA	
		Project No.:	1544-0923M	

Project 1544-0923M	Hilgard Avenue, Berkeley, California		Driller: DeNovo
Date: Feb. 13, 2023	Drill Rig: Portable Minuteman	Hammer: 140 pounds, automatic	Borehole diam.: 3 in.
Groundwater was not encountered	Boring Log BG-2		Logged by DA

Depth (ft)	Sample type	Blow count	Test results	Graphic log	Material descriptions	Depth (ft)
1					Fill: dark brown sandy clay fill/top soil.	1
2					Roots and rootlets	2
3					Colluvium/Residual soil: coarse sand with some clay.	3
4	X MC	12 14 18				4
5					At about 5' depth the soil changes to lighter brown and gets more sandy/gravelly.	5
6						6
7	X MC	11 22 31			Reddish brown clayey sand.	7
8						8
9						9
10						10
11						11
12						12
13	X MC	30 36 52			A very dense matrix of sandy soil with rock fragments, pieces up to 1.5" of highly fractured and sheared rocks, dry.	13
14						14
15					Drilling continued for examination of drilling resistance and consistency of the subsurface materials. Drilling resistance was reported to be consistent.	15
16						16
17						17
18					Drilling terminated at 18' below surface grade.	18
19						19
20						20
21						21
22						22

DAC132-2007

	Hilgard Avenue, Berkeley California	Report Date:	Sept. 2023	Sheet A-2
		Reviewed By:	DA	
		Proj. Manager:	DA	
		Project No.:	1544-0923M	