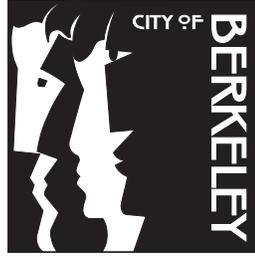


**CITY OF**



**BERKELEY**

**DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION**

# **SPECIFICATIONS**

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**FOR**

**FY 2026 STREET MAINTENANCE AND REHABILITATION  
PROJECT**

**SPECIFICATION NO. 26-11763-C**

**MARCH 2026**

**PRE-BID CONFERENCE: None**

**BID OPENING DATE: APRIL 02, 2026**

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

CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS

SPECIFICATIONS

FOR

**FY 2026 STREET MAINTENANCE AND REHABILITATION PROJECT  
SPECIFICATION NO. 26-11763-C**

Prepared under the direction of:

Signed by:  
  
98C9B468A27146D...

3/4/2026

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Terrence Salonga, P.E.  
Supervising Civil Engineer

Reviewed by:

Signed by:  
  
00C606B976414C9...

3/4/2026

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Wahid Amiri, P.E.  
Deputy Director of Public Works

Engineering Division  
1947 Center Street, 4<sup>th</sup> Floor  
Berkeley, California 94704  
Project Manager: Randy (Wai) Kong

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NOTICE TO BIDDERS

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

**2:00 P.M., Thursday, April 02, 2026**

At which time bids will be publicly opened and read by the General Services Manager for **FY 2026 STREET MAINTENANCE AND REHABILITATION 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 2026 STREET MAINTENANCE AND REHABILITATION PROJECT, SPECIFICATION NO. 26-11763-C**.

Pre-Award Conference: The apparent low Bidder will be invited to a pre-award conference tentatively scheduled for 2:00 P.M., Thursday, April 09, 2026, at 1947 Center Street, 4th Floor, Berkeley, CA.

2. **Scope of Work - FY 2026 STREET MAINTENANCE AND REHABILITATION PROJECT:**  
The work done under these specifications includes but is not limited to: tree trimming and removal, traffic control, adjustment of survey monument and utility boxes, frames, and covers, protection of underground utility services (e.g., gas, water, sewer, electrical, telecom), concrete sidewalk, concrete driveways, concrete valley gutter, concrete curb, curb, and gutter, curb ramps, storm drain infrastructure improvements, asphalt concrete removal and paving, speed tables or cushions, opened graded asphalt path and related storm pipe, crack sealing, slurry seal and microsurfacing, traffic striping, traffic signage installation, and curb painting.
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 Bid & Proposal Opportunities:

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

Bidders are responsible for notifying Stephanie Angcla, Assistant Public Works Engineer, by email at [SAngcla@berkeleyca.gov](mailto:SAngcla@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. Addenda will be posted on the project's webpage. Click "Additional Files" to see a list of addenda, if any have been issued.

<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 Nos. 59,853-N.S., 60,382-N.S., and 70,606-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 December 15, 2020. 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 Stephanie Angla, Assistant Public Works Engineer, by email at [SAngla@berkeleyca.gov](mailto:SAngla@berkeleyca.gov), no later than 10:00 A.M., Friday, March 27.

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.

(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

(continued)

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1	Mobilization	1	LS		
2	Traffic Control	1	LS		
3	Construction Area Signs (Revocable)	200	EA		
4	Changeable Message Boards (Revocable)	42	EA		
5	Construction Staking	1	LS		
6	Monument Preservation	1	LS		
7	Water Pollution Control Program	1	LS		
8	Potholing (Revocable)	1	LS		
9	Clearing, Grubbing, Tree Protection & Root Pruning	1	LS		
10	Tree Removal 12-inch to 24" Diameter (Revocable)	7	EA		
11	Tree Removal 25-inch to 36" Diameter (Revocable)	4	EA		
12	Tree Removal 37-inch to 48" Diameter (Revocable)	4	EA		
13	Crack Seal & Microsurfacing (Type II w/Black Rock)	171,719	SF		
14	Crack Seal & Slurry Seal (Type II w/Black Rock)	438,724	SF		
15	3/8-inch HMA (Type A) PG 64-10	1,680	TN		
16	1/2-inch HMA (Type A) PG 64-10	10,435	TN		
17	Miscellaneous Paving at Driveway (Revocable)	6,250	SF		
18	1/2" RHMA-G	7,867	TN		
19	Remove Speed Table	2	EA		
20	Construct Speed Cushion	13	EA		

FY 2026 STREET MAINTENANCE AND REHABILITATION PROJECT  
 BIDDER'S PROPOSAL  
 (continued)

SPECIFICATION NO. 26-11763-C

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
21	Install Mountable HMA Dike	36	LF		
22	Remove and Replace HMA Dike	250	LF		
23	Install Shoulder Backing	211	LF		
24	Place Skin Patch	3	SF		
25	Remove & Replace 4-inch HMA	75,972	SF		
26	Remove & Replace 5-inch HMA	7,778	SF		
27	Remove & Replace 6-inch HMA	84,369	SF		
28	Remove & Replace 8-inch HMA	40,705	SF		
29	Remove & Replace 10-inch HMA	43,974	SF		
30	6-inch Deep Lift Stabilization (Revocable)	12,640	SF		
31	Keycut A1	26,201	LF		
32	Keycut B1	1,567	LF		
33	Cold Plane 1-inch	24,600	SF		
34	Cold Plane 2-inch	200,617	SF		
35	Cold Plane 2-1/4-inch	101,562	SF		
36	Cold Plane 2-1/2-inch	272,846	SF		
37	Cold Plane 3-1/2-inch	69,200	SF		
38	Cold Plane 4-inch	15,220	SF		
39	Cold Plane 5-inch	67,104	SF		
40	Cold Plane 7-inch	15,220	SF		

(continued)

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
41	Grind High Spot in Roadway Flush w/ Adjacent Pavement Surface	2	SF		
42	Remove AC Fill from Gutter Pan	1	EA		
43	Remove & Replace PCC Sidewalk	742	SF		
44	Remove & Replace PCC Sidewalk (Revocable)	2,000	SF		
45	Remove PCC Sidewalk, Backfill w/Top Soil & Mulch	30	SF		
46	Remove & Replace PCC Curb (6-inch)	581	LF		
47	Remove & Replace PCC Curb & Gutter (1- foot Gutter)	62	LF		
48	Remove & Replace PCC Curb & Gutter (2- foot Gutter)	746	LF		
49	Remove & Replace PCC Curb & Gutter (2- foot Gutter) (Revocable)	600	LF		
50	Remove & Replace PCC Driveway (Residential)	98	SF		
51	Remove & Replace PCC Raised Island	12	SF		
52	Remove Island Passageway & Construct PCC Median Island	192	SF		
53	Remove & Replace PCC Swale	27	LF		
54	Construct Traffic Circle	3	EA		
55	Construct Bulb-Out at Tree	3	EA		
56	Wood Retaining Wall (12 Inches)	673	LF		
57	Wood Retaining Wall (24 Inches)	200	LF		
58	Relocate Roadside Sign	9	EA		
59	Relocate Post w/ Ped Push Button	1	EA		
60	Install R1-6 Sign	4	EA		

(continued)

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
61	Install W11-2 Sign	4	EA		
62	Install W16-7P Sign	4	EA		
63	Remove Cross Drain Cover (Revocable)	1	EA		
64	Install Cross Drain Cover (Revocable)	1	EA		
65	Install Cross Drain Pipe Under Sidewalk (Revocable)	100	LF		
66	Install Cross Drain Pipe Under Street (Revocable)	200	LF		
67	Construct Cross Drain (Revocable)	20	EA		
68	Reconstruct Top of Curb Inlet	1	EA		
69	Reconstruct Curb Drain	2	EA		
70	Reconstruct Top of Catch Basin	1	EA		
71	Remove and Replace Catch Basin	1	EA		
72	Install Edge Drain	1	LS		
73	Install G-5 Frame & Cover Furnished By EBMUD	119	EA		
74	Replace Water Valve Frame & Cover	2	EA		
75	Replace Survey Monument Frame & Cover	1	EA		
76	Remove & Replace HMA Around Utility Cover	1	EA		
77	Lower Gas Valve Cover (Revocable)	39	EA		
78	Lower Loop Detector Handhole Cover	8	EA		
79	Lower Maintenance Hole Cover	188	EA		
80	Lower Sewer Cleanout Cover	1	EA		

(continued)

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
81	Lower Survey Monument Cover	47	EA		
82	Lower Water Valve Cover (Revocable)	208	EA		
83	Adjust Electrical Box Cover to Finish Grade	8	EA		
84	Adjust Gas Valve Cover to Finish Grade (Revocable)	53	EA		
85	Adjust Loop Detector Handhole Cover to Finish Grade	8	EA		
86	Adjust Junction Box to Finish Grade (Revocable)	30	EA		
87	Adjust Maintenance Hole Cover to Finish Grade	191	EA		
88	Adjust Sewer Cleanout Cover to Finish Grade	3	EA		
89	Adjust Survey Monument Cover to Finish Grade	54	EA		
90	Adjust Water Valve Cover to Finish Grade (Revocable)	243	EA		
91	Monument Replacement	37	EA		
92	Install Blue RPM at Fire Hydrant	88	EA		
93	Install Yellow RPMs at Median	34	EA		
94	4-inch White Line (Thermo)	2,458	LF		
95	4-inch Yellow Line (Thermo)	50	LF		
96	6-inch White Line (Thermo)	202	LF		
97	6-inch Yellow Line (Thermo)	27	LF		
98	8-inch White Line (Thermo)	1,503	LF		
99	8-inch Yellow Line (Thermo)	671	LF		
100	12-inch White Crosswalk/Limit Line (Thermo)	10,163	LF		

(continued)

<b><u>Item No.</u></b>	<b><u>Description *</u></b>	<b><u>Estimated Quantity</u></b>	<b><u>Unit</u></b>	<b><u>Unit Cost</u></b>	<b><u>Total Cost</u></b>
101	12-inch Yellow Crosswalk Line (Thermo)	2,444	LF		
102	24-inch White Crosswalk Line (Thermo)	9,152	LF		
103	24-inch Yellow Crosswalk Line (Thermo)	972	LF		
104	White Yield Line (Thermo)	336	EA		
105	Striping Detail #2 (Thermo & Markers)	2,548	LF		
106	Striping Detail #9 (Thermo & Markers)	14,646	LF		
107	Striping Detail #22 (Thermo & Markers)	22,553	LF		
108	Striping Detail #22 Modified (Thermo & Markers)	1,511	LF		
109	Striping Detail #25 Modified (Thermo & Markers)	1,951	LF		
110	Striping Detail #27B (Thermo)	15,043	LF		
111	Striping Detail #29 (Thermo)	2,413	LF		
112	Striping Detail #32 (Thermo & Makers)	2,599	LF		
113	Striping Detail #38 (Thermo & Makers)	3,899	LF		
114	Striping Detail #39 (Thermo)	20,753	LF		
115	Striping Detail #39A (Thermo)	1,954	LF		
116	Striping Detail #40 (Thermo)	411	LF		
117	Striping Detail #41 (Thermo)	156	LF		
118	Pavement Marking "25" Legend (Thermo)	51	EA		
119	Pavement Marking "AHEAD" Legend (Thermo)	3	EA		
120	Pavement Marking "BIKE" Legend (Thermo)	4	EA		

(continued)

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
121	Pavement Marking "BLVD" Legend (Thermo)	10	EA		
122	Pavement Marking "CLEAR" Legend (Thermo)	13	EA		
123	Pavement Marking "CHEVRON" Legend (Thermo)	2	EA		
124	Pavement Marking "KEEP" Legend (Thermo)	13	EA		
125	Pavement Marking "DO" Legend (Thermo)	1	EA		
126	Pavement Marking "ENTER" Legend (Thermo)	1	EA		
127	Pavement Marking "LANE" Legend (Thermo)	4	EA		
128	Pavement Marking "NOT" Legend (Thermo)	1	EA		
129	Pavement Marking "NP" No Parking Legend (Thermo)	2	EA		
130	Pavement Marking "ONLY" Legend (Thermo)	4	EA		
131	Pavement Marking "PED" Legend (Thermo)	10	EA		
132	Pavement Marking "SCHOOL" Legend (Thermo)	2	EA		
133	Pavement Marking "SLOW" Legend (Thermo)	4	EA		
134	Pavement Marking "STOP" Legend (Thermo)	104	EA		
135	Pavement Marking "XING" Legend (Thermo)	12	EA		
136	Pavement Marking "YIELD" Legend (Thermo)	1	EA		
137	Pavement Marking "Type I (10'-0") Arrow" (Thermo)	3	EA		
138	Pavement Marking "Type I (18'-0") Arrow" (Thermo)	8	EA		
139	Pavement Marking "Type I (24'-0") Arrow" (Thermo)	5	EA		
140	Pavement Marking "Type II (L or R) Arrow" (Thermo)	12	EA		

(continued)

<b><u>Item No.</u></b>	<b><u>Description *</u></b>	<b><u>Estimated Quantity</u></b>	<b><u>Unit</u></b>	<b><u>Unit Cost</u></b>	<b><u>Total Cost</u></b>
141	Pavement Marking "Type III (L or R) Arrow" (Thermo)	61	EA		
142	Pavement Marking "Type IV (L or R) Arrow" (Thermo)	44	EA		
143	Pavement Marking "Type VI (L or R) Arrow" (Thermo)	1	EA		
144	Pavement Marking "Bike Lane Arrow" (Thermo)	51	EA		
145	Pavement Marking "Bicycle Boulevard Bike Lane Arrow" (Thermo)	10	EA		
146	Pavement Marking "Bike Lane Symbol w/ Person" (Thermo)	47	EA		
147	Pavement Marking "Bicycle Boulevard Bike Lane Symbol w/ Person" (Thermo)	10	EA		
148	Pavement Marking "Shared Roadway Bicycle Marking" (Thermo)	102	EA		
149	Pavement Marking "L" Parking Stall Symbol (Thermo)	34	EA		
150	Pavement Marking "T" Parking Stall Symbol (Thermo)	53	EA		
151	Pavement Marking "Rail Crossing Symbol" Legend (Thermo)	1	EA		
152	Pavement Marking "Bicycle Loop Detector Symbol" (Thermo)	2	EA		
153	Remove and Replace Cross Bike Marking	18	EA		
154	Red Curb Paint	81	LF		
155	Blue Curb Paint	18	LF		
156	Green Pavement	3,476	SF		
157	Remove and Replace White Delineator	58	EA		
158	Remove and Replace Yellow Delineator	24	EA		
159	Install Yellow Delineator	12	EA		
160	Remove and Replace Tuff Curb	24	EA		

(continued)

<u>Item No.</u>	<u>Description *</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
161	Install Tuff Curb	56	EA		
162	Install Hardened Centerline	120	LF		
163	Remove In-Road Crosswalk Warning Light Can	1	EA		
164	Remove & Replace Rubber Parking Bumper	1	EA		
165	Remove & Replace Detector Loop	21	EA		
166	Salvage Planter	10	EA		
167	Install Salvaged Planter	10	EA		
168	UPRR Permit and Requirements	1	LS		
169	Remove & Replace Permeable Pavement and Base System	1	LS		

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 curb ramps scheduled for replacement.

170	Supplemental	1	LS	\$200,000.00	\$200,000.00
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**TOTAL COST OF BID IN WORDS AND FIGURES:** \_\_\_\_\_  
 \_\_\_\_\_ Dollars and  
 \_\_\_\_\_ Cents/(\$\_\_\_\_\_).

**Note:**

\* Bid Items 3, 4, 8, 10, 11, 12, 17, 30, 44, 49, 63, 64, 65, 66, 67, 77, 84, 86 and 90 are 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 (100) 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 Twenty Five Hundred Dollars (\$2,500.00) for each working day that the construction work remains incomplete beyond the above construction time. The term of the contract is One Hundred Twenty(120) 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 No. 26-11763-C. The contractor shall complete all work specified in the contract documents in accordance with the plans and specifications within One Hundred Twenty (120) 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, April 02, 2026**, at Finance Department – General Services Division, 2180 Milvia Street, 3<sup>rd</sup> Floor, Berkeley, California

- Bidder's Proposals (**One Full Set of Originals**)
- 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, April 09, 2026**, at 1947 Center Street, 4th Floor, Berkeley, California

- Bidder's Proposals (**One Additional Original Signature Page only**)
- Memorandum of Understanding
- Agreement for Change in Sub-Contractors
- WorkForce 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 2026 Street Maintenance and Rehabilitation Project / 26-11763-C**

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 Nos. 59,853-N.S., 60,382-N.S., and 70,606-N.S., (hereafter "Resolutions"). 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, the provinces of Aho, Kham, and U-Tsang; and Burma (Myanmar)**

"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 2026 Street Maintenance and Rehabilitation Project / 26-11763-C**

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:

\_\_\_\_\_  
Prime Contractor

\_\_\_\_\_  
Subcontractor

\_\_\_\_\_  
City of Berkeley City Engineer or designee

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_



## OCCUPATIONAL CATEGORIES

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**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: **FY2026 Street Maintenance and Rehabilitation Project / 26-11763-C**

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**

Name:		Vendor No.:	
Address:	City:	State:	ZIP:
Contact Person:		Telephone:	
E-mail Address:		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><b>Article I. FOR CITY OF BERKELEY USE ONLY</b></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 THE COMMUNITY WORKFORCE AGREEMENT

- **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, 2<sup>nd</sup> 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 2026 STREET MAINTENANCE AND REHABILITATION PROJECT, 26-11763-C**

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 Obligee, all loss and damages which said Obligee 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 Obligeo to be in default under the contract, the Obligeo having performed Obligeo'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 Obligeo elects, upon determination by the Obligeo and the Surety jointly of the lowest responsible Bidder, arrange for a contract between such Bidder and Obligeo, 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 Obligeo to principal under the contract and amendments, thereto, less the amount properly paid by Obligeo 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 Obligeo named herein or the heirs, executors, administrators or successors of Obligeo.

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

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**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.

**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 sepia 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.

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## **SPECIAL PROVISIONS**

### **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. This contract intends to obtain a finished, skillful job that is complete and in place.

### **2. Locations of Work**

The work described in these specifications is located within the City of Berkeley. Portion of the work on Addison Street is within the right-of-way of UPRR and the Contractor is responsible to obtain all necessary permits, approvals, etc., including a right-of-entry permit from UPRR, in order to perform the work. .

### **3. Nature of Work**

**Scope of Work: FY 2026 STREET MAINTENANCE AND REHABILITATION PROJECT:** The work done under these specifications includes but is not limited to: tree trimming and removal, traffic control, adjustment of survey monument and utility boxes, frames, and covers, protection of underground utility services (e.g., gas, water, sewer, electrical, telecom), concrete sidewalk, concrete driveways, concrete valley gutter, concrete curb, curb, and gutter, curb ramps, storm drain infrastructure improvements, asphalt concrete removal and paving, speed tables or cushions, opened graded asphalt path and related storm pipe, crack sealing, slurry seal and microsurfacing, traffic striping, traffic signage installation, and curb painting.

### **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 that a prime Contractor must possess at the time a contract is awarded. In order to be considered for the award of this contract, the prime Contractor must possess one of the following Contractor's licenses:

- |     |   |                                |
|-----|---|--------------------------------|
| A   | - | General Engineering Contractor |
| C-8 | - | Concrete 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. Community Workforce Agreement**

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

**7. 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.

**8. Progress Schedule**

A detailed progress schedule will be required for this contract. The progress schedule shall be submitted prior to the commencement of work and updated monthly. 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.

In addition, the contractor shall provide a detailed Three-Week Look-Ahead schedule that must include the scheduled tasks for each address over the next two weeks and a snapshot of completed tasks from the previous week.

**9. Holidays**

On designated legal holidays, the full width of the street's traveled way shall be opened for

use by public traffic.

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, unless it is approved by the Engineer otherwise.

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.

**10. Obstructions**

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

Attention is also directed to overhead and underground utilities in the construction area. The Contractor shall exercise due caution in performing his work to not 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, be worked around, and be protected from damage or interruption of service. The Contractor shall bear all costs caused by delays or extra work associated with maintaining utilities and pipelines.

The Contractor shall determine the unknown location of main and service utilities in advance to avoid delaying the construction schedule. Advance potholing shall be included in the planning and execution of the work. The City will pay no additional compensation 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 a 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 them well in advance so as not to impede this work. The contractor shall mark the locations of such utilities and maintain said markings for 30 days after final paving.

**11. Weight Certificates**

As soon as the truck arrives at the site, the engineer on the job shall receive a duplicate certified ticket stating the weight of the material in the truck and the date and time of the weighing. All trucks used for hauling hot mix asphalt shall be weighed empty daily at such times as the Engineer directs.

**12. 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 contact 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 Relations Policy and that all Contractor employees will be briefed on proper

relations with the public in accordance with the above policy statement.

Contractor employees without specific public relations responsibilities shall be informed of the name of the Contractor and the City's Public Relations 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.

The City will pay no additional compensation for implementing Public Relations Policy requirements. All such related effort is a mandatory requirement of the contract.

### **13. 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 Contractor's responsibility, and the city will not provide them.

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 work, and no additional compensation shall be charged to the City for correction of such deficiency.

The contractor will set stakes or marks 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.

**14. 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.

**15. 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.

**16. 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.**

**17. 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, a 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.

#### **18. 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.

#### **19. 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.

**20. 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.

**21. 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%.

**22. 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.

**23. 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.

#### **24. Pedestrian and Bicycle Access During Construction**

The purpose of the following standards for construction in the public right-of-way is to ensure pedestrian and bicyclist safety and access. These standards apply to City of Berkeley crews, contractors with the City, and all other persons working in the public right-of-way. Each project requires review on a case-by-case basis to ensure that complete, safe, usable, and accessible paths of travel are maintained during construction.

The Contractor's attention is directed to the State Standard Plans for Temporary Pedestrian Access Routes (RSP T30 through RSP T34), the Pedestrian Rights-of-Way Accessibility Guidelines (PROWAG), and the City of Berkeley's "Pedestrian, Bicycle, and Bus Facility Accommodation in Construction Zones" guidelines (Appendix B). All construction activities involving work affecting pedestrian or bicyclist access or safety within the public right-of-way shall comply with these requirements.

**Maintenance of a Clear and Accessible Pedestrian Corridor.** The Contractor 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. The pedestrian corridor shall be a nominal width of 6 feet where feasible and not less than 4 feet wide at single points of contact or obstruction. The corridor shall conform to the most recent Americans with Disabilities Act Accessibility Guidelines (ADAAG) and PROWAG for slope, cross-slope, surface characteristics, and projections from the side, to the maximum extent feasible. The accessible pedestrian corridor, to the maximum extent feasible, shall coincide with the corridor for the general public and shall connect with facilities throughout and adjacent to the project area.

Equipment, debris, construction materials, or vehicles shall not obstruct the pedestrian corridor, existing ramps, temporary ramps, private entrances, or adjoining walkways. The Contractor shall clean public walkways adjoining the construction site of accumulated trash and debris. The Contractor shall not park vehicles in or otherwise obstruct blue curb parking spaces, except as permitted by the City Traffic Engineer as a component of an approved traffic control plan.

**Temporary Ramps.** The Contractor 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 permanent ramps have been temporarily removed during construction and where needed by pedestrians being routed into and out of the parking lane, a crosswalk, or the street area. Ramps shall have a minimum 4-foot wide walking surface, a slope not to exceed 8 percent, and a non-slip surface during all weather conditions. Transitions between temporary ramps and the street surface shall be smooth such that no lip exists at the base of the ramp.

**Barricades and Fencing.** Impenetrable barricades shall be used to separate pedestrians from hazards on all sides of excavations that may be exposed to pedestrians. Caution tape shall not be used by itself to delineate the path of travel or create a barricade. Where fencing material is used alongside a pedestrian corridor, there shall be a minimum 3-inch height, solid, uninterrupted toe-board at the bottom of the fence to act as a guide for blind pedestrians using canes. Signposts, scaffolding, and fencing supports shall be placed entirely outside the pedestrian path of travel so the path is a minimum 4 feet wide and 80 inches high without obstruction.

Where pedestrian detours or sidewalk closures require pedestrians to change their path of travel, the Contractor shall provide proximity-actuated audible signs or other non-visual means of identifying the alternate pedestrian access route at each decision point, in accordance with PROWAG R302.3. Audible devices shall be mounted on barricades or channelizing devices at the point of closure and at each location where the detour route changes direction.

**Surfacing of Pedestrian Corridors.** During construction, tripping hazards and barriers for people with mobility impairments must be removed to maintain an accessible pedestrian corridor. Any change of level in a path of travel which exceeds 1/4 inch in height must be beveled at 45 degrees to provide a smooth, non-tripping transition. No change in level in the path of travel shall exceed 1/2 inch unless it is ramped. Steel plates, trenches, temporary paving or walking surfaces, and utility covers in the pedestrian corridor shall have a smoothly finished, firm walking surface made even with surrounding walkways.

**Restoration of Pedestrian Routes.** As construction work is completed, the surface of the pedestrian path of travel shall be restored free from all ridges, gaps, bumps, and rough edges. Construction that affects an existing curb ramp shall include replacement or repair of the curb ramp to meet current City standards to the satisfaction of the Engineer.

**Bicycle Accommodation.** Existing bicycle lanes and facilities shall remain clear (5-foot minimum) unless the closure is specifically approved as part of a Temporary Traffic Control Plan (TCP) and a reasonable accommodation for an alternate bicycle path of travel is implemented in accordance with Appendix B. Where bike lane closures are approved, the alternate path of travel must be implemented at the same level of protection as the existing facility. TCPs that include bike lane closures shall post construction zone speed limits of 25 mph or less. All bicycle-related signage shall be as permanent as the other temporary traffic control signage in the construction zone.

**Liquidated Damages.** The Contractor will be assessed liquidated damages in the amount of \$1,000 per calendar day for failing to fulfill the pedestrian and bicycle access requirements of this section.

## 25. **Sequence of Work**

Various proposed improvements on Solano, Marin, and Colusa Avenues, including but not limited to repairing of existing pavement failures and placement of preventive surface treatments, will require detailed phasing to allow traffic to move through the neighborhood

without substantial impact to nearby residential streets. Simultaneous closure of these collector streets will not be permitted without the Engineer’s advance approval.

The Contractor’s phasing plan shall account for minimizing impacts to businesses on Solano Avenue. The Contractor shall work with the Engineer to develop and agree on a traffic control plan prior to starting any major work on Solano, Marin, and Colusa Avenues. The Contractor is expected to phase the Solano Avenue work into smaller segments to limit impacts to nearby businesses.

**26. 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.

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.

**27. Special Provisions Compensation**

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

**28. 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.

**29. Red Flag Warnings**

The Contractor shall be responsible for monitoring National Weather Service alerts and forecasts daily. Red Flag Warnings may be issued with little advance notice.

In the event a Red Flag Warning is issued, work restrictions may be implemented, which include, but are not limited to the 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.

Contractors are responsible for staying informed of Red Flag 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>

Full compensation for complying with Red Flag Warning requirements shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be allowed therefor.

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**BID ITEM NO. 1 - MOBILIZATION**

Mobilization includes 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 items on the project site, and for performing a final clean-up of and demobilizing from the project site.

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 will be entitled to payment for additional bonding costs that have been paid to the surety company due to this increase. Payment for this cost will 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 for office setup, 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 shall be required on-site and shall be provided by the Contractor.

The Contractor's proposed staging area(s) will be approved by the Engineer. If Contractor utilizes 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 to meet the following standards:

1. All materials and equipment shall be organized in designated storage areas
2. No debris, trash, or construction waste shall accumulate outside of designated waste containers
3. Perimeter fencing shall be maintained in good condition without tears, gaps, or graffiti
4. Dust control measures shall be implemented and maintained
5. Privacy screening shall remain properly secured and in good condition
6. Construction materials shall be stacked or stored in an orderly manner not exceeding fence height
7. No materials or equipment shall encroach beyond the designated staging area boundaries
8. Storm water best management practices shall be maintained and functional

Failure to maintain these standards will result in a notice to correct within 48 hours. If not corrected, City forces will clean the area at the Contractor's expense at the rate of \$150 per hour per person.

Mobilization shall include the furnishing and providing for regular maintenance of temporary sanitary facilities on the job for the duration of the project. The Contractor's proposed locations for restroom facilities will 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 shall 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. Failure to comply with this requirement will result in withholding of mobilization payments in the amount deemed appropriate by the Director of Public Works.

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 material delivery to and off-haul from the job site. Ten-wheel trucks with extra axles, or "super-dumps," will not be allowed, and as directed by the Engineer.

Before final inspection of the work, the Contractor shall clean the work and all ground occupied by their operations in connection with the work, of all rubbish and debris, excess materials (including liquid asphalt), and equipment.

All pavement areas shall be swept with a street sweeper immediately prior to the final inspection. Prior to the final street sweeping, all concrete areas including driveways, sidewalks, valley gutters, curbs and gutters shall be thoroughly swept clean of all dirt, dust and foreign material, all USA and curb markings shall be removed, and all topsoil areas shall be raked.

All parts of the work shall be left in neat and presentable condition.

All cleanup costs shall be included in the Contractor's bid. In the event that the Contractor fails to perform this final clean-up, the City may remove and/or dispose of debris, materials and equipment at the Contractor's expense.

### **Measurement and Payment**

The contract lump sum price paid for "**Mobilization**" will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Mobilization, complete in place, including furnishing all contract bonds and insurance certificates, public notification, transporting equipment, furnishing and maintaining sanitary restroom facilities, coordination with the City, residents, and business, salvaging and reinstalling bicycle station infrastructure, coordination with USPS regarding mailbox salvaging, relocating and/or reinstalling, final clean-up, and demobilization, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

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 (95%) 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.

- e) 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. 2 - TRAFFIC CONTROL**

### **BID ITEM NO. 3 - CONSTRUCTION AREA SIGNS (REVOCABLE)**

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 California Manual on Uniform Traffic Control Devices (CA-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>

In general, the paving work shall be done in sections so that traffic disruption is minimized. Paving in one (1) section shall be completed before starting another section. It is expected that some sections will be closed to traffic during actual paving operations. Complete closure of streets to through traffic will not be allowed on collectors and arterials. Full closure on low volume residential roadways from 9AM to 5PM is permissible; however, no night time closure is allowed. All the necessary detour route signing shall be in place along with "Road Closure/Work Ahead" signs.

The Contractor shall submit to the City Traffic Engineer project specific traffic control plans a minimum of one (1) month prior to implementing traffic control measures for road construction. Traffic Control Plans shall be provided for cyclists specifically on bike boulevards and streets with bike facilities. Following City review, any traffic control plans requiring revisions shall be submitted to the City within ten (10) working days prior to implementing traffic control measures for road construction. The traffic control plan (1"=100' scale min. drawing) shall include all locations, which involve all project improvements and shall indicate each stage of work, signage, flagman, detour routes, and any other pertinent information. The traffic control plan will be reviewed and approved by the City before the Contractor will be allowed to begin work. The City 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 California Manual of Uniform Traffic Control Device (CA-MUTCD) and in compliance with R303.2 as well as other applicable PROWAG

standards, and must be formatted similarly to the example provided in the Appendix of the Special Provisions.

- Specify if the work will be scheduled one (1) 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.
- 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.
- Submit detailed traffic control plans for each roadway section including side streets according to existing lane configurations/markings. The traffic control plans shall be prepared professionally in accordance with the Traffic Control Manual.
- “No Parking Signs” must be posted no later than four (4) days 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.
- Lane closures are 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).

Schools: Construction activities adjacent to schools shall be coordinated with school administrators at least thirty (30) days in advance. No work shall occur during student arrival or departure times as specified by the school. Enhanced safety measures including designated student walking paths and alternative bus stop or drop-off/pick-up locations shall be provided. A site-specific traffic control plan addressing student safety shall be submitted and approved by both the Engineer and school administration.

Hospitals and Emergency/Public Safety Facilities: A minimum twenty (20) foot wide emergency vehicle access lane shall be maintained at all times. Contractor shall coordinate with facility administrators to identify emergency access requirements and critical times when traffic restrictions must be minimized. No complete road closures are permitted without an approved emergency vehicle handling plan.

Placement of traffic control on San Pablo Avenue (State Route 123) or on Ashby Avenue (State Route 13) will require an encroachment permit from the State of California. Contractor shall apply and pay for such permit from the State of California, the cost of which shall be included in the cost bid for this item. Contractor shall be responsible for providing traffic control plan for encroachment permit to and obtaining approval of said

traffic control plan from State of California. Contractor shall be responsible for all notification of work to, application for and obtaining work authorization number from State of California. Any damages arising from work related to encroachment permit shall be the responsibility of the Contractor.

The Contractor shall initially (on the first working day) notify the U. S. Postal Service, the police, public transit (i.e., AC Transit, Bear Transit, Emery-Go-Round, and others with routes on project streets), fire, garbage and recycling collection (City's Zero Waste), and Engineer of the need for road closure(s) and areas of construction delays. After the first working day, the Contractor shall continue notification to these entities every week in regards to road closures. After the first working day, the Contractor shall notify Berkeley Dispatch and the Engineer of road closure(s) and areas of construction delays before 7 a.m. daily.

All trenches, excavations, and other openings in pavement areas shall be either:

1. Covered with 1-inch steel plates, shimmed with temporary asphalt on edges, by 3:00 PM or at the end of each workday, or
2. Backfilled with temporary asphalt topping maintained in good condition

All areas shall be completely restored within ten (10) working days after work completion at that location. Any open excavations not actively involved in construction shall be adequately barricaded against entry by pedestrians or animals. Orange K-rail shall be provided by the Contractor at no additional cost upon request by the Engineer.

For full road closures, steel plates shall remain on-site at all times and be readily available for immediate deployment to provide emergency vehicle access.

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 joints or drop offs 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 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 and/or the Contractor shall use radios.

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 immediately implement any measures requested by the Engineer, as they deem necessary to ensure the proper flow of traffic, 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.

**Extensive traffic signage, e.g. warning signs and detour signs, may be required for this project.** Contractor shall be responsible for placing all barricades for perimeter street closures as required.

The Contractor shall be responsible for posting "No Parking" signs a minimum of four (4) days in advance of concrete work, base repair, 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.

“No Parking” signs shall be removed by the Contractor during inactive periods of three (3) or more days. Reposting of “No Parking” shall be done a minimum of four (4) days in advance of work as described in the preceding paragraph.

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 (2) 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 (2) adjacent intersections remain open unless otherwise approved by the Engineer. The Contractor shall coordinate their traffic control/diversion plan with City personnel, a minimum of one (1) month prior to starting work, to assure that traffic is diverted in a safe and convenient manner.

**Truck routes shall comply with the City’s truck movement restrictions:**

<https://berkeleyca.gov/city-services/getting-around/heavy-truck-restrictions>

**A map of the designated truck route system is available on the City’s website at:**

<https://berkeleyca.gov/sites/default/files/2022-02/Designated-Truck-Route-Map.pdf>

Personal vehicles of the Contractor's employees shall not be parked within the area of work.

A minimum of one (1) 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 (2) such lanes shall be open to public traffic. The Contractor may be allowed to close residential streets if approved in writing in advance by the Engineer. 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. Notice (door hangers) shall be provided by the Contractor to residents at least three (3) days in advance of lane closures.

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. On days when University of California

football games are scheduled, all construction-related lane closures along these corridors must be re-opened at least four (4) hours before the start of the game.

- University Avenue
- San Pablo Avenue
- Shattuck Avenue
- Telegraph 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.

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 site. Temporary concrete, asphalt, or wood ramps shall be installed and maintained at all locations where existing ramps have been temporarily removed.

Where tack coat has been applied, pedestrian crossing areas shall be covered with sand so that the asphalt does not adhere to shoes. No vehicular traffic shall be allowed on tack coat.

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 businesses and 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 (2) vehicular paths of access, one (1) path, at least ten (10) feet in width, shall remain open during all business hours, unless approved otherwise by the Engineer.

### **Pedestrian and Bicycle Access**

All construction activities involving work affecting pedestrian access or safety within the public right-of-way shall comply with the Pedestrian Rights-of-Way Accessibility Guidelines (PROWAG), the State Standard Plans for Temporary Pedestrian Access Routes (RSP T30 through RSP T34), and the City of Berkeley's "Pedestrian, Bicycle, and Bus Facility Accommodation in Construction Zones" (Appendix B to the Special Provisions). The Contractor's attention is directed to the requirements therein for pedestrian diversions, sidewalk detours, and the conditions under which each is permitted based on project location.

The pedestrian corridor shall be a nominal width of 6 feet where feasible and not less than 4 feet wide at single points of contact or obstruction. The corridor shall conform to the most recent Americans with Disabilities Act Accessibility Guidelines (ADAAG) and PROWAG for slope, cross-slope, surface characteristics, and projections from the side, to the maximum extent feasible. Equipment, debris, construction materials, or vehicles shall not obstruct the pedestrian corridor, existing ramps, temporary ramps, private entrances, or adjoining walkways.

The Contractor shall install and maintain temporary concrete, asphalt, or wood ramps at all locations where permanent ramps have been temporarily removed during construction and where needed by pedestrians being routed into and out of the parking lane, a crosswalk, or the street area. Ramps shall have a minimum 4-foot wide walking surface, a slope not to exceed 8 percent, and a non-slip surface during all weather conditions. Impenetrable barricades shall be used to separate pedestrians from hazards on all sides of excavations. Caution tape shall not be used by itself to delineate the path of travel or create a barricade.

Where pedestrian detours or sidewalk closures require pedestrians to change their path of travel, the Contractor shall provide proximity-actuated audible signs or other non-visual means of identifying the alternate pedestrian access route at each decision point, in accordance with PROWAG R302.3. Audible devices shall be mounted on barricades or channelizing devices at the point of closure and at each location where the detour route changes direction.

During construction, any change of level in the pedestrian path of travel which exceeds 1/4 inch in height must be beveled at 45 degrees. Steel plates, trenches, temporary paving surfaces, and utility covers in the pedestrian corridor shall have a smoothly finished, firm walking surface made even with surrounding walkways. As construction work is completed, the surface of the pedestrian path of travel shall be restored free from all ridges, gaps, bumps, and rough edges.

Bicycle Accommodation. Existing bicycle lanes and facilities shall remain clear (5-foot minimum) unless the closure is specifically approved as part of a Temporary Traffic Control Plan (TCP) and a reasonable accommodation for an alternate bicycle path of travel is implemented in accordance with Appendix C. Where bike lane closures are approved, the alternate path of travel must provide the same level of protection as the existing facility. TCPs that include bike lane closures shall post construction zone speed limits of 25 mph or less. All bicycle-related signage shall be as permanent as the other temporary traffic control signage in the construction zone.

Bus Stop Impacts. Where sidewalk diversions, detours, or lane closures impact access to AC Transit, Bear Transit, or other bus and shuttle stops, the Contractor must receive written confirmation from the affected transit agency regarding temporary stop relocations prior to implementing the traffic control plan. Temporary bus stops must be approved by Public Works Traffic Engineering and noted on the TCP.

### **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 Traffic Control Manual, 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:

- Project Signs: Type 3-barricade mounted (3' high x 4' wide)

- “Road Work Ahead” Signs: Single post, W20-1 (36” x 36”)
- “End Road Work” Signs: Single post, G20-2 (36” x 18”)
- 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 sign plates will not be permitted unless agreed in advance by the Engineer. Signs shall not be attached to trees or private property.

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.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing excavation for construction area signposts.

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

Sign substrates for stationary mounted construction area signs may be fabricated from fiberglass reinforced plastic as specified under Caltrans Signing Delineation Materials entitled, “Prequalified and Tested Signing and Delineation Materials.”

The Contractor may be required to cover certain signs during the progress of the work. Signs that are no longer required or that convey inaccurate information to the public shall be immediately covered or removed, or the information shall be corrected. Covers for construction area signs shall be of sufficient size and density to completely block out the complete face of the signs. The retroreflective face of the covered signs shall not be visible either during the day or at night. Covers shall be fastened securely so that the signs remain covered during inclement weather. Covers shall be replaced when they no longer cover the signs properly.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the 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 has indicated his 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 or replace said component to its original condition and location.

### **Measurement and Payment**

The contract lump sum price paid for “**Traffic Control**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Traffic Control, complete in place, including placing, maintaining, relocating, removing and storing traffic control components, preparation of a traffic control plan, traffic control supervision, flaggers (when necessary), barricades, flashing arrow boards, detour signs, “No Parking, Tow Away” signs, notification and door hangers, temporary traffic delineation, all lane closures necessary for any activities during the life of the project and any other equipment used to protect the public or designate construction areas, coordination with residents, buinesses and agencies, site restoration and clean-up, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

The contract unit price paid for “**Construction Area Signs (Revocable)**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Construction Area Signs, complete in place, including the furnishing, installation, maintenance, removal, and disposal of signs and posts, site restoration, and clean-up, 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 will be for providing all labor, material, equipment, devices, supervision, and all incidentals as are needed to provide traffic control and construction area signs as specified herein, and as required to complete the work.

### **BID ITEM NO. 4 - CHANGEABLE MESSAGE BOARDS (REVOCABLE)**

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. Board shall be maintained to the satisfaction of the Engineer.

Each portable message sign shall include a LED display panel measuring minimum six (6) feet wide by four (4) feet high, capable of displaying at least three lines with eight (8) characters per line. Characters shall be minimum twelve (12) inches in height and legible from one-thousand (1,000) feet. Signs shall be solar powered with battery backup providing minimum fourteen (14) days of continuous operation without charging, and include automatic dimming capability for nighttime operation. A battery charge indicator and low battery alarm system shall be provided.

Message content shall be submitted to Engineer for approval at least five (5) working days prior to board deployment. Messages shall conform to CA MUTCD guidelines with maximum three (3) frames per message and minimum two (2) second display time per frame. Only Contractor's authorized personnel shall program messages, with changes requiring Engineer's authorization. Emergency message changes shall be implemented within two (2) hours of Engineer's direction. Contractor shall maintain twenty-four (24) hour contact information for emergency changes or repairs.

Contractor shall inspect boards daily for proper operation and alignment, keeping them clean and graffiti-free. Any malfunction shall be repaired within four (4) hours of notification. Weekly reports documenting inspections, repairs, and message changes shall be submitted to Engineer. Boards not functioning as specified shall be repaired or replaced within twenty-four (24) hours at no additional cost to the City.

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 base bid quantity assumes 42 locations where changeable message boards are to be placed. The changeable message board locations and types shall be included on the Traffic Control Plans.

- Acton Street at Ashby Avenue and Ward Street - 2 boards
- Addison Street at Bolivar Drive and San Pablo Avenue - 2 boards

- Addison Street at San Pablo Avenue and Curtis Street - 2 boards
- Alcatraz Avenue at Sacramento Street and Adeline Street - 2 boards
- Alcatraz Avenue at Adeline Street and Dover Street - 2 boards
- Colusa Avenue at Solano Avenue and Marin Avenue - 2 boards
- Dohr Street at Ashby Avenue and Ward Street - 2 boards
- Francisco Street at Sacramento Street and MLK Jr Way - 2 boards
- Grizzly Peak Boulevard at Hill Road and Golf Course Road - 2 boards
- Harmon Street at Sacramento Street and Adeline Street - 2 boards
- Marin Avenue at Tulare Avenue and The Circle - 2 boards
- MLK Jr Way at Adeline Street and Ashby Avenue - 2 boards
- MLK Jr Way at Ashby Avenue and Russell Street - 2 boards
- MLK Jr Way at Haste Street and Hopkins Street - 2 boards
- Monterey Avenue at The Alameda and Marin Avenue - 2 boards
- Northbrae Tunnel at Contra Costa Avenue and Del Norte Street - 2 boards
- Oregon Street at Park Street and Sacramento Street - 2 boards
- Russell Street at Park Street and Sacramento Street - 2 boards
- Sacramento Street at University Avenue and Hopkins Street - 2 boards
- Solano Avenue at Tulare Avenue and Contra Costa Avenue - 2 boards
- The Alameda at Solano Avenue and Hopkins Street - 2 boards
- Thousand Oaks Boulevard at Colusa Avenue and Arlington Avenue - 2 boards

### **Measurement and Payment**

The contract unit price paid for “**Changeable Message Boards (Revocable)**” will 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, relocating to new locations, removal after construction is complete, and clean-up, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

### **BID ITEM NO. 5 - 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.

The contract lump sum price paid for "**Construction Staking**" 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. 6 - MONUMENT PRESERVATION**

The Contractor shall be responsible for the referencing and 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, the contractor's surveyor shall submit a surveyor's report, signed and stamped. 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 "**Monument Preservation**" will 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. 7 - WATER POLLUTION CONTROL PROGRAM**

Work shall comply with Section 13, "Water Pollution Control," of the Standard Specifications. Contractor shall prepare and submit a Water Pollution Control Program (WPCP) to include a Best Management Practices (BMP) plan. The following twelve (12) BMPs shall be implemented, as applicable, for the proposed activities.

<u>No.</u>	<u>Table 16 BMP Description</u>	<u>CASQA BMP No.</u>
1.	Restrict paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions.	EC-1, Scheduling NS-3, Paving & Grinding Operations
2.	Install gravel bags and filter fabric or other equivalent inlet protection at all susceptible storm drain inlets and at maintenance holes to prevent spills of paving products and tack coat.	SE-10, Drain Inlet Protection SE-6, Gravel bag Berms NS-3, Paving & Grinding Operations
3.	Prevent the discharge of release agents, including soybean oil, other oils, or diesel, to the stormwater drainage system or receiving waters.	NS-3, Paving & Grinding Operations WM-2, Material Use WM-4, Spill Prevention & Control
4.	Minimize non-stormwater runoff from water use for the roller and for evaporative cooling of the asphalt.	NS-1, Water Conservation NS-3, Paving & Grinding Operations
5.	Clean equipment over absorbent pads, drip pans, plastic sheeting, or other material to capture all spillage and dispose of properly.	NS-3, Paving & Grinding Operations NS-8, Vehicle & Equipment Cleaning WM-4, Spill Prevention & Control
6.	Collect liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled, or disposed of properly.	NS-3, Paving & Grinding Operations WM-6, Hazardous Waste Management
7.	Collect solid waste by vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly.	NS-3, Paving & Grinding Operations SE-7, Street Sweeping & Vacuuming
8.	Cover the “cold-mix” asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm.	NS-3, Paving & Grinding Operations WM-3, Stockpile Management
9.	Cover loads with tarp before haul-off to a storage site, and do not overload trucks.	NS-3, Paving & Grinding Operations WE-1, Wind Erosion Control
10.	Minimize airborne dust by using water spray or other approved dust suppressant during grinding.	NS-3, Paving & Grinding Operations WE-1, Wind Erosion Control
11.	Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in	NS-3, Paving & Grinding Operations

<u>No.</u>	<u>Table 16 BMP Description</u>	<u>CASQA BMP No.</u>
	or near stormwater drainage system or receiving waters.	WM-1, Material Delivery & Storage WM-3, Stockpile Management
12.	Protect stockpiles with a cover or sediment barriers during a rain.	NS-3, Paving & Grinding Operations WM-3, Stockpile Management

WPCP shall be implemented prior to the start of any work on the Project.

Temporary asphalt is subject to raveling. When temporary asphalt is being used, a street sweeper shall be scheduled to remove all debris caused by the raveling. Sweeper shall operate continuously until the raveling has stopped or the temporary HMA has been removed.

All flow lines shall be left unimpeded, and no material, including HMA cold mix, waste AC, road base, or soil, shall be placed in the flow line.

Disturbance to non-stabilized surfaces at staging and storage areas shall be minimized. These areas shall only be large enough to run an efficient and safe operation. They shall be surrounded by a temporary construction fence if no fence or barrier is present.

Should sand be used on fresh HMA surfaces, the excess sand shall be removed by Contractor at no additional cost to Owner by either sweeper, broom, or vacuum. Washing sand away is not permitted.

Upon completion of the Project, **ALL disturbed soil areas, including the construction staging area, shall be stabilized with materials providing soil stabilization for a minimum of one (1) year. These materials shall be approved by Engineer.** Stabilization items are required to be implemented prior to the Project acceptance by Engineer. No BMPs may contain plastic.

**Failure to comply with any required environmental standards will subject Contractor to liquidated damages in the amount of \$300 per day per deficiency.**

**In addition, failure to perform and document the required daily inspections shall result in a daily penalty of \$250.00 per calendar day. The imposition of the penalty shall not relieve the Contractor of any obligations of these project requirements.**

**Measurement and Payment**

The contract lump sum price paid for “**Water Pollution Control Program**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Water Pollution Control Program, complete in place, including but not limited to preparing, implementing, inspecting, maintaining, and removing the WPCP as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Payment for the work involved under the bid item for the WPCP may be made on a partial payment system based on the completion of the following stages of the work:

<u>Work Description</u>	<u>Payment Percentage</u>
Develop plan	10% of bid price
Initial plan implementation	10% of bid price
Removal of BMP’s at completion	10% of bid price
Inspection and Maintenance of WPCP	70% of bid price/contract time in calendar days

**BID ITEM NO. 8 - POTHOLING (REVOCABLE)**

As the first order of work, the Contractor shall pothole all existing utilities at locations where “Remove & Replace 8” HMA” and “Remove & Replace 10” HMA are specified, and any other locations that specify excavation at a depth of more than 8 inches, 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 maintenance holes (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 therefor. 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 their 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 their 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.

Traffic control for potholing operations shall conform to the approved Traffic Control Plan and in accordance with Technical Provisions for Bid Item No. 2 – Traffic Control. Each pothole location shall be temporarily backfilled and made safe for vehicular traffic. Plates shall be removed and permanent pavement restoration completed within five (5) working days of completing utility verification at each location.

Potholing shall be performed using vacuum excavation equipment or hand digging methods. Mechanical excavation equipment (backhoes, excavators) shall not be used within twenty-four (24) inches of marked utilities. Vacuum excavation shall use high-pressure air or water not exceeding one hundred twenty-five (125) psi. The vacuum unit shall be equipped with a minimum 8-inch diameter vacuum hose and capable of removing wet or dry material. Extreme care shall be exercised to avoid damage, and it will be the Contractor's responsibility to have repairs made to existing facilities at their 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 their own reasons desires to block off any portion of these systems, they 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 and removed at their 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. Damage to irrigation systems shall be repairs within forty-eight (48) hours, unless approved otherwise by the Engineer.

Nothing in these Technical Provisions shall relieve the Contractor from their responsibilities as provided in Section 7-1.04, "Public Safety," of the State Standard Specifications.

The Contractor shall submit a detailed pothole report for each pothole location containing:

1. Measured depth from surface to top of utility
2. Utility type, size, and material (if identifiable)
3. Date of pothole investigation

All pothole data shall be compiled in a summary spreadsheet and submitted to the Engineer within five (5) working days of completion.

### **Measurement and Payment**

The contract lump sum price paid for “**Potholing (Revocable)**” will 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, coordination with utility owners, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Full compensation for potholing at all locations where “Remove & Replace 8” HMA” and “Remove & Replace 10” HMA are specified, will be included in the contract price paid for “**Potholing (Revocable)**” no additional compensation will be allowed therefor.

### **BID ITEM NO. 9 - CLEARING, GRUBBING, TREE PROTECTION & ROOT PRUNING**

#### **BID ITEM NO. 10 - TREE REMOVAL 12-INCH TO 24-INCH DIAMETER (REVOCABLE)**

#### **BID ITEM NO. 11 - TREE REMOVAL 25-INCH TO 36-INCH DIAMETER (REVOCABLE)**

#### **BID ITEM NO. 12 - TREE REMOVAL 37-INCH TO 48-INCH DIAMETER (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.

At the discretion of the Urban Forestry Representative, and under direction of the Engineer, the Contractor shall taper and reduce the width of the new sidewalk to accommodate existing trees in accordance with the detail included in Appendix E.

### **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 one hundred (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. If the Contractor determines that the tree or root inspection is no longer necessary, they must inform the Engineer at least twenty-four (24) hours before the scheduled inspection time. Failure to do so will result in the Contractor bearing responsibility for the inspection costs.

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. 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 eight (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. Lateral branches below eight (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, Bobcat®, 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 seventy-two (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 two (2) inches in diameter or greater shall be pruned by the Contractor in accordance with these provisions.
- d) Roots smaller than two (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 by the Contractor.**

If root pruning would compromise the structural stability of the tree, the tree may be identified for removal 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:

- 1) The City will post signage indicating the tree is planned for removal for a minimum of seven (7) days. Additionally:
  - a) If there is one (1) tree identified for removal within one block, the City will notify the adjacent property owner
  - b) If there are multiple trees identified for removal within the same block, the City will notify all properties along the entire block

- c) If the City receives more than two (2) objections during the seven (7) day Public Outreach Period, the City will extend this period an additional fourteen (14) days in order to hold a community meeting.
- 2) 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.
- 3) 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 one (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 95% relative compaction.

### **Stump Grinding**

Where existing tree stumps are identified for removal, contractor shall grind the stump and roots greater than one (1) inch in diameter to a minimum depth of fifteen (15) inches below grade. Grade is defined as the elevation of surrounding soil that has not been displaced by the stump or its roots. The resultant void shall be backfilled with clean material free of organics and deleterious material, and compacted to 95% relative compaction.

### **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	\$1,000
2	Avoidable Damage to a Major Limb or Root	\$2,000
3	Moderate Damage	\$3,000
4	Severe Damage, but Recovery Expected	\$4,000
5	Replacement	\$10,000

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**” will 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 Caltrans Standard Specifications and these Special Provisions and as directed by the Engineer.

The contract unit price paid for “**Tree Removal 12-inch to 24-inch Diameter (Revocable)**”, “**Tree Removal 25-inch to 36-inch Diameter (Revocable)**” and “**Tree Removal 37-inch to 48-inch Diameter (Revocable)**” will 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 fifty-four (54) inches above existing grade.

**BID ITEM NO. 13 - CRACK SEAL & MICROSURFACING (TYPE II W/BLACK ROCK)**

**BID ITEM NO. 14 - CRACK SEAL & SLURRY SEAL (TYPE II W/BLACK ROCK)**

**General**

Work shall comply with Section 37-6, "Crack Treatment," of the Standard Specifications, except as modified in these Special Provisions. Work shall consist of mechanically routing cracks, cleaning, treating with a pre-emergent herbicide, and filling the cracks with rubber asphalt joint seal as specified in these Special Provisions, and as directed by Engineer.

Contractor shall crack treat vegetation by applying herbicide or by use of other mechanical removal methods approved by Engineer to all existing weed growth within the roadway area from curb face to curb face, including the joint between the gutter lip and asphalt pavement, prior to sealing.

Microsurfacing and slurry seal shall comply with Subsection 37-3, "Slurry Seals and Micro-Surfacing," of the Standard Specification, and consist of mixing a polymer modified, emulsified asphalt, mineral aggregate, water, and additives, proportioned, mixed, and uniformly spread over a properly prepared surface as directed by Engineer. Microsurfacing should be capable of performing in variable-thickness cross-sections such as ruts, scratch courses, and milled surfaces.

**Materials**

**Crack Sealant**

Crack sealant shall be a mixture of paving asphalt and ground rubber and shall conform to ASTM D 5078, Type II. Sealant material shall cure immediately upon cooling to a sufficient viscosity to prevent tracking by traffic.

**Herbicide**

Herbicide shall be organic or Non-Proposition 65, E.P.A. approved herbicide, or equivalent, as approved by Engineer. Contractor shall submit a product information sheet on the herbicide to be used.

Emulsified Asphalt

Emulsified asphalt shall be polymer modified. The polymer material shall be milled or blended into the asphalt or emulsifier solution prior to the emulsification process. In general, 3% polymer solids by weight of asphalt is considered the minimum.

Emulsified asphalt and emulsified asphalt residue shall meet the requirements of AASHTO M 208 or ASTM D 2397 for CQS-1h, with the following exceptions:

TEST	TEST METHOD		SPECIFICATION
	AASHTO	ASTM	
Settlement and Storage Stability of Emulsified Asphalts, 24-h	T 59	D 6930	1% Maximum
Distillation of Emulsified Asphalt	T 59	D 6997	62% Minimum
<b>Tests on Emulsified Asphalt Residue</b>			
Softening Point of bitumen (Ring-and-Ball Apparatus)	T 53	D 36	135°F (57°C) Minimum
Penetration of Bituminous Materials at 77°F (25°C)	T 49	D 5	5 40-90 <sup>2</sup>

<sup>1</sup> The temperature for this test should be held at 350°F (177°C) for 20 minutes.

<sup>2</sup> The climatic conditions should be considered when establishing this range. The solubility test, if required, should be evaluated on the base asphalt. Each load of emulsified asphalt shall be accompanied by a Certificate of Analysis/Compliance to indicate that the emulsion meets specifications.

Aggregate

Aggregate shall be 100% crushed with no rounded particles, volcanic in origin and black in color, as supplied by George Reed, Table Mountain, Sonora, CA or Equal.

Aggregate should meet these minimum requirements:

TEST	TEST METHOD	SPECIFICATION
	ASTM	
Sand Equivalent Value of Soils and Fine Aggregate	D 2419	65 Minimum
Soundness of Aggregates by Use of Sodium Sulfate of Magnesium Sulfate	C 88	15% Maximum w/NA <sub>2</sub> SO <sub>4</sub> 25% Maximum w/MgSO <sub>4</sub>
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine <sup>1</sup>	C 131	30% Maximum

<sup>1</sup>The abrasion test is run on the parent aggregate gradation

When tested in accordance with CTM 202, mix design aggregate gradation shall be as specified below:

<b>SIEVE SIZE</b>	<b>TYPE II PERCENT PASSING</b>	<b>STOCKPILE TOLERANCE</b>
3/8 (9.5 mm)	100	
# 4 (4.75 mm)	90-100	±5%
# 8 (2.36 mm)	65-90	±5%
# 16 (1.18 mm)	45-70	±5%
# 30 (600 um)	30-50	±5%
# 50 (330 um)	18-30	±4%
#100 (150 um)	10-21	±3%
#200 (75 um)	5-15	±2%

Gradation of the aggregate stockpile shall not vary by more than the stockpile tolerance from the mix design gradation (indicated in the table above) while also remaining within the specification gradation band. Percentage of aggregate passing any two (2) successive sieves shall not change from one end of the specified range to the other end.

Aggregate shall be accepted at job location or stockpile based on three (3) gradation tests sampled according to CTM 202. If the average of the three (3) tests is within the stockpile tolerance from the mix design gradation, the material may be accepted. If the average of those test results is out of specification or tolerance, Contractor shall remove the material. Screening shall be required at the stockpile if there are any problems created by oversized materials in the mix.

Mineral Filler

Mineral filler may be used to improve mixture consistency and to adjust mixture breaking and curing properties. Portland Concrete Cement (PCC), hydrated lime, limestone dust, fly ash, or other approved filler meeting the requirements of ASTM D 242 shall be used if required by the mix design.

Levels shall be between 0.0% to 3.0% and may be considered part of the aggregate gradation.

Water

Water shall be potable water, free from harmful soluble salts, and compatible with the other components.

Additives

Additives may be used to accelerate or retard the break/set of the micro-surfacing, but the micro-surfacing shall be open to traffic within sixty (60) minutes of placement.

Appropriate additives and their applicable use range shall be included in the laboratory mix design.

Mix Design

Compatibility of the aggregate, polymer-modified emulsified asphalt, water, mineral filler, and other additives shall be evaluated in the mix design. Mix design shall be completed using materials consistent with those supplied by Contractor for the Project. Mix shall meet the following requirements.:

TEST	ISSA TB NO.	SPECIFICATION
Mix Time @ 77°F (25°C)	TB 113	Controllable to 120 Seconds Minimum
Wet Cohesion @ 30 Minutes Minimum (Set) @ 60 Minutes Minimum (Traffic)	TB 139	12 kg-cm Minimum 20 kg-cm or Near Spin Minimum
Wet Stripping	TB 114	Pass (90% Minimum)
Wet-Track Abrasion Loss Six-day Soak	TB 100	50 g/ft <sup>2</sup> (538 g/m <sup>2</sup> ) Maximum
Lateral Displacement Specific Gravity after 1,000 Cycles of 125 lb (56.71 kg)	TB 147	5% Maximum 2.10 Maximum

TEST	ISSA TB NO.	SPECIFICATION
Excess Asphalt by LWT Sand Adhesion	TB 109	50 g/ft <sup>2</sup> (538 g/m <sup>2</sup> ) Maximum
Classification Compatibility	TB 144	11 Grade Points Minimum (AAA, BAA)

The laboratory shall report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effect) according to AASHTO T19 (ASTM C29). The percentage of each individual material required shall be shown in the laboratory report.

The component materials shall be designed within the following limits:

COMPONENT MATERIALS	SPECIFICATION LIMITS
Residual Asphalt	5.5 - 10.5% by dry weight of aggregate
Mineral Filler	0.0 - 3.0% by dry weight of aggregate
Polymer	Minimum of 3.0% solids based on bitumen weight content
Additives	As needed
Water	As required to produce proper mix consistency

Submittals

Contractor shall submit on materials for crack sealant and weed treatment.

A minimum of ten (10) working days before the work begins, Contractor shall submit a signed mix design covering the specific materials to be used on the Project. This design shall be performed by a laboratory that has experience in designing micro-surfacing. After the mix design has been approved, no material substitution will be permitted unless approved by Engineer.

Contractor shall submit test reports for emulsified asphalt.

Contractor shall submit gradations and test reports for aggregates.

Truck calibration records shall be submitted prior to construction.

## **Construction**

### **General**

All traffic striping, pavement markings, and raised pavement markers shall be removed prior to crack treatment. Any cracks within the footprint of removed striping shall be included in crack sealing work. **After removals, streets shall be temporary striped with paint. Temporary tab markers shall not be placed prior to Microsurfacing and Slurry Seal application.**

The Contractor shall provide to the Engineer for approval, a copy of the proposed written notification or “Door Hanger” prior to delivery. The Contractor shall provide a copy of the Door Hanger as delivered, as well as a list of all recipients of such notification. Door Hangers are to be distributed five (5) working days in advance to residents fronting project streets. Failure to distribute door hangers with the proper notification shall be sufficient cause for the Engineer to suspend all work until such notices are distributed. The Contractor shall maintain an updated and chronological record at the job site of all written notifications along with a list of the recipients. Such records shall be made available upon request by the Engineer.

### **Schedule**

The work at Northbrae Tunnel shall commence first thing in the morning so material has all day to cure.

Utility adjustments shall be accomplished prior to microsurfacing and slurry seal application.

Contractor shall ensure that the street scheduled for micro-surfacing and slurry seal is open to traffic within sixty (60) minutes of placing micro-surfacing.

**Liquidated damages in the amount of \$250 per 10-minute increments will be applied for failure to meet the sixty (60) minute requirement.**

### Crack Treatment

All cracks indicating weed growth are to be treated and cleaned as follows:

1. Herbicide

If herbicide is required, Contractor shall apply herbicide, or use other approved mechanical removal methods, to all existing weed growth within the roadway area from curb to curb including the joint between the gutter lip and asphalt pavement.

If herbicide is required, a minimum of two applications shall be made with a minimum period of seven (7) calendar days between applications. Second application shall be applied to treated areas and any additional new weed growth between applications. Any new weed growth shall be treated a third time after a minimum of seven (7) calendar days from the second application. Applied herbicide shall include a dye that is visible after the herbicide dries. Herbicide shall be applied by a licensed applicator and shall comply with Manufacturers' recommendations.

Seven (7) calendar days after the last application of herbicide (either the second or third), all remaining vegetation in the cracks shall be mechanically removed.

All existing vegetation, outside the areas to be cleared and grubbed, shall be protected from Contractor's operations unless specifically shown on the Plans to be removed.

Immediately prior to applying the sealant, all cracks shall be blown clean and free from dirt, debris, and vegetation with compressed air that is not less than 85 CRM at 100 psi. Leaf-type blowers will not be allowed. Any weed growth shall be physically removed.

Water jets will not be allowed.

Crack surfaces shall be surface dry at the time the sealant is applied. During all construction operations, Contractor shall protect cracks cleaned for sealing from intrusions of solid foreign materials into the groove or into the sealant.

## 2. Routing

Cracks equal to or wider than one-eighth (1/8) inch shall be mechanically routed to a sufficient area and depth to complete the work as shown on the Plans with the equipment referenced under Subsection 6, "Equipment" listed below or approved equal.

## 3. Sealing

All properly prepared cracks shall be sealed by inserting a nozzle into the crack and filling it from the bottom up with the approved sealant material. Application of sealant shall comply with Manufacturer's application guidelines. Crack seal materials shall not be placed when the surface temperature is below 50°F. Finished crack seal shall be bonded to the crack such that there is no separation or opening between the sealant and the crack edge, and there shall be no cracks, separation, or other opening in the sealant.

Contractor shall remove crack seal material that is not placed within the conformance of these provisions, clean cracks as specified herein and reseal the cracks at their expense.

## 4. Squeegeeing

After filling the cracks with the sealant, sealed cracks shall be squeegeed with a "U" shaped squeegee so as to strike off excess material and to provide a band-aid effect with the sealant. After the sealant has cooled, there may be a slight depression of not more than 1/8 inch below the adjacent pavement.

Finished crack seal shall be bonded to the crack such that there is no separation or opening between the sealant and the crack edge and there shall be no cracks, separation, or other opening in the sealant.

Contractor shall remove crack seal material that is not placed within the conformance of these provisions, clean cracks as specified herein and then reseal the cracks at their expense.

## 5. Sweeping

All streets shall be swept on a daily basis after the material has set up adequately so that the sweeper will not do any damage to the sealant.

## 6. Equipment

Router: Shall be a two-wheeled, impact router, such as the Crafcro 200 router or equal, capable of following random cracks.

Sealant Machine: Shall be a double boiler heat system, such as the Crafcro EZ Pour 200 Sealant Machine or equal, capable of heating the sealant to Manufacturer's recommendations without placing direct heat onto the sealant.

Compressor: The compressor shall be capable of providing a minimum of 100 psi at the nozzle for removal of any debris, dirt, or vegetation that may be in the cracks after the routing.

Squeegee: Shall be a "U" shaped, rubber-footed tool capable of leveling off the sealant without leaving an excess of material on the cracks after filling.

### Equipment

All equipment, tools, and machines used in the application of micro-surfacing shall be maintained in satisfactory working condition at all times.

Machine shall be specifically designed and manufactured to apply micro-surfacing. Material shall be mixed by an automatic-sequenced, self-propelled micro-surfacing mixing machine. It shall be a continuous-flow mixing unit that accurately delivers and proportions the mix components through a revolving multi-blade, double-shafted mixer. Sufficient storage capacity for all mix components is required to maintain an adequate supply to the proportioning controls.

When specifying continuous machinery to minimize transverse joints, specified machine shall be capable of loading materials while continuing to apply micro-surfacing. Continuous-run machine shall be equipped to provide the operator with full control of the forward and reverse speeds during application. It shall be equipped with opposite-side

driver stations to assist in alignment. Self-loading device, opposite-side driver stations, and forward and reverse speed controls shall be of original-equipment-manufacturer design.

Individual volume or weight controls for proportioning mix components shall be provided and properly labeled. These proportioning devices are used in material calibration to determine the material output at any time.

Mixture shall be agitated and spread uniformly in the surfacing box by means of twin-shafted paddles or spiral augers fixed in the spreader box. A front seal shall be provided to ensure no loss of the mixture at the road contact point. Rear seal shall act as a final strike-off and shall be adjustable. Spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved and a free flow of material is provided to the rear strike-off. Spreader box shall have suitable means provided to side shift the box to compensate for variations in the pavement geometry.

A secondary strike-off shall be provided to improve surface texture. Secondary strike-off shall be adjustable to match the width of the spreader box and allow for varying pressures to control the surface texture.

Each mixing unit to be used in the performance of the work shall be calibrated in the presence of Engineer prior to the start of the project. Calibration of the equipment shall conform to the appropriate procedures in CTM 309. Previous calibration documentation covering the exact materials to be used may be acceptable, provided that no more than sixty (60) days have lapsed. Documentation shall include an individual calibration of each material at various settings that can be related to the machine metering devices. Any component replacement affecting material proportioning requires that the machine be recalibrated. No machine will be allowed to work on the project until the calibration has been completed and/or accepted.

#### Timing and Traffic Control

Break/set of the micro-surfacing shall be such that traffic can be placed on it within sixty (60) minutes of placement. At least one lane of traffic in each direction shall be open at all times.

#### Weather Limitations

Micro-surfacing shall not be applied if either the pavement or air temperature is below 60°F and falling but may be applied when both pavement and air temperatures are above

60°F and rising. No micro-surfacing shall be applied when there is the possibility of freezing temperatures at the project location within twenty-four (24) hours after application. Micro-surfacing shall not be applied when weather conditions prolong opening to traffic beyond a reasonable time.

### Surface Preparation

Immediately prior to applying the micro-surfacing, surface shall be cleared of all loose material, silt spots, vegetation, and other objectionable material. Any standard cleaning method will be acceptable. If water is used, cracks shall be allowed to dry thoroughly before applying micro-surfacing.

Prior to micro-surfacing application, Contractor shall remove all grease, engine oil drippings, and similar substances that may interfere with proper bonding. Cleaning product(s) proposed for removing these substances must receive Engineer's approval before use.

Manholes, valve boxes, drop inlets, and other service entrances shall be protected from micro-surfacing by a suitable method. Reference the covered facilities with enough control points to relocate the facilities after application of micro-surfacing. Owner will approve the surface preparation prior to surfacing.

No tack coat shall be required. Crack sealing shall be performed in accordance with other portions of these Special Provisions.

All utility covers shall be covered prior to application of micro-surfacing.

Contractor shall remove and dispose of all painted, preformed, and thermoplastic paint markings; and all raised pavement markers prior to placing micro-surfacing. Removal methods shall conform to Subsection 15-2.02C of the 2010 Standard Specifications.

### Application

When local conditions warrant, surface shall be fogged with water ahead of the spreader box. Rate of application of the fog spray may be adjusted as the temperature, surface texture, humidity, and dryness of the pavement change.

Micro-surfacing shall be of the appropriate consistency upon leaving the mixer. A sufficient amount of material shall be carried in all parts of the spreader at all times so that complete coverage is obtained. Overloading of the spreader box shall be avoided. No lumps or unmixed aggregate shall be permitted. No dry aggregate either spilled from the lay-down machine or existing on the road, will be permitted.

No streaks, such as those caused by over-sized aggregate or broken mix, shall be left in the finished surface. If excessive streaking develops, job will be stopped until Contractor proves to Engineer that the situation has been corrected. Excessive streaking is defined as more than four drag marks greater than 1/2-inch wide and 4 inches long, or 1 inch wide and 3 inches long, in any 30 square-yard (SY) area. No transverse ripples or longitudinal streaks of 1/4-inch in depth will be permitted when measured by placing a 10-foot straight edge over the surface.

Micro-surfacing mixture shall be of the proper consistency at all times so as to provide the application rate required by the surface condition. Application rate shall be between 14-16 LB/SY. Application rates are based upon the weight of dry aggregate in the mixture.

No excess buildup, uncovered areas, or unsightly appearance shall be permitted on longitudinal or transverse joints. Contractor shall provide suitable width-spreading equipment to produce a minimum number of longitudinal joints throughout the Project. When possible, longitudinal joints shall be placed on lane lines. Partial width passes shall only be used when necessary and shall not be the last pass of any paved area. A maximum of 3 inches shall be allowed for overlap of longitudinal joints. Also, the joint shall have no more than a 1/4-inch difference in elevation when measured by placing a 10-foot straight edge over the joint and measuring the elevation difference.

Micro-surfacing shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. Mixture shall be homogeneous during and following mixing and spreading. It shall be free of excess liquids that create segregation of the aggregate. Spraying of additional water into the spreader box will not be permitted.

Areas that cannot be accessed by the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. If necessary, area to be hand-worked shall be lightly dampened prior to mix placement. As much as possible, handwork shall exhibit the same finish as that applied by the spreader box. All handwork shall be completed prior to final surfacing.

Lines at intersections, curbs, and shoulders will be kept straight to provide a good appearance. A suitable material shall be used to mask off the end of streets to provide

straight lines. Longitudinal edge lines shall not vary by more than  $\pm 2$  inches horizontal variance in any one hundred (100) feet of length.

Micro-surfacing shall not overlap the gutter by more than 1 inch. Any micro-surfacing in excess of 1 inch shall be removed by heating and scraping.

Micro-surfacing shall be rolled by a self-propelled, 8 to 10-ton (maximum) pneumatic tire roller equipped with a water spray system. All tires should be inflated per manufacturer's specifications. Rolling shall not start until the micro-surfacing has cured sufficiently to avoid damage by the roller. Areas that require rolling shall receive a minimum of three (3) full coverage passes.

### Street Sweeping

After completing, setting, and rolling of the microsurfacing, any loose material shall be immediately removed by sweeping with a vacuum sweeper the day of application. Interim sweeping using a vacuum sweeper shall be accomplished as more loose material appears. **At a minimum, interim sweeping shall be accomplished on the 1<sup>st</sup>, 3<sup>rd</sup>, 7<sup>th</sup>, 14<sup>th</sup>, and 21<sup>st</sup> day after surfacing. A final post construction sweeping of all the microsurfacing and slurry seal streets shall be performed thirty (30) calendar days after completion of all surfacing.**

Entire street surfaces, including sidewalks and driveways, shall be swept to the satisfaction of City. No loose material will be allowed in the street, gutters, sidewalks, or other areas. If necessary, Contractor shall employ additional vacuum sweepers to remove the loose materials.

Final cleaning of the streets shall include removal of any tracked material, misapplied microsurfacing, cleaning of all utility covers of any new or old materials, and removal of any miscellaneous debris resulting from construction activities.

### Engineer's Acceptance

Sampling for testing will be taken of the microsurfacing, at Contractor's expense, to determine the amount of material used. Compliance with the mix design will be verified using City's testing laboratory. Engineer may sample material from stockpiles, trucks, application equipment, or during application. Required testing includes Wet Track Abrasion,  $\text{g/m}^2$ , (TB100): 538 maximum.

Acceptance is based on visual inspection for the following:

- Uniform surface texture throughout work limits
- Marks in the surface:
  - i. Up to four (4) marks in the completed microsurfacing that are up to one (1) inch wide and up to six (6) inches long per one thousand (1,000) square feet of microsurfacing placed
  - ii. No marks in the completed microsurfacing that are over one (1) inch wide or six (6) inches long
- Excessive raveling consisting of the separation of the aggregate from the asphaltic emulsion
- Bleeding consists of the occurrence of a film of asphaltic material on the surface of the microsurfacing
- Delaminating of microsurfacing from the existing pavement
- Rutting or wash-boarding

### **Measurement and Payment**

The contract price paid per square foot for **“Crack Seal & Microsurfacing (Type II w/Black Rock)”** and **“Crack Seal & Slurry Seal (Type II w/Black Rock)”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Crack Seal & Microsurfacing (Type II w/Black Rock) and Crack Seal & Slurry Seal (Type II w/Black Rock), complete in place, including roadway preparation, crack treatment, furnishing and distributing door hangers, covering street facilities, cleaning the surface and protecting the microsurfacing and slurry seal until it has set, rolling and sweeping, temporary pavement delineation, and clean-up, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Full compensation for **Crack Seal** will be considered as included in the bid item for **“Crack Seal & Microsurfacing (Type II w/Black Rock)”** and **“Crack Seal & Slurry Seal (Type II w/Black Rock)”** and no additional compensation will be allowed therefor.

**BID ITEM NO. 15 - 3/8-INCH HMA (TYPE A) PG 64-10****BID ITEM NO. 16 - 1/2-INCH HMA (TYPE A) PG 64-10****BID ITEM NO. 17 - MISCELLANEOUS PAVING AT DRIVEWAY (REVOCABLE)****BID ITEM NO. 18 - 1/2-INCH RHMA-G****BID ITEM NO. 19 - REMOVE SPEED TABLE****BID ITEM NO. 20 - CONSTRUCT SPEED CUSHION****BID ITEM NO. 21 - INSTALL MOUNTABLE HMA DIKE****BID ITEM NO. 22 - REMOVE AND REPLACE HMA DIKE****BID ITEM NO. 23 - INSTALL SHOULDER BACKING****BID ITEM NO. 24 - PLACE SKIN PATCH****General**

This work includes producing and placing hot mix asphalt (HMA) base, intermediate, and surface courses using the modified Standard Process and placing minor HMA for remove and replace HMA (digouts), skin patches, speed cushion, and miscellaneous paving using the Method Process as indicated herein.

Comply with Section 39, "Hot Mix Asphalt," of the 2010 Standard Specifications (Unrevised Edition) except as modified in these special provisions.

Tack coat shall be emulsified asphalt of Grades RS-1, RS-2, SS-1, or SS-1H complying with Section 94, 'Asphaltic Emulsions' or paving grade asphalt conforming to section 92, "Asphalts," of the Standard Specifications.

**Submittals**

Submit JMF information on Form CEM-3511 and Form CEM-3512. Submit Form CEM-3513 or CEM-3514 for mixes that have been verified within the last twelve (12) months. Provide most recent CEM-3513 if mix has not been verified within the last twelve (12) months. For unverified mixes or out of date mix tests, final acceptance will be based on production startup tests and Contractor shall be paving at their own risk.

Submit Quality Control Plan that conforms to the current Caltrans Quality Control Plan Review Checklist for Hot Mix Asphalt. Allow twenty (20) calendar days for review.

Material Delivery Tickets shall be submitted daily.

Contractor shall submit all quality control field test results daily and laboratory test results within five (5) calendar days of sampling.

Contractor shall submit Tack Coat Certificate of Compliance.

**Materials**

Aggregate

The hot mix asphalt to be used will be as follows unless modified by the Engineer:

Base Courses:	3/4-inch or 1/2-inch, Type A
Intermediate Courses:	1/2-inch, Type A 3/4-inch, Type A may be used for lifts of 2-1/2 inches (0.20 feet or 65 mm) or greater
Surface Courses:	1/2-inch, Type A
Miscellaneous Paving	1/2-inch, Type A
Speed Cushion:	3/8-inch, Type A
Skin Patch:	3/8-inch or No. 4, Type A, or Sheet Mix 1/2-inch, Type A may be used for lifts of 1-1/2 inches (0.125 feet or 38 mm) or greater

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA (Type A) shall be as follows:

Base Course:	PG 64-10
Intermediate Course:	PG 64-10

Surface Course:	PG 64-10
Speed Cushion:	PG 64-10
Skin Patch:	PG 64-10

### Mix Properties

Mix voids shall be targeted at 3.5%.

The allowable production range for mix voids shall be 2.0% to 5.0%.

The mix shall include 0.5% of liquid anti-strip. No Warm Mix Additive shall be allowed.

For Type A HMA mixtures using RAP, the maximum allowed binder replacement is 25.0 percent in the upper 0.2 foot exclusive of OGFC and 40.0 percent below. The binder replacement is calculated as a percentage of the approved JMF target asphalt binder content.

For RAP substitution of 15 percent or less, the grade of the virgin binder must be the specified grade of asphalt binder for Type A HMA.

For RAP substitution greater than 15 percent and not exceeding 25 percent, the grade of the virgin binder must be the specified grade of asphalt binder for Type A HMA with the upper and lower temperature classification reduced by 6 degrees C. Hamburg wheel track requirements are based on the grade of asphalt binder specified for Type A HMA.

### Delivery Tickets

Material delivery tickets shall be submitted daily. Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Material delivered to the project without such annotations shall be subject to rejection.

### Construction

#### General

The paving shall be performed such that no longitudinal paving joints remain at the end of each day's paving operation.

In the case where full closure of the street is not allowed by the City, Contractor shall work with the Engineer to ensure the longitudinal drop-off is tapered off at the end of the work shift.

### Surface Preparation

The work shall consist of preparing the existing street surfaces prior to the commencement of paving. Such work shall include removing raised pavement markers, removing thermoplastic traffic markings and legends, controlling nuisance water, sweeping, watering, removing loose and broken pavement, foreign / objectionable material as specified in the Standard Specifications, these Technical Provisions, and as directed by the Engineer.

Any roadway area that contains existing weed growth shall be treated with an organic or Non-Proposition 65, E.P.A. approved herbicide, or equivalent, as approved by Engineer. Contractor shall submit a product information sheet on the herbicide to be used.

All vertical edges to be paved shall be tack coated. These include, but are not limited to, curb faces, gutter lips, swale edges, cross gutter edges, and pavement edges.

When multiple lifts of new HMA are placed, tack coat shall be applied to all base, intermediate, and leveling courses, regardless of duration between the placement of the various lifts, unless approved otherwise by the Engineer.

All cold joints, both longitudinal and transverse, shall be heated with a torch immediately prior to paving. Cold joints include previous passes placed more than three (3) hours prior. All cold joints shall be tack coated.

### Tack Coat

Work to be performed under this subsection shall comply with Subsection 39-2.01B(10) and shall cover all labor, materials, tools, equipment, and incidentals necessary to furnish and apply complete in-place tack coat in conjunction with the HMA placement and other asphalt paving work.

Tack coat shall not be applied until the preparation of the existing surface has been completed, and then only so far in advance of placing the HMA overlay as permitted by Engineer. Preparation of the surface shall be performed as described in these Special Provisions. No tack coat shall be left exposed overnight. Immediately in advance of placing the HMA overlay, additional tack coat shall be applied, as directed by Engineer, to areas where the tack coat has been destroyed or otherwise rendered ineffective, and no additional compensation will be allowed for such work.

Existing concrete curb faces and adjacent concrete shall be protected against discoloration from the asphalt. Residue shall be removed by sandblasting, power washing, or a similar technique to the extent required by Engineer. Engineer will determine if the pavement is sufficiently dry for the application of tack coat. Tack coat shall not be applied when the temperature of the surface to be tacked is below 40°F in the shade.

Tack coat shall be applied as specified in Subsection 39-2.01C(3)(f), "Tack Coat," of the Standard Specifications. Tack coat shall be applied to all vertical edges, including curb faces and gutter lips, after every lift of asphalt. Vertical edges shall be tack coated by hand wand or manually by brush. Tack coat application shall not extend above the level of the finished surface by more than one (1) inch. Gutter pans, curb faces, and any concrete surfaces that are not to be tack-coated shall be protected by shields or other methods from spray or splash. Any tack coat more than one (1) inch above the paving surface shall be removed by power washing or other means approved by Engineer.

Contractor shall be responsible for cleaning tack coat tracked onto gutter pans, sidewalks, driveways, valley gutters, decorative concrete crosswalks or thermoplastic legends and crossbars within the Project limits and along truck haul routes used by Contractor or Subcontractors. Haul routes shall be inspected by Owner and Contractor prior to initiating work to photographically establish the existing conditions. Within ten (10) calendar days of completion of final paving, Owner and Contractor shall reinspect the haul routes to determine the extent and locations of required cleaning. Cleaning shall be performed within ten (10) calendar days after Owner delivers a written copy of the locations of required cleaning.

**Failure to meet this schedule, whether to reinspect or to perform cleaning, will subject Contractor to liquidated damages of \$500 per calendar day per location.**

Leveling, Transitions, and Hot Mix Asphalt Fills

A leveling course of variable thickness shall be placed and compacted prior to placing the surface course at locations where directed by the Engineer. The leveling course will be used to correct pavement irregularities such as rutting, variable cross slope, or variable longitudinal slope. Where two (2) overlays of different thickness abut at a longitudinal joint, the Contractor shall add to the thinner section to match the thicker lift and provide a smooth transition and uniform cross-fall. Cold planing ridges or other rises in the pavement surface may be required by the Engineer. The Engineer will determine the exact limits and thickness of the leveling courses, hot mix asphalt fills, and transitions.

The Contractor shall construct temporary pavement transitions at all transverse paving joints greater than 1 inch prior to allowing traffic onto the paved surface. Temporary pavement transitions shall have a maximum slope of 20:1 or as approved by the engineer and be constructed on Kraft paper or other suitable bond breaker such that upon removal of the temporary pavement transition, a clean notch remains. The temporary transitions may be constructed of either cold mix or hot mix. Temporary transition shall be required at driveways where drop off is more than 1 inch.

The Contractor shall continuously maintain the temporary pavement until final paving. Each temporary transition shall be inspected by the Contractor and repaired as necessary to comply with these provisions at the end of each day including weekends and holidays.

**Failure to comply with these provisions will result in a liquidated damage of \$1,000 per day per transition and/or the cost of City crews making the repairs if necessary to correct for public safety.**

Placement of finished course, HMA or RHMA, shall be installed with fifteen (15) working days after initial grinding of existing pavement. **Failure to comply will result in a liquidated damage of \$2,000 per calendar day.** This requirement does not apply to base failure excavation, transverse-transitional and wedge grinding operations.

#### Layout

The Contractor shall layout and mark the location of the edges of the paving passes of the surface course to match the new layout of lane lines and centerlines. The layout shall be made at least twenty-four (24) hours prior to paving. **The layout shall be approved by the Engineer prior to paving.**

If the striping is to remain unchanged, the edges of the paving passes shall conform to existing lane edges.

At locations without existing centerline or lane line striping, paving passes shall conform to the existing roadway centerline or crown, or as allowed by the Engineer.

In all cases where practical, each lane shall be paved in a single pass. In tapered transition areas, the shoulder areas shall be paved first, then the through lane shall be paved immediately after the shoulder paving.

For paving which incorporates new quarterpoints or gradebreaks due to keycuts or other conditions, the Contractor shall provide equipment capable of adjusting to the new surface profile at the appropriate locations. The profile adjustments shall be within 12 inches of the actual gradebreak or quarterpoint.

The Contractor shall take sufficient measurements during laydown to ensure that the full design hot mix asphalt layer depth is provided at each quarterpoint, gradebreak, or transition. Failure to provide the design depth at these areas will result in rejection of the work. Correction of this rejected work will include milling out the new hot mix asphalt from the road edge to the centerline or nearest inside lane line and repaving. The minimum length of the milled and corrected area shall be 50 feet.

#### Tolerances

The finished hot mix asphalt surface shall be flush with, to 1/4 inch (0.02 feet or 6 mm) above, the gutter lips. The finished pavement surface shall not be lower than the gutter lip.

The average pavement thickness shall be equal to the specified thickness for the project.

For total pavement thicknesses of less than four inches, the minimum allowable thickness will be 1/4 inch less than that specified.

For total pavement thicknesses of four inches or more, the minimum allowable thickness will be 1/2 inch less than that specified.

#### Automatic Screed Controls

For all main line street or roadway paving with single lane length exceeding 300 feet, automatic screed controls shall be required. Automatic screed controls shall not be required for the paving of parking lots, intersections, cul-de-sacs, alleyways or other irregular areas.

In addition to the requirements in Section 39-1.10 and 39-1.11 of the Standard Specifications, hot mix asphalt shall be placed with spreading equipment equipped with fully automatic screed and grade sensing controls which shall control the longitudinal grade of the screed. Automatic controls shall conform to and be operated in accordance with the provisions herein.

Unless approved otherwise, ski-type devices with a minimum length of 30 feet shall be used to provide a reference for the grade sensor. Skis shall be constructed and installed in such a manner that a reference to the average elevation of the existing pavement, along the length of the ski, is maintained at the sensor point. When placing surfacing adjacent to surfacing previously placed in conformance with these provisions, a joint matching shoe of adequate size and type to properly sense the grade of the previously placed mat may be used in lieu of the 30-foot ski.

The ski shall be mounted at a location which will provide an accurate reference for the surfacing being placed. This may require the ski to be mounted ahead of and inside the outer limits of the screed. Automatic cross slope control may be accomplished by use of a ski and grade sensor on each side of the paving machine.

Automatic screed controls shall be installed in such a manner that the occasional manual adjustments necessary to maintain the attitude of the screed parallel to the underlying pavement are readily accomplished. Automatic screed controls shall be installed so that with little or no delay, use of the automatic controls can be discontinued and the screed controlled by manual methods.

Should the automatic screed controls fail to operate properly during any day's work, Contractor may manually control the spreading equipment for the remainder of that day, provided the quality of the work conforms to the requirements of Sections 39-1.11 and 39-1.12 of the 2010 Standard Specifications (Unrevised). Should the methods and equipment used for automatic control fail to result in the quality of work required by said Sections 39-1.11 and 39-1.12, the paving operations will be temporarily discontinued, and Contractor shall make the necessary changes to the equipment, or furnish other equipment conforming to the requirements herein, before paving is resumed.

If it is determined by the Engineer that the existing grade and cross slope are too irregular for the automatic controls to provide the quality of work required, the use of the automatic controls shall be discontinued and the spreading equipment adjusted by manual methods. Use of automatic controls shall resume when the Engineer has determined that it is again practical and so orders.

### Rolling and Compacting

Rolling shall be performed as indicated in the referenced Caltrans specifications.

The roller water shall contain a soap type compound to prevent sticking of the HMA material to the rollers. The soap type compound shall not damage the HMA or impede the bonding of layers.

The number of rollers required for each paving operation shall be such that all rolling for density can be completed before the temperature of the hot mix asphalt mixture drops below 140 degrees Fahrenheit.

Breakdown rolling shall commence when the hot mix asphalt is placed. Rolling shall be accomplished with the drive wheel forward and with the advance and return passes in the same line.

For leveling courses, breakdown rolling shall consist of three (3) coverages with an eight (8) to twelve (12) ton pneumatic roller followed by a finishing coverage with a steel wheel roller. The rolling may begin with a single pass of a steel wheel roller until the pneumatic has sufficient opportunity to warm up to avoid tracking and picking up material from the mat. The pneumatic roller tires shall be treated with a non-petroleum based product to prevent pickup. Failure to successfully provide for breakdown rolling with the pneumatic roller after a reasonable warm up time will be cause for termination of paving activities until the Contractor can provide equipment which will perform without pickup.

The Contractor shall have hand-compaction equipment immediately available for compacting all areas inaccessible to rollers. Hand-compaction shall be performed concurrently with breakdown rolling. If for any reason hand-compaction falls behind breakdown rolling, further placement of hot mix asphalt shall be suspended until hand-compaction is caught up. Hand-compaction includes vibraplates and hand tampers. Hand torches shall be available for rework of areas which have cooled.

After compaction, the surface texture of all hand work areas shall match the surface texture of the machine placed mat. Any coarse or segregated areas shall be corrected immediately upon discovery. Failure to immediately address these areas shall cause suspension of hot mix asphalt placement until the areas are satisfactorily addressed, unless otherwise allowed by the Engineer.

### Speed Tables/Cushions

The Contractor shall construct new speed cushions at the locations shown on the plans. Speed cushion locations shown are approximate. The Contractor shall coordinate the exact location of new speed cushions with the Engineer prior to construction.

Speed tables shall be removed prior to cold planing or resurfacing, and replaced with new speed cushion after resurfacing.

Speed tables shall be constructed per City of Berkeley Standard Detail “Speed Cushion Road Width 30’ to 40””.

### Contractor Quality Control

The HMA will be verified by the Engineer prior to placement on the jobsite. If agreed to by the Contractor and the Engineer, the production start-up may be used for verification. If the production start-up is used for verification the Engineer may require removal and replacement of the HMA, at their discretion, in the event of verification failure.

Contractor shall have a Quality Control Inspector present with a nuclear gauge actively monitoring compaction throughout the shift for all paving operations where compaction is an acceptance criterion. Quality Control Inspector shall be devoted to that purpose and shall not have another role on the paving crew.

**Failure to have Quality Control Inspector present with nuclear gauge will result in liquidated damages of \$1,000 per day.**

Contractor quality control testing is required. If the Contractor fails to submit quality control results to the engineer within seventy-two (72) hours of HMA placement, the Contractor waives all rights to dispute the Engineer’s results. In the event of asphalt binder or Hamburg wheel track testing by the Engineer, the Contractor has five (5) days to submit

their test results from the time the Engineer informs the Contractor that he is performing testing or the Contractor waives the right to dispute the Engineer's results.

The Engineer will test for conformance with aggregate quality characteristics at the beginning of the project.

The Engineer will test air void content, and Hveem stability a minimum of once per day.

The Engineer may sample the hot mix asphalt from truck beds at the plant, from the hopper of the paving machine, or from the mat behind the paver at the discretion of the Engineer. The Contractor shall facilitate the sampling process.

#### Engineer's Acceptance

The City shall be notified forty-eight (48)-hours prior to scheduling pavement placement so that Quality Assurance personnel can be scheduled.

Engineer will monitor Contractor's work for conformance to these Standard Provisions. In addition, Engineer will collect HMA samples and verify the mix.

For minor HMA placement, the Engineer will monitor the Contractor's work for conformance to the Method Process. In addition, the Engineer will collect HMA samples and verify the mix.

Engineer may withhold acceptance in the event of any failing test result until the Contractor has addressed the failing material to the Engineer's satisfaction.

#### Compaction Acceptance

Sublots to determine compaction testing shall be based on the following:

- Each 750 tons, or part thereof, placed on an individual street in a paving day. If over 750 tons are placed in a single paving day on an individual street, up to 150 tons over 750 tons can be moved into the previous 750 ton subplot.

- If multiple streets are paved in a day, each street will be considered its own subplot with multiple sublots on streets where greater than 750 tons are placed.

Density testing shall be required on all courses with a design thickness of at least 1.75 inches, unless Engineer determines area is not suitable for traditional compaction methods.

At Engineer's discretion, compaction testing may be performed using a nuclear gauge. The in-place density shall be between ninety-two percent (92%) and ninety-seven percent (97%) of maximum theoretical specific (RICE) gravity using a nuclear gauge. Gauge compaction testing shall be performed in accordance with CTM 375. Final compaction is based on the average nuclear gauge results for the subplot. The nuclear gauge will be core correlated the first day of paving using as many cores as Engineer deems appropriate.

If nuclear gauge compaction testing results are failing, the Contractor can request coring to verify the results. Three (3) cores will be sampled for each subplot and the average of the three (3) cores for each subplot will determine the in-place density. The core locations will be determined using random sampling charts in CTM 375. The Engineer will mark the core locations.

Cores may be taken up to five (5) calendar days after placement and may be 4 or 6 inches in diameter. The Engineer will provide results within three (3) working days of receiving the cores.

Passing cores shall be paid for by the City. Failing cores will be paid for by the Contractor. If the core testing produces both passing and failing cores, the cost will be prorated between the Contractor and the City.

Contractor shall core the full depth of the new surfacing and existing asphalt layers and backfill the cores holes with rapid set concrete. The cores shall be sawcut at the new resurfacing line prior to testing. **Failure to backfill the core holes on the same day as the coring is performed will subject the Contractor to liquidated damages in the amount of \$250 per day per location.**

For the percent of maximum theoretical density, the following table shall apply to deductions for average compaction of a subplot:

**Reduced Payment Factors for % of Max. Theoretical Density**

HMA (Type A) Percent of Maximum Theoretical Density	Reduced Payment Factor	HMA (Type A) Percent of Maximum Theoretical Density	Reduced Payment Factor
92.0	0.0000	97.0	0.0000
91.9	0.0125	97.1	0.0125
91.8	0.0250	97.2	0.0250
91.7	0.0375	97.3	0.0375
91.6	0.0500	97.4	0.0500
91.5	0.0625	97.5	0.0625
91.4	0.0750	97.6	0.0750
91.3	0.0875	97.7	0.0875
91.2	0.1000	97.8	0.1000
91.1	0.1125	97.9	0.1125
91.0	0.1250	98.0	0.1250
90.9	0.1375	98.1	0.1375
90.8	0.1500	98.2	0.1500
90.7	0.1625	98.3	0.1625
90.6	0.1750	98.4	0.1750
90.5	0.1875	98.5	0.1875
90.4	0.2000	98.6	0.2000
90.3	0.2125	98.7	0.2125
90.2	0.2250	98.8	0.2250
90.1	0.2375	98.9	0.2375
90.0	0.2500	99.0	0.2500
< 90.0	Remove and Replace	> 99.0	Remove and Replace

Clean-up

Once finish rolling is completed, if the Contractor decides to place sand on final pavement surface, the street shall be swept the following day to the satisfaction of the Engineer. The Contractor shall ensure that “No Parking” signs are dated and remain in place to reflect sweeping operations, as necessary.

**Measurement & Payment**

The contract price paid per ton for **“3/8-inch HMA (Type A) PG 64-10”**, **“1/2-inch HMA (Type A) PG 64-10”** and **“1/2-inch RHMA-G”** will 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; placement of tack coat prior to paving of all HMA courses; constructing and removing temporary transitions; reconstructing AC swales to maintain existing drainage patterns; JMF preparation, testing and production cost for verification and quality control testing; Contractor’s Quality Control Plan; and costs of coring to verify density by cores, if requested; and cleanup, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer.

The contract price paid per square foot for **“Miscellaneous Paving at Driveway (Revocable)”** will include full compensation for furnishing all labor, tools, equipment, and incidentals, and for doing all the work involved in Hot Mix Asphalt, complete in place, including pavement removal; surface preparation; tack coat; HMA placement and compaction; and cleanup, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer.

Full compensation for furnishing HMA for **“Miscellaneous Paving at Driveway (Revocable)”** will be measured and paid per ton as **“1/2-inch HMA (Type A) PG 64-10”** and no additional compensation will be allowed therefor.

The contract unit price paid per each for **“Remove Speed Table”** and **“Construct Speed Cushion”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Hot Mix Asphalt, complete in place, including pavement removal; surface preparation; tack coat; furnishing, placing and compacting HMA; 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.

The contract price paid per linear foot for **“Install Mountable HMA Dike”** and **“Remove and Replace HMA Dike”** will include full compensation for furnishing all labor, tools, equipment, and incidentals, and for doing all the work involved in Hot Mix Asphalt, complete in place, including pavement removal; surface preparation; tack coat; HMA placement and compaction; and cleanup, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer.

The contract price paid per linear foot for “**Install Shoulder Backing**” along the pavement edge will include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all of the work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. No additional compensation will be allowed therefor.

The contract price paid per square foot for “**Place Skin Patch**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in complete in place, including, tack coat; furnishing, placing and compacting HMA; and clean-up as shown on the plans, as specified in the Standard Specifications and in these special provisions, and as directed by the Engineer.

Sections 9-1.06B “Increases of More Than 25 Percent” and 9-1.06C “Decreases of More Than 25 Percent” shall not apply to the bid items related to Hot Mix Asphalt.

**BID ITEM NO. 25 - REMOVE & REPLACE 4-INCH HMA**

**BID ITEM NO. 26 - REMOVE & REPLACE 5-INCH HMA**

**BID ITEM NO. 27 - REMOVE & REPLACE 6-INCH HMA**

**BID ITEM NO. 28 - REMOVE & REPLACE 8-INCH HMA**

**BID ITEM NO. 29 - REMOVE & REPLACE 10-INCH HMA**

**BID ITEM NO. 30 - 6-INCH DEEP LIFT STABILIZATION (REVOCABLE)**

**General**

Work for “Remove & Replace HMA” or digouts shall consist of removing existing pavement, and base or native material, if necessary, to the specified depth by cold planing and filling the void with HMA.

Digout quantities shown in the bid schedule include a 25% overage allowance versus areas shown on the plans. Only overages approved by the Engineer will be measured for payment.

**Materials**

The HMA for Digouts shall conform to Section 39 of the 2010 Caltrans Standard Specifications (Unrevised Edition), and these Special Provisions.

## **Construction**

Pavement removal associated with “Remove & Replace HMA” of the various depths and “6-inch Deep Lift Stabilization” shall be replaced the same day as the removal.

The Engineer will mark the locations of each digout based on the Plans, and adjustments to or additional digout locations may be added based on the current conditions of the pavement. Streets designated for cold planing, the Engineer will mark digouts after the full width milling operations have been completed. Contractor shall allow up to twenty-four (24) hours for the milled surface to be inspected and digouts marked. Contractor shall accompany Engineer during markings of the digouts areas, and the marked, measured, and agreed-upon areas will constitute the final pay quantity.

The pavement areas designated to be replaced shall be removed to a uniform depth as specified on the Plans, and shall be removed by cold planing. Sawcutting shall not be permitted unless directed by the Engineer. Any broken or damaged pavement edges shall be re-cut prior to paving. All removed material shall be cleared from the site.

Excavated areas shall be graded as shown on the Plans as necessary to provide a uniform pavement thickness. If grading is not required, recompact loosened material at surface. If Contractor disturbs more than one and one half (1.5) inches, subgrade shall be compacted to 95% relative compaction at, or above optimum moisture as determined by CTM 216 and 231. All segregated or loose material shall be removed. No prime coat shall be required.

Pavement area shall be cleaned and tack-coated in accordance with these specifications. HMA shall be placed and compacted as specified in Section 39, “Hot Mix Asphalt” of Standard Specifications (Unrevised Edition) and these Special Provisions.

Successive courses may be laid upon previously laid courses once the surface temperature reaches 155° F or to be determined by Engineer’s representative.

At areas where the underlying material appears to be wet or soft or where it deflects under wheel loads, the Contractor shall employ excavation and work techniques which do not worsen the subgrade condition. If the areas were caused or significantly worsened by the Contractor’s operations, these areas shall be replaced at the Contractor’s expense.

Prior to placing HMA, the area shall be proof rolled with a loaded construction vehicle, preferably a ten (10) cubic yard dump truck or equivalent. The compacted surface shall not visibly yield or deflect. In the event that the underlying material is soft, yielding, unstable, or unsuitable, it shall be excavated to the depth of six (6) inches below the initial digout/base repair depth required above and disposed of in accordance with these Special Provisions. Limits of removal shall be designated by Engineer. Resulting space shall be filled with a single lift of HMA and compacted as directed by the Engineer. Payment for removing unsuitable subgrade and replacing it with HMA pavement will be made under the Bid Item **6-inch Deep Lift Stabilization**. Over-excavation will be considered revocable as it is not known if an unsuitable subgrade requiring over-excavation will be encountered during construction. For bidding purposes, the Bid Schedule assumes that 5% of the digouts and exposed subgrade will require over-excavation based on the unsuitable subgrade.

Unsuitable material is defined as material the Engineer determines to be:

1. Of such unstable nature as to be incapable of being compacted to specified density using ordinary methods at optimum moisture content, or
2. Too wet to be properly compacted and circumstances prevent in-place drying prior to incorporation into the work, or
3. Otherwise unsuitable for the planned use.

Care shall be taken to assure compaction of the inside corners of the first lift. Ramping shall not be allowed on the course placed immediately prior to the surface course.

A minimum of two (2) lifts shall be used for each replacement area or remove & replace with a depth greater than three inches. The surface course shall be 1-1/2 inches minimum thickness. No surface course may exceed three inches. Each lift shall be compacted by not less than three (3) full coverage passes of the vibratory roller.

The repaired areas shall conform to the level of the surrounding pavement so that no elevation variation is evident. The surface shall have a maximum variation from high to low of 0.01 feet maximum when measured with a twelve-foot level. Variation at the edges shall not exceed 0.01 feet maximum. When matching existing pavement, the finished surface shall not inhibit drainage. The upslope edge of the remove & replace shall be 0.00 feet high to 0.01 feet low. On the downslope edge of the remove & replace, the finished surface shall be 0.01 feet high to 0.00 feet low. Any resulting variations shall be corrected to the satisfaction of the Engineer.

Contractor shall provide full-time quality control during paving operations as outlined in the Standard Specifications (Unrevised) for Standard Construction Process.

For digout or remove & replace areas, temporary striping shall be placed back prior to opening to traffic.

Materials removed using cold plane or other methods shall become the property of the Contractor and shall be disposed of in accordance with local rules and regulations.

### **Measurement and Payment**

“Remove & Replace HMA” of the various depths and “6-inch Deep Lift Stabilization” will be measured and paid for by the square foot as indicated on the plans.

“Remove & Replace HMA” of the various depths and “6-inch Deep Lift Stabilization” will be approved by the Engineer prior to commencing removal operations. The City does not pay for Remove & Replace HMA and 6-inch Deep Lift Stabilization quantities that have not been approved by the Engineer in advance of the work.

The contract price paid per square foot for **“Remove & Replace 4-inch HMA”, “Remove & Replace 5-inch HMA”, “Remove & Replace 6-inch HMA”, “Remove & Replace 8-inch HMA”, “Remove & Replace 10-inch HMA”** and **“6-inch Deep Lift Stabilization (Revocable)”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Remove & Replace HMA, complete in place, including, cold planing, excavation, removal, off-haul and disposal of all asphalt concrete, aggregate base, native materials, and/or unsuitable materials; proof rolling; tack coat; furnishing, placing and compacting HMA; and clean-up as shown on the plans, as specified in the Standard Specifications and in these special provisions, and as directed by the Engineer.

Sections 9-1.06B “Increases of More Than 25 Percent” and 9-1.06C “Decreases of More Than 25 Percent” shall not apply to the bid items related to removing and replacing HMA or deep lift stabilization.

**BID ITEM NO. 31 - KEYCUT A1****BID ITEM NO. 32 - KEYCUT B1****BID ITEM NO. 33 - COLD PLANE 1-INCH****BID ITEM NO. 34 - COLD PLANE 2-INCH****BID ITEM NO. 35 - COLD PLANE 2-1/4-INCH****BID ITEM NO. 36 - COLD PLANE 2-1/2-INCH****BID ITEM NO. 37 - COLD PLANE 3-1/2-INCH****BID ITEM NO. 38 - COLD PLANE 4-INCH****BID ITEM NO. 39 - COLD PLANE 5-INCH****BID ITEM NO. 40 - COLD PLANE 7-INCH****BID ITEM NO. 41 - GRIND HIGH SPOT IN ROADWAY FLUSH W/ ADJACENT  
PAVEMENT SURFACE****BID ITEM NO. 42 - REMOVE AC FILL FROM GUTTER PAN****General**

Cold planing shall comply with Subsection 39-3.04, "Cold Planing Asphalt Concrete Pavement," of the Standard Specifications, and shall include all work necessary to remove existing asphalt and/or concrete pavement to a predetermined depth as indicated on the Plans. Limits of cold planing will be determined by Engineer prior to construction. Removal of existing pavement on roadways designated for cold planing and replacement of asphalt may be used for digouts and deep lift stabilization.

Work includes, but is not limited to, removal of existing pavement adjacent to gutters, cross gutters, ends of overlays, equipment crossings, railroad crossings, and bridge approaches. Existing pavement surface on roadways to be milled prior to pavement inlay shall be cold planed as specified herein. Existing conditions may differ from the Plans and shall be verified by Contractor. Exposed surface may be used temporarily as a driving surface.

In the event a pavement leveling, base, or surface course is being installed on the milled surface, Contractor shall schedule the cold planing work such that the pavement leveling, base, or surface course can be completed immediately after milling and digouts are complete in the same work shift. Milled pavement surfaces shall not be opened to traffic. All traffic lanes shall have pavement leveling, base, or surface course completed and shall be open for traffic outside the approved work hours.

Core locations on the Plans are estimated. They are not exact. Existing conditions may differ from the information specified in the boring logs as shown on the Plans. Pavement to be cold planed may contain pavement fabric.

## **Construction**

### **Summary**

Prior to cold planing on streets to be milled, all utility covers shall be lowered such that the cutting teeth of the planing machine pass over the adjusted lid without causing damage to the lid or frame. On streets to be overlayed, only utility covers within keycut or digout limits shall be lowered. Contractor shall be responsible for maintaining any temporary asphaltic fill material over these facilities until the final paving surface is installed.

Contractor shall be responsible for clearly marking the location or to reference lowered utilities in case of emergency. Contractor shall coordinate with the affected utility company for lowering and adjustment.

Cold planing shall be performed in such a manner to create clean vertical edges. Surface of pavement after planing shall be uniformly rough. Grade shall not deviate from a suitable straight edge of more than three-eighths (3/8) inch at any point. Milling may require more than one (1) inch removal of existing asphalt above gutter lips in addition to the required depth below the gutter lip due to prior overlays. Broken, damaged, or non-vertical edges shall be re-cut prior to paving.

There shall be no more than 0.02 foot difference between passes. From a string line, shall be 0.02 foot high to 0.04 foot low. Low areas shall be filled with HMA at Contractor's expense.

All pavement areas called out for milling and replacing shall be milled to the full width of the roadway. Pavement against curb faces shall be removed to the full depth designated for that particular section of roadway. If pavement against curb faces cannot be removed by the planing machine, Contractor shall use other means to remove this material.

The Contractor shall perform work such that their trucks and equipment are not unnecessarily driven on milled surfaces.

Water for cold milling shall be provided by Contractor and will be considered integral to cold milling in terms of payment.

Concrete gutter pans may be present under the existing pavement at various locations throughout the project sites. The Contractor shall remove pavement with cold plane equipment, or by other means as necessary so as not to damage gutter pans, to the required depths, or to the top of gutter pan, whichever is less. If gutter pans are encountered within the specified cold plane depth, coordinate HMA placement with the Engineer.

Concrete pavement may be present under the existing asphalt concrete roadway. Where encountered, the Contractor shall adjust their operation to only remove asphalt pavement to the top of the concrete pavement. Contractor shall coordinate HMA placement with the Engineer.

Shallow utilities may be present under the roadway. Where encountered, the Contractor shall adjust their removal operations so as not to damage utilities. Contractor shall coordinate new HMA placement depths with the Engineer.

#### Temporary Transitions

Contractor shall construct temporary pavement transitions at all cold-milled areas greater than one (1) inch prior to allowing traffic onto the cold-milled areas, including paving conforms, planed edges, cross gutters, and driveways over 0.15 foot before allowing traffic onto the paved surface. This includes both longitudinal and transverse directions. This also includes PCC facilities around corners from the beginning of curb return to the end of curb return, PCC cross gutters, and PCC spandrels.

Temporary pavement transitions shall have a slope of 20:1 or as approved by Engineer and be constructed on Kraft paper or other suitable bond breaker such that upon removal of the temporary pavement transition, a clean notch remains. Temporary transitions shall be constructed of hot mix.

Contractor shall continuously maintain the temporary pavement until the final paving. Each temporary transition shall be inspected by Contractor and repaired as necessary to comply with these provisions at the end of each day, including weekends and holidays.

**Failure to comply with these provisions will result in liquidated damages of \$250 per day per transition and/or the cost of City crews making the repairs, if necessary, to correct for public safety.**

### Equipment

Machine used for planing shall comply with Subsection 39-3.04C, "Construction," of the Standard Specifications, and shall have performed satisfactorily on similar work and shall meet the following requirements:

Planing machine shall be specifically designed and built for the planing of bituminous pavements without the addition of heat. It shall have the ability to plane Portland cement concrete patches in the bituminous pavement, or Portland cement concrete pavements. Cutting drum shall be a minimum of thirty (30) inches wide and shall be equipped with carbide tip cutting teeth placed in a variable lacing pattern of forty-eight (48) inches to produce the desired finish.

The machine shall be capable of being operated at speeds of zero (0) to forty (40) feet per minute, self-propelled, and have the capability of spraying water at the cutting drum to minimize dust. The machine shall be operated in such a way so that no fumes or smoke will be produced. The machine shall be capable of removing the paving material next to curbs or gutters and be designed such that the operator thereof can at all times observe the planing operation without leaving the controls. The machine shall be adjustable for slope and depth and shall be equipped with sonic sensing devices for controlling depth.

Contractor's attention is directed to Subsection 14-9.02, "Air Pollution Control," of the Standard Specifications. Contractor shall provide appropriate dust control as necessary and as directed by Owner.

### Removal and Disposal of Material

Cold planing shall not begin without a sweeper on site. During the planing operation, Contractor shall sweep the street with mechanical equipment and remove all loosened material from the work site until completion of the removal work. All materials removed shall be Contractor's property and shall be removed and legally disposed of at Contractor's expense. Contractor shall provide proof of legal disposal to Engineer. Contractor shall take all necessary measures to avoid the dispersion of dust. **Contractor shall notify Engineer for approval of swept surface prior to tack coat application, where tack coat is required.**

**Contractor shall perform daily sweeping and have a full-time sweeper available, including weekends and/or holidays.**

All material removed, unless designated to be salvaged, shall become property of the Contractor and shall be disposed of outside City's right-of-way in accordance with Standard Specifications Section 17-2.03D, "Disposal of Materials."

### Temporary Striping

Streets to be milled shall be temporarily striped prior to opening roadway to traffic. Temporary striping shall consist of temporary tab markers, reflective traffic striping tape, or paint, and shall be continuously maintained by the Contractor until resurfacing work is performed. Paint shall not be permitted on the final surface course. Temporary striping will be placed to delineate lane lines, center lines, crosswalks, and other traffic striping legends.

### Schedule

Contractor shall schedule the work such that the keycut areas shall be paved back, and final surface course paving shall be completed within five (5) working days after cold planing.

Contractor shall schedule the work such that streets with full-width milling shall be paved back with the specified base course prior to opening traffic. Only streets where base or native material is exposed, Contractor shall allow for twenty-four (24) hours between base course and intermediate course placement to see if unstable subgrade develops. The final surface course paving shall be completed within forty-eight (48) hours after cold planing.

Milled pavement surface shall not be opened to traffic and all traffic lanes shall be open for traffic outside the approved working hours, unless authorized otherwise in writing by the Engineer.

Pavement removal under bid item Remove & Replace HMA and Deep Lift Stabilization shall be replaced the same day as removal.

**Failure to comply with these provisions shall subject the Contractor to \$1,500 per street per calendar day in liquidated damages. Multiple occurrences of liquidated damages per calendar day are not restricted.**

### Measurement and Payment

Keycuts will be measured along the edge of the adjacent curb, gutter, cross gutter, or pavement, and paid for on a lineal foot basis.

Cold Planing on roadways to be milled will be measured and paid for by square foot.

The contract price paid per linear foot for **“Keycut A1”** and **“Keycut B1”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Cold Planing, complete in place, including cold planing, removal, off haul, and disposal of existing asphalt concrete above the lip of gutter and within gutter pans, to the depths required, as shown on the plans, as specified in the Standard Specifications and in these special provisions, and as directed by the Engineer.

The contract price paid per square foot for **“Cold Plane 1-inch”**, **“Cold Plane 2-inch”**, **“Cold Plane 2-1/4-inch”**, **“Cold Plane 2-1/2-inch”**, **“Cold Plane 3-1/2-inch”**, **“Cold Plane 4-inch”**, **“Cold Plane 5-inch”**, **“Cold Plane 7-inch”** and **“Grind High Spot in Roadway Flush w/ Adjacent Pavement Surface”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Cold Planing, complete in place, including cold planing, removal, off haul, and disposal of existing asphalt concrete above the lip of gutter and within gutter pans, to the depths required, as shown on the plans, as specified in the Standard Specifications and in these special provisions, and as directed by the Engineer.

The contract unit price paid per each for **“Remove AC Fill from Gutter Pan”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Cold Planing, complete in place, including cold planing, removal, off haul, and disposal of existing asphalt concrete to the depths required, as shown on the plans, as specified in the Standard Specifications and in these special provisions, and as directed by the Engineer.

At sections where the transverse (A) and longitudinal (B) keycuts intersect, the keycut will be measured and paid for as the transverse (A) keycut.

Cold planing may be used for Remove and Replace HMA & Deep Lift Stabilization. However, the price of the cold planing will be included in the bid item for Remove and Replace HMA & Deep Lift Stabilization.

Measurement and payment for **“Remove AC Fill from Gutter Pan”** will be on each basis, regardless of size and removal depth.

**BID ITEM NO. 43 - REMOVE & REPLACE PCC SIDEWALK****BID ITEM NO. 44 - REMOVE & REPLACE PCC SIDEWALK (REVOCABLE)****BID ITEM NO. 45 - REMOVE PCC SIDEWALK, BACKFILL W/TOP SOIL & MULCH****BID ITEM NO. 46 - REMOVE & REPLACE PCC CURB (6-INCH)****BID ITEM NO. 47 - REMOVE & REPLACE PCC CURB & GUTTER (1' GUTTER)****BID ITEM NO. 48 - REMOVE & REPLACE PCC CURB & GUTTER (2' GUTTER)****BID ITEM NO. 49 - REMOVE & REPLACE PCC CURB & GUTTER (2' GUTTER)  
(REVOCABLE)****BID ITEM NO. 50 - REMOVE & REPLACE PCC DRIVEWAY (RESIDENTIAL)****BID ITEM NO. 51 - REMOVE & REPLACE RAISED ISLAND****BID ITEM NO. 52 - REMOVE ISLAND PASSAGEWAY & CONSTRUCT PCC  
MEDIAN ISLAND****BID ITEM NO. 53 - REMOVE AND REPLACE PCC SWALE****BID ITEM NO. 54 - CONSTRUCT TRAFFIC CIRCLE****BID ITEM NO. 55 - CONSTRUCT BULBOUT AT TREE****General**

The work performed in connection with various existing highway facilities shall conform to the provisions in Sections 5-1.36, "Property and Facility Preservation", 7-1.05, "Indemnification," 7-1.06, "Insurance," 14-10, "Solid Waste Disposal and Recycling," and 15, "Existing Facilities," of the Standard Specifications, as well as 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.

Existing and new concrete facilities including curbs, curb and gutters, sidewalks, curb ramps, driveways and traffic circles shall be removed and replaced or constructed at the locations indicated on the Plans or as directed by the Engineer. Contractor shall hire a Licensed Land Surveyor to provide grades for construction of all Portland Cement Concrete (PCC) elements as needed.

The construction of these items shall conform to the requirements of City of Berkeley Detail Specifications and Standard Plans except as modified in these Special Provisions or as shown on the Plans.

**Materials**

General

PCC material shall be Type II or Type V Portland Cement conforming to ASTM C150 and the optional requirements of ASTM C150, Table 2 for maximum equivalent alkalis (Na<sub>2</sub>O + 0.658K<sub>2</sub>O) of 0.60 percent. Type III Portland Cement conforming to ASTM C150 and the optional requirements of ASTM C150, Table 2 for maximum equivalent alkalis (Na<sub>2</sub>O + 0.658K<sub>2</sub>O) of 0.60 percent may be used when approved by Engineer.

Submittals

Concrete mix design formulas for General Concrete and Heavy Vehicular Facilities.

Concrete Mix Design

The Contractor shall furnish a concrete mix design to the Engineer at least ten (10) working days prior to the start of the work, based on the following guidelines.

General Concrete Facilities including curb, gutter, sidewalk, curb ramps residential driveways, raised and/or stamped median and shall meet the following requirements:

Compressive Strength:	2500 psi @ 28 days
Maximum Slump:	five (5) inches

Heavy Vehicular Facilities including valley gutters, spandrels, swales, commercial driveways, mountable medians, and alley entrances shall meet the following requirements:

Compressive Strength:	4000 psi @ 28 days
Maximum Slump:	four (4) inches

Concrete shall contain 1-1/2 pounds of lampblack per cubic yard. Rose colored concrete shall contain six (6) pounds of Davis #160 (rose) per cubic yard.

The Contractor shall be responsible for all costs associated with the required mix design.

#### Quality Control / Acceptance Testing

Field testing shall include testing for concrete slump as per ASTM C-143 and compressive strength (C39). Such testing shall be at a frequency determined by the Engineer and shall be performed by the City's laboratory at the City's expense. The Contractor shall furnish the concrete necessary for casting test cylinders.

#### Detectable Warning Surface

All curb ramps shall have a detectable warning surface. Detectable warning surface shall be in the form of tiles manufactured from a fiberglass reinforced ultraviolet stabilized polymer composite. Detectable warning surface shall be on Caltrans' Authorized Materials List. Tiles shall be wet-set cast-in-place.

Detectable warning surface tiles shall conform to the requirement established by the Department of General Services, Division of State Architect and incorporate an in-line pattern of truncated domes measuring nominal 0.2" in height, 0.9" base diameter, and 0.45" top diameter, and spaced 2.35" center-to-center as measured side by side. The field area shall consist of a high density, pyramid micro textured of raised points 0.05" high. Anchors shall have a minimum spacing of 12-inches.

Detectable warning surface tiles color shall be homogeneous throughout the tile. Color shall be **Yellow (Federal Standard 595B, Color No. 33538)**.

Detectable warning surface tiles shall be configured such that the required area is covered by no more than two (2) tiles to conform to the dimensions as shown on the plans, and as directed by the Engineer. If multiple detectable warning surface tiles are used, joint shall be joined in the curb ramp or as approved by the Engineer.

Detectable warning surface tiles shall be suitably packed or crated to prevent damage in shipment or handling. Finished surfaces shall be protected by sturdy plastic wrappings to

protect tile from concrete residue during installation and tile shall be identified by part number. Protective plastic wrapping shall be removed within twenty-four (24) hours after tiles are installed.

Detectable warning surface installation shall comply with the manufacture's recommendations. Installation of surface applied detectable warning surface shall not be allowed.

Detectable warning surface tiles shall be warranted in writing for a period of five (5) years from date of final completion. The guarantee shall include defective work, breakage, deformation, fading and loosening of tiles.

**The Contractor shall be certified as a truncated dome installer and possess an installation certification from a truncated dome manufacture that must be proved at the preconstruction meeting with the truncated dome material submittal.**

### **Construction**

Concrete shall comply with Section 73, "Concrete Curbs and Sidewalks," of the Standard Specifications and current California Building Code requirements.

Existing concrete shall be saw cut to full depth prior to removal and all concrete outside the limits of work shall be protected in place. Any concrete broken due to the Contractor's failure to comply with these requirements shall be removed and replaced at the Contractor's expense.

The line and grade of the replaced facilities shall conform to the existing facilities. In most instances, this will consist of a straight line between existing facilities. However, it may be necessary to construct grade breaks so that replaced facilities conform to the existing pavement surfaces and so that replaced facilities meet slope requirements as required by the Americans with Disabilities Act (ADA), Public Right-of-Way Accessibility Guidelines (PROWAG), City of Berkeley's Standard Plans, and as specified in the Standard Specification.

The Contractor shall water test all repaired curbs and gutters, cross gutters, and other repaired drainage facilities in the presence of the City's Inspector.

Commercial driveway and alley approaches, including the adjacent curb and gutter section, shall be removed and replaced within twenty-four (24) hours. Curing time shall be seventy-two (72) hours.

**No horizontal or vertical control will be provided for the forming and placing of new concrete facilities, unless shown otherwise on the Plans. It is the responsibility of the Contractor to ensure that new concrete facilities are constructed in accordance with the State Standard Plans, City of Berkeley's Standard Plans, and as specified in the Standard Specification.**

#### Protection of Existing Facilities

Contractor shall protect existing facilities from damage, and discoloration from concrete splash. Adjacent concrete facilities shall be covered during concrete placement to prevent concrete splash and excess concrete from staining the adjacent concrete. After initial placement, strikeoff and finishing, the protection shall be removed and the adjacent concrete cleaned.

Vertical existing facilities such as light poles, walls, etc. shall be protected with plastic extending a minimum of three feet above the concrete surface. After initial placement, strikeoff and finishing, the protection shall be removed and the vertical surfaces cleaned.

City-owned electrical facilities may be shallow in the sidewalk, curb ramp, curb, 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.

#### Subgrade

After the subgrade is prepared, moisture conditioned, and compacted to 90% relative compaction at zero to three percent (0-3%) over optimum as determined by Cal Test 216 and 231.

For concrete work in heavy vehicular traffic areas (such as for mountable medians and curbs) subgrade shall be compacted to 95% relative compaction at zero to three percent (0-3%) over optimum as determined by Cal Test 216 and 231.

Contractor shall continuously maintain the sub-grade in a uniform condition at the moisture content obtained during sub-grade compaction until the concrete is placed.

### Forming

Wooden forming shall be of two (2) inch nominal thickness staked at two (2) foot intervals. The maximum gap at the bottom of the forms shall be 1-3/4 inches.

Forms will be checked by Engineer prior to concrete delivery to the work site. Contractor shall give Engineer a forty-eight (48) hour notice prior to inspection of concrete.

### Tolerances

The maximum variation from design elevation shall not exceed +/- 0.02 feet. In some instances, particularly in critical drainage areas, tolerances may be reduced to zero. Concrete facilities shall be installed to maintain or provide positive drainage. Questions regarding applicable tolerances shall be directed to the Engineer forty-eight (48) hours in advance of the work.

When shown on the drawings, the concrete shall be set at the design elevations. When existing facilities are to be removed and replaced, they shall conform to the existing elevations and grades. Generally, this will be at a straight line between the start and end points of the removal. However, it may be necessary to construct grade breaks so that replaced facilities conform to the existing pavement surfaces and so that replaced facilities meet the slopes requirements in accordance with the City of Berkeley's Standard Plans, and as specified in the Standard Specification.

### Placing and Finishing

The concrete shall be deposited on a moist grade in such a manner as to require as little re-handling as possible.

Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or foreign substances.

### Strike Off, Consolidation, and Finishing

In general, adding water to the surface of the concrete to assist in finishing operations shall not be permitted.

Before final finishing is completed and before the concrete has taken its initial set, the edges shall be carefully finished with the radius shown on the plans or a radius to match the existing construction.

Concrete shall be thoroughly consolidated against and along the faces of all forms and adjacent concrete. After the forms are removed, excess concrete below the form surface shall be removed to be flush with the form face.

All new concrete shall match existing facilities in texture, color, and appearance.

#### Concrete Protection

The Contractor shall always have materials available to protect the surface of the fresh concrete against rain. These materials shall consist of burlap, curing paper, or plastic sheeting. If plastic sheeting is used, it shall not be allowed to contact finished concrete surfaces.

The Contractor shall also protect the concrete against traffic and vandalism. If the concrete is damaged or vandalized, the Contractor shall make the necessary repairs at its own expense. The repair procedure for damaged or vandalized concrete shall be approved in advance by the Engineer.

#### Curing

Concrete shall be cured by protecting it against loss of moisture, rapid temperature change, and mechanical injury for at least three (3) days after placement. White or clear liquid membrane compound shall be used.

After finishing operations have been completed, the entire surface of the newly placed concrete shall be covered by the curing medium. The edges of the concrete exposed by the removal of forms shall be protected immediately to provide these surfaces with continuous curing treatment.

The concrete shall be allowed to cure for seventy-two (72) hours prior to placing adjacent hot mix asphalt.

### Joints

Control joints shall be placed at a maximum spacing of ten (10) feet, score lines no less than five (5) feet, and against utility boxes/poles/structures. Control joints in all PCC facilities, except sidewalks, shall be formed by tooling a deep joint or by using expansion joint material. If expansion joint material is used, a minimum of two (2) 1/2" x 18" dowels shall be used, with additional dowels placed every twenty-four (24) inches.

Control joints in sidewalks may be made using a tooled joint which shall extend a minimum of 1/4 of the depth of the concrete and shall not be less than 1-1/2 inches in depth.

Expansion joints shall be required at a maximum of forty-foot intervals on curbs, curbs and gutters, cross gutters, swales, and sidewalks. Expansion joints shall also be required on all corners of curbs, curbs and gutters, sidewalks, at the outside boundary of access ramps, and other locations with discontinuities or reentrant corners which may cause cracking.

### Cleanup and Backfill

After the concrete is placed, cured, and the forms have been removed, the Contractor shall clean the site of all concrete and forming debris.

HMA used for conforms shall be 1/2-inch, Type A and shall comply with these Special Provisions. HMA conform width shall be at least twenty-four (24) inches minimum, and depth shall match existing pavement thickness and no less than six (6) inches. The remaining depth shall be filled with aggregate base compacted to ninety-five percent (95%) relative compaction of additional HMA.

Pavement shall be restored in accordance with these Special Provisions. A minimum of two (2) lifts shall be used, none of that shall exceed three (3) inches, and the top lift shall be a minimum of 1-1/2 inches thick.

For pavements to be overlaid or resurfaced, the aggregate base and hot mix asphalt may be replaced with cement sand slurry in conformance to Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications of CLSM. If RHMA is specified for surface course paving, cement sand slurry will not be allowed.

After curing has been completed and the forms have been removed from the new curb and gutter or sidewalk, the void between the new concrete and the existing parkway shall be filled with clean native material and the entire parkway left in a clean and orderly condition.

For concrete removed but not replaced, the resulting void after excavation shall be backfilled with clean native material.

### Curb Ramps

It shall be the responsibility of Contractor to ensure that curb ramp slopes and dimensions are constructed in accordance with Caltrans 2024 Standard Details A88A and A88B. All curb ramps shall meet current Americans with Disabilities Act (ADA) guidelines and conform to the Public Right-of-Way Accessibility Guideline (PROWAG). Curb ramp limits and centerlines are marked in white paint. Ramp center lines marked in the field are approximate and can be shifted if approved by the Engineer. Ramp shall include the construction of the curb and gutter from the limits of work. Normal gutter line shall be maintained through the area of the curb ramp. Curb ramps shall be located within marked limits of crosswalks.

The contractor's duties as part of curb ramp construction shall include coordinating with utility company representatives for those locations where existing utility boxes fall within the limits of new ramp and/or sidewalk construction. Coordination efforts should be made early on in the Contract for those items which may require a long lead-in time or may involve significant interaction with utility company personnel.

### Traffic Circles

Traffic circles shall be constructed per the City of Berkeley Standard Plans for Typical Traffic Circle Design and Traffic Divert Details, and the Enlargements as shown in the Plans.

### Curb or Curb & Gutter Bulbout at Tree

Curb or Curb & Gutter Bulbout at Tree shall be constructed per the construction details shown in the Plans, or as directed by the Engineer.

### **Measurement and Payment**

The contract price paid per square foot for **“Remove & Replace PCC Sidewalk”**, **“Remove & Replace PCC Sidewalk (Revocable)”**, **“Remove PCC Sidewalk, Backfill w/Top Soil & Mulch”**, **“Remove PCC Sidewalk & Construct PCC Raised Island”**, **“Remove & Replace PCC Driveway (Residential)”**, **“Remove & Replace PCC Median”**, and **“Remove & Replace PCC Valley Gutter”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Miscellaneous Concrete, complete in place, including sawcutting, demolition, removal and disposal of concrete, pavement, base, and native material, excavation subgrade preparation, aggregate base, compaction, dowelling, rebar, score marks, weakened plane joints, expansion joints, reconnecting curb drains, protecting-in-place and adjusting to finished grade all utility boxes (public and private), coordination with utility agencies, furnishing and applying curing compound, HMA conforms, irrigation repairs, salvaging and resetting brick pavers and other private improvements, 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.

Full compensation for installing, and removing and replacing curb ramps including, but not limited to, detectable warning surfaces, ramp run, landing / turning spaces, flared sides, retaining curbs, concrete finish, and gutter transition will be considered included in the cost of various revocable items as **“Remove & Replace PCC Sidewalk (Revocable)”**, **“Install Cross Drain Pipe Under Sidewalk (Revocable)”**, and **“Install Cross Drain Pipe Under Street (Revocable)”**, **“Remove Cross Drain Cover (Revocable)”**, **“Install Cross Drain Cover (Revocable)”**, and **“Construct Cross Drain (Revocable)”** and no additional compensation will be allowed therefor. Various revocable items above are intended for construction of roughly twenty (20) ramps at various locations within the limits of streets to repaved.

Full compensation for removing and replacing retaining curbs between the driveway wing and planter strip will be considered included in the cost of **“Remove & Replace PCC Driveway (Residential)”** and no additional compensation will be allowed therefor.

The contract price paid per linear foot for **“Remove & Replace PCC Curb (6-inch)”**, **“Remove & Replace PCC Rolled Curb (2.5-foot)”**, **“Remove & Replace PCC Swale”**, **“Remove & Replace PCC Curb & Gutter (2-foot Gutter)”** and **“Remove & Replace PCC Curb & Gutter (2-foot Gutter) (Revocable)”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Miscellaneous Concrete, complete in place, including sawcutting, demolition, removal and disposal of concrete, pavement, base, and native material, excavation subgrade preparation, aggregate base, compaction, dowelling, rebar, score marks, weakened plane joints, expansion joints, reconnecting curb drains, protecting-in-place and

adjusting to finished grade all utility boxes (public and private), coordination with utility agencies, furnishing and applying curing compound, HMA conforms, irrigation repairs, salvaging and resetting brick pavers and other private improvements, 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.

The contract unit price paid per each for **“Construct Traffic Circle”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing traffic circle, complete in place, including but not limited to existing pavement, base and native material removal; backfilling any resulting voids; field layout, sawcutting, demolition, excavation, removal, off-haul, formwork, concrete, stamped concrete finish work, rebar, aggregate base, compaction, finishing and curing, HMA conforms, and cleanup, 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 per each for **“Construct Bulbout at Tree”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved Miscellaneous Concrete, complete in place, including but not limited to field layout, and additional excavation and removal of asphalt, base and native material, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

Full compensation for forming and concrete furnished, placed, and finished for curb or curb and gutter adjacent to bulb-out at tree will be measured and paid for as **“Remove & Replace PCC Curb (6-inch)”** or **“Remove & Replace PCC Curb & Gutter (2-foot Gutter)”** and no additional compensation will be allowed therefor.

#### **BID ITEM NO. 56 - WOOD RETAINING WALL (12 INCHES)**

#### **BID ITEM NO. 57 - WOOD RETAINING WALL (24 INCHES)**

##### **General**

Furnish and install wood retaining wall and related work thereto. Wall and associated components shall be installed in accordance with details shown on the plans, the Standard Specifications, and these special provisions.

##### **Measurement & Payment**

The contract price paid per linear foot for “**Wood Retaining Wall (12 Inches)**” or “**Wood Retaining Wall (24 Inches)**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

**BID ITEM NO. 58 - RELOCATE ROADWAY SIGN**

**BID ITEM NO. 59 - RELOCATE POST W/ PED PUSH BUTTON**

**BID ITEM NO. 60 - INSTALL R1-6 SIGN**

**BID ITEM NO. 61 - INSTALL W11-2 SIGN**

**BID ITEM NO. 62 - INSTALL W16-7P SIGN**

**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](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 fourteen (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 inches by 12 inches 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.

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).

Concrete for signpost foundation shall be 2500 PSI concrete, either prepackaged or ready mix.

Roadside signposts 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.

### **Construction**

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.

#### **Pedestrian Push Button**

Pedestrian push button to be located on face of pole adjacent to sidewalk path of travel and shall be installed forty-two (42) inches above the adjacent sidewalk surface.

#### **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 ¼ 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 (1) 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 palettes, 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 thirty (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.

### **Measurement and Payment**

The contract price per each “Install R1-6 Sign”, “Install W11-2 Sign”, or “Install W16-7P” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Roadside Signs, complete in place, including furnishing and installing protective overlay on signs panels, removing and replacing sign post sleeves, and clean-up, as shown on the Plans, as specified in the standard specifications and these special provisions, and as directed by the Engineer.

**BID ITEM NO. 63 - REMOVE CROSS DRAIN COVER (REVOCABLE)**

**BID ITEM NO. 64 - INSTALL CROSS DRAIN COVER (REVOCABLE)**

**BID ITEM NO. 65 - INSTALL CROSS DRAIN PIPE UNDER SIDEWALK**

**(REVOCABLE)**

**BID ITEM NO. 66 - INSTALL CROSS DRAIN PIPE UNDER STREET (REVOCABLE)**

**BID ITEM NO. 67 - CONSTRUCT CROSS DRAIN (REVOCABLE)**

**BID ITEM NO. 68 - RECONSTRUCT TOP OF CURB INLET**

**BID ITEM NO. 69 - RECONSTRUCT CURB DRAIN**

**BID ITEM NO. 70 - RECONSTRUCT TOP OF CATCH BASIN**

**BID ITEM NO. 71 - REMOVE AND REPLACE CATCH BASIN**

**General**

This work shall consist of removing and installing new cross drain covers, catch basins, storm drain and curb drain pipe, along with the necessary fittings and connections to existing storm drain features, protection of existing storm drain related facilities to remain in place, and modifications to existing storm drain features as shown on the Plans as specified in these Special Provisions and the City of Berkeley Standard Details.

Cross drains located at curb returns shall be removed and replaced with storm drain pipe. Contractor shall consider possible long lead time for checkered steel plate non-skid surface when scheduling replacement work.

**Materials**

The storm drainage structures to be installed shall conform to the provisions included for Drainage Structures in Detail Specifications No. 21 of the City of Berkeley. Catch basins shall include galleries on the uphill side of structure.

Storm drain pipe shall be twelve (12) inch HDPE N-12 pipe by Advanced Drainage System (ADS) or approved equal. Pipe shall be smooth walled and water-tight with reinforced integral bell and gasketed spigot.

Pipe shall be cut flush with the inside wall of structure. All voids between pipe and wall shall be sealed with non-shrink grout. Grout finish shall be smooth and flush with inside wall of structure.

Trench excavation, backfill and surface restoration shall be per City of Berkeley Standard Plan 8136, "Trench Excavation and Surface Restoration" detail.

Checkered steel plate non-skid surface for cross drain covers shall conform to City of Berkeley Standard Detail Plan 3317 and the construction details in the Plans. Existing metal castings from cross drain inlet and outlet structures that are to be removed shall be salvaged and delivered to City Corporation Yard, as directed by the Engineer.

New drainage structures shall include new, "no dumping" warning medallions on top of the structures at the curb face. Medallions shall be supplied by the City. Medallion shall be installed using a construction grade weatherproof adhesive, SikaFlex or approved alternate.

### **Construction**

The Contractor shall locate existing utilities before any excavation to ensure that the proposed storm drain layout can be constructed. Minor adjustments of drain inlet locations are allowed but need to be brought to the City's attention in the form of a red-lined plan sheet. Water, sewer, or gas utility lines may be relocated after obtaining approval from the City or utility owner.

Trench excavation, backfill, and shaped bedding shall conform to the provisions in the City Standard Details and Detail Specifications.

The pipe shall be laid in a trench excavated to the lines and grades as required to ensure proper drainage and pipe cover, and as directed by the Engineer. The bottom of the trench

shall be graded and prepared to provide a firm and uniform bearing throughout the entire length of the pipe or culvert. Backfill shall be placed as described in City Standard Details and Detail Specification.

### **Measurement and Payment**

The contract unit price paid per liner foot for **“Install Cross Drain Pipe Under Sidewalk (Revocable)”**, and **“Install Cross Drain Pipe Under Street (Revocable)”**, will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing and installing storm drain and curb drain pipes, complete in place, including pipe remove and disposal, furnishing and installing new pipe and fittings, demolition, excavation, shoring, removal, off-haul, bedding and backfill material, compaction, connecting pipes to existing and/or new facilities restoration and clean-up, as shown on the Plans, and as specified in these Special Provisions, and as directed by the Engineer.

The contract unit price paid per each for **“Remove Cross Drain Cover (Revocable)”**, **“Install Cross Drain Cover (Revocable)”**, **“Construct Cross Drain (Revocable)”**, **“Reconstruct Top of Curb Inlet”**, **“Reconstruct Curb Drain”**, **“Reconstruct Top of Catch Basin”** and **“Remove and Replace Catch Basin”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing and installing storm drain structures, complete in place, including cross drain cover remove and disposal, furnishing and installing new cross drain covers and catch basins, demolition, excavation, removal, off-haul, bedding and backfill material, compaction, restoration and clean-up, as shown on the Plans, and as specified in these Special Provisions, and as directed by the Engineer.

## **BID ITEM NO. 72 - INSTALL EDGE DRAIN**

### **General**

Work to be performed under this section covers all labor, materials, tools, equipment, transportation, and incidentals necessary to install edge drainS. All such work shall conform to these Special Provisions, the plans, construction details, and as directed by the Engineer.

### **Materials**

See edge drain details on the plan sheets for applicable materials.

### **Construction**

The Engineer shall confirm the limits of the edge drain installation prior to construction.

The pavement shall be sawcut in a manner so as to create clean vertical edges. Any broken, damaged, or non-vertical pavement edges shall be re-cut prior to pavement restoration.

Trenching and backfill shall be performed per the most versions of the All Cities and County of Marin Uniform Construction Standards.

Pipe and structure installation shall be per the details on the plan sheets.

Contractor shall restore the pavement after the trench backfill and compaction. All vertical edges to be paved against shall be tack coated. These include, but are not limited to, curb faces, gutter lips, swale edges, cross gutter edges, and pavement edges.

1/2" HMA (Type A) PG 64-10 shall be used for pavement restoration. The new paving section shall match the existing pavement thicknesses, 4" minimum. No single lift shall be greater than 3", or less than 1-3/4" thickness. Contractor shall compact HMA per the "Hot Mix Asphalt (HMA)" section of these technical provisions.

### **Measurement and Payment**

The contract unit price paid for "Install Edge Drain" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all the work involved in the install edge drain, complete in place, including trenching, pipes, fittings, cleanouts, lids, frames and covers, inspection ports, connections to storm drain system, backfill, compaction, demolition, excavation, removal, off-haul, pavement restoration, and clean-up as shown on the Plans, and as specified in these Special Provisions, and as directed by the Engineer.

**BID ITEM NO. 73 - INSTALL G-5 FRAME & COVER FURNISHED BY EBMUD**

**BID ITEM NO. 74 - REPLACE WATER VALVE FRAME & COVER**

**BID ITEM NO. 75 - REPLACE SURVEY MONUMENT FRAME & COVER**

**BID ITEM NO. 76 - REMOVE & REPLACE HMA AROUND UTILITY COVER**

**BID ITEM NO. 77 - LOWER GAS VALVE COVER (REVOCABLE)**

**BID ITEM NO. 78 - LOWER LOOP DETECTOR HANDHOLE COVER**

**BID ITEM NO. 79 - LOWER MAINTENANCE HOLE COVER**

**BID ITEM NO. 80 - LOWER SEWER CLEANOUT COVER**

**BID ITEM NO. 81 - LOWER SURVEY MONUMENT COVER**

**BID ITEM NO. 82 - LOWER WATER VALVE COVER (REVOCABLE)**

**BID ITEM NO. 83 - ADJUST ELECTRICAL BOX COVER TO FINISH GRADE**

**BID ITEM NO. 84 - ADJUST GAS VALVE COVER TO FINISH GRADE  
(REVOCABLE)**

**BID ITEM NO. 85 - ADJUST LOOP DETECTOR HANDHOLE COVER TO FINISH  
GRADE**

**BID ITEM NO. 86 - ADJUST JUNCTION BOX TO FINISH GRADE (REVOCABLE)**

**BID ITEM NO. 87 - ADJUST MAINTENANCE HOLE COVER TO FINISH GRADE**

**BID ITEM NO. 88 - ADJUST SEWER CLEANOUT COVER TO FINISH GRADE**

**BID ITEM NO. 89 - ADJUST SURVEY MONUMENT COVER TO FINISH GRADE**

**BID ITEM NO. 90 - ADJUST WATER VALVE COVER TO FINISH GRADE  
(REVOCABLE)**

### **General**

Utility covers shall be adjusted to finish grade, including maintenance hole frames and grates, water valves, survey monument covers, monitoring well covers, miscellaneous utility boxes, and water meter boxes, and shall comply with Subsection 71-5.03B, "Frames, Covers, Grates, and Manholes," of the Standard Specifications.

Contractor shall coordinate with the respective Owner of the utility to place the required materials prior to adjustment and after work is completed. Contractor shall be responsible for obtaining and purchasing all permits that pertain to lowering and adjusting existing utilities within the limits of work of the appropriate governing jurisdiction.

All work shall conform to the application provisions of the Standard Specifications, these Special Provisions, the Plans and Typical Sections, Owner's Standards, and as directed by Engineer.

### **Materials**

Portland cement concrete used for adjusting covers shall be Class B, 5 sack minor concrete conforming to the provisions in the State Standard Specifications Section 51, "Concrete Structures," and shall be 1-inch maximum grading as specified in Section 90-1.02C(4)(d), "Combined Aggregate Grading of the State Standard Specifications.

Mortar used in resetting maintenance hole covers shall conform to the provision in Section 51-1.02F, "Mortar" of the Standard Specifications.

Salvaged materials that are undamaged may be reinstalled as directed by Engineer.

HMA shall be used to pave back around the utilities after the concrete has cured.

Cast-in-place or precast concrete and brick or vitrified clay pipe shall be replaced in kind unless otherwise permitted by Owner of the facility.

### **Construction**

#### **Lowering**

Contractor shall notify utility owners in advance of the need to commence work required prior to paving operations and again for work required after paving operations. Such owners may request the contractor to raise the private facilities.

The Contractor shall properly locate and tie all existing facilities to be lowered and raised in advance of paving operations. Reference points of at least two (2) points shall be provided on the face or top of curb, showing the distance to the utility that is to be lowered or adjusted and the utility type.

Frames and covers shall be lowered to a sufficient depth so that cold planing equipment shall pass over the top without damaging it. Utility depressions shall be temporarily filled

with HMA (or other approved materials) after lowering or cut back before opening lanes to traffic.

When frames and covers cannot be lowered prior to cold planing, cold planing equipment shall “pick up” and “set down” on either side of the covers. Non-milled asphalt pavement around the lid or cover shall be removed by other means to the specified depth shown on the Plans. Where frames and covers cannot be lowered flush with the milled surface, frames and covers shall be protected utilizing the following alternatives, or as directed by the Engineer:

1. Ramp section (cut-back) around “iron” and paint white
2. Place lighted Portable Barricade over iron

Contractor shall completely protect with heavy plastic or other suitable material, as approved by Engineer, all utility covers or other items that are visible on the surface prior to paving or resurfacing operation, . No adhesive materials shall be permitted to fill the joint between the frame and cover. Care shall be taken to keep frames and covers clean. Any material that adheres to the frames and covers shall be removed to the satisfaction of the Engineer and at the Contractors expense.

Dirt, rocks, and debris shall not be permitted to enter sewers or storm drain lines. Temporary covers shall be placed to prevent entry of material into maintenance hole, sewer, and storm drain pipes. Any material that enters the structure and pipes shall be immediately cleared to the satisfaction of the Engineer.

Existing facilities (boxes, lids, frames, and covers) found in damaged condition shall be reported to Engineer before disturbing. Existing facilities found in damaged condition shall be replaced by Contractor with materials furnished by Owner.

#### Adjusting

Salvaged materials which are undamaged may be reinstalled as directed by the Engineer. Structures built of cast-in-place or precast concrete and brick or vitrified clay pipe parts shall be replaced in kind, unless otherwise permitted by the owners of the facility.

Utility frames and covers shall be adjusted per Owner’s standard details.

Concrete around the maintenance holes, survey monuments, water valves, and other utilities as required, shall be left 0.13 foot lower than the adjacent pavement. Surface shall be tack-coated with 0.10 gallons per square yard and paved with HMA. Immediately after placement, the surface shall be sand-sealed.

Where applicable, concrete around maintenance holes, survey monuments, and other utility covers with collars shall not be left exposed before final paving.

The surface of the adjusted facilities shall be true to the new pavement surface to within a 1/8-inch deviation. This tolerance shall apply in a single direction only, either up or down. In addition, the adjusted facility shall not vary to the high tolerance on one side and the low tolerance on the other (i.e. the total aggregate tolerance on both sides shall be limited to the 1/8-inch variation). This variation shall apply to the adjacent patch paving around the facility such that neither the paving nor facility vary by more than the stated tolerances.

The adjusted facilities in the sidewalk shall be flush with adjacent surface.

#### Schedule

Length of time between paving and the raising of any given cover shall not exceed seven (7) days, or as required and permitted by Owner. After concrete collar construction, Contractor shall place cones and delineators around adjusted utility covers prior to opening roadway to traffic. Other means of protecting utility covers, and traffic from depression around utility, may be required for safety as deemed necessary by the Engineer or Owner. Final paving shall be completed within twenty-four (24) to forty-eight (48) hours after placement of concrete collars around adjusted facilities.

**Liquidated damages of \$1,500 per day per utility cover will be applied if the time from the initial adjustment of any utility cover to the final placement at grade exceeds fourteen (14) days.**

#### Maintenance Holes

Maintenance Holes shall be adjusted to grade per City Standard Detail 8193 or 8194, East Bay Mud Utility District (EBMUD) Standard Details or other utility provider's standards, as shown on the plans, and as directed by the Engineer

#### Water Valves

Water valve frames and covers shall be adjusted to finished grade after placement of final surface course per EBMUD Standard Drawing 321-EA, "Valve Pot Installation". At locations where existing water valves are not housed in G-5 frames and covers, Contractor shall install new G-5 frames and covers furnished by EBMUD.

### Survey Monuments

The Contractor shall be responsible for the preservation of existing survey monuments, benchmarks, reference points, and stakes. All City of Berkeley monuments located within the project area shall be referenced, prior to work commencing, by a licensed land surveyor as required by Section 8771 of the Business and Professions Code.

Contractor shall confirm with the City that all monuments within the limits of work have been referenced prior to the start of any pavement removals.

Contractor shall protect all monuments. Monuments that will be disturbed shall be identified by the Contractor to the Engineer. Contractor shall provide at least ten (10) days' notice to the Engineer of any monuments that will be disturbed. No monuments shall be removed without the prior agreement of the Engineer nor before a California Licensed Land Surveyor has set reference points to reestablish the monument. Monuments that will be disturbed shall be removed during the removal of the existing pavement.

In case of willful or careless destruction, the Contractor will be charged with the entire cost to reset the monument by a California Licensed Land Surveyor and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

The Contractor shall replace City Monuments and reference marks removed during the performance of the work. The Contractor is directed to the Bid Item "Monument Replacement" for details relating to rebuilding survey monuments.

Where new G-5 survey monument boxes and lids are not required, the Contractor shall exercise due care in salvaging and storing existing G-5 boxes and lids and perform the installation without disturbing the location of the monument. If the monument is disturbed the Contractor shall be responsible for re-establishing it as a monument in accordance with State laws. The work for placement of the box and lid over an existing monument will include removal and replacement of the hot mix asphalt around the monument.

### 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 will 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 **“Install G-5 Frame & Cover Furnished by EBMUD”, “Remove & Replace HMA Around Utility Cover”, “Lower Gas Valve Cover (Revocable)”, “Lower Maintenance Hole Cover”, “Lower Sewer Cleanout Cover”, “Lower Survey Monument Cover”, “Lower Water Valve Cover (Revocable)”, “Adjust Electrical Box Cover to Finish Grade”, “Adjust Gas Valve Cover to Finish Grade (Revocable)”, “Adjust Junction Box to Finish Grade”, “Adjust Maintenance Hole Cover to Finish Grade”, “Adjust Sewer Cleanout Cover to Finish Grade”, “Adjust Survey Monument Cover to Finish Grade”, “Adjust Water Valve Cover to Finish Grade (Revocable)”** will 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 water valve frame and covers to Owner, concrete, mortar and HMA, as shown on the plans, as specified in the Standard Specifications and these special provision, and as directed by the Engineer.

Full compensation for installing G-5 frames and covers furnished by EBMUD shall include coordinating with Owner, transportation to job sites, and returning to Owner or disposing of old valve covers. Lowering and adjusting of water valve covers will be measured and paid separately.

## **BID ITEM NO. 91 - MONUMENT REPLACEMENT**

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. Corner records for the replacement monuments shall be filed with the County and copies provided to the City.

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.

### **Measurement and Payment**

The contract unit price paid per each for “**Monument Replacement**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing monuments, complete in place, including pre-construction and post-construction monument researching, referencing, and field locating; corner records; coordination with City Surveyor Staff or Project Inspector, removal and disposal of existing railroad spikes; 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 Contractor will be paid on the basis of work completed as noted on the monthly submission of progress payment and after the delivery of the salvaged lids to the City Survey Staff or Project Inspector.

Full compensation for lowering survey monument covers prior to cold planing and adjustment of survey monument covers after placement of final surface course will be measured and paid for as “**Lower Survey Monument Cover**” and “**Adjust Survey Monument Cover to Finish Grade**”, respectfully, and no additional compensation will be allowed therefor.

**BID ITEM NO. 92 - INSTALL BLUE RPM AT FIRE HYDRANT**

**BID ITEM NO. 93 - INSTALL YELLOW RPM AT MEDIAN**

**BID ITEM NO. 94 - 4-INCH WHITE LINE (THERMO)**

**BID ITEM NO. 95 - 4-INCH YELLOW LINE (THERMO)**

**BID ITEM NO. 96 - 6-INCH WHITE LINE (THERMO)**

**BID ITEM NO. 97 - 6-INCH YELLOW LINE (THERMO)**

**BID ITEM NO. 98 - 8-INCH WHITE LINE (THERMO)**

**BID ITEM NO. 99 - 8-INCH YELLOW LINE (THERMO)**

**BID ITEM NO. 100 - 12-INCH WHITE CROSSWALK/LIMIT LINE (THERMO)**

**BID ITEM NO. 101 - 12-INCH YELLOW CROSSWALK LINE (THERMO)**

**BID ITEM NO. 102 - 24-INCH WHITE CROSSWALK LINE (THERMO)**

**BID ITEM NO. 103 - 24-INCH YELLOW CROSSWALK LINE (THERMO)**

**BID ITEM NO. 104 - WHITE YIELD LINE (THERMO)**

**BID ITEM NO. 105 - STRIPING DETAIL #2 (THERMO & MARKERS)**

**BID ITEM NO. 106 - STRIPING DETAIL #9 (THERMO & MARKERS)**

**BID ITEM NO. 107 - STRIPING DETAIL #22 (THERMO & MARKERS)**

**BID ITEM NO. 108 - STRIPING DETAIL #22 MODIFIED (THERMO & MARKERS)**

**BID ITEM NO. 109 - STRIPING DETAIL #25 (THERMO & MARKERS)**

**BID ITEM NO. 110 - STRIPING DETAIL #27B (THERMO)**

**BID ITEM NO. 111 - STRIPING DETAIL #29 (THERMO & MARKERS)**

**BID ITEM NO. 112 - STRIPING DETAIL #32 (THERMO & MARKERS)**

**BID ITEM NO. 113 - STRIPING DETAIL #38 (THERMO & MARKERS)**

**BID ITEM NO. 114 - STRIPING DETAIL #39 (THERMO)**

**BID ITEM NO. 115 - STRIPING DETAIL #39A (THERMO)**

**BID ITEM NO. 116 - STRIPING DETAIL #40 (THERMO)**

**BID ITEM NO. 117 - STRIPING DETAIL #41 (THERMO)**

**BID ITEM NO. 118 - PAVEMENT MARKING "25" LEGEND (THERMO)**

**BID ITEM NO. 119 - PAVEMENT MARKING "AHEAD" LEGEND (THERMO)**

**BID ITEM NO. 120 - PAVEMENT MARKING "BIKE" LEGEND (THERMO)**

**BID ITEM NO. 121 - PAVEMENT MARKING "BLVD" LEGEND (THERMO)**

**BID ITEM NO. 122 - PAVEMENT MARKING “CLEAR” LEGEND (THERMO)**

**BID ITEM NO. 123 - PAVEMENT MARKING “CHEVRON” LEGEND (THERMO)**

**BID ITEM NO. 124 - PAVEMENT MARKING “KEEP” LEGEND (THERMO)**

**BID ITEM NO. 125 - PAVEMENT MARKING “DO” LEGEND (THERMO)**

**BID ITEM NO. 126 - PAVEMENT MARKING “ENTER” LEGEND (THERMO)**

**BID ITEM NO. 127 - PAVEMENT MARKING “LANE” LEGEND (THERMO)**

**BID ITEM NO. 128 - PAVEMENT MARKING “NOT” LEGEND (THERMO)**

**BID ITEM NO. 129 - PAVEMENT MARKING “NP” NO PARKING LEGEND  
(THERMO)**

**BID ITEM NO. 130 - PAVEMENT MARKING “ONLY” LEGEND (THERMO)**

**BID ITEM NO. 131 - PAVEMENT MARKING “PED” LEGEND (THERMO)**

**BID ITEM NO. 132 - PAVEMENT MARKING “SCHOOL” LEGEND (THERMO)**

**BID ITEM NO. 133 - PAVEMENT MARKING “SLOW” LEGEND (THERMO)**

**BID ITEM NO. 134 - PAVEMENT MARKING “STOP” LEGEND (THERMO)**

**BID ITEM NO. 135 - PAVEMENT MARKING “XING” LEGEND (THERMO)**

**BID ITEM NO. 136 - PAVEMENT MARKING “YIELD” LEGEND (THERMO)**

**BID ITEM NO. 137 - PAVEMENT MARKING “TYPE I (10’-0”) ARROW” (THERMO)**

**BID ITEM NO. 138 - PAVEMENT MARKING “TYPE I (18’-0”) ARROW” (THERMO)**

**BID ITEM NO. 139 - PAVEMENT MARKING “TYPE I (24’-0”) ARROW” (THERMO)**

**BID ITEM NO. 140 - PAVEMENT MARKING “TYPE II (L or R) ARROW”  
(THERMO)**

**BID ITEM NO. 141 - PAVEMENT MARKING “TYPE III (L or R) ARROW”  
(THERMO)**

**BID ITEM NO. 142 - PAVEMENT MARKING “TYPE IV (L or R) ARROW”  
(THERMO)**

**BID ITEM NO. 143 - PAVEMENT MARKING “TYPE VI (L or R) ARROW”  
(THERMO)**

**BID ITEM NO. 144 - PAVEMENT MARKING “BIKE LANE ARROW” (THERMO)**

**BID ITEM NO. 145 - PAVEMENT MARKING “BICYCLE BOULEVARD BIKE LANE  
ARROW” (THERMO)**

**BID ITEM NO. 146 - PAVEMENT MARKING “BIKE LANE SYMBOL W/PERSON”  
(THERMO)**

**BID ITEM NO. 147 - PAVEMENT MARKING “BICYCLE BOULEVARD BIKE LANE  
SYMBOL W/PERSON” (THERMO)**

**BID ITEM NO. 148 - PAVEMENT MARKING “SHARED ROADWAY BICYCLE MARKING” (THERMO)**

**BID ITEM NO. 149 - PAVEMENT MARKING “L” PARKING STALL SYMBOL (THERMO)**

**BID ITEM NO. 150 - PAVEMENT MARKING “T” PARKING STALL SYMBOL (THERMO)**

**BID ITEM NO. 151 - PAVEMENT MARKING “RAIL CROSSING SYMBOL” LEGEND (THERMO)**

**BID ITEM NO. 152 - PAVEMENT MARKING “BICYCLE LOOP DETECTOR SYMBOL” (THERMO)**

**BID ITEM NO. 153 - REMOVE AND REPLACE CROSS BIKE MARKING**

**BID ITEM NO. 154 - RED CURB PAINT**

**BID ITEM NO. 155 - BLUE CURB PAINT**

**BID ITEM NO. 156 - GREEN PAVEMENT**

**BID ITEM NO. 157 - REMOVE AND REPLACE WHITE DELINEATOR**

**BID ITEM NO. 158 - REMOVE AND REPLACE YELLOW DELINEATOR**

**BID ITEM NO. 159 - INSTALL YELLOW DELINEATOR**

**BID ITEM NO. 160 - REMOVE AND REPLACE TUFF CURB**

**BID ITEM NO. 161 - INSTALL TUFF CURB**

**BID ITEM NO. 162 - INSTALL HARDENED CENTERLINE**

**BID ITEM NO. 163 - REMOVE IN-ROAD CROSSWALK WARNING LIGHT CAN**

**BID ITEM NO. 164 - REMOVE & REPLACE RUBBER PARKING BUMPER**

**General**

Work consists of removing and replacing traffic striping, pavement markings, raised pavement markers (RPMs), and curb paint, and making modifications to existing striping indicated on the Plans and in these special provisions.

Traffic striping, pavement markings, and paint shall comply with Section 84, "Markings" of the 2024 Standard Specifications except as modified in these special provisions.

RPMs shall comply with Section 81-3, "Pavement Markers" of the 2024 Standard Specifications except as modified in these special provisions.

Delineators shall comply with Section 81-2, "Delineators" of the 2024 Standard Specifications except as modified in these special provisions.

### Submittals

Submit the following for each batch of thermoplastic, glass beads, and paint:

- a. Certificate of compliance, including the product name, lot or batch number, and manufacture date
- b. METS notification letter stating that the material is authorized for use, except for thermoplastic
- c. SDS
- d. Material data sheet for thermoplastic primer

For each lot or batch thermoplastic, submit a manufacture's certificate of compliance with test results (tested under California Test 423) for the tests listed below. The date of test must be within one (1) year of use.

- a. Brookfield Thermosel viscosity
- b. Hardness
- c. Yellowness index, white only
- d. Daytime luminance factor
- e. Yellow color, yellow only
- f. Glass bead content
- g. Binder content

For glass beads used in drop-on applications and in thermoplastic formulations, submit a certificate of compliance and test results for each lot of beads specifying the EPA test methods used and tracing the lot to the specific test sample. The testing for lead and arsenic content must be performed by an independent testing laboratory.

Submit a certificate of compliance for each type of RPM used.

## **Materials**

### Thermoplastic

Thermoplastic must comply with State Specification PTH-02SPRAY, PTH-02HYDRO, or PTH-02ALKYD.

Spray adhesive Swarco 2090 thermoplastic primer or approved equivalent shall be used when applying thermoplastic to concrete.

### Bus Lane Markings

Bus lane markings shall be Ennis-Flint by PPG MMAX methyl methacrylate (MMA) colored lane treatment color "Transit Red", or approved equal.

### Glass Beads

Glass beads applied to molten thermoplastic material must be Type 2 beads complying with AASHTO M 247. The glass beads must have a coating that promotes adhesion of the beads to thermoplastic.

### 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**

#### General

Removal and installation of traffic striping, pavement markings, and curb paint shall comply with Section 84-2.03, “Construction” of the 2018 Standard Specifications.

Removal and installation of RPMs shall comply with Section 81-3.03, “Construction” of the 2018 Standard Specifications.

#### Existing Striping and Markings

In areas adjacent to the reconstructed surfacing where existing striping must be changed to conform to a revised striping pattern, conflicting striping shall be removed by sand blasting, grinding, or other methods as specified in the Standard Specifications or by the Engineer. A primer of the type recommended by the manufacturer of the thermoplastic material shall be applied over the existing pavement to be covered with thermoplastic material. If ground pavement is not covered with new thermoplastic, the pavement shall be sealed to the satisfaction of the Engineer.

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.

The Contractor shall replace all striping which has been damaged or obliterated by or during the work. This shall include striping replacement outside of the project site limits.

Both lines of each crosswalk shall be completely repainted even if only a portion of a line has been obliterated.

When the Contractor's work removes or reduces the visual appearance of a lane, centerline, stop bar, limit line, crosswalk, etc., the Contractor shall replace all striping between the adjacent intersections in both directions. Where a median exists, this work will be required only in the roadway where the work has occurred, unless a detour which altered the pavement markings occurred in the other roadway. In such cases, the striping will be replaced in both directions.

#### Layout for Temporary and Permanent Striping

All alignments and layout measurements, and other work necessary to locate and replace traffic stripes and pavement markings shall be performed by the Contractor. The City will not provide any assistance, information, or materials to the Contractor. It shall be entirely the responsibility of the Contractor to perform all necessary pre-construction and construction layout work, obtain all necessary measurements and information, and prepare all plans for performing the striping and marking work as specified. All traffic control systems necessary for performing striping and marking, as directed by the Engineer, shall be the responsibility of the Contractor.

The Contractor shall physically tie down the location of the beginning and ending of each paint or thermoplastic marking type in the adjacent curb top. The marking location shall not exceed fifty (50) square inches each. Any locations exceeding this limit shall be removed by the Contractor prior to acceptance of the work. The Contractor shall contact the Engineer for review of tie downs.

The Contractor shall be responsible for accurately referencing out and replacing the lines and positions of all traffic lines, directional lines, arrows, and other markings in accordance with the plans and City standard markings by cat tracking with painted marks.

Cat tracking shall consist of stretching a rope on a straight line between control points on tangent alignment and on a true arc through control points on curved alignment and placing spots of paint along the rope. Temporary tab markers shall be placed not more than twelve (12) feet apart on curves nor more than twenty-four (24) feet apart on straight segments.

Temporary tab markers shall be the same color as the traffic stripe that they are replacing, shall measure two (2) inches tall by 3-1/2 inches wide, and have a reflective lens across the width of the marker.

Prior to application of permanent striping and markers, the Contractor shall call for review and approval of the proposed striping by the City's Traffic Engineer or agent. The City will have the right to make changes in the location and alignment of line stripes. Striping and traffic markings shall not be applied until after approval is granted by the Traffic Engineer. The Contractor shall allow a minimum of three (3) working days for review of the layout by the City.

#### Pavement Stencils

The Contractor shall use stencils that conform to 2024 Caltrans Standard Plans and Details.

#### Thermoplastic Traffic Stripes and Pavement Markings

Thermoplastic shall be applied as specified in Section 84-2.03B, "Application of Traffic Stripes and Pavement & Markings" of the 2024 Standard Specifications.

Pavement temperature shall be measured at the beginning of the shift on each working day and this information shall be provided to the Engineer.

No primer or thermoplastic shall be installed within forty-eight (48) hours from the last measurable rain report as provided by the City.

#### 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 (1) for each line of markers.

All additional work necessary to establish satisfactory lines for RPMs shall be performed by the Contractor.

RPMs shall be cemented to the pavement using a rapid set epoxy adhesive as specified in Section 95-1.02E, "Epoxy Adhesive for Placement Markers", of the 2024 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 2024 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, unless shown otherwise on the Plans, or as directed by the Engineer. 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 (2) separate coats** of traffic paint of the appropriate color applied to the face and top of the curb.

Paint shall be used at its manufactured consistency.

#### Delineators

New delineators shall match the colors, reflectivity, height, diameter, mounting style, and locations as the ones removed.

### 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 two (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 fourteen (14) calendar days and no later than twenty-one (21) calendar 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 seven (7) calendar days. When utilizing epoxy adhesive, RPMs shall be placed after the surface has been open to traffic for at least fourteen (14) calendar days. Regardless of which adhesive is utilized, RPMs shall not be placed more than twenty-one (21) calendar days after paving or surfacing.

**Failure to comply with these requirements shall result in a liquidated damage of \$1,500 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 unit price paid for **“Install Blue RPM at Fire Hydrant”, “Install Yellow RPM at Median”, “White Yield Line (Thermo)”, “Pavement Marking “25” Legend (Thermo)”, “Pavement Marking “AHEAD” Legend (Thermo)”, “Pavement Marking “BIKE” Legend (Thermo)”, “Pavement Marking “BLVD” Legend (Thermo)”, “Pavement Marking “CLEAR” Legend (Thermo)”, “Pavement Marking “CHEVRON” Legend (Thermo)”, “Pavement Marking “KEEP” Legend (Thermo)”, “Pavement Marking “DEAD” Legend (Thermo)”, “Pavement Marking “DO” Legend (Thermo)”, “Pavement Marking “END” Legend (Thermo)”, “Pavement Marking “ENTER” Legend (Thermo)”, “Pavement Marking “LANE” Legend (Thermo)”, “Pavement Marking “NOT” Legend (Thermo)”, “Pavement Marking “NP” No Parking Legend (Thermo)”, “Pavement Marking “ONLY” Legend (Thermo)”, “Pavement Marking “PED” Legend (Thermo)”, “Pavement Marking “SCHOOL” Legend (Thermo)”, “Pavement Marking “SLOW” Legend (Thermo)”, “Pavement Marking “STOP” Legend (Thermo)”, “Pavement Marking “XING” Legend (Thermo)”, “Pavement Marking “YIELD” Legend (Thermo)”, “Pavement Marking “L” Parking Stall Symbol (Thermo)”, “Pavement Marking “T” Parking Stall Symbol (Thermo)”, “Pavement Marking “Type I (10’-0”) Arrow” (Thermo)”, “Pavement Marking “Type I (18’-0”) Arrow” (Thermo)”, “Pavement Marking “Type I (24’-0”) Arrow” (Thermo)”, “Pavement Marking “Type II (L or R) Arrow” (Thermo)”, “Pavement Marking “Type III (L or R) Arrow” (Thermo)”, “Pavement Marking “Type IV (L or R) Arrow” (Thermo)”, “Pavement Marking “Type VI (L or R) Arrow” (Thermo)”, Pavement Marking “Bike Lane Arrow (Thermo)”, Pavement Marking “Bike Lane (L or R) Arrow (Green-Back; Thermo)”, Pavement Marking “Bicycle Boulevard Bike Lane Arrow (Thermo)”, Pavement Marking “Bike Lane Symbol w/Person (Thermo)”, Pavement Marking “Bicycle Boulevard Bike Lane Symbol w/Person (Thermo)”, Pavement Marking “Shared Roadway Bicycle Marking (Thermo)”, Pavement Marking “Rail Crossing Symbol” Legend (Thermo)”, Pavement Marking “Bicycle Loop Detector Symbol (Thermo)”, and **“Remove and Replace Cross Bike Marking”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Traffic 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 price paid per linear foot for **“4-inch White Line (Thermo)”, “4-inch Yellow Line (Thermo)”, “6-inch White Line (Thermo)”, “6-inch Yellow Line (Thermo)”, 8-inch White Line (Thermo)”, “8-inch Yellow Line (Thermo)”, “12-inch White Crosswalk/Limit Line (Thermo)”, “12-inch Yellow Crosswalk Line (Thermo)”, “24-inch White Crosswalk Line (Thermo)”, “24-inch Yellow Crosswalk Line (Thermo)”, “Striping Detail #2 (Thermo & Markers)”, “Striping Detail #9 (Thermo & Markers)”, “Striping Detail #22 (Thermo & Markers)”, “Striping Detail #22 Modified (Thermo & Markers)”, “Striping Detail #25 (Thermo & Markers)”, “Striping Detail #27B (Thermo)”, “Striping Detail #29 (Thermo & Markers)”,**

**“Striping Detail #32 (Thermo & Markers)”, “Striping Detail #38 (Thermo & Markers)”, “Striping Detail #39 (Thermo)”, “Striping Detail #39A (Thermo)”, “Striping Detail #40 (Thermo)” and “Striping Detail #41 (Thermo)”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Traffic Striping, Markings and Raised Pavement Markers, complete in place, including proper removal and disposal of traffic striping, markings, marker, and curb paint; replacing address stencils; 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.

Removing and replacing, refreshing or installing Curb and Pavement Paint of the various colors will be measured and paid for as **“Blue Curb Paint”, “Red Curb Paint”, “Green Curb Paint” and “Green Pavement”**.

The contract price paid for **“Remove and Replace White Delineator”, “Remove and Replace Yellow Delineator”, “Install Yellow Delineator”, “Remove and Replace Tuff Curb”, “Install Tuff Curb”, “Install Hardened Centerline”, “Remove In-Road Crosswalk Warning Light Can”, and “Remove & Replace Rubber Parking Bumper”** will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Traffic Striping, Markings and Raised Pavement Markers, complete in place, including proper removal and disposal of traffic striping, markings, marker, and curb paint; replacing address stencils; 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 provisions in Section 4-1.05 “Changes and Extra Work,” of the Standard Specifications shall not apply to the items of work in this section of these special provisions.

## **BID ITEM NO. 165 - REMOVE & REPLACE DETECTOR LOOP**

### **General**

The work consists of placement and replacement of signal loops and lead-in wire at intersections as indicated on the plans.

All replaced signal loops shall be standard six (6) foot by six (6) foot rectangular loops unless specifically called out otherwise. Any changes to loop type, placement pattern, or installation may be performed only as allowed by the Engineer.

All such work shall conform to Section 86 of the Standard Specifications and these Special Provisions. No materials are to be reused.

Any necessary temporary modifications, which are required to maintain working signals, shall be performed by the Contractor as part of the work. The maximum allowable time between disconnecting the existing loops and placing the new loops into operation shall be twelve (12) calendar days. Failure to meet this schedule will cause the work to be performed by City forces and the Contractor to be back charged for those expenses.

Prior to initiating any work on the signal loops, the Contractor shall prepare drawings of all existing signal loops in the affected work area. The drawing shall show type and location of the existing loops, routing of wiring, and the proposed replacement locations.

### **Materials**

Loop detector wire and lead-in cable shall conform to Subsection 86-5.01A (4) of the Standard Specifications.

Paint binder shall conform to the provisions of Section 94, "Asphaltic Emulsions", of the Standard Specifications.

### **Construction**

Where the sump of an existing pull box is disturbed by the Contractor's operations, it shall be reconstructed. If the sump was grouted, the old grout shall be removed and new grout placed.

Detectors will be disconnected or connected by the Contractor, who shall provide the Engineer with one (1) week notice prior to such activity. Timing adjustments shall be made by City Electrical Division personnel.

The Contractor shall mark the locations of the new loop detectors in the field prior to beginning their installation. The City Traffic Engineering Division shall be contacted to

review the loop locations as marked by the Contractor. Loop installation operations shall commence only after approval is granted by the Traffic Engineer.

Advance warning loops shall be located as outlined in Table 9-1, "Suggested Detector Setbacks from Limitline" in the State Traffic Manual.

In lieu of the requirements in the fourth paragraph of Section 86-5.01A(5), "Installation Details", of the Standard Specifications, detector loop slots in asphalt concrete pavement shall be filled as follows:

After conductors are installed in the slots cut in the pavement, paint binder shall be applied to all vertical surfaces of the slots. The slots shall then be filled with asphaltic concrete sealants using hot melt loop sealant.

The temperature of sealant material during installation shall be above 70 degrees Fahrenheit. Air temperature during installation shall be above 50 degrees Fahrenheit. Hot melt sealant placed in the slots shall be compacted by use of an eight-inch diameter by 1/8-inch-thick steel hand roller or other tool approved by the Engineer. Compacted sealant shall be flush with the pavement surface. Minimum conductor coverage shall be 5/8 inch. Excess sealant remaining after rolling shall not be reused. Traffic may be released immediately over compacted material.

The Contractor shall test all detectors with a motor-driven cycle as defined in the California Vehicle Code. Such cycle shall be licensed for street use by the Department of Motor Vehicles of the State of California. The unladen weight of the vehicle shall not exceed 220 pounds and the engine displacement shall not exceed 100 cubic centimeters. Special features, components, or vehicles designed to activate the detector will not be permitted. The Contractor shall provide an operator who shall drive the motor-driven cycle through the response or detection area of the detector at not less than three (3) miles per hour nor more than seven (7) miles per hour.

Traffic signal loops damaged due to grinding, cold planing, remove & replace, paving, or any other related construction shall be replaced within twelve (12) calendar days following the damage.

### **Measurement and Payment**

The contract unit price paid for "**Remove & Replace Detector Loop**" will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for

doing all the work involved in Traffic Signal Loop Detector, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

**BID ITEM NO. 166 - SALVAGE PLANTER**

**BID ITEM NO. 167 - INSTALL SALVAGED PLANTER**

**General**

The work consists of salvaging and storing offsite existing concrete planters prior to preparing roadway for resurfacing and reinstalling salvaged concrete planters after placement of surfacing. The existing roadside signs within the concrete planters also require salvaging and reinstallation.

Care shall be taken when installing salvaged planter so that the new surfacing is not damaged. Any damaged resurfacing shall be repaired, or removed and replaced, to match existing to the satisfaction of the Engineer.

**Measurement and Payment**

The contract unit price paid for “Salvage Planter” and “Install Salvaged Planter” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Salvaging and Installing Salvaged Planters, complete in place, including removal, storage, protection, re-installing, and clean-up, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

**BID ITEM NO. 168 - UPRR PERMIT AND REQUIREMENTS**

**General**

The Contractor shall cooperate and comply with all requirements of the Union Pacific Railroad Company, hereinafter referred to as "UPRR," where work is across or adjacent to their track or within the limits of the Authority's right of way.

### **Construction**

As part of the Work, the Contractor is responsible to obtain all necessary permits, approvals, etc., including a right-of-entry permit from UPRR, to perform the work. Proof of submittal shall be forwarded to the City. The Contractor shall coordinate its work with UPRR and make necessary accommodations to allow UPRR to install Standard 8 flashing lights signal assembly(ies) concurrently within the Work of this Project.

The Contractor's attention is directed to the potential hazards of working in, or in proximity to, the UPRR right of way. The track is operational, and the Contractor shall expect trains at any time during the duration of the Work. The Contractor shall follow all UPRR requirements for work within and/or adjacent to the UPRR right of way, including, but not limited to training for all personnel within the work zone.

### **Measurement and Payment**

The contract unit price paid for “**UPRR Permit and Requirements**” will include full compensation for all items involved to comply with UPRR.

The City will reimburse the Contractor for the actual cost of the additional insurance required by the UPRR plus a markup of fifteen percent (15%) upon presentation of an original, itemized invoice.

All inspection/flagging costs, exclusive of those required for any private crossings or crossings the Contractor may arrange to have installed by UPRR, will be borne by the Contractor.

Payment for compliance with all other UPRR requirements will be considered as included in the prices in the Bid for the various items of work.

## **BID ITEM NO. 169 - REMOVE & REPLACE PERMEABLE PAVEMENT AND BASE SYSTEM**

### **General**

This work includes removal and replacement of the permeable pavement and base. The permeable pavement system shall comply with Caltrans Pervious Pavement Design Guidance, July 2023.

### **Construction**

Engage an experienced Installer who has completed permeable pavement and base installations similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance. Installation shall be by a Contractor and crew with at least two (2) years of experience in placing permeable pavement and base on projects of similar nature and dollar cost.

### **Measurement and Payment**

The contract lump sum price paid for “**Remove and Replace Permeable Pavement and Base System**” will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in complete in place, including mobilization, bonds, insurance, traffic control, construction area signs, water pollution control program, changeable message boards, materials, labors, including, but not limited to, the entire permeable pavement and base system components, site restoration, and clean-up, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

## **BID ITEM NO. 170 - SUPPLEMENTAL WORK**

### **General**

The City may authorize payment under the “Supplemental Work” item for extra work related to changes or deviations in the scope of work as described in the Project Plans and Special Provisions. The Engineer shall determine such changes. The General Provisions for extra work mark-up will apply.

All work performed under “Supplemental Work” must be authorized by the Engineer’s written order. Payment may be made following the execution of a Supplemental Work Authorization.

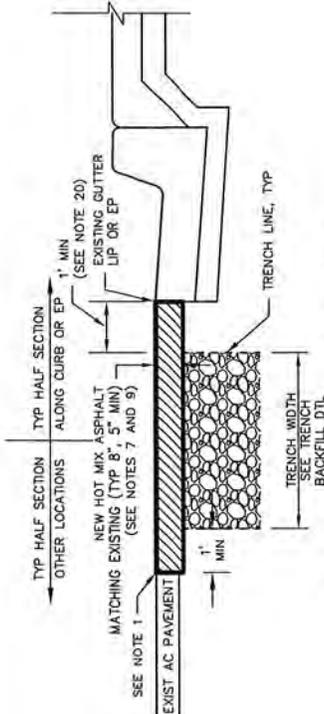
### **Measurement and Payment**

**“Supplemental Work”** is shown as a lump sum item in the Bid Schedule. The amount of this item will represent the value of extra work items performed and authorized via Supplemental Work Authorization. The Contractor will be paid on pro rata basis for the work done per month, and said payment will be for providing all labor, material, equipment, devices, supervision, and all incidentals as are needed and as may be required to complete the work.

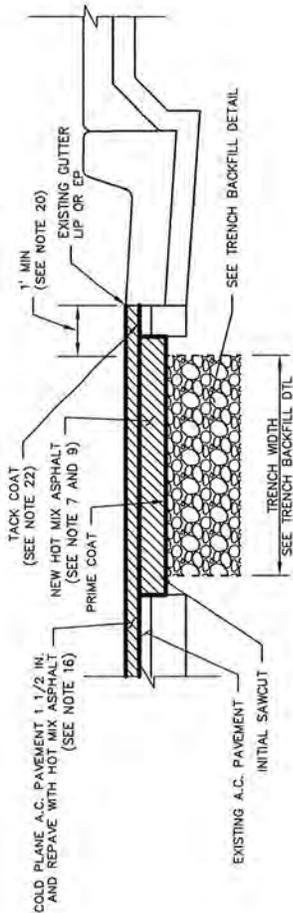
## **PART D**

### **CITY/CALTRANS STANDARD PLANS**

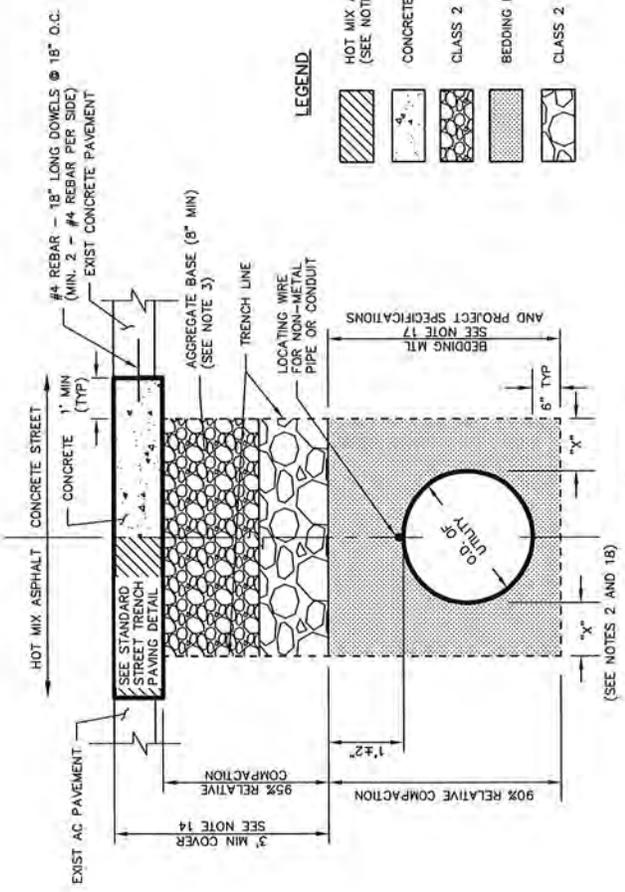
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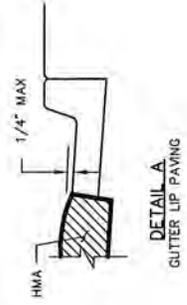
STANDARD STREET TRENCH PAVING DETAIL



MORATORIUM STREET TRENCH PAVING DETAIL  
(SEE NOTE 13 AND 16 FOR MORATORIUM STREETS)



TRENCH BACKFILL DETAIL  
TYPICAL HALF SECTIONS  
(SEE NOTES 2 AND 18)



DETAIL A  
GUTTER LIP PAVING

LEGEND

- HOT MIX ASPHALT (HMA) PAVING (SEE NOTE 9)
- CONCRETE PAVEMENT
- CLASS 2 AGGREGATE BASE (AB)
- BEDDING MATERIAL (SEE NOTE 17)
- CLASS 2 AGGREGATE BASE (AB)

STANDARD DETAIL  
TRENCH EXCAVATION AND  
SURFACE RESTORATION

SUBMITTED: *[Signature]*  
SUPERVISING CIVIL ENGINEER  
APPROVED: *[Signature]*  
MANAGER OF ENGINEERING

DATE: 7/6/16  
R.C.E. 64582  
DATE: 7/6/16  
R.C.E. 66014

CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS  
DESIGN: HEI  
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CHECK: \_\_\_\_\_  
PLAN: 8136  
FILE: 20-B-155  
DATE: 06/2016  
SCALE: \_\_\_\_\_  
BOOK: \_\_\_\_\_  
SHEET: 1 OF 2

**NOTES:**

- TRENCH EXCAVATION IN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF BERKELEY GENERAL REGULATIONS FOR TRENCH EXCAVATION AND SURFACE RESTORATION IN THE PUBLIC RIGHT OF WAY. CUT THROUGH THE FULL DEPTH OF EXISTING SURFACING TO A NEAT STRAIGHT LINE AT LEAST 1.0 FOOT OUTSIDE THE TRENCH LINE. RECUT PAVEMENT EDGES DAMAGED DURING CONSTRUCTION TO NEAT LINES PRIOR TO PAVING. APPLY PAINT BINDER (TACK COAT) TO ALL VERTICAL SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF CALTRANS STANDARD SPECIFICATIONS.
- MINIMUM WIDTH OF TRENCH SHALL BE IN ACCORDANCE WITH THE DIMENSION SHOWN ON THE TRENCH BACKFILL DETAIL. DIMENSIONS "X" IS SHOWN BELOW FOR THE UTILITY "O.D."

UTILITY O.D.	"X" MIN
UNDER 1.0'	0.5'
1.0' TO 4.5'	1.0'
OVER 4.5'	2.0'

- CLASS 2 AGGREGATE BASE (AB) SHALL BE INSTALLED IMMEDIATELY BELOW THE PAVEMENT SECTION TO BE REPLACED. THE AB QUALITY, GRADATION AND THE METHOD OF INSTALLATION SHALL BE IN CONFORMANCE WITH SECTION 26 OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION. THE DEPTH OF THE AB SHALL BE IN ACCORDANCE WITH THE TRENCH BACKFILL DETAIL. 95% RELATIVE COMPACTION IS REQUIRED.
- RELATIVE COMPACTION SHALL BE DETERMINED BY CALIFORNIA TEST NUMBER 231 (NUCLEAR GAUGE) OR APPROVED EQUAL. PERMITTEE SHALL ARRANGE AND PAY FOR THE TEST FOR RELATIVE COMPACTION WHEN ORDERED BY THE ENGINEER. THE TEST SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING LABORATORY AND TEST RESULTS BE SUBMITTED TO ENGINEERING FORTY-EIGHT (48) HOURS IN ADVANCE OF PERMANENT PAVING OPERATION.
- PERMITTEE SHALL PLACE TEMPORARY BITUMINOUS RESURFACING TWO (2) INCHES IN THICKNESS OVER THE COMPACTED BACKFILL AREAS. GREATER THICKNESS MAY BE REQUIRED FOR MAJOR INTERSECTIONS AND OTHER CRITICAL AREAS BY THE ENGINEER AS NECESSARY. STEEL PLATES MAY BE USED AS AN ALTERNATIVE IF APPROVED BY ENGINEER.
- TEMPORARY BITUMINOUS RESURFACING (CUT-BACK) SHALL BE MECHANICALLY COMPACTED IN PLACE TO A UNIFORM, EVEN SURFACE AND SHALL BE TRUE TO STREET GRADE AND CROSS SECTION. THE PERMITTEE SHALL REGULARLY INSPECT AND MAINTAIN THE TEMPORARY BITUMINOUS RESURFACING UNTIL THE EXCAVATION IS PERMANENTLY PAVED. THE SURFACING SHALL NOT VARY TO MORE THAN 1/2" FROM THE EDGE OF A 10 FOOT STRAIGHT EDGE. UPON NOTIFICATION, THE PERMITTEE SHALL CORRECT THE SURFACE DEFICIENCY WITHIN 48 HOURS. LOOSE ROCKS AND OTHER DEBRIS GENERATED FROM TEMPORARY RESURFACING OPERATIONS SHALL BE IMMEDIATELY REMOVED FROM THE WORKSITE.
- TEMPORARY BITUMINOUS RESURFACING SHALL BE REMOVED BEFORE PLACEMENT OF FINAL PAVING. FINAL PAVING SHALL BE MINIMUM FIVE (5) INCHES THICK OR SAME AS THE EXISTING PAVEMENT, WHICHEVER IS GREATER. THE PAVEMENT SHALL BE PLACED ON UNDISTURBED PREVIOUSLY COMPACTED BACKFILL AREAS.
- PAVEMENT OUTSIDE OF THE FINAL CUT LINE DAMAGED BY THE PERMITTEE'S OPERATIONS SHALL BE REMOVED BY SAW-CUTTING IN LINES PERPENDICULAR OR PARALLEL TO THE ORIGINAL TRENCH LINES. NO DIAGONAL CUTS WILL BE PERMITTED.
- HOT MIX ASPHALT (HMA) SHALL BE TYPE A IN CONFORMANCE WITH SECTION 39 OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS, UNLESS OTHER WISE SPECIFIED IN THE ENCROACHMENT PERMIT CONDITIONS OR AS DIRECTED BY THE PUBLIC WORKS DEPARTMENT. HMA SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
- THE TOP 1 1/2" OF HMA SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1/2" UNLESS OTHERWISE SPECIFIED. THE HMA BENEATH THE TOP LAYER SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 3/4".
- UPON COMPLETION OF PAVING OPERATIONS THE PERMITTEE SHALL IMMEDIATELY REPLACE ALL PAVEMENT MARKING AND TRAFFIC STRIPING DAMAGED OR REMOVED BY HIS OPERATIONS. PAVEMENT MARKINGS AND TRAFFIC STRIPINGS SHALL BE REPLACED IN KIND OR WITH SUBSTITUTE MATERIAL APPROVED BY THE ENGINEER.
- WHEN ANY PORTION OF THE CURB AT A LEGAL PEDESTRIAN CROSSWALK OR ANY PORTION OF THE SIDEWALK IN IMMEDIATE CONTACT WITH SUCH CURB IS REMOVED BY THE PERMITTEE OPERATIONS, THE PERMITTEE SHALL CONSTRUCT, AS PART OF HIS REPLACEMENT OPERATIONS, A CURB RAMP AS SHOWN IN CITY OF BERKELEY STANDARD DETAIL NO. 6780.
- EXCAVATION ON STREETS RECONSTRUCTED OR RESURFACED WITHIN THE LAST 5 YEARS WILL NOT BE PERMITTED EXCEPT FOR CONDITIONS ENUMERATED IN THE CITY OF BERKELEY GENERAL REGULATIONS AND FOR TRENCH EXCAVATION AND SURFACE RESTORATION IN THE PUBLIC RIGHT OF WAY.
- MINIMUM COVER OVER UTILITIES IS GOVERNED BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION. UTILITY OWNERS SHALL CONSIDER PLACING THEIR UTILITY LINE AT A GREATER DEPTH TO AVOID FUTURE RELOCATION DUE TO STREET/ROAD RECONSTRUCTION. THE INCREASED DEPTH SHOULD INCLUDE SUFFICIENT CLEARANCE BETWEEN THE UTILITY AND PAVEMENT STRUCTURAL SECTION UPGRADE TO PREVENT DAMAGE BY CONSTRUCTION EQUIPMENT. THE PUBLIC WORKS DEPARTMENT RECOMMENDS A MINIMUM OF 36 INCHES OF COVER BELOW THE PAVEMENT SURFACE IN ROADWAYS AND 24 INCHES BELOW FINISH GRADE IN SIDEWALKS AND OTHER PUBLIC RIGHT OF WAY.
- RESTORATION OF THE TRENCH EXCAVATION ON CALTRANS RIGHT OF WAY (SAN PABLO AVE., ASHBY AVE., AND TUNNEL RD.) SHALL BE IN ACCORDANCE WITH CALTRANS ENCROACHMENT PERMIT.
- RESTORE PAVEMENT AS FOLLOWS: FOR TRENCHES PARALLEL WITH THE CENTERLINE OF THE STREET, COLD PLANE AND REPAVE THE LANE IN WHICH THE TRENCH LIES. FOR TRANSVERSE TRENCHES, COLD PLANE AND REPAVE 1/2 LANE WIDTH ON EACH SIDE OF THE TRENCH. FOR BELL HOLES, COLD GRIND AND PAVE 1 LANE WIDTH ON EACH SIDE OF THE EXCAVATION. PRIOR TO COLD PLANING, THE TRENCH SHALL BE PAVED IN 3 INCH MAXIMUM LIFTS TO THE ORIGINAL SURFACE GRADES OR TO WITHIN 1 1/2 INCHES OF THE EXISTING SURFACE. IF THE CONTRACTOR ELECTS TO PAVE WITHIN 1 1/2 INCHES OF THE EXISTING SURFACE, THE REMAINING 1 1/2 INCHES MUST BE PAVED WITH CUT BACK ASPHALT UNTIL THE SURFACE IS PLANED. FINAL PAVING SHALL COMMENCE WITHIN 3 DAYS AFTER COLD GRINDING. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE AREA TO BE REPAVED PRIOR TO REPAVING.
- BEDDING MATERIAL SHALL BE CLASS 2 AB OR CRUSHED ROCK PER 2015 GREENBOOK, TABLE 200-1.2.1(A), 3/4" SIEVE SIZE. ALTERNATIVE MATERIALS SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT. IN NO CASE SHALL "PEA" GRAVEL BE ALLOWED. A MAXIMUM OF 6 INCHES OF SAND MAY BE USED AS A BEDDING MATERIAL FOR COMMUNICATION, GAS AND ELECTRIC CONDUITS ONLY.
- FOR GAS, ELECTRIC AND COMMUNICATION CONDUITS WITH AN OUTSIDE DIAMETER EQUAL TO OR LESS THAN 4 INCHES, THE TRENCH WIDTH MAY BE REDUCED TO NO LESS THAN 12 INCHES.
- UNSUITABLE NATIVE MATERIAL SHALL BE EXCAVATED BELOW THE LIMIT OF EXCAVATION AND REPLACED WITH SUITABLE BACKFILL MATERIAL WHEN DIRECTED BY THE PUBLIC WORKS DEPARTMENT.
- WHERE THE TRENCH PARALLELS CURB AND THE NEAREST TRENCH LINE IS LESS THAN 3 FEET FROM THE GUTTER LIP, ALL EXISTING HMA SHALL BE REPLACED TO THE GUTTER LIP.
- SLURRY CEMENT BACKFILL SHALL COMPLY WITH SECTION 19-3.02E OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.
- APPLY PAINT BINDER (TACK COAT) TO ALL EXISTING AC AND CONCRETE SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.

**CITY OF BERKELEY**  
DEPARTMENT OF PUBLIC WORKS

**STANDARD DETAIL**  
**TRENCH EXCAVATION AND**  
**SURFACE RESTORATION**

SUBMITTED:

*[Signature]*  
SUPERVISING CIVIL ENGINEER

DATE: 7/6/16

R.C.E. 64582

APPROVED:

*[Signature]*  
MANAGER OF ENGINEERING

DATE: 7/6/16

R.C.E. 66014

DESIGN: HEI  
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CHECK:

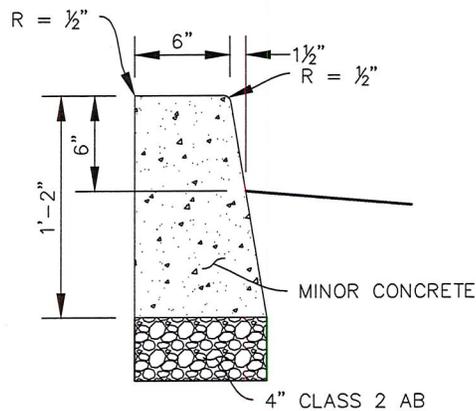
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PLAN: 8136  
FILE: 20-B-155  
SHEET: 2 OF 2

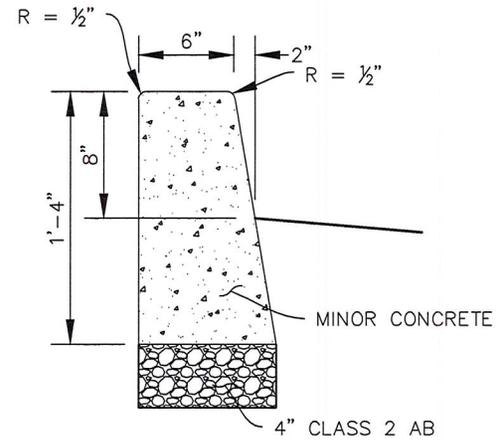
GENERAL NOTES FOR CONCRETE FLAT WORK

1. CURB RAMPS SHALL CONFORM TO THE LATEST EDITION AND REVISED STANDARD PLAN (RSP) OF THE (CALIFORNIA DEPARTMENT OF TRANSPORTATION) STANDARD SPECIFICATIONS AND STANDARD PLAN A88A AND A88B.
2. PORTLAND CEMENT CONCRETE FOR SIDEWALK, CURB, DRIVEWAY, GUTTER AND VALLEY GUTTER SHALL BE MINOR CONCRETE CONFORMING TO THE REQUIREMENTS OF SECTION 90-2 "MINOR CONCRETE" OF THE (CALIFORNIA DEPARTMENT OF TRANSPORTATION) STANDARD SPECIFICATIONS. NO BAGGED MIX IS PERMITTED.
3. BUS PAD CONCRETE SHALL BE DESIGNED WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AND SHALL BE SAMPLED (3 CYLINDERS REQ'D) AND TESTED.
4. EXISTING SUBGRADE SURFACE SHALL BE RE-GRADED (IF NECESSARY) AND RE-COMPACTED (MIN 95% RELATIVE COMPACTION) TO CONFORM TO THE GRADES SHOWN ON THE PLANS.
5. NEW CONCRETE WORK SHALL MATCH EXISTING IN FINISH, SCORE PATTERN, AND COLOR, OR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
  - a) ROSE COLORED CONCRETE SHALL CONTAIN 6 POUNDS OF DAVIS #160 (ROSE) PER CUBIC YARD.
  - b) ALL OTHER CONCRETE SHALL CONTAIN 1.5 POUND OF LAMPBLACK PER CUBIC YARD.
6. NO ADMIXTURES SHALL BE USED WITHOUT APPROVAL OF THE ENGINEER.
7. CURBS, SIDEWALKS, DRIVEWAYS, AND CURB RAMPS SHALL HAVE FORMS REMOVED AND BE BACKFILLED WITHIN 3 DAYS AFTER PLACING CONCRETE. CONCRETE SHALL BE ALLOWED TO CURE FOR AT LEAST 48 HOURS PRIOR TO BACKFILLING.
8. 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. CONCRETE SHALL BE TRANSPORTED IN TRUCK MIXERS OR AGITATORS AND DISCHARGED WITHIN 70 MINUTES OF LEAVING THE PLANT.
9. WEAKENED PLANE JOINTS AT LEAST 1-1/2 INCHES DEEP AND 1/8 INCHES WIDE SHALL BE PLACED AT 10 FEET MAXIMUM SPACING.
10. EXPANSION JOINT FILLER FOR CONCRETE (BITUMINOUS TYPE) MUST BE IN COMPLIANCE WITH ASTM D 994.
11. ALL NEW CURB, SIDEWALK, VALLEY GUTTER AND DRIVEWAYS CONSTRUCTED 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 (EXIST. CONC.).
12. SIDEWALK SHALL BE CONSTRUCTED WITH EXPANSION JOINTS AT EACH BEGINNING OF CURVE (BC) AND END OF CURVE (EC).
13. CURB AND GUTTER, SIDEWALKS AND DRIVEWAYS 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.
14. CLASS 2 AGGREGATE BASE (CL 2 AB) SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS (LATEST EDITION) AND SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% RELATIVE COMPACTION.
15. 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" AND CL 2 AB SHALL MATCH EXISTING THICKNESS. AS APPROVED BY THE CITY ENGINEER. SEE PLAN 8148 "CURB AND GUTTER RETROFIT" FOR ADDITIONAL REQUIREMENTS.

<b>CITY OF BERKELEY</b> DEPARTMENT OF PUBLIC WORKS		<b>STANDARD DETAIL</b> <b>CONCRETE WORK NOTES</b>		
SUBMITTED: _____ SUPERVISING CIVIL ENGINEER	DATE: <u>2/27/17</u> R.C.E. <u>64582</u>			
APPROVED: _____ MANAGER OF ENGINEERING	DATE: <u>2/28/17</u> R.C.E. <u>66014</u>	DESIGN: <u>HEI</u> DRAWN: <u>HEI</u> CHECK: <u>MS</u>	DATE: <u>01/26/17</u> SCALE: <u>N.T.S.</u> BOOK: _____	PLAN: <u>8144</u> FILE: <u>20B-156</u> SHEET: <u>1 OF 1</u>



STANDARD 6" VERTICAL CURB DETAIL



STANDARD 8" VERTICAL CURB DETAIL

**NOTE:**

1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

STANDARD DETAIL  
VERTICAL CONCRETE CURB

SUBMITTED:  
*Don Zrby*  
SUPERVISING CIVIL ENGINEER

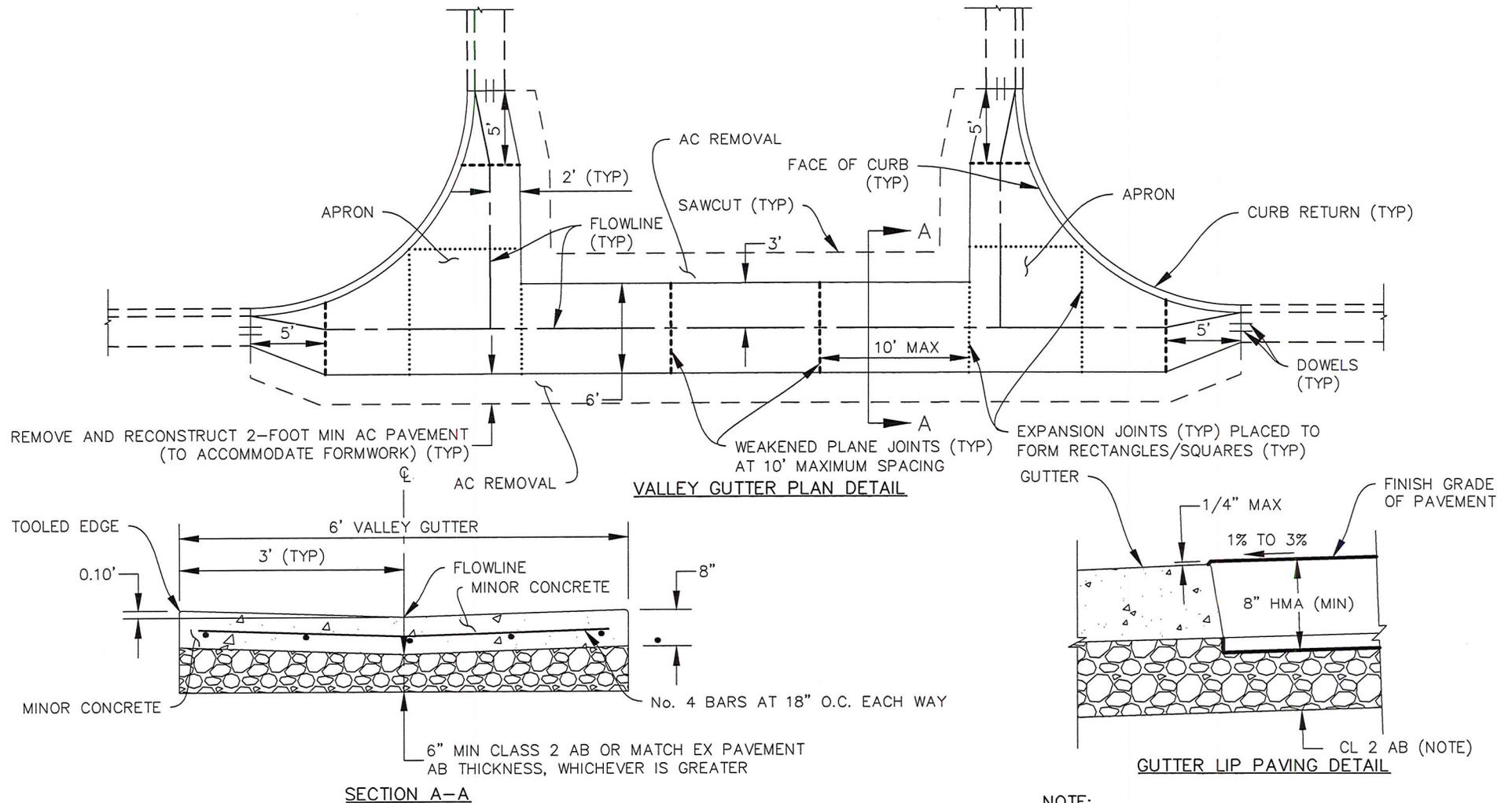
APPROVED:  
*[Signature]*  
MANAGER OF ENGINEERING

DATE: 2/27/17  
R.C.E. 64582

DATE: 2/28/17  
R.C.E. 66014

CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8146</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-158</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



**NOTE:**

1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

**NOTE:**

1. PAVEMENT SECTION SHALL BE AS APPROVED BY THE CITY ENGINEER. LAYERS SHALL NOT BE LESS THAN THE EXISTING THICKNESS.

**STANDARD DETAIL  
VALLEY GUTTER**

SUBMITTED:  
*Don Derby*  
SUPERVISING CIVIL ENGINEER

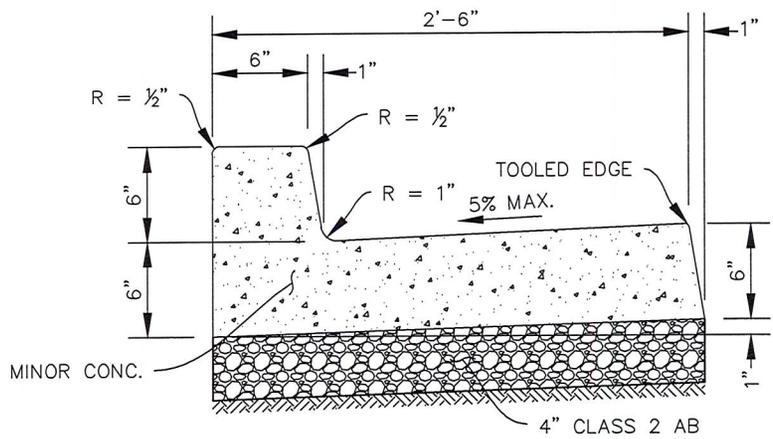
APPROVED:  
*D-L*  
MANAGER OF ENGINEERING

DATE: *2/27/17*  
R.C.E. *64582*

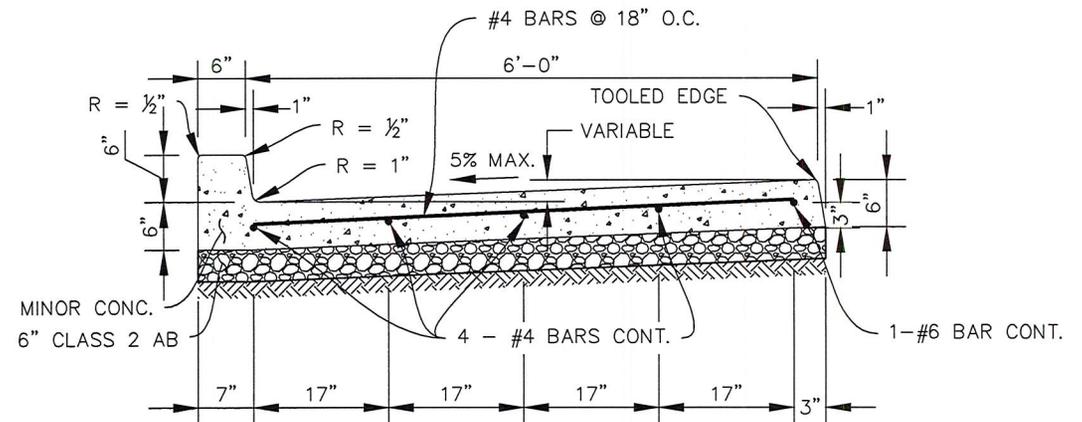
DATE: *2/28/17*  
R.C.E. *66014*

**CITY OF BERKELEY**  
DEPARTMENT OF PUBLIC WORKS

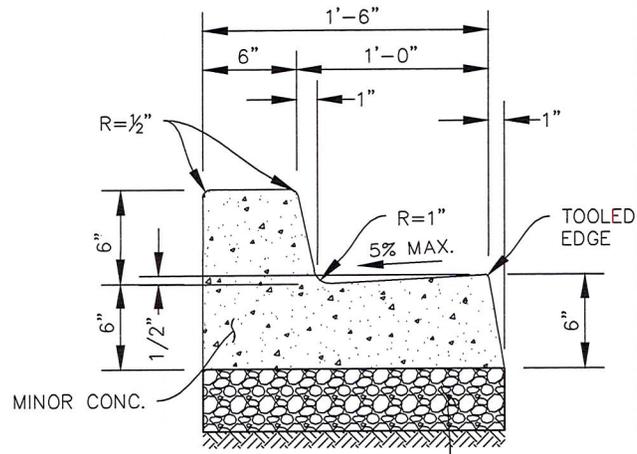
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CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



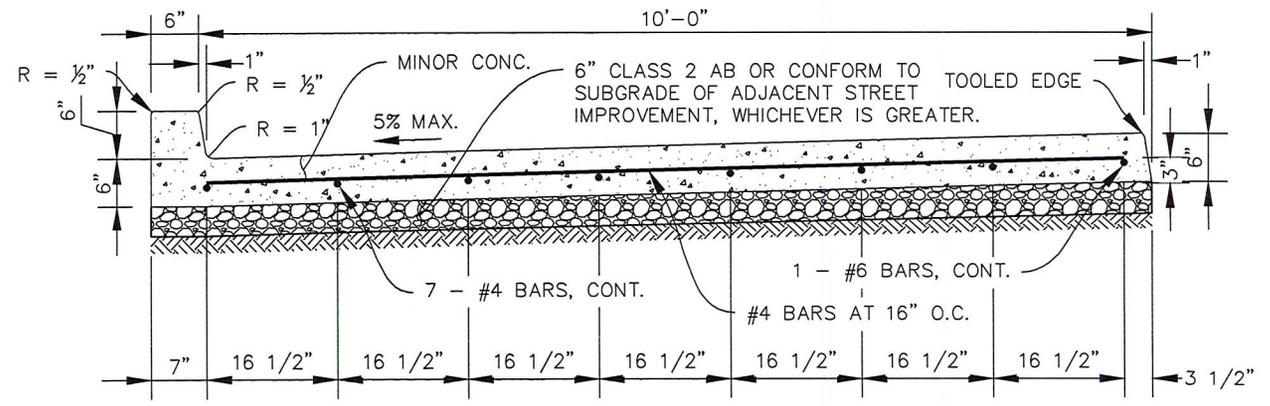
STANDARD CURB AND GUTTER DETAIL



CURB AND 6 FOOT GUTTER DETAIL



4" CLASS 2 AB OR CONFORM TO SUBGRADE OF ADJACENT STREET IMPROVEMENT, WHICHEVER IS GREATER.  
CURB AND 1 FOOT GUTTER DETAIL



CURB AND 10 FOOT GUTTER DETAIL

NOTE:  
1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

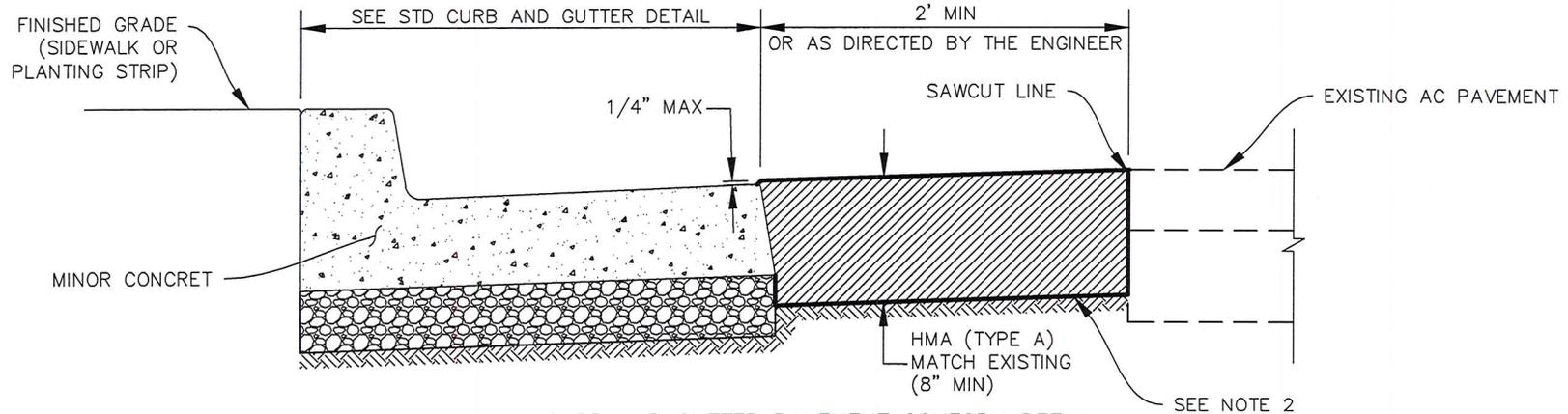
STANDARD DETAIL  
CURB AND GUTTER

SUBMITTED: <i>Don Zrby</i> SUPERVISING CIVIL ENGINEER	DATE: <u>2/27/17</u> R.C.E. <u>64582</u>
APPROVED: <i>R. J. [Signature]</i> MANAGER OF ENGINEERING	DATE: <u>2/28/17</u> R.C.E. <u>66014</u>

CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8145</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-157</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>





**CURB AND GUTTER PAVEMENT CONFORM DETAIL**

**NOTES:**

1. PAVEMENT CONFORM SHALL BE PAVED IN 2 INCH MAXIMUM LIFTS.
2. APPLY ASPHALTIC EMULSION PAINT BINDER (TACK COAT) TO ALL EXISTING AC AND CONCRETE SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.
3. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

**STANDARD DETAIL  
CURB AND GUTTER RETROFIT**

SUBMITTED: Don Kirby  
SUPERVISING CIVIL ENGINEER

APPROVED: [Signature]  
MANAGER OF ENGINEERING

DATE: 2/27/17

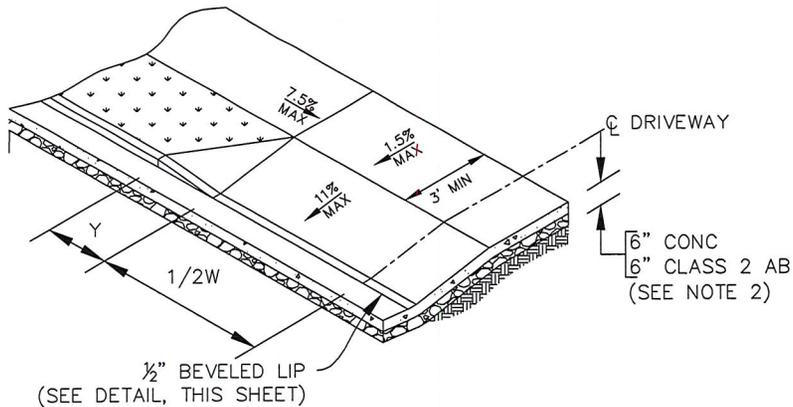
R.C.E. 64582

DATE: 2/28/17

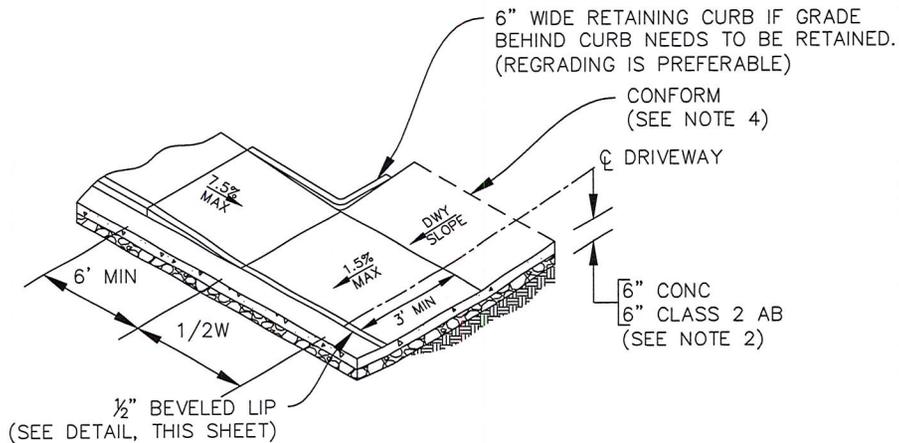
R.C.E. 66014

**CITY OF BERKELEY**  
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8148</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-160</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



**DRIVEWAY WITH SEPARATED SIDEWALK**  
 W=DRIVEWAY WIDTH (SEPARATED SIDEWALK)



**DRIVEWAY WITH MONOLITHIC SIDEWALK**  
 W=DRIVEWAY WIDTH (MONOLITHIC SIDEWALK)

**NOTES:**

- REFER TO GENERAL NOTES FOR CONCRETE WORK.
- RESIDENTIAL DRIVEWAYS SHALL BE 6 INCHES THICK PORTLAND CEMENT CONCRETE (PCC). COMMERCIAL AND INDUSTRIAL DRIVEWAYS SHALL BE 6 INCHES THICK REINFORCED CONCRETE. REINFORCEMENT SHALL BE 6"x6" WELDED WIRE FABRIC, #10 GAUGE MESH OR #4 BARS AT 18 INCH O.C. EACH WAY. THE REQUIRED STRUCTURAL SECTION FOR ANY DRIVEWAY SHALL BE CONTINUOUS FROM THE CURB TO THE BACK OF SIDEWALK.
- DEPTH OF GUTTER FLOWS SHALL BE CALCULATED AND COMPARED TO PROPOSED SIDEWALK ELEVATIONS DURING DESIGN TO ENSURE GUTTER FLOWS ARE CONTAINED AND RUNOFF WITHIN THE PUBLIC RIGHT OF WAY DOES NOT DRAIN ONTO PRIVATE PROPERTY.
- RETAINING CURBS AND DRIVEWAY CONFORMS AS REQUIRED.
- FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

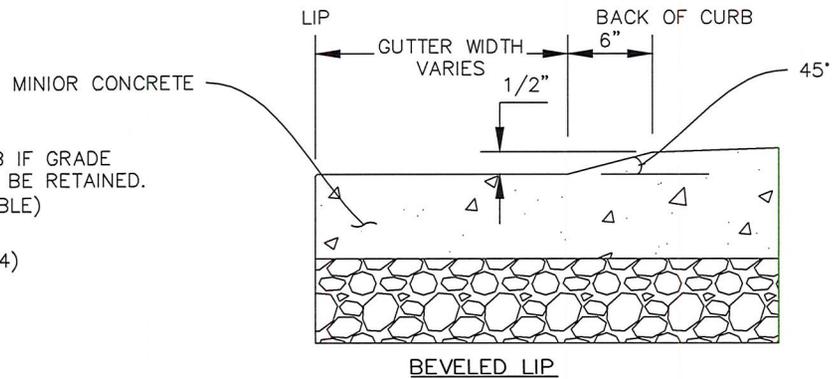


TABLE OF DRIVEWAY DIMENSIONS		
Dimension	Commercial & Industrial	Residential
Y	5' MIN	2' MIN
W	12' MIN	8' MIN

**STANDARD DETAIL  
 DRIVEWAY**

SUBMITTED:  
*Don Zib*  
 SUPERVISING CIVIL ENGINEER

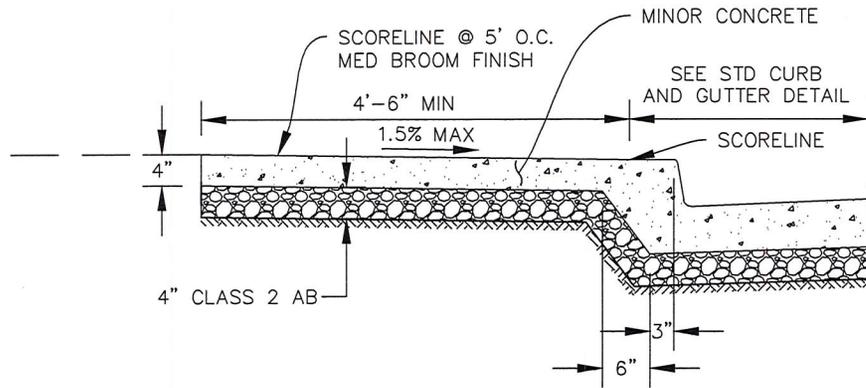
APPROVES:  
*P-LQ*  
 MANAGER OF ENGINEERING

DATE: 2/27/17  
 R.C.E. 64582

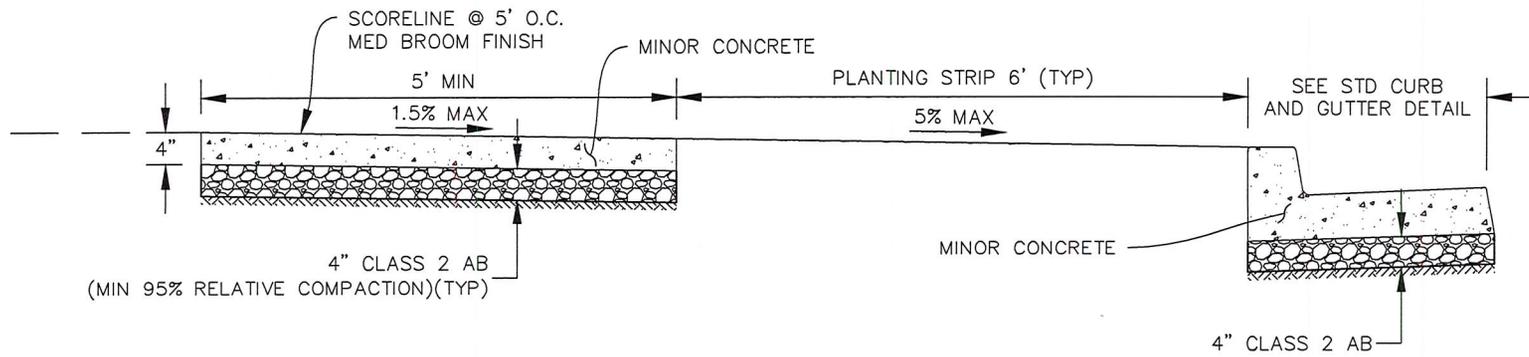
DATE: 2/28/17  
 R.C.E. 66014

**CITY OF BERKELEY**  
 DEPARTMENT OF PUBLIC WORKS

DESIGN: HEI DATE: 01/26/17 PLAN: 8151  
 DRAWN: HEI SCALE: N.T.S. FILE: 20B-163  
 CHECK: MS BOOK: \_\_\_\_\_ SHEET: 1 OF 1



STANDARD SIDEWALK DETAIL



STANDARD SIDEWALK WITH PLANTING STRIP DETAIL

NOTE:

1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

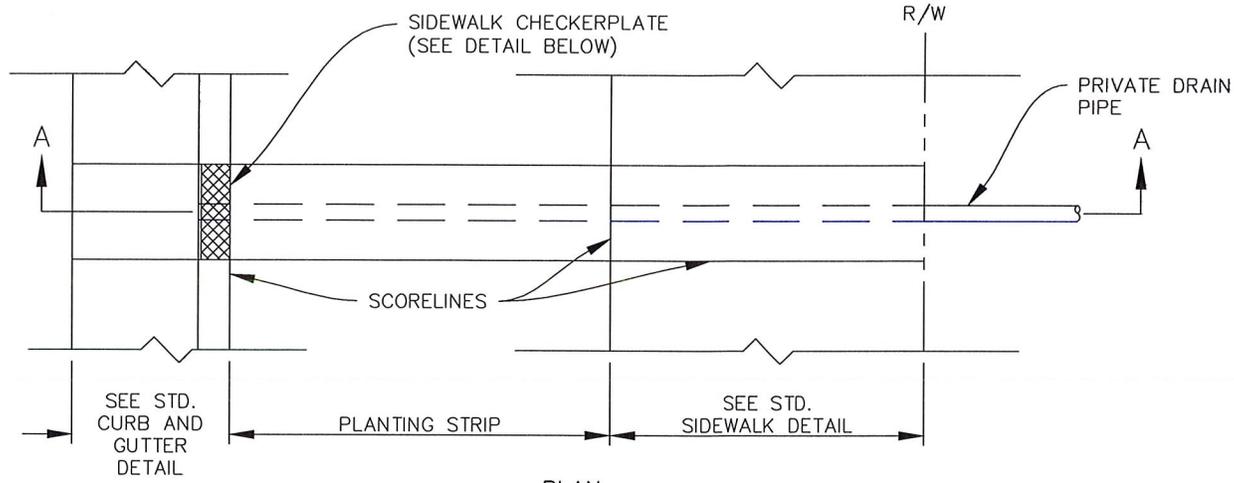
STANDARD DETAIL  
SIDEWALK

SUBMITTED: Don Zrb  
SUPERVISING CIVIL ENGINEER  
APPROVED: R-LO  
MANAGER OF ENGINEERING

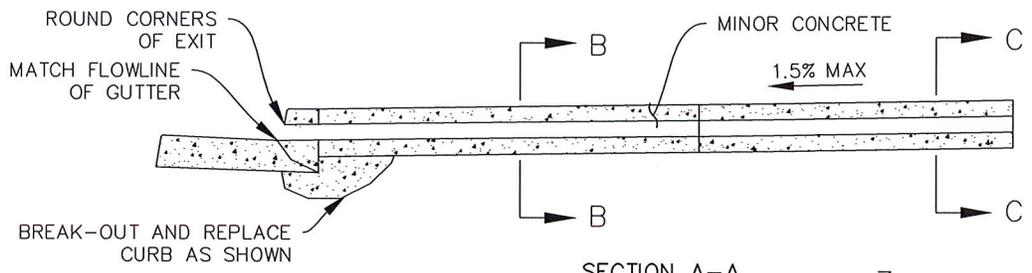
DATE: 2/27/17  
R.C.E. 64502  
DATE: 2/28/17  
R.C.E. 66014

CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS

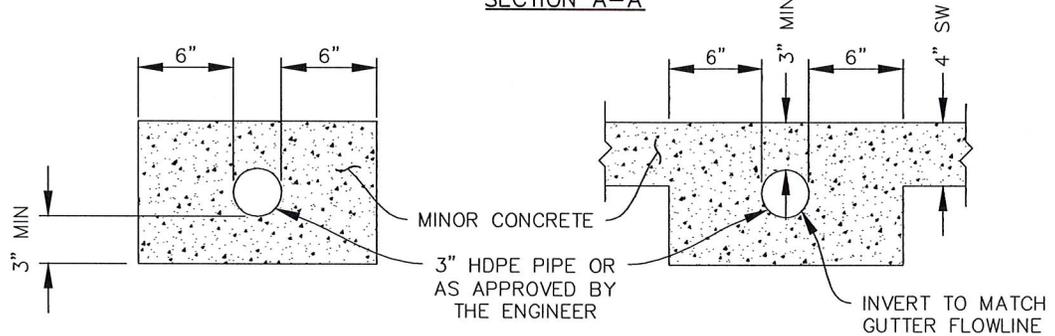
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DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-165</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



PLAN

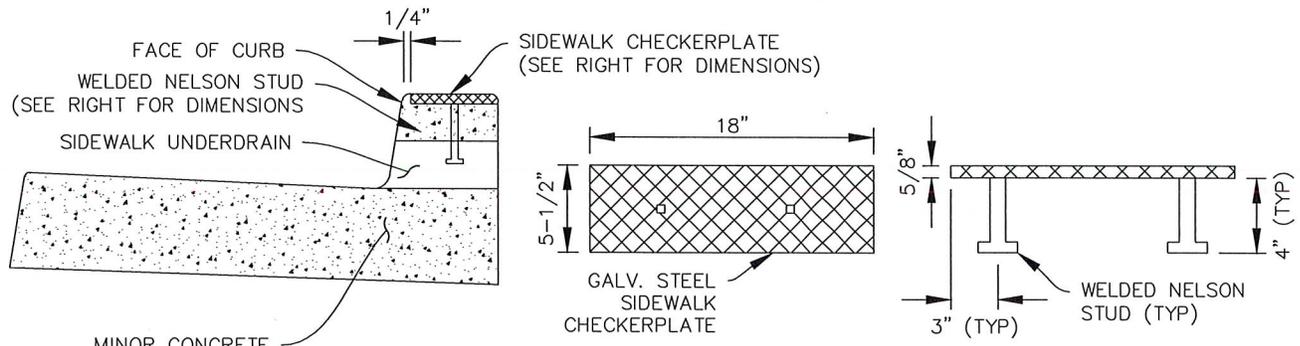


SECTION A-A



SECTION B-B

SECTION C-C



SIDEWALK UNDERDRAIN CHECKERPLATE SHALL BE GALVANIZED STEEL WITH AN EMBOSSED NONSKID PATTERN

SIDEWALK CHECKERPLATE DETAIL

NOTES:

- WHERE SIDEWALK UNDERDRAINS ARE INSTALLED AT LOCATIONS WHERE CURB, GUTTER, AND SIDEWALK IS EXISTING, REMOVE 24" OF CURB AND SIDEWALK SHALL BE SAWCUT AND REMOVED BETWEEN SCORELINES.
- MULTIPLE PARALLEL SIDEWALK UNDERDRAINS SHALL HAVE 4" CLEAR BETWEEN EDGE OF PIPES.
- FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

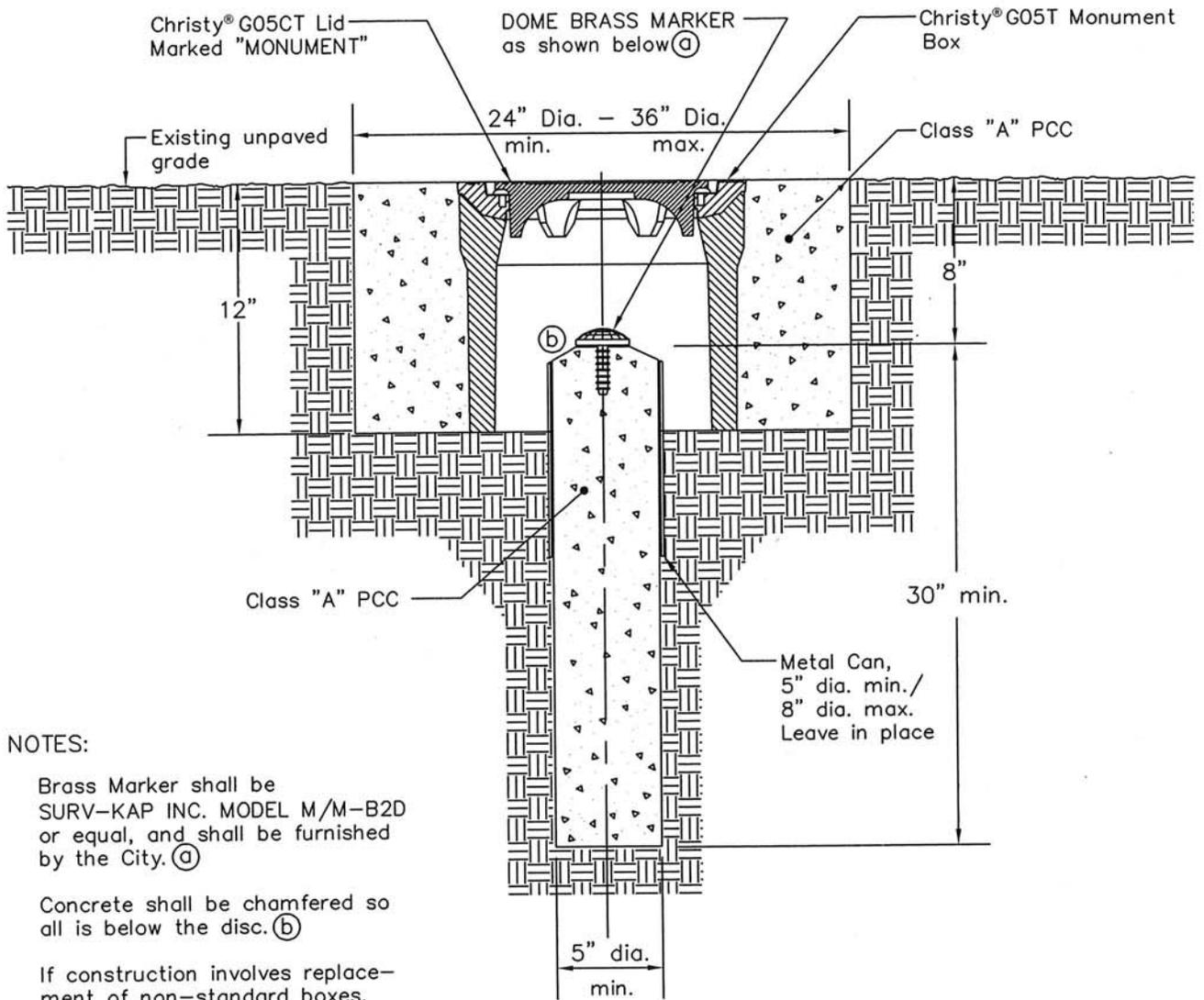
CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS

STANDARD DETAIL  
SIDEWALK UNDERDRAIN

SUBMITTED: Dou Derby DATE: 2/27/17  
SUPERVISING CIVIL ENGINEER R.C.E. 64582

APPROVED: [Signature] DATE: 2/28/17  
MANAGER OF ENGINEERING R.C.E. 66014

DESIGN: HEI	DATE: 01/26/17	PLAN: 8154
DRAWN: HEI	SCALE: N.T.S.	FILE: 20B-166
CHECK: MS	BOOK: _____	SHEET: 1 OF 1

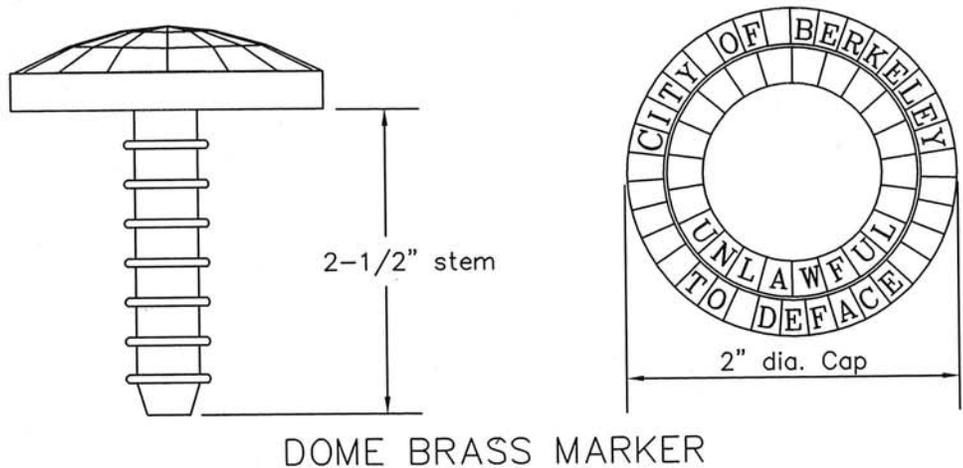


**NOTES:**

Brass Marker shall be SURV-KAP INC. MODEL M/M-B2D or equal, and shall be furnished by the City. (a)

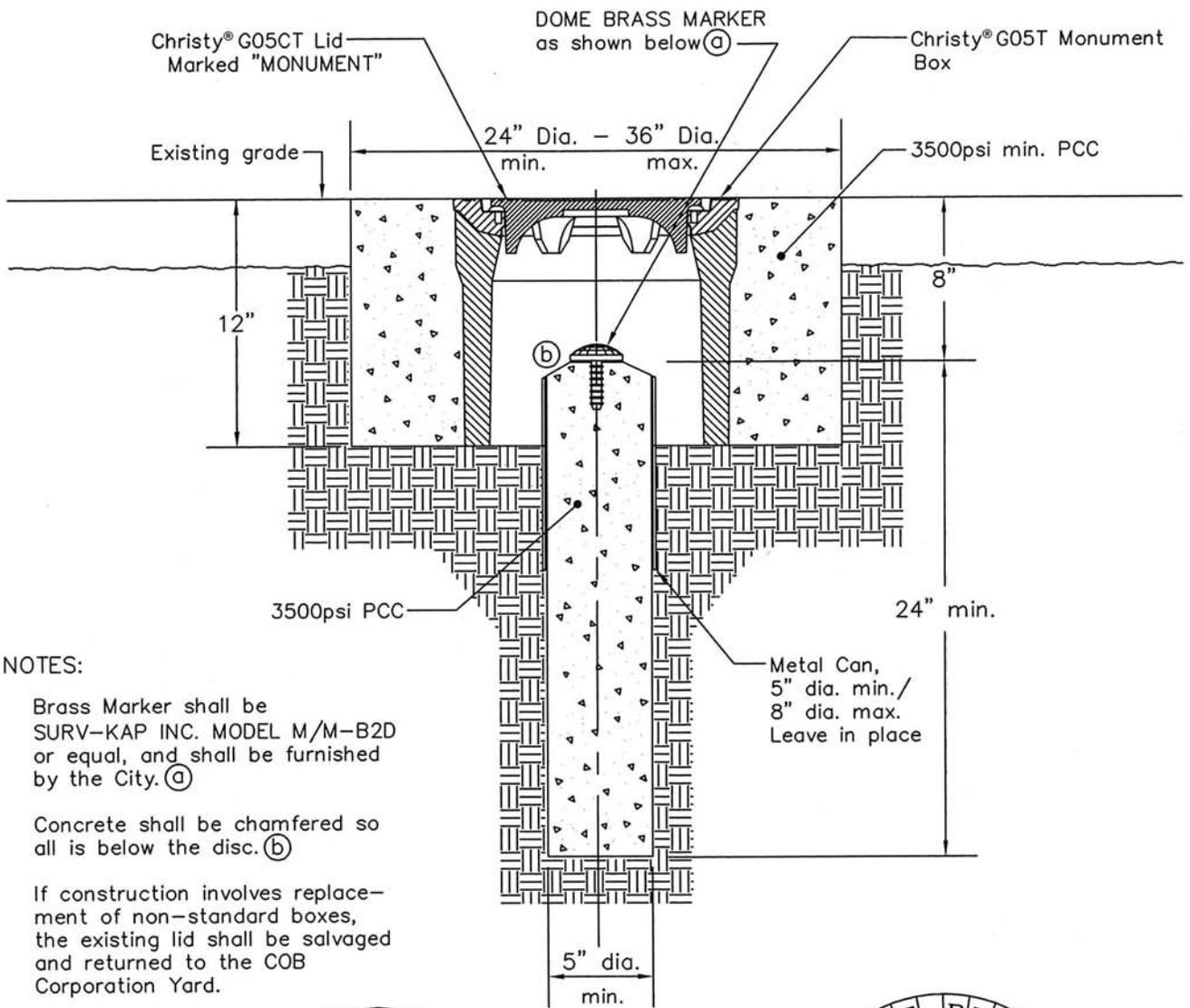
Concrete shall be chamfered so all is below the disc. (b)

If construction involves replacement of non-standard boxes, the existing lid shall be salvaged and returned to the COB Corporation Yard.



DESIGN: MCT	DATE: 11/2017	PLAN: 8179
DRAWN: MCT	SCALE: N.T.S.	FILE: 20-B-167
CHECK: NAP		
APPROVED: <i>Nisha Patel</i>	11-17-17	
CITY ENGINEER	DATE:	

CITY OF BERKELEY  
 DEPARTMENT OF PUBLIC WORKS  
 STANDARD DETAIL  
 CITY MONUMENT INSTALLATION  
 IN UNPAVED SURFACE

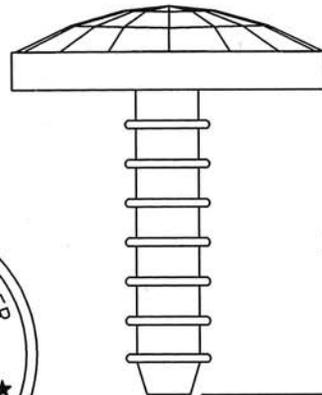


**NOTES:**

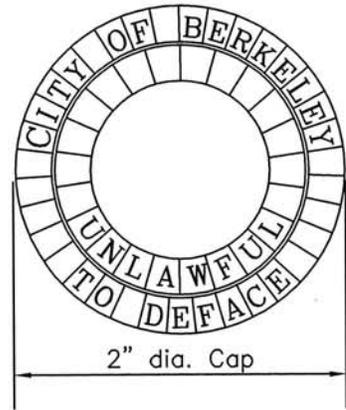
Brass Marker shall be SURV-KAP INC. MODEL M/M-B2D or equal, and shall be furnished by the City. (a)

Concrete shall be chamfered so all is below the disc. (b)

If construction involves replacement of non-standard boxes, the existing lid shall be salvaged and returned to the COB Corporation Yard.



2-1/2" stem



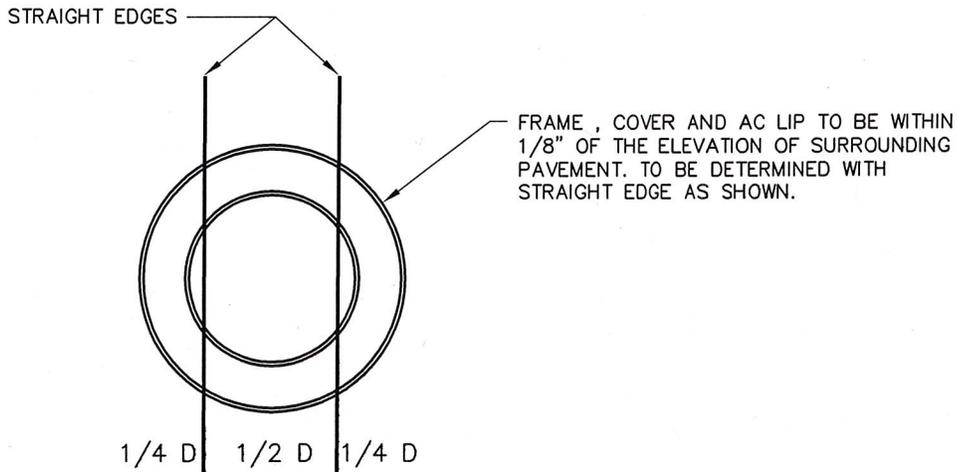
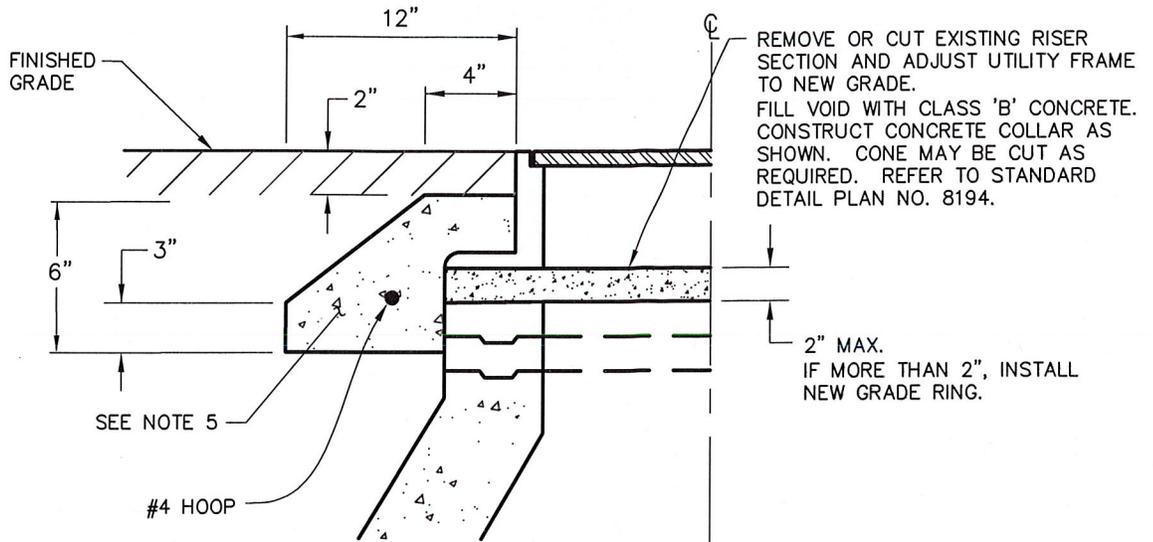
2" dia. Cap

**DOME BRASS MARKER**

NOTE: This Drawing Supersedes COB Plan 7063, File: 20 B-120 MCT-12/2013

1	DOME BRASS MARKER TO BE FURNISHED BY THE CITY	DATE: 11/2010
2	REVISED DETAIL TO INCLUDE NEW STANDARD CHRISTY®G05T BOX & LID	DATE: 12/2013
3	UPDATE STANDARD SETTING AND REVISED TITLE BLOCK	DATE: 12/2015
4	REVISED STANDARD SETTING TO FULL CONCRETE COLLAR FLUSH w/EX. GRADE	DATE: 11/2017
DESIGN: MCT	DATE: 11/2017	PLAN: 8090
DRAWN: MCT	SCALE: N.T.S.	FILE: 20-B-153
CHECK: NAP		
APPROVED: <i>N. Patel</i>	11-17-17	
CITY ENGINEER	DATE:	
<b>CITY OF BERKELEY</b> DEPARTMENT OF PUBLIC WORKS STANDARD DETAIL		
<b>STANDARD CITY MONUMENT</b>		

SYMMETRICAL ABOUT  
CENTERLINE



PARALLEL TO DIRECTION OF TRAVEL OR  
AS DIRECTED BY THE CITY ENGINEER

NOTES:

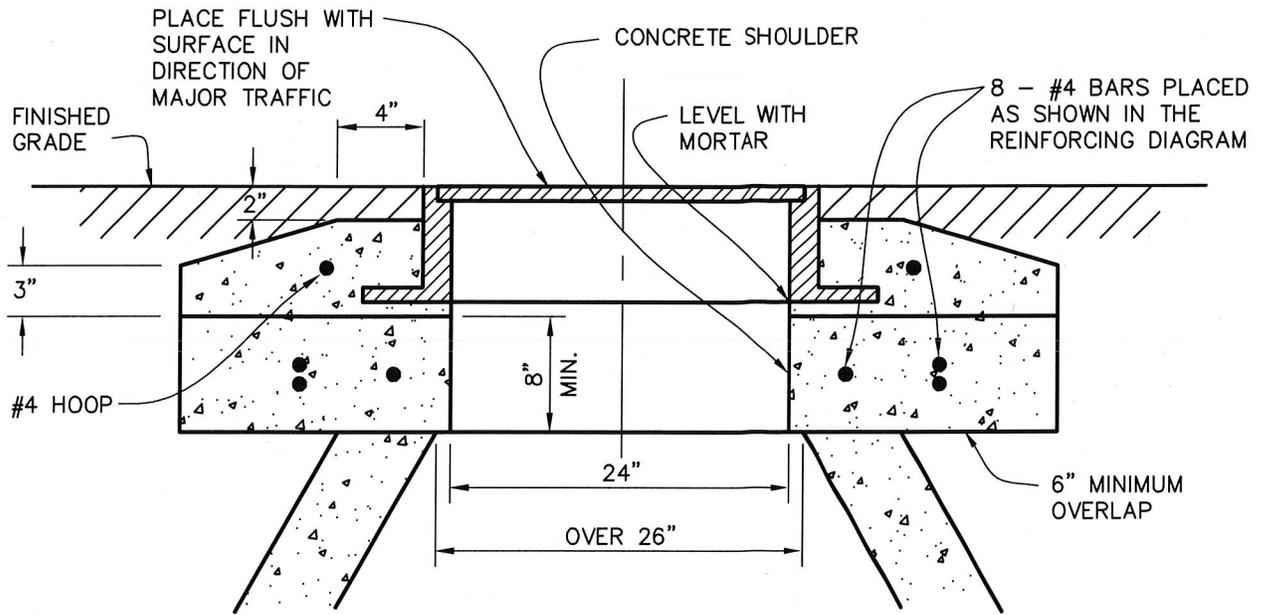
1. ALL SURFACE STRUCTURES EXTENDING 2" ABOVE THE NEW SUBGRADE OR MILLING PLANE SHALL BE LOWERED BY CONTRACTOR OR UTILITY OWNER TO THE NEW SUBGRADE BEFORE PAVING. STRUCTURES PROJECTING LESS THAN 2" ABOVE THE SUBGRADE MAY BE PAVED OVER AND LATER ADJUSTED TO GRADE.
2. ADJUST FRAME AND COVER TO FINISHED GRADE AFTER FINAL LIFT OF PAVING.
3. TRAFFIC CONTROL APPROVAL IS REQUIRED PRIOR TO ANY TRAFFIC LANE OBSTRUCTION.
4. PLACE TEMPORARY AC (CUT BACK) AROUND UTILITY FRAME UNTILL PERMANENT PAVING IS IN PLACED.
5. CAST-IN-PLACE CONCRETE COLLARS SHALL CONFORM TO STANDARD SPECIFICATIONS (GREENBOOK) SECTION 201-1.1.2 AND BE CLASS 560-B-3250.

DESIGN: TP	DATE: 5/23	PLAN: 8193
DRAWN: LG	SCALE: N.T.S.	FILE: 20B-169
CHECK: KE		

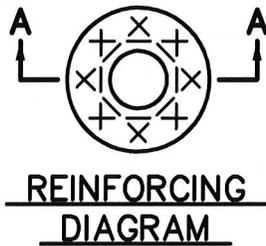
APPROVED: 	DATE: 5-23-18
CITY ENGINEER	DATE:

CITY OF BERKELEY  
DEPARTMENT OF PUBLIC WORKS  
STANDARD DETAIL

MANHOLE FRAME & COVER  
ADJUSTMENT



**SECTION A-A**



**NOTES:**

1. WHEN THE MANHOLE HAS TO BE CUT DOWN SO THAT THE TAPERED SECTION AT THE TOP OF THE EXISTING MANHOLE EXCEEDS 26 INCHES, A CONCRETE SHOULDER MUST BE CONSTRUCTED AS SHOWN ABOVE.
2. WHEN DIRECTED BY THE ENGINEER, THE EXISTING FRAME AND COVER SHALL BE SALVAGED AND RETURNED TO THE CITY CORPORATION YARD, 1326 ALLSTON WAY.
3. CAST-IN-PLACE CONCRETE COLLARS SHALL CONFORM TO SPECIFICATIONS (GREENBOOK) SECTION 201-1.1.2 AND BE CLASS 560-B-3250.

DESIGN: <u>TP</u>	DATE: <u>5/18</u>	PLAN: <u>8194</u>
DRAWN: <u>MS</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-170</u>
CHECK: <u>KE</u>		

**CITY OF BERKELEY**  
 DEPARTMENT OF PUBLIC WORKS  
 STANDARD DETAIL

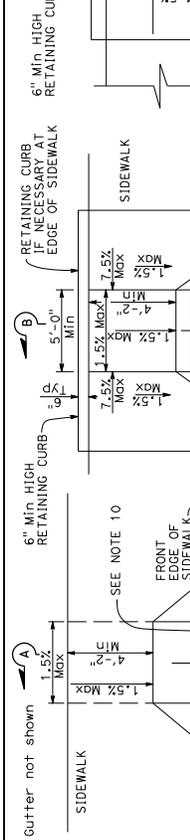
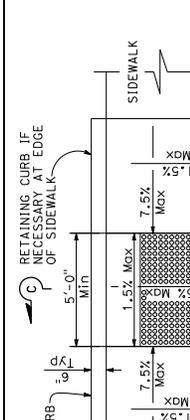
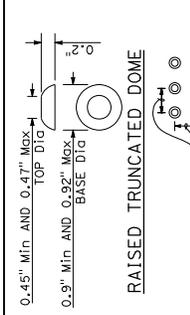
APPROVED:  5-23-18  
 CITY ENGINEER DATE:

**MANHOLE FRAME & COVER  
 ADJUSTMENT - LOWERING**

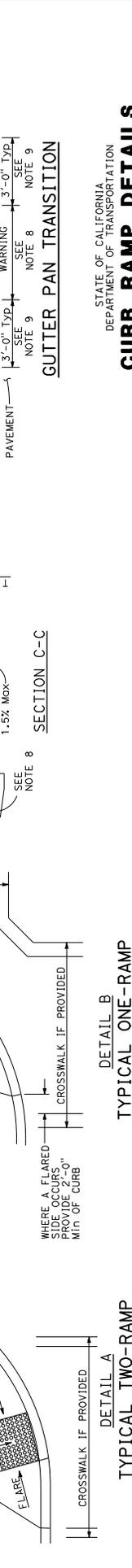
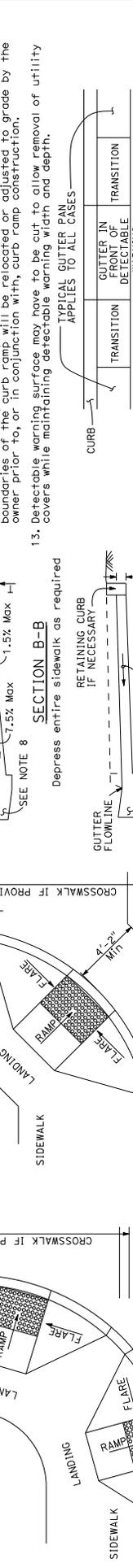
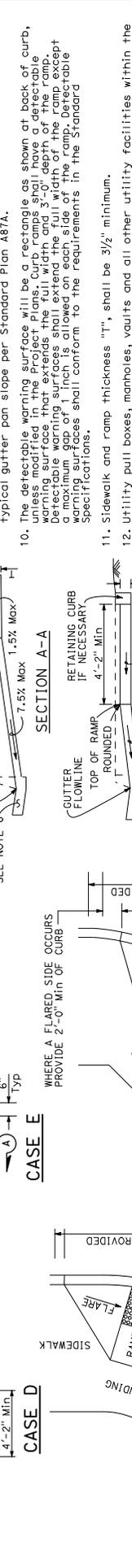
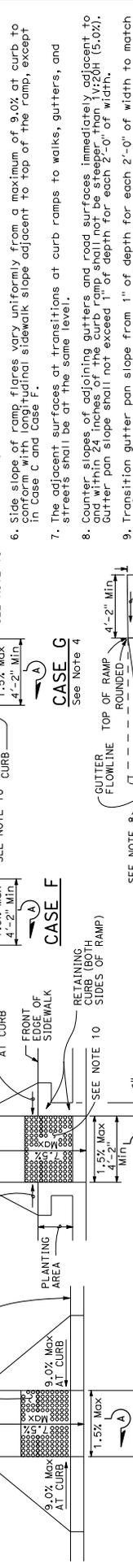
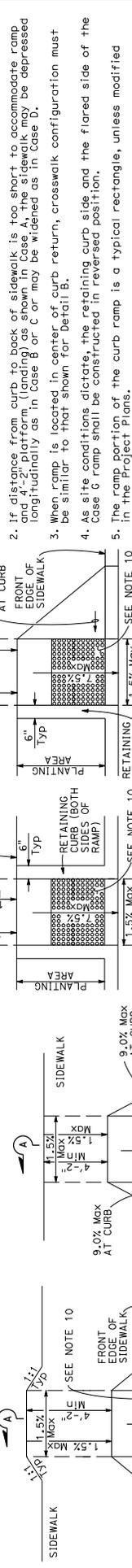
DI#	COUNTY	ROUTE	POST MILES	SHEET TOTAL SHEETS

REGISTERED CIVIL ENGINEER  
 AUGUST 1, 2022  
 REBECCA LYNN MORRY  
 LICENSE NO. C54415  
 CIVIL  
 STATE OF CALIFORNIA

THE CIVIL ENGINEER'S DATE OF SIGNATURE SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



- NOTES:** See Note 10
- As site conditions dictate, Case A through Case G curb ramps may be used. The case of curb ramps used in detail drawings do not have to be the same. Case A through Case G curb ramps also may be used at mid-block locations, as site conditions dictate. For specific site condition configuration, including the conform to existing sidewalk, see Project Plans.
  - If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B or C or may be widened as in Case D.
  - When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
  - As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
  - The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
  - Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
  - The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
  - Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1v:20h (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
  - Transition gutter pan slope from 1" of depth for each 2'-0" of width to match typical gutter pan slope per Standard Plan A87A.
  - The detectable warning surface will be a rectangle as shown at back of curb, unless modified in the Project Plans. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable warning surfaces shall extend the full width of the ramp except a maximum gap of 1/4 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
  - Sidewalk and ramp thickness "T", shall be 3/2" minimum.
  - Utility pull boxes, manholes vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
  - Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.



**CURB RAMP DETAILS**  
 NO SCALE

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

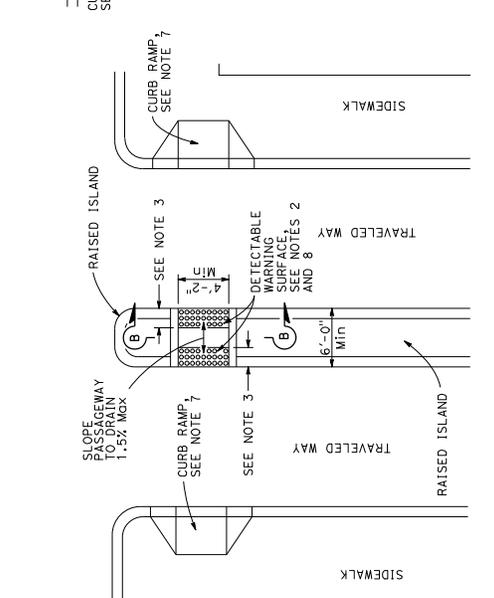
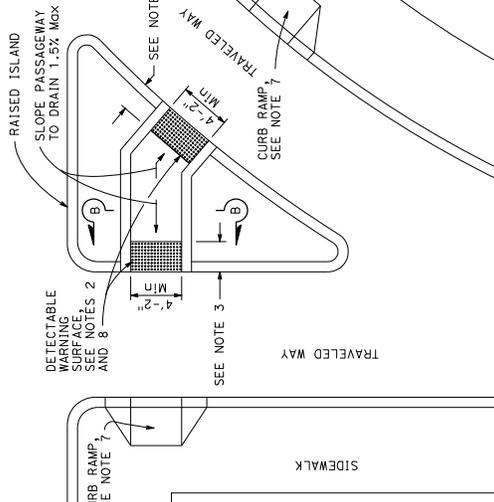
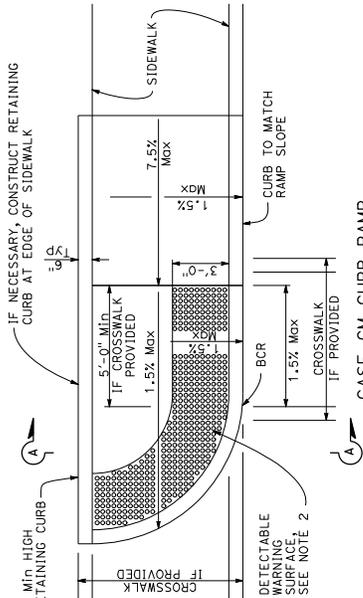
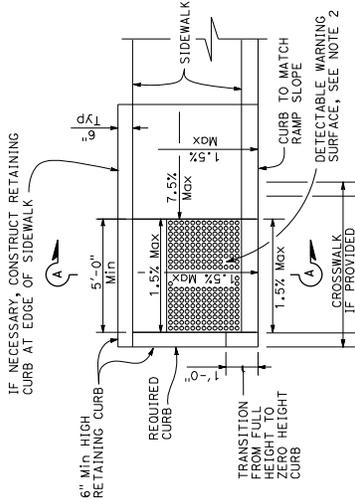
**A88A**

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET TOTAL SHEETS

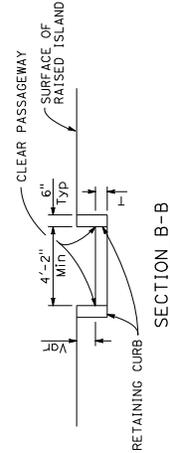
REGISTERED CIVIL ENGINEER  
 August 1, 2022  
 LICENSE NO. 554415  
 EXPIRES 12-31-23  
 REISSUED PROFESSIONAL ENGINEER  
 REBECCA LYNN MORRY  
 CIVIL  
 STATE OF CALIFORNIA  
 THE STATE OF CALIFORNIA  
 DIVISION OF PROFESSIONAL ENGINEERS  
 FOR ACTS SHALL NOT BE RESPONSIBLE FOR  
 ERRORS OR OMISSIONS OF ANY KIND  
 OR FOR THE QUALITY OF ANY SCANNED  
 COPIES OF THIS PLAN SHEET.

**NOTES:**

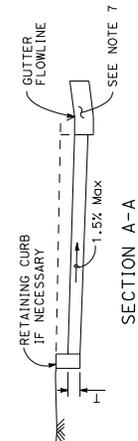
1. Sidewalk, ramp and passageway thickness "t", shall be 3/2" minimum.
2. For details of detectable warning surfaces, see Standard Plan A88A.
3. Where an island passageway length is greater than the full width of the passageway, each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where an island passageway length is greater than or equal to 8'-0", each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where the island passageway length is less than 8'-0", the island passageway shall extend the full width of the passageway except a maximum gap of 1 inch is allowed on each side of the passageway.
4. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
5. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated and adjusted to grade by the contractor prior to, or in conjunction with, curb ramp construction.
6. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.
7. For additional curb ramp details, see Standard Plan A88A.
8. The detectable warning surface will be a rectangle as shown at the face of curb, unless modified in the Project Plans.



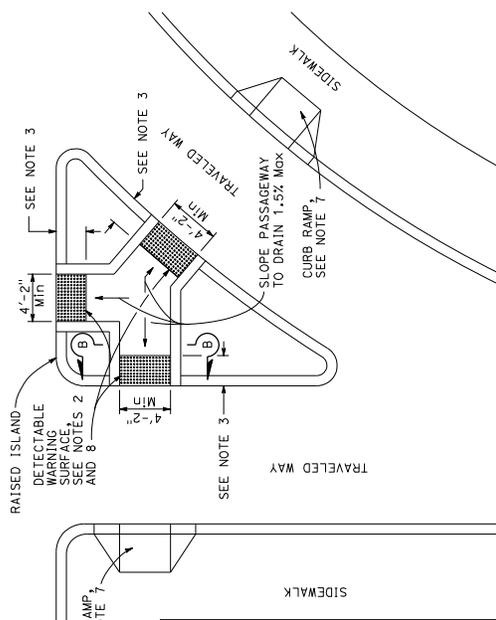
**TYPE B PASSAGEWAY**



**TYPE A PASSAGEWAY**



**TYPE C PASSAGEWAY**



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**CURB RAMP AND ISLAND PASSAGEWAY DETAILS**

NO SCALE

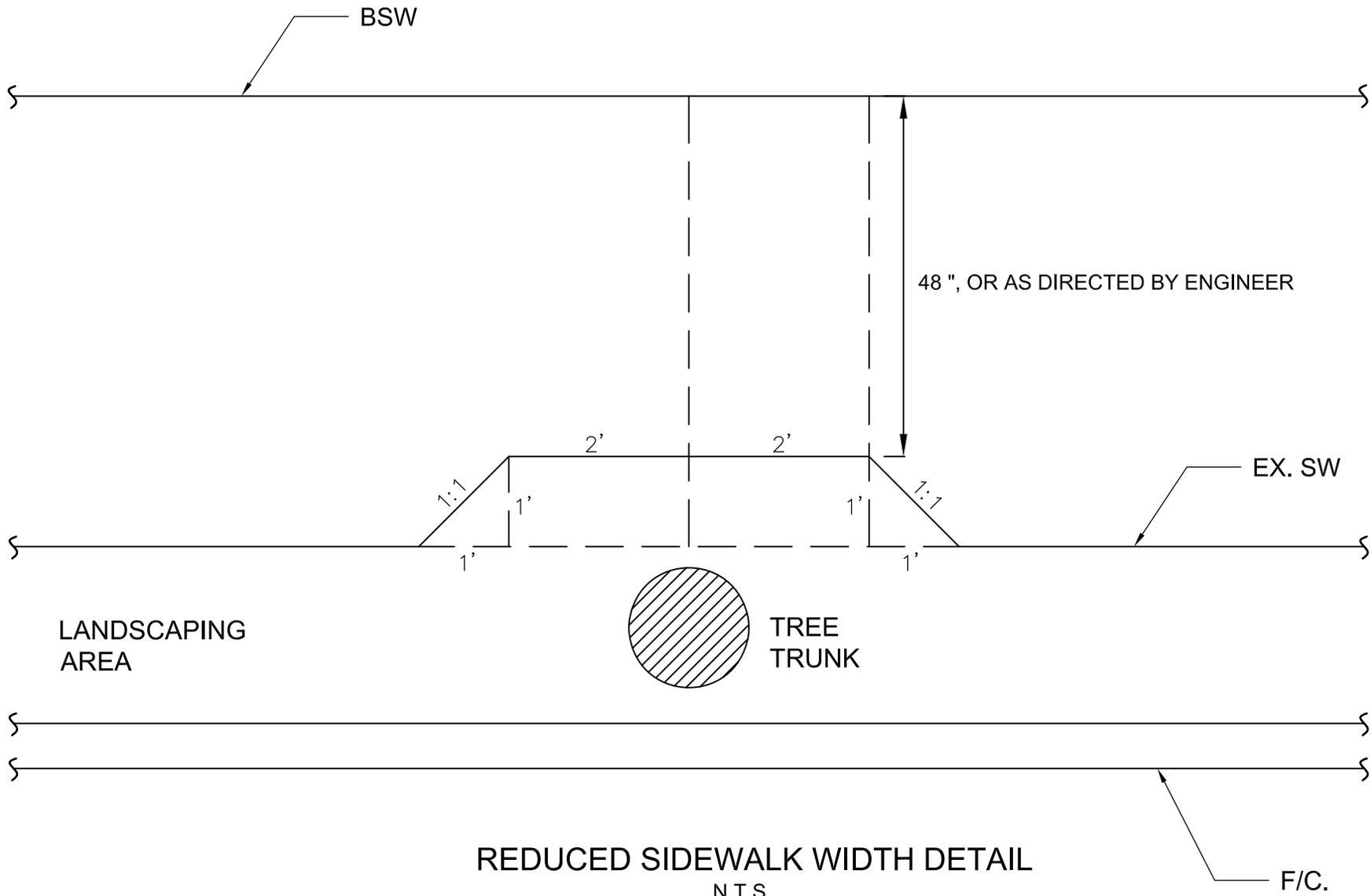
**A88B**

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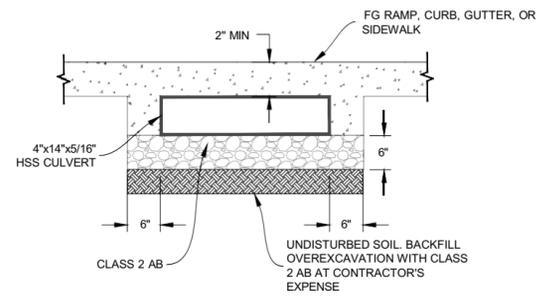
**PART E**

MISCELLANEOUS SIDEWALK  
AND  
CROSS DRAIN DETAILS

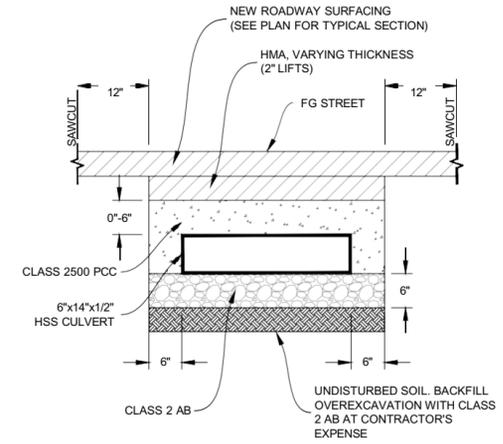
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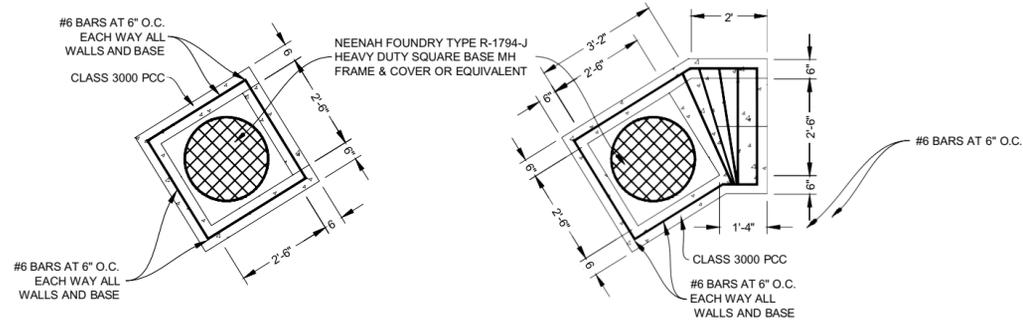
REDUCED SIDEWALK WIDTH DETAIL  
 N.T.S



**CROSS DRAIN BACKFILL AND RESURFACING UNDER SIDEWALK/CURB RAMP**  
N.T.S.

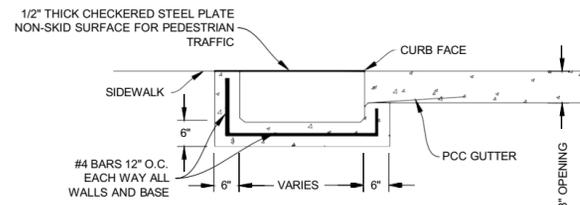


**CROSS DRAIN BACKFILL AND RESURFACING UNDER STREET**  
N.T.S.



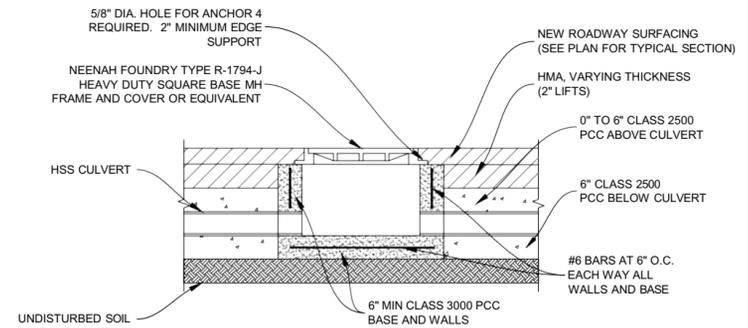
**1-JB PLAN VIEW AND REBAR DETAILING**

**2-JB PLAN VIEW AND REBAR DETAILING**

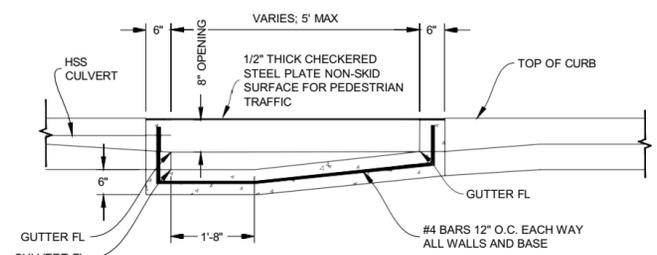


**TYPICAL SECTION A-A**

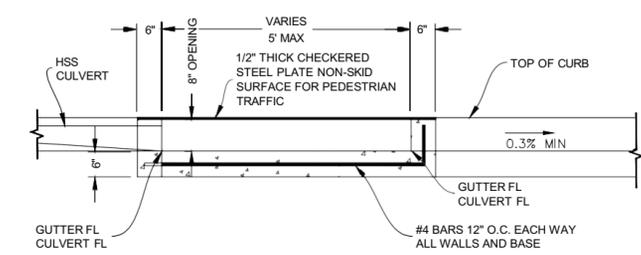
NOTE:  
1. WHERE CROSS DRAINS REPLACEMENT IS REQUIRED AT LOCATIONS OF CURB RAMP CONSTRUCTION, THE LAYOUTS, PROFILE, AND ALIGNMENT OF BOTH THE CURB RAMP AND CROSS DRAIN SHALL BE CONDUCTED CONCURRENTLY SO THAT ADA REQUIREMENTS ARE MET, STORMWATER DRAIN PATTERNS MAINTAIN A POSITIVE FLOW IN THE GUTTER AND CROSS DRAIN FLOWLINES, AND SLUMPS ARE AVOIDED IN THE GUTTER FLOWLINE.



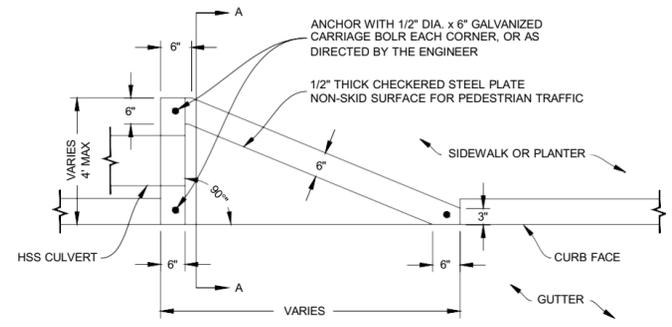
**TYPICAL JB VERTICAL SECTION**  
**STORM DRAIN JUNCTION BOX**  
N.T.S.



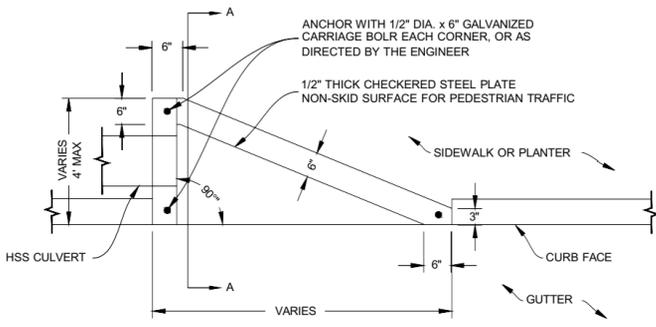
**INLET ELEVATION**



**OUTLET ELEVATION**



**INLET PLAN**



**OUTLET PLAN**

**CROSS DRAIN INLET AND OUTLET**

N.T.S.

## **APPENDIX A**

### COMMUNITY WORKFORCE AGREEMENT

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**CITY OF BERKELEY**  
**COMMUNITY WORKFORCE AGREEMENT**

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**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) #: \_\_\_\_\_

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

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## **APPENDIX B**

### **PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS**

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**APPENDIX B**  
**PEDESTRIAN, BICYCLE, AND BUS FACILITY ACCOMODATION IN**  
**CONSTRUCTION ZONES**

## **Supplemental Design Guidelines: Accommodating pedestrians, bicyclists, and bus facilities in construction zones**

**Every reasonable effort should be made to avoid and minimize construction impacts on pedestrian, bicycle, and bus facilities in Berkeley.**

This document provides engineering and design guidance on temporary traffic control measures used to accommodate pedestrians, bicyclists, and bus facilities through construction zones in Berkeley. The guidance supplements the guidance in [Part 6 of the California Manual on Uniform Traffic Control Devices \(CA MUTCD\)](#)<sup>1</sup>, which specifies that bicyclists and pedestrians must be safely accommodated through construction zones, and the City of Berkeley's "TRAFFIC CONTROL PLAN PREPARATION GUIDELINES" This supplemental guidance specifies when and where pedestrian, bicycle, and bus facilities may be relocated, detoured, modified, and closed in Berkeley. This guidance applies to all sidewalks and all roads on which bicyclists are legally allowed to travel, including designated bikeways. The guidance applies to any entity ("construction sponsor") performing construction work in the public right-of-way, including utility companies, private land use development, and the City of Berkeley.

Any construction sponsor submitting for any permit<sup>2</sup> for work in the public right-of-way to the City of Berkeley that will result in the blockage of a sidewalk, bicycle lane, vehicle travel lane, bus stop, or other public bicycle or pedestrian path must submit a Temporary Traffic Control Plan (TCP) to Public Works Traffic Engineering for review and approval. The guidance in this document is intended to direct the development of the construction sponsor's TCP.

The two major types of temporary traffic control (TTC) for pedestrians are adjacent sidewalk diversions and sidewalk detours (see Figure 1). To determine which temporary facility is appropriate, refer to Table 1.

### **Pedestrian Accommodation**

All temporary pedestrian facilities and alternate paths must be ADA-compliant, and all pedestrian-related signage shall be as permanent as the other TTC signage. Any diversions, detours, or full closures must be approved as part of a Traffic Control Plan. Refer to the [CalTrans Temporary Pedestrian Access Routes Handbook](#)<sup>3</sup>, for guidelines on these standards.

- Sidewalk Diversion - A temporary, protected pedestrian route shall be provided adjacent to the sidewalk in a parking lane (if present), travel lane, or bicycle lane. It shall be protected from moving traffic by an approved barricade device that is detectable by people with visual disabilities. If the pedestrian diversion takes up a bike lane, bike accommodation must be maintained (see Bicyclist Accommodation below). All sidewalk diversion routes must keep and maintain minimum 5 feet clear width, but shall provide up to 6' where feasible for pedestrian access.
  - The preferred treatment for long-term pedestrian diversions in construction zones in downtown Berkeley and other areas with significant pedestrian activity is a covered pedestrian walkway. Covered walkways shall conform with Berkeley's Pedestrian Access During Construction Projects (see attachment), the [CalTrans Temporary Pedestrian Access Routes Handbook](#), ADA accessibility standards, and [OSHA structural specifications for](#)

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<sup>1</sup> California Manual on Uniform Traffic Control Devices (CA MUTCD) 2009 Edition Part 6: <https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev6/camutcd2014-part6-rev6.pdf>

<sup>2</sup> Permits include but are not limited to Concrete Permits for Sidewalk, Curb, Gutter and Driveway Approaches, Utility Excavation Permits, Miscellaneous Permits to Obstruct, Excavate and/or Construct in the right of way, Street and Sidewalk Use Permits, etc.

<sup>3</sup> CalTrans Safety / Traffic Webpage: <https://dot.ca.gov/programs/construction/safety-traffic>

[scaffolding](#)<sup>4</sup>. Design of the walkway should ensure limited obstruction between the top of railing and walkway cover to allow passive surveillance into and from the walkway, and should have a maximum exit access travel distance of 100 feet. Construction sponsors are responsible for maintaining adequate lighting within the covered walkway at all times and for removal of graffiti and cleaning of debris.

- Construction sponsors may alternatively propose uncovered diversions using longitudinal channelizing devices, such as concrete k-rails, if permitted under the requirements listed by Berkeley's Pedestrian Access During Construction Projects. Channelizing devices used to separate a pedestrian diversion from moving traffic must fully protect pedestrians from motor vehicle impacts. Bases of temporary cyclone fences shall not extend over any adjacent traffic, bicycle lane, or pedestrian path of travel.
- Pedestrian diversions shall always be clearly identified, wheelchair usable, shielded from motor vehicle traffic, and free of pedestrian hazards such as holes, debris, gravel, mud, etc.
- **Sidewalk detours are not acceptable in downtown Berkeley, nor in areas where significant pedestrian activity occurs, such as near BART stations, near the University of California, Berkeley campus and in neighborhood commercial areas and are up to the discretion of the City's Traffic Engineer, or their designee.** All detours should ensure accessible conditions. Sponsor may be required to make appropriate repairs to the detour route. Signage shall be provided at closest intersections to alert pedestrians of the sidewalk closure and direct them to the detour. Advance notification to pedestrians of any sidewalk detours or diversions shall be provided at the nearest crosswalk that meets minimum safety requirements on either side of the detour or diversion.
  - In areas where long-term sidewalk detours are not acceptable, sidewalk detours may be approved for limited duration when full closure of a sidewalk is required for intermittent and unavoidable construction activity. Refer to Table 1 for the maximum acceptable duration and conditions per project location.
- In areas where sidewalk diversions or detours impact access to AC Transit, Berkeley Lab, or Bear Transit bus and shuttle stops the Contractor must receive written confirmation from affected parties regarding stop relocations. See "Bus Stop Relocation or Closure" subsection below.

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<sup>4</sup> OSHA Standard 1910-28: Duty to have fall protection and falling object protection:  
<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.28>

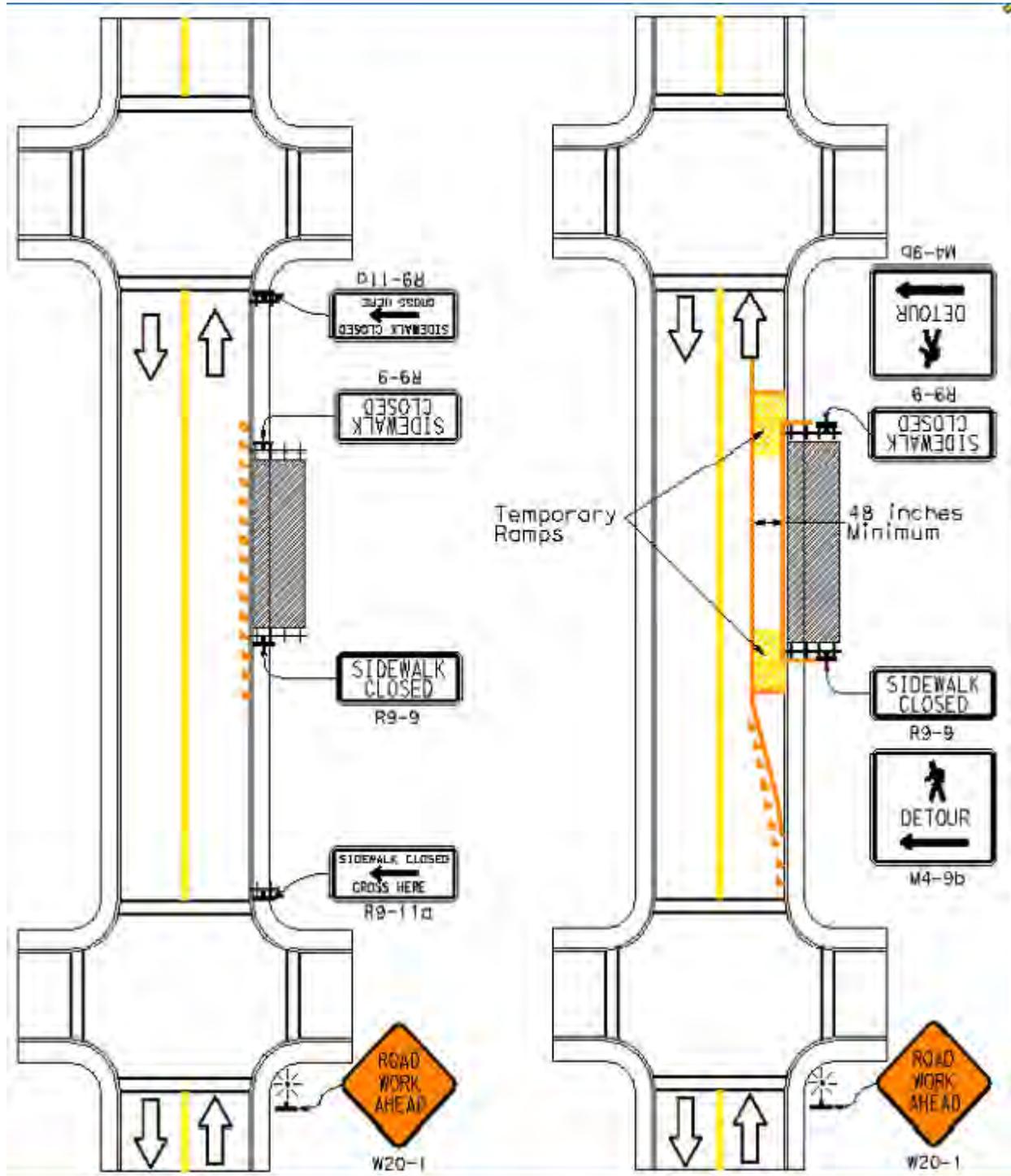
**Table 1: Reasonable Accommodation for Pedestrians**

Treatment*	Construction Project Location		
	Downtown & within 0.25 miles of a BART station or UC Berkeley campus	Neighborhood commercial areas and major transit corridors	All other areas
Sidewalk diversion (temporary ADA walkway provided)*	Acceptable†	Acceptable†	Acceptable†
Sidewalk detour (no walkway provided)*	Prohibited	Prohibited	Acceptable†
Maximum duration of temporary sidewalk detour	4 hours Flagger required throughout duration of closure.	24 hours Flagger required throughout duration of closure.	One week Flagger required during peak traffic hours only.

\* “Sidewalk diversion” and “Sidewalk detour” are defined in Figure 1.

† Acceptable only if TCP is deemed sufficient and approved by the City’s Traffic Engineer, or their designee.

**Figure 1: Sidewalk Detour and Sidewalk Diversion<sup>5</sup>**



<sup>5</sup> Caltrans Pedestrian Temporary Access Routes Handbook (2020): <https://dot.ca.gov/-/media/dot-media/programs/construction/documents/policies-procedures-publications/temp-ped-access-routes-handbook-2020-a11y.pdf>

## Bicyclist Accommodation

As with pedestrian facilities, bike lane closures should be avoided. Existing bike lanes must remain clear (minimum 5') unless the bike lane closure is specifically approved as part of a Temporary Traffic Control Plan (TCP) and a reasonable accommodation for an alternate bicycle path of travel is implemented, defined and prioritized below:

1. Closing a parking lane and keeping the adjacent bicycle lane open;
2. Shifting the bicycle lane to a location on the same roadway to bypass the work zone or obstruction, and if necessary, shifting and narrowing the adjacent motor vehicle traffic lanes; provided the adjacent motor vehicle travel lanes shall be maintained at no less than ten feet (10 ft.) wide;
3. Closing the adjacent motor vehicle travel lane to provide space for a bicycle lane, provided that a minimum of one (1) motor vehicle travel lane shall remain in the same direction of travel;
4. Merging the bicycle lane and the adjacent motor vehicle travel lane into a shared travel lane adjacent to the work zone or other obstruction, installing shared travel lane markings (sharrows) in the shared travel lane and installing signage directing bicyclists to merge into the shared travel lane; provided the shared travel lane shall be maintained at no less than fourteen feet (14 ft.) wide; and
5. As a last resort, detouring bicyclists onto an adjacent roadway, in which case the detour route shall be adequately signed and replicate, as closely as practicable, the level of safety found on the bicycle route being blocked.

**Note:** if a bike lane closure is needed, the alternate path of travel must be implemented at the same level of protection as the existing facility. For example, if an existing protected bike lane must be closed, then a temporary protected bike lane shall be provided.

Any TCP that identifies bike lane closures, detours, or other bike facility changes is subject to approval and shall address the following guidance:

1. Active bike lanes must remain clear (5' minimum). Signage, channelizing devices, barriers, and other equipment shall not be placed in active bike lanes or in locations that would block bicyclists' path of travel.
2. Bike lanes shall not be closed for construction activities unless the closure is documented and approved in a TCP.
3. TCPs shall indicate the length and duration of all bike lane closures.
4. Where bike lanes must be closed, advance notification and tapers shall be provided with sufficient length to allow bicyclists to merge into the adjoining travel lane in advance of the bike lane closure.
5. TCPs that include bike lane closures shall post construction zone speed limits of 25 mph or less.
6. All bicycle-related signage shall be as permanent as the other TTC signage in the construction zone.
7. If the TCP includes roadway striping, temporary bike lanes and/or sharrows shall be installed.
8. The City's Traffic Engineer, or their designee, shall review TCPs that include bikeway detours or bike lane closures of longer than one week.

Refer to temporary traffic control details for Multi-lane Roadway with Travel Lane Closure, Temporary Bike Lane, and Parking Lane Closure and Single-lane Roadway with Bike Lane Closure and Parking Lane Closure (attachments).

## Bus Stop Relocation or Closure

Temporary relocation of a bus or shuttle stop for construction activity requires written approval from AC Transit, Berkeley Lab, and/or Bear Transit, submitted at the time of a TCP submission. Temporary bus stops must also be approved by Public Works Traffic Engineering and must be noted on the TCP. Any parking obstruction, sidewalk obstruction, travel lane obstruction, or other accommodation required for the temporary bus stop shall be proposed through an Engineering Permit application at the sponsors' expense.

## Lane Closures

On multi-lane roadways, traffic lanes may be converted to a bike lane or pedestrian diversion, as specified in an approved TCP. Below is a set of guidance related to lane closures:

- As a general rule, no more than one lane fewer than the total lanes per direction may be closed. For example, a four-lane roadway with two lanes in each direction shall provide a minimum of one lane in each direction.
- Different guidance applies to lane closures on multi-lane one-way streets in downtown Berkeley. So long as a minimum of one travel lane remains open, the closure of two or more travel lanes may be approved upon request.
- The minimum width of a temporarily narrowed traffic lane is 10' (12' for streets serving AC Transit bus routes), clear of any obstructions, including traffic cones or delineators. Fire Department may have additional clear width requirements for emergency vehicle access.
- Existing left turn lanes shall be maintained. Left turn lanes should not be used for temporary through travel lanes.
- Completely closing any direction of traffic is generally not allowed. This includes any plan which allows one lane to be used for two directions of traffic ("Two-Way Flag Control"). An approved TCP is required to use "Two-Way Flag Control."
- When any movement is reduced to a single lane that includes left and through movements at an intersection, the TCP may need to prohibit the left turn movement to facilitate efficient traffic flow. The TCP should include a recommended detour of the left turn.

## Developing a Traffic Control Plan

Reflecting the above guidance in addition to the "Traffic Control Plan Preparation Guidelines", Traffic Control Plans shall be prepared by a certified traffic engineer. The proposed design and placement of the temporary traffic control signs, devices, and roadway markings shall be in compliance with the most recent edition of the CA MUTCD.

Subject to the conditions in Table 1, periodic full closures of streets and sidewalks may be approved. Note: the safe and reasonable flow of pedestrian and bicycle traffic is to be maintained in preference to construction activities and the flow of construction vehicles. If periodic full closures are necessary and anticipated, the construction sponsor shall indicate the following within the TCP, subject to approval:

1. The proposed location of flaggers or spotters to be posted at each end of the closed pedestrian or cycle route for the entire duration of time the intermittent closure is in place; and
2. The times of day when intermittent closure may occur; and
3. Acknowledgement that advance notice to Public Works Traffic Engineering, Berkeley Police Department, and emergency services is required for each full closure, subject to fine and/or revocation of the Engineering Permit.

## Display of Permitted Temporary Traffic Control Plan

After an obstruction permit and TCP is approved and before commencing any activities that result in the blockage of a pedestrian or bicycle facility, construction sponsors must display a copy of the Engineering Permit at a prominent, publicly accessible location near the construction site entrance. Additionally, the following information must be simultaneously displayed:

1. The range of dates during which the permit is valid;
2. The name and contact information of the party requesting the permit;
3. A clear description of the approved temporary traffic control plan
4. A Berkeley Public Works Traffic Engineering phone number and email address to direct questions, comments, and concerns regarding the blockage.

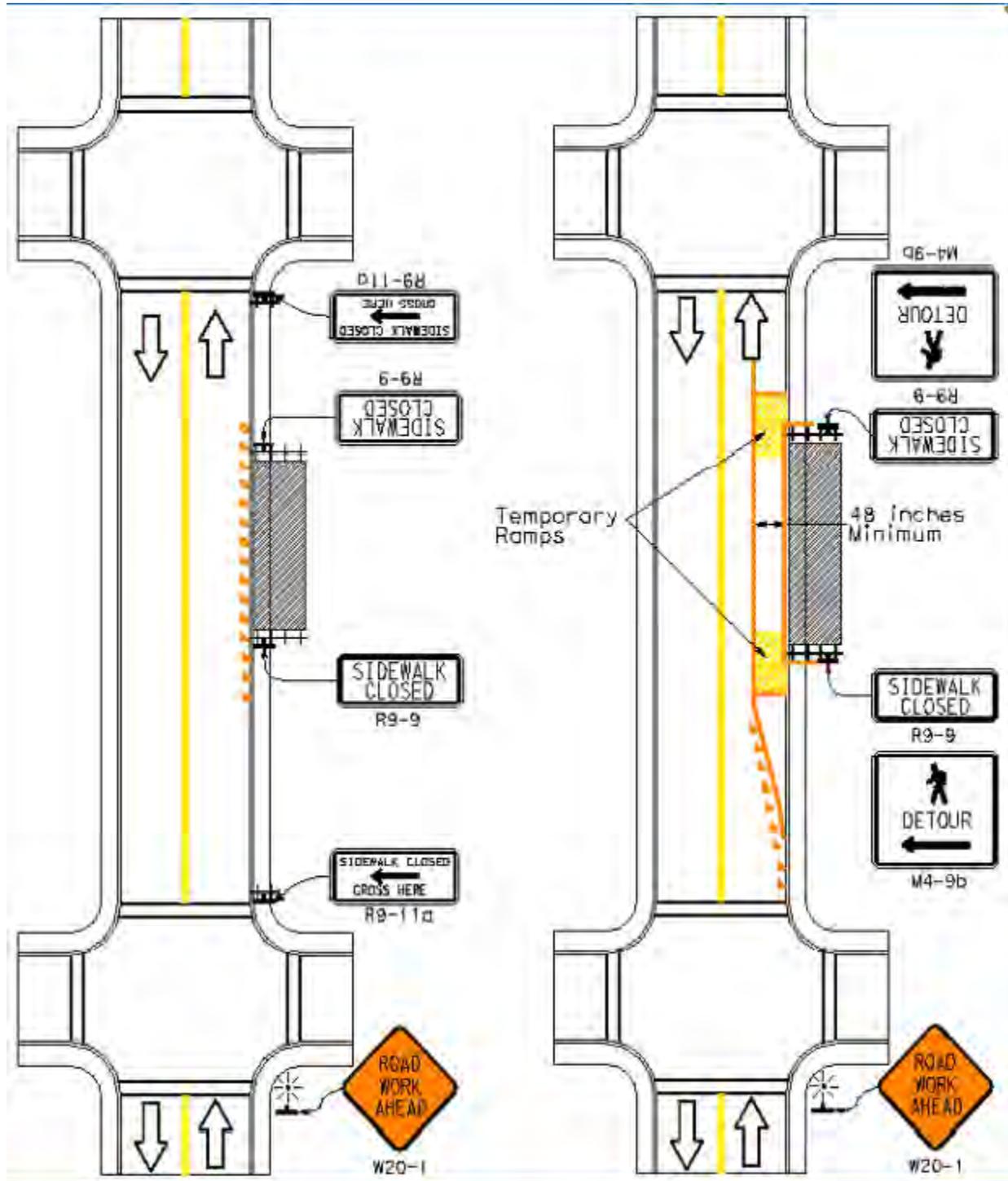
## Planning Appropriately for Temporary Traffic Control Plan Review

Every reasonable effort should be made to avoid and minimize construction impacts on pedestrian, bicycle, and bus facilities in Berkeley. As such, construction sponsors for land use development projects may elect to propose and receive feedback on preliminary plans for temporary traffic control within a land use development planning application. At minimum, construction sponsors should submit TCP proposals 60 days before desired construction start date.

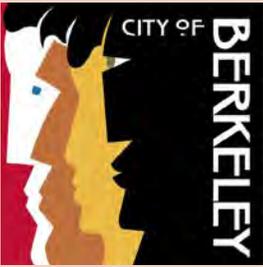
## Attachments

- *Figure 1: Sidewalk Detour and Sidewalk Diversion*
- *Pedestrian Access During Construction Projects*
- *Detail TTC-1: Multi-lane Roadway with Travel Lane Closure, Temporary Bike Lane, and Parking Lane Closure*
- *Detail TTC-2: Single-lane Roadway with Bike Lane Closure and Parking Lane Closure*
- *Signs: Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures*

**Figure 1: Sidewalk Detour and Sidewalk Diversion<sup>6</sup>**



<sup>6</sup> Caltrans Pedestrian Temporary Access Routes Handbook (2022): <https://dot.ca.gov/-/media/dot-media/programs/construction/documents/policies-procedures-publications/temp-ped-access-routes-handbook-2020-a11y.pdf>



## Public Works Engineering

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.

Please note: City of Berkeley Engineers may stop work when any hazardous conditions are present.

**Permit Service Center**  
1947 Center St. 3<sup>rd</sup> floor  
Berkeley, CA 94704  
510-981-7500 TTY 6903  
[permits@cityofberkeley.info](mailto:permits@cityofberkeley.info)

# PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS

## MAINTENANCE OF A CLEAR AND ACCESSIBLE PEDESTRIAN CORRIDOR

*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.*

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 within 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.

Temporary closure of designated pedestrian routes and crossings shall be allowed only when flaggers are present and safely directing pedestrians around hazards.

## TEMPORARY RAMPS CONFORMING TO ACCESSIBILITY STANDARDS

*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.*

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 maximum slope of 8%.

Ramps shall snugly meet existing surfaces without gaps for drainage as required.

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.

## CONSTRUCTION OF SIGNPOSTS, BARRICADES AND FENCING

*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.*

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.

## IDENTIFICATION OF SAFE PATH OF TRAVEL

*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.*

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.

## SURFACING OF PEDESTRIAN CORRIDORS

*During construction, tripping hazards and barriers for people with mobility impairments must be removed to maintain an accessible pedestrian corridor.*

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.

## RESTORATION OF PEDESTRIAN ROUTES

*After construction, the site shall be returned to its former condition, or new condition as required.*

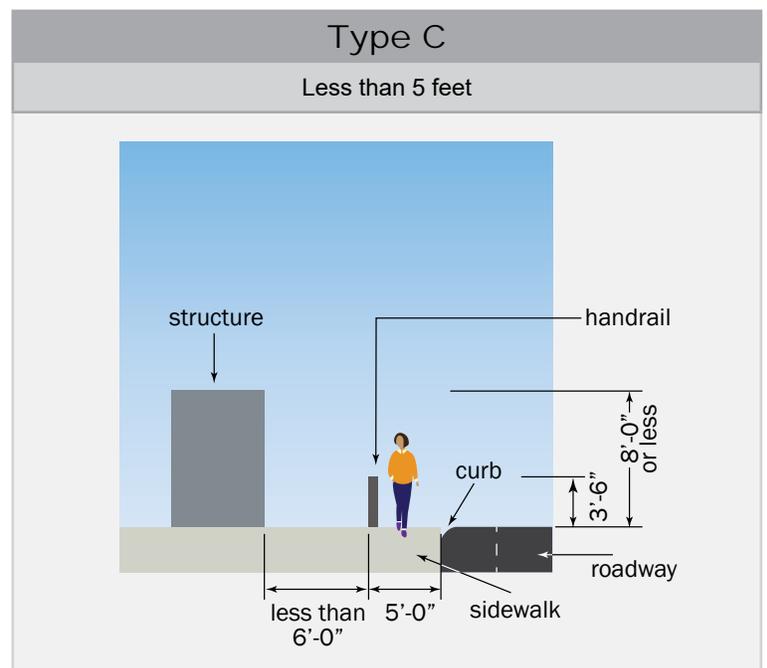
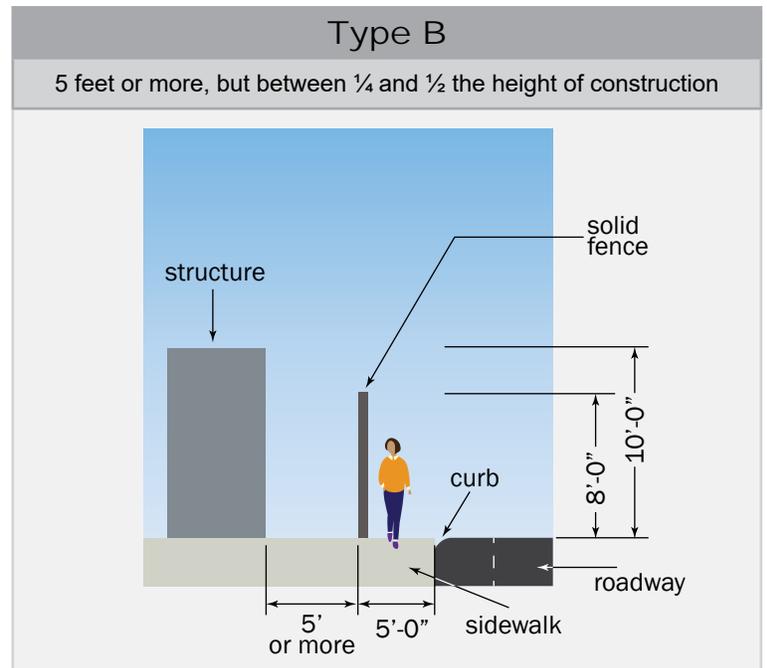
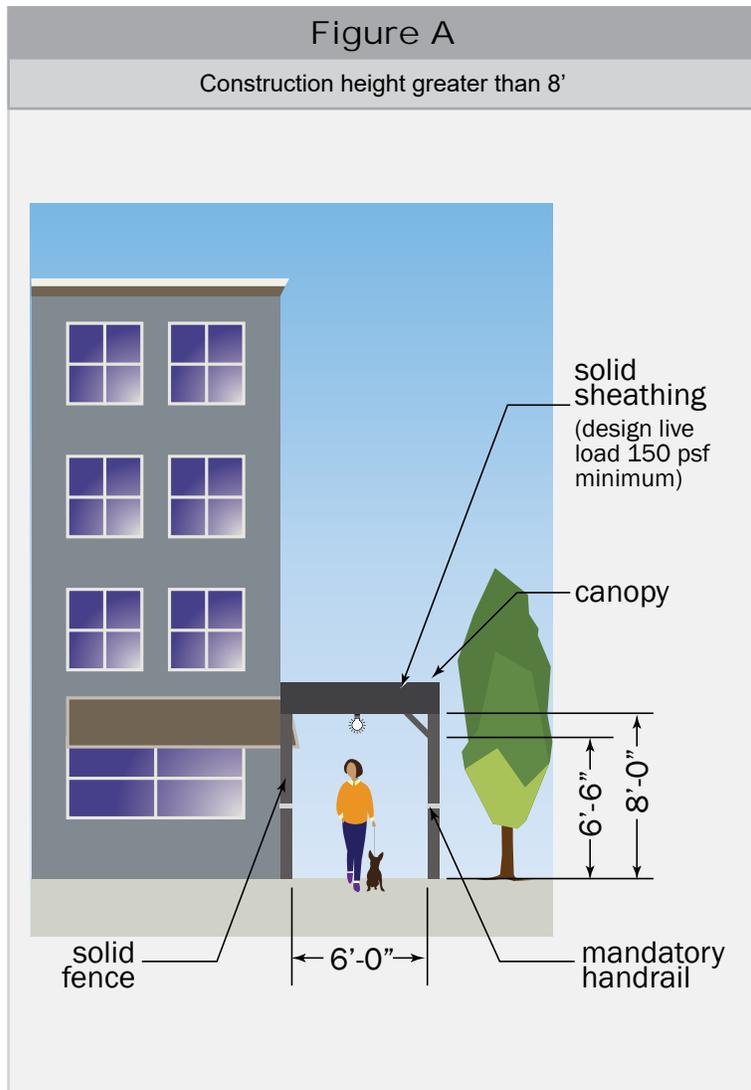
Temporary ramps shall be removed as soon as construction and approval of permanent ramp is completed.

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.

TABLE 3306.1 PROTECTION OF PEDESTRIANS

Height of Construction	Distance from Construction to Lot Line	Type of Protection Required
8 feet or less	Less than 5 feet	Construction Railings (see Figure C)
	5 feet or more	None
More than 8 feet	Less than 5 feet (see Figure A)	Barrier and covered walkway
	5 feet or more, but not more than ¼ the height of construction	Barrier and covered walkway
	5 feet or more, but between ¼ and ½ the height of construction	Barrier (see Figure B)
	5 feet or more, but exceeding ½ the height of construction	None



## 3306.2 WALKWAYS

A walkway shall be provided for pedestrian travel in front of every construction and demolition site unless the applicable governing authority authorizes the sidewalk to be fenced or closed. Walkways shall be of sufficient width to accommodate the pedestrian traffic, but in no case shall they be less than 4 feet (1219 mm) in width. Walkways shall be provided with a durable walking surface. Walkways shall be accessible in accordance with Chapter 11 and shall be designed to support all imposed loads and in no case shall the design live load be less than 150 pounds per square foot (psf) (7.2 kN/m<sup>2</sup>).

## 3306.3 DIRECTIONAL BARRICADES

Pedestrian traffic shall be protected by a directional barricade where the walkway extends into the street. The directional barricade shall be of sufficient size and construction to direct vehicular traffic away from the pedestrian path.

## 3306.4 CONSTRUCTION RAILINGS

Construction railings shall be not less than 42 inches (1067 mm) in height and shall be sufficient to direct pedestrians around construction areas.

## 3306.5 BARRIERS

Barriers shall be not less than 8 feet (2438 mm) in height and shall be placed on the side of the walkway nearest the construction. Barriers shall extend the entire length of the construction site. Openings in such barriers shall be protected by doors that are normally kept closed.

## 3306.6 BARRIER DESIGN

*Barriers shall be designed to resist loads required in Chapter 16 unless constructed as follows:*

Barriers shall be provided with 2-inch by 4-inch (51 mm by 102 mm) top and bottom plates.

The barrier material shall be boards not less than 3/4-inch (19.1 mm) thick or wood structural panels not less than 1/4-inch (6.4 mm) thick.

Wood structural use panels shall be bonded with an adhesive identical to that for exterior wood structural use panels.

Wood structural use panels 1/4 inch (6.4 mm) or 5/16-inch (23.8 mm) in thickness shall have studs spaced not more than 2 feet (610 mm) on center.

Wood structural use panels 3/8 inch (9.5 mm) or 1/2 inch (12.7 mm) in thickness shall have studs spaced not more than 4 feet (1219 mm) on center provided a 2-inch by 4-inch (51 mm by 102 mm) stiffener is placed horizontally at mid-height where the stud spacing is greater than 2 feet (610 mm) on center.

Wood structural use panels 5/8 inch (15.9 mm) or thicker shall not span over 8 feet (2438 mm).

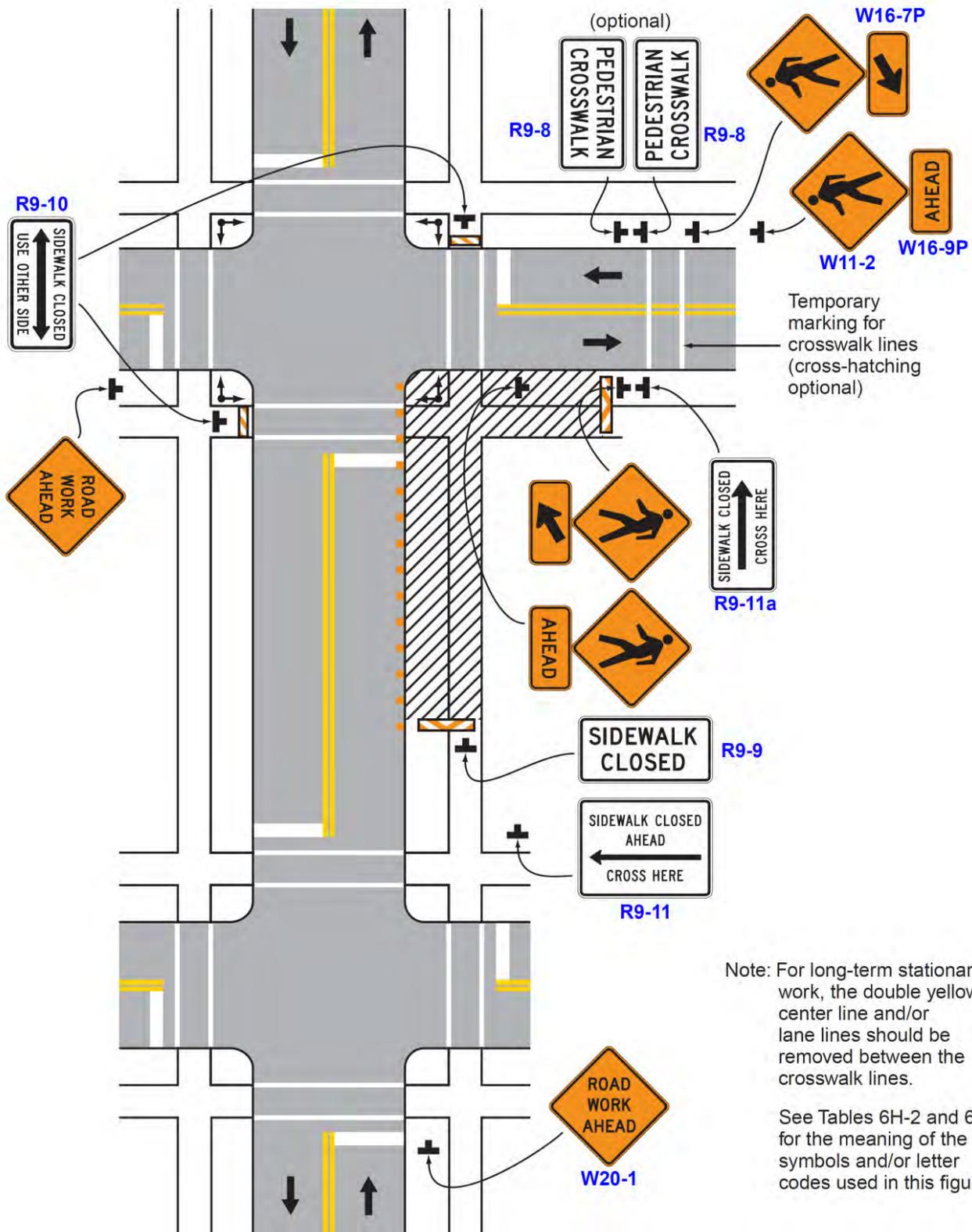
Check One:      Contractor      Owner      Owner's Agent

Name

Signature

Date

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)

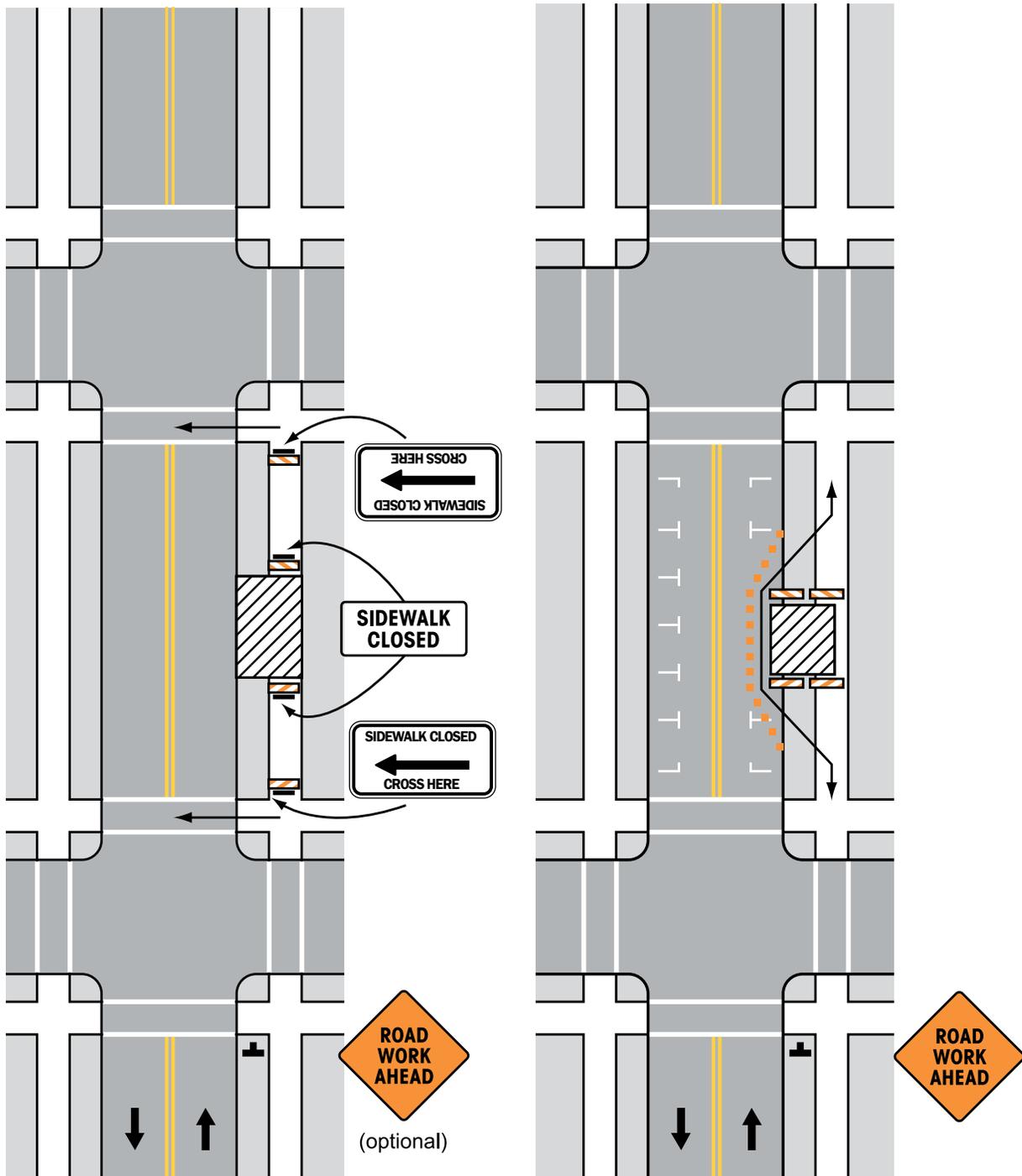


Note: For long-term stationary work, the double yellow center line and/or lane lines should be removed between the crosswalk lines.

See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 29

Figure 6H-28. Sidewalk Detour or Diversion (TA-28)

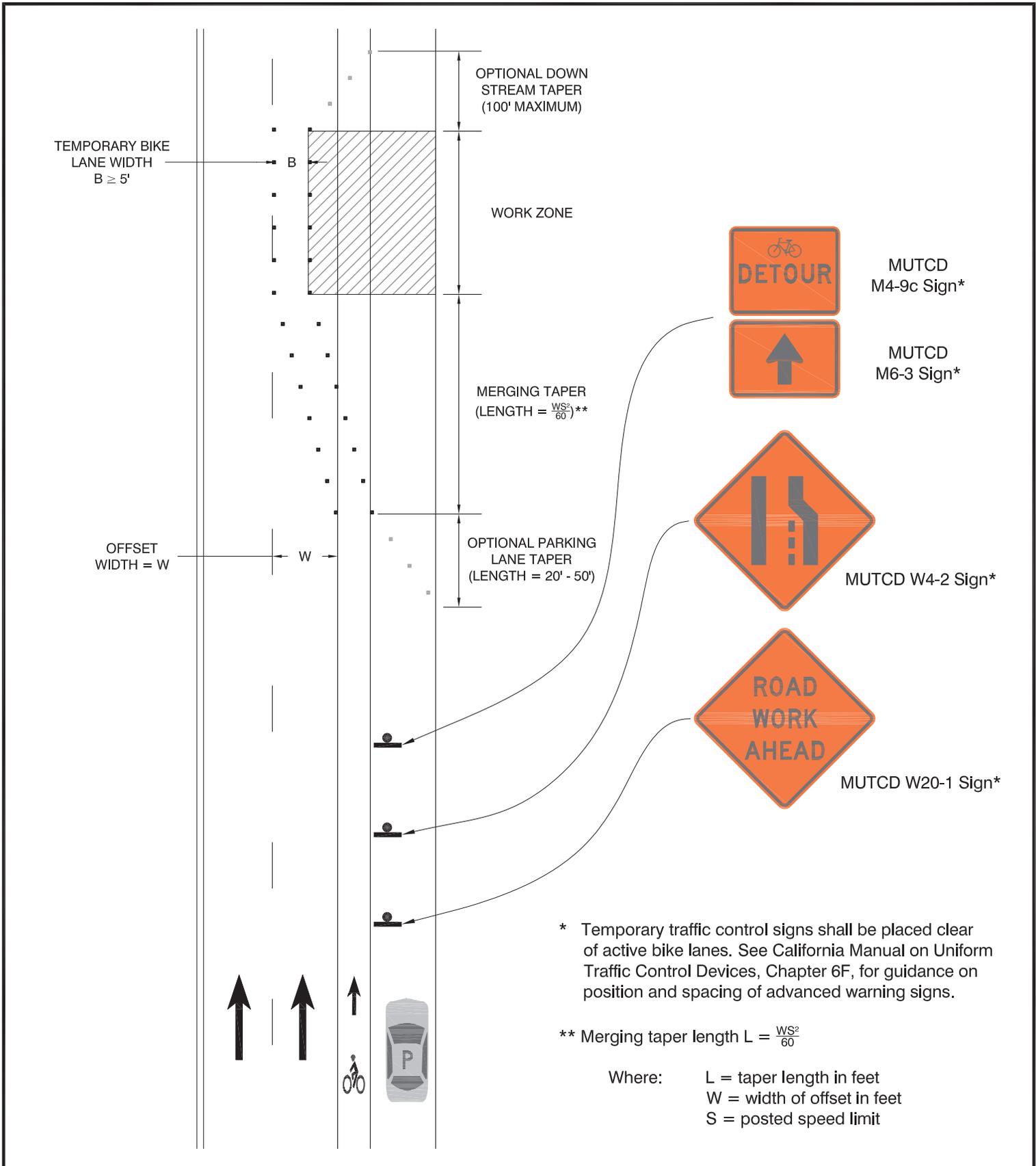


SIDEWALK DETOUR

SIDEWALK DIVERSION

Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.



# CITY OF OAKLAND

BUREAU OF ENGINEERING AND CONSTRUCTION  
BICYCLE FACILITIES PROGRAM  
250 FRANK H. OGAWA PLAZA, SUITE 4344 \* OAKLAND CA, 94612  
(510) 238-3466 \* FAX (510) 238-7415

## MULTI-LANE ROADWAY WITH TRAVEL LANE CLOSURE, TEMPORARY BIKE LANE, AND PARKING LANE CLOSURE

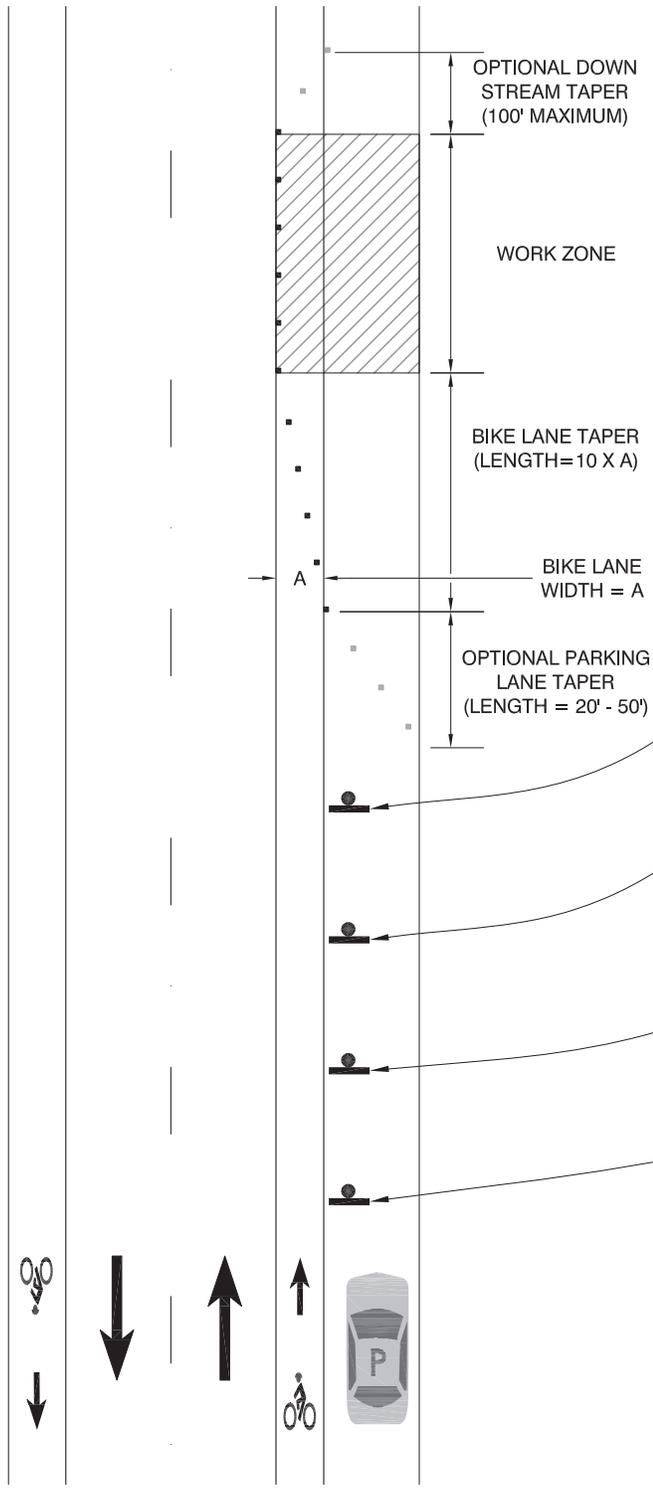
### TEMPORARY TRAFFIC CONTROL DETAILS

SCALE: NOT TO SCALE

DWG. NO.

TTC-1

DATE: OCT 2016



MUTCD R4-11 Sign\*  
(Black on Orange)



Modified  
MUTCD W20-5 Sign\*



MUTCD C17(CA) Sign\*



MUTCD W20-1 Sign\*

\* Temporary traffic control signs shall be placed clear of active bike lanes. See California Manual on Uniform Traffic Control Devices, Chapter 6F, for guidance on position and spacing of advanced warning signs.



# CITY OF OAKLAND

BUREAU OF ENGINEERING AND CONSTRUCTION  
BICYCLE FACILITIES PROGRAM  
250 FRANK H. OGAWA PLAZA, SUITE 4344 \* OAKLAND CA, 94612  
(510) 238-3466 \* FAX (510) 238-7415

## SINGLE-LANE ROADWAY WITH BIKE LANE CLOSURE AND PARKING LANE CLOSURE

### TEMPORARY TRAFFIC CONTROL DETAILS

SCALE: NOT TO  
SCALE

DWG. NO.

TTC-2

DATE: OCT 2016

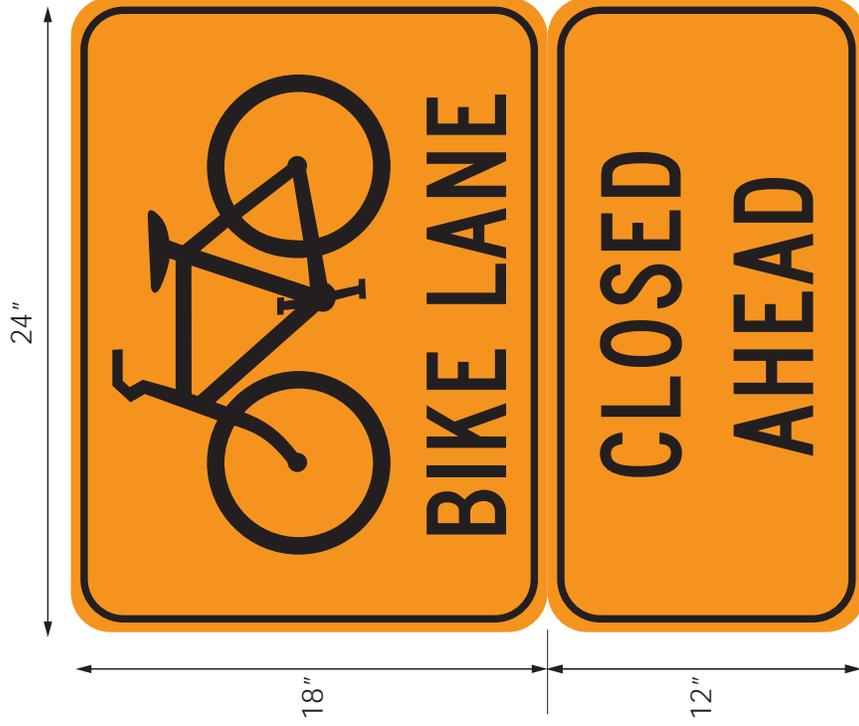


## City of Oakland, Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures

### Assemblies for Long-Term Bike Lane Closures

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.

R81/Custom Supplemental "CLOSED AHEAD" Plaque  
• 3" letter height, all CAPS



R81/Custom Supplemental "CLOSED" Plaque  
• 3" letter height, all CAPS





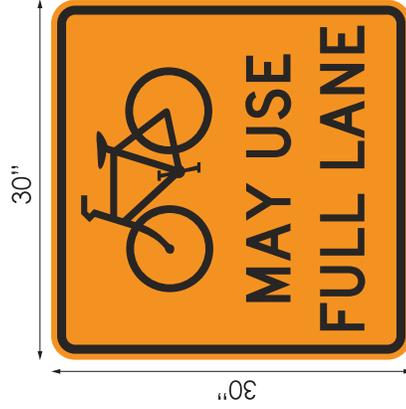
## City of Oakland, Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures

### Assemblies for Streets Without Bike Lanes

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.

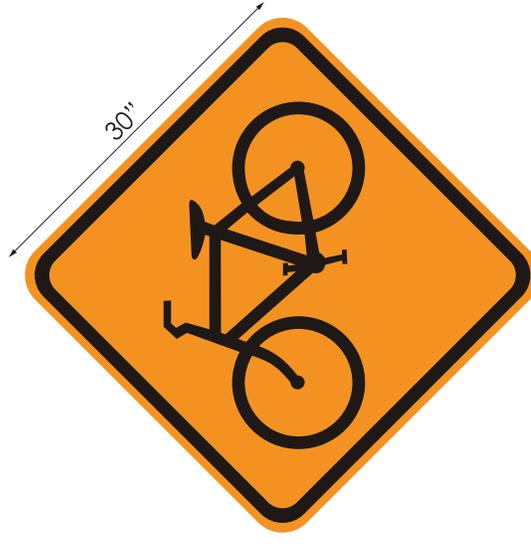
#### R4-11 (BIKES MAY USE FULL LANE)

- Use: roads with two or more lanes per direction
- 4" letter height, all CAPS



#### W11-1 (bike warning) / W16-1 (SHARE THE ROAD) assembly

- Use: roads with one lane per direction
- W16-1: 5" letter height, all CAPS





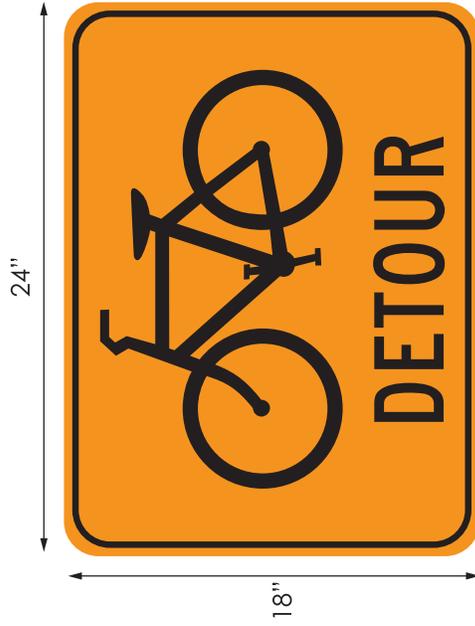
# City of Oakland, Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures

## Blade Layout Details

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.

### D11-1

- 3" letter height, CAPS



### M4 series

- 3" letter height, CAPS



### S17 (CA)

- 2.5" letter height, CAPS  
(example route name shown)

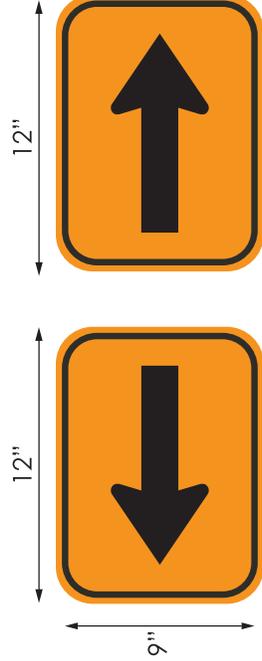


### D1-1b

- 24" wide, 6" high (one-line);  
10" high (two-line, not shown)
- 2" letter height, Title Case  
(example text shown)



### M7-1 (L/R)

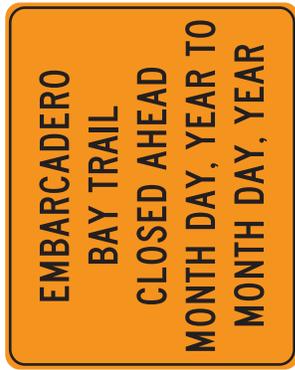




## City of Oakland, Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures

### Example Assemblies for Bikeway Detours \*

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.



- 30" wide; height varies based on content
- Min 2.5 letter height, all CAPS

A



- 24" wide x 36" high

B



- 24" wide x 33" high

C



- 24" wide x 30" high

D



- 24" wide x 30" high

E

\* Example assemblies shown above are from a project-specific detour. Assemblies will vary by project.

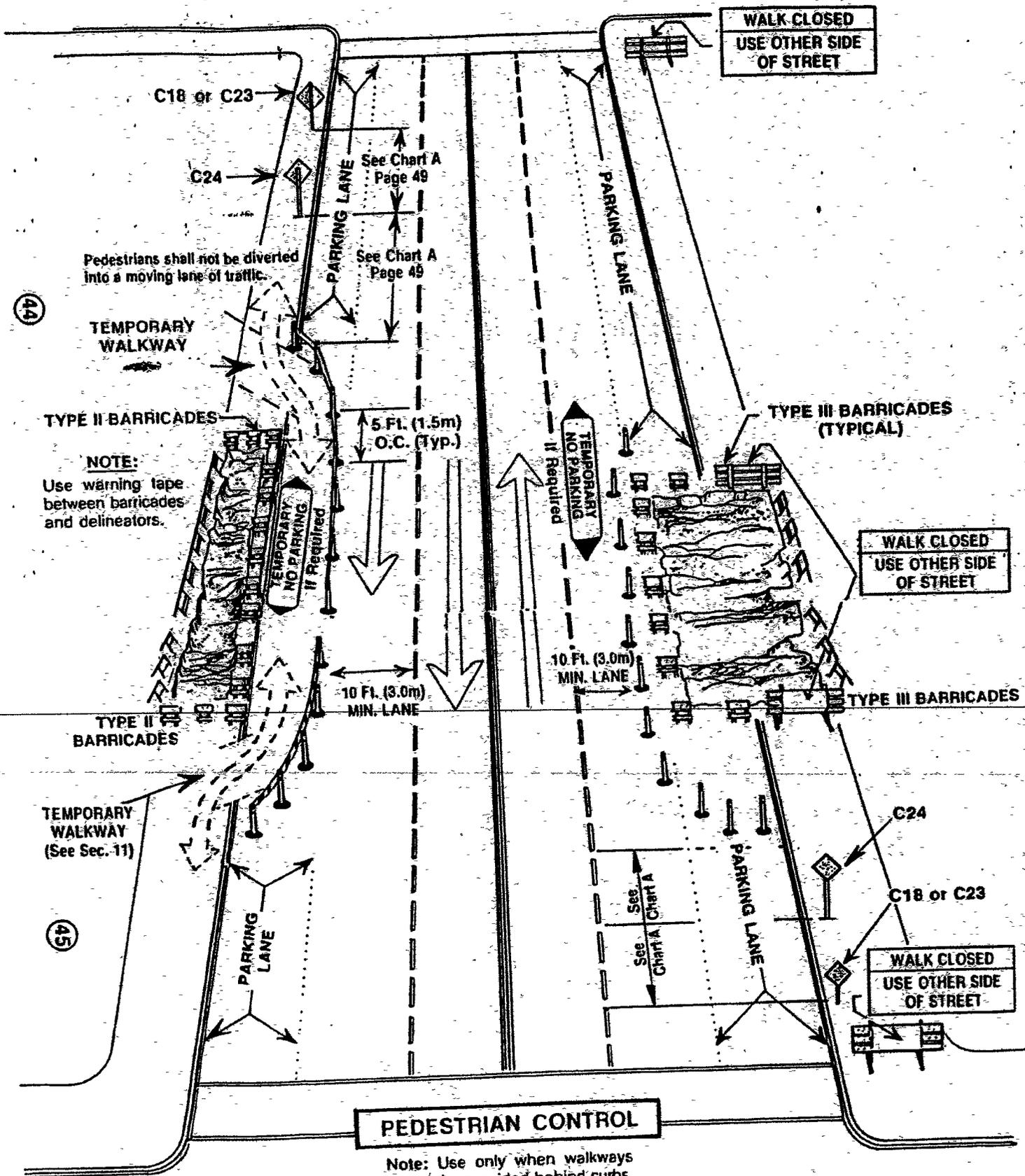


# PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS

- ◆ **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><b>MAINTENANCE OF A CLEAR AND ACCESSIBLE PEDESTRIAN CORRIDOR</b>  <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"> <li>• 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.</li> <li>• Accessible pedestrian corridor shall connect with facilities throughout the project area.</li> <li>• Equipment, debris, construction materials or vehicles shall not obstruct the corridor.</li> <li>• No parked vehicles can obstruct blue curb parking spaces unless permitted by the City.</li> <li>• Temporary closure of designated pedestrian routes and crossings shall be allowed only when flaggers are present and safely directing pedestrians around hazards.</li> </ul>	<p><b>TEMPORARY RAMPS CONFORMING TO ACCESSIBILITY STANDARDS</b>  <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"> <li>• Temporary ramps shall be constructed so installation and removal will not damage existing pavement, curb and/or gutter.</li> <li>• Ramps shall have a minimum 4' wide walking surface and a slope not to exceed 8%.</li> <li>• Ramps shall snugly meet existing surfaces without gaps. When required for drainage</li> <li>• Schedule 40 PVC pipe minimum 2" diameter shall be installed through ramp.</li> <li>• Transitions between ramps and the street surface shall be smooth such that no lip exists at the base of the ramp.</li> <li>• Sides of a ramp shall be protected where there is any drop-off.</li> </ul>
<p><b>CONSTRUCTION OF SIGNPOSTS, BARRICADES AND FENCING</b>  <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"> <li>• 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.</li> <li>• Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade.</li> <li>• Fencing material requires a minimum 3" height, solid, uninterrupted toe-board.</li> <li>• Signposts, scaffolding and fencing supports shall be placed entirely outside the pedestrian path of travel, minimum 4' wide and 80" high without obstruction.</li> <li>• Construction barriers shall be maintained in a sound, neat and clean condition.</li> </ul>	<p><b>IDENTIFICATION OF SAFE PATH OF TRAVEL</b>  <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"> <li>• 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.</li> <li>• Pedestrian access corridors shall be clearly delineated with cones or barricades, as approved by the Engineer.</li> <li>• 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.</li> <li>• Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade</li> </ul>
<p><b>SURFACING OF PEDESTRIAN CORRIDORS</b>  <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"> <li>• Any change of level, which exceeds 1/4" height, must be beveled at 45°.</li> <li>• Closed trenches, temporary paving surfaces, walking surfaces, steel plates; etc. shall have a smoothly finished, firm walking surface made even w/surrounding walkways.</li> <li>• Aisle or loading area adjacent to a parking space is part of the pedestrian corridor.</li> </ul>	<p><b>RESTORATION OF PEDESTRIAN ROUTES</b>  <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"> <li>• Temporary ramps shall be removed as soon as construction and approval of permanent ramp is completed.</li> <li>• After work is completed, surface of the pedestrian path shall be restored free from all ridges, gaps, bumps and rough edges.</li> <li>• Construction that affects existing curb ramp shall include replacement or repair of the curb ramp to meet current City standards.</li> </ul>

**PLEASE NOTE: City of Berkeley Engineers may stop work when any hazardous conditions are present.**



Note: Use only when walkways cannot be provided behind curbs.

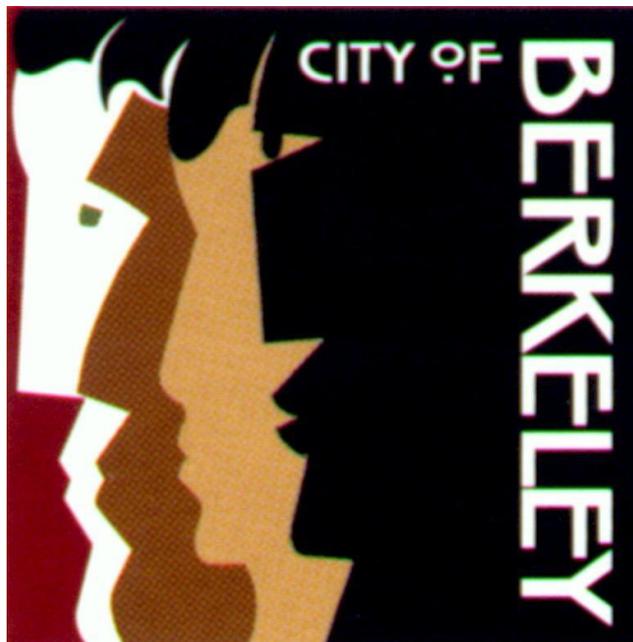
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## **APPENDIX C**

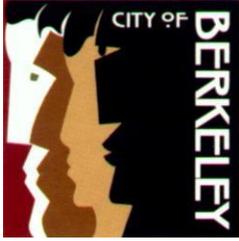
### **CITY OF BERKELEY MONUMENT REFERENCE GUIDELINES**

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# **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**

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**CITY OF BERKELEY STREET REHAB PLAN 8305 SPEC 26-11763-C MONUMENTS TO BE REFERENCED**

DESIGNATION	DESCRIPTION	ELEVATION (Berkeley Datum)	LOCATION (Street Intersection or Nearest Address)	
<b><u>MONUMENTS TO BE REFERENCED BOTH HORIZONTALLY AND VERTICALLY: (note: Elevations of 5000.00 are assumed elevations)</u></b>				
1	B0106	BPCM2	5000.00	Acton Street / Ashby Avenue (see plan 8305 sheet 3)
2	B0140	IBCM10sq	63.87	Acton Street / Burnette Street (see plan 8305 sheet 3)
3	B0152	BDCM16P-CoB	60.90	Acton Street / Russell Street (see plan 8305 sheets 3 & 7)
4	B1962	BDCM16P-CoB	61.89	Acton Street / Russell Street (see plan 8305 sheets 3 & 7)
5	B0107	BPCM2	5000.00	Dohr Street / Ashby Avenue (see plan 8305 sheet 5)
6	B0151	BDCM16P-CoB	58.25	Russell Street / Park Street (see plan 8305 sheet 7)
7	B0899	BPCM3P	5000.00	Oregon Street west of Sacramento Street (see plan 8305 sheet 8)
8	B0842	BPCM2	5000.00	Oregon Street / Sacramento Street (see plan 8305 sheet 8)
9	B0856	BDCM16P-RESET2025	NA	Harmon Street / Sacramento Street (see plan 8305 sheet 9)
10	B0013	BDCM21P	73.08	Harmon Street / California Street (see plan 8305 sheet 9)
11	B0016	BPCM2	99.15	Harmon Street / Adeline Street (see plan 8305 sheet 10)
12	B0008	BDCM16P-RESET2025	NA	Alcatraz Avenue / Sacramento Street (see plan 8305 sheet 11)
13	B0007	BPCM2	69.72	Alcatraz Avenue / California Street (see plan 8305 sheet 11)
14	B0006	BPCM2	83.62	Alcatraz Avenue / King Street (see plan 8305 sheet 12)
15	B0434	BPCM2	84.10	Alcatraz Avenue / King Street (see plan 8305 sheet 12)
16	B0004	BPCM2	95.37	Alcatraz Avenue / Adeline Street (see plan 8305 sheet 12)
17	B0869	BDCM11P	5000.00	Alcatraz Avenue / Adeline Street (see plan 8305 sheet 12)
18	B0463	BDCM16P-CoB	8.43	Addison Street / Second Street (see plan 8305 sheet 14)
19	B0884	BPCM2	13.89	Addison Street / Fourth Street (see plan 8305 sheet 14)
20	B0464	IPCM6	15.25	Addison Street / Fifth Street (see plan 8305 sheet 15)
21	B0466	BDCM16P-CoB	5000.00	Addison Street / Eighth Street (see plan 8305 sheet 15)
22	B0467	BDSM17P-DoT	47.70	Addison Street / San Pablo Avenue (see plan 8305 sheet 16)
23	B0983	BPCM3	47.91	Addison Street / San Pablo Avenue (see plan 8305 sheet 17)
24	B0469	BPCM3	53.37	Addison Street / Byron Street (see plan 8305 sheet 17)
25	B1682	BDCM16P-CoB	5000.00	Solano Avenue / Tulare Avenue (see plan 8305 sheet 18)
26	B1679	BDCM16P-CoB	5000.00	Solano Avenue / Ensenada Avenue (see plan 8305 sheet 18)
27	B2409	BDCM16P-CoB	5000.00	Solano Avenue / Ensenada Avenue (see plan 8305 sheet 18)
28	B1681	BDCM16P-CoB	5000.00	Solano Avenue / Modoc Street (see plan 8305 sheet 19)
29	B2399	BDCM16P-CoB	5000.00	Solano Avenue / Colusa Avenue (see plan 8305 sheet 19)
30	B1678	BDCM16P-CoB	5000.00	Solano Avenue / Colusa Avenue (see plan 8305 sheets 19 & 24)
31	B1680	BDCM16P-CoB	203.84	Solano Avenue / Fresno Avenue (see plan 8305 sheet 19)
32	B1677	BDCM16P-CoB	216.30	Solano Avenue / The Alameda (see plan 8305 sheets 20 & 28)
33	B2195	BDCM16P-CoB_CurbRamp	217.77	Solano Avenue / The Alameda (see plan 8305 sheets 20 & 28)
34	B1378	BPCM5_Trflsl	258.61	Northbrae Tunnel / Del Norte Street (see plan 8305 sheet 22)

35	B1661	IPCM	5000.00	933 Colusa Ave (see plan 8305 sheet 24)
36	B3051	BDEBMUDM_PS	5000.00	planter strip at Colusa Ave. / Marin Ave. (see plan 8305 sheets 24 & 25)
37	B3053	X_NEcurb	5000.00	NE curb at Colusa Avenue / Marin Avenue (see plan 8305 sheets 24 & 25)
38	B3054	X_SWcurb	5000.00	SW curb at Colusa Avenue / Marin Avenue (see plan 8305 sheets 24 & 25)
39	B3056	BPEBMUDM4sqP_curbf	5000.00	curb at Colusa Avenue / Marin Avenue (see plan 8305 sheets 24 & 25)
40	B1670	BPCM2_Sswk	166.51	sidewalk at 1732 Marin Avenue (see plan 8305 sheet 25)
41	B3334	BDCM16P-CoB_Sswk	172.92	sidewalk at 1740 Marin Avenue (see plan 8305 sheet 25)
42	B1671	BPCM2_Sswk	176.34	sidewalk at 1748 Marin Avenue (see plan 8305 sheet 25)
43	B3058	BPEBMUDM4sqP	5000.00	planter strip at 1825 Marin Avenue (see plan 8305 sheet 26)
44	B3059	BPEBMUDM4sqP_curbf	5000.00	south curb at Fresno Avenue / Marin Avenue (see plan 8305 sheet 26)
45	B3060	BPEBMUDM4sqP_curbf	5000.00	north curb at Fresno Avenue / Marin Avenue (see plan 8305 sheet 26)
46	B3061	X_SWcurb	5000.00	south curb at Fresno Avenue / Marin Avenue (see plan 8305 sheet 26)
47	B1672	BPCM2_Wswk	236.11	sidewalk at 1000 The Alameda (see plan 8305 sheet 26)
48	B1620	BDCM16P-CoB	242.96	Monterey Avenue / The Alameda (see plan 8305 sheet 26)
49	B1392	BPCM2_SEswk	5000.00	sidewalk at 1912 Monterey Avenue (see plan 8305 sheet 26)
50	B2328	X_SEcurb	5000.00	curb at 1912 Monterey Avenue (see plan 8305 sheet 26)
51	B2329	CTX_SEcurb	257.19	curb at 1928 Monterey Avenue (see plan 8305 sheet 26)
52	B1386	BPCM3_Nswk	251.38	sidewalk at 1915 Marin Avenue (see plan 8305 sheet 26)
53	B1387	BDCM16P-CoB_Nswk	296.06	sidewalk at 1973 Marin Avenue (see plan 8305 sheet 27)
54	B3609	N&Tag-LS5530_Ncurb	296.04	curb at 1973 Marin Avenue (see plan 8305 sheet 27)
55	B3610	CTX_Scurb	295.90	curb at 1976 Marin Avenue (see plan 8305 sheet 27)
56	B2196	BDCM16P-CoB	221.06	The Alameda / Los Angeles Avenue (see plan 8305 sheet 28)
57	B1385	BDCM16P-CoB_swkF	5000.00	sidewalk at The Alameda / Los Angeles Avenue (see plan 8305 sheet 28)
58	B1688	BPCM2_Wswk	226.03	sidewalk at 958 The Alameda (see plan 8305 sheet 28)
59	B1689	BPCM2_Wswk	235.06	sidewalk at 1110 The Alameda (see plan 8305 sheet 29)
60	B2339	CTX_Ecurb	5000.00	curb at 1109 The Alameda (see plan 8305 sheet 29)
61	B2340	CTX_Wcurb	5000.00	curb at 1110 The Alameda (see plan 8305 sheet 29)
62	B1285	BDCM16P-CoB_CurbRamp	224.70	curb ramp at The Alameda/El Dorado Avenue (see plan 8305 sheet 29)
63	B1690	BPCM2_Wswk	206.93	sidewalk at 1144 The Alameda (see plan 8305 sheet 29)
64	B3071	ANWEBMUDM-AQ-PI-RP	5000.00	curb at The Alameda / Hopkins Street (see plan 8305 sheets 29)
65	B3073	BPEBMUDM4sqP_Wcurbf	5000.00	curb at 1200 The Alameda (see plan 8305 sheet 29)
66	B0839	BDCM16P-CoB	102.86	Sacramento Street / Berkeley Way (see plan 8305 sheet 30)
67	B2151	BDCM16P-CoB	104.98	Sacramento Street / Berkeley Way (see plan 8305 sheet 30)
68	B3632	X_Eswk	5000.00	Sacramento Street / Berkeley Way (see plan 8305 sheet 30)
69	B0840	BPCM2	104.46	Sacramento Street / Hearst Avenue (see plan 8305 sheet 30)
70	B0526	BDCM16P-CoB	5000.00	Sacramento Street / Hearst Avenue (see plan 8305 sheet 30)
71	B0549	BDCM16P-CoB	109.91	Sacramento Street / Delaware Street (see plan 8305 sheet 30)
72	B2152	BDCM11P_Psflush	112.42	planter strip at Sacramento St. / Delaware St. (see plan 8305 sheet 30)
73	B0572	BPCM2	106.31	Sacramento Street / Francisco Street (see plan 8305 sheet 30)
74	B0901	BPCM2	108.12	Sacramento Street / Francisco Street (see plan 8305 sheets 30 & 33)
75	B0594	BDCM16P-RESET2025	108.63	Sacramento Street / Virginia Street (see plan 8305 sheet 31)

76	B0887	BDCM16P-RESET2025	110.01	Sacramento Street / Virginia Street (see plan 8305 sheet 31)
77	B0619	BDCM16P-CoB	104.03	Sacramento Street / Lincoln Street (see plan 8305 sheet 31)
78	B0632	BDCM16P-CoB	101.64	Sacramento Street / Cedar Street (see plan 8305 sheet 31)
79	B0704	BDCM21P	123.88	Sacramento Street / Rose Street (see plan 8305 sheet 31)
80	B0735	BDCM21P	119.38	Sacramento Street / Ada Street (see plan 8305 sheet 32)
81	B0778	BPCM3	109.27	Sacramento Street / Hopkins Street (see plan 8305 sheet 32)
82	B0571	IPCM5sq	121.12	Francisco Street / California Street (see plan 8305 sheet 33)
83	B0570	IPCM4sq	137.87	Francisco Street / McGee Avenue (see plan 8305 sheet 34)
84	B0569	IPCM5sq	155.85	Francisco Street / Grant Street (see plan 8305 sheet 34)
85	B0568	BPCM3	184.14	Francisco Street / M.L.K. Jr. Way (see plan 8305 sheets 35 & 39)
86	B0114	BPCM2	108.04	M.L.K. Jr. Way / Ashby Avenue (see plan 8305 sheet 36)
87	B0381	BPCM3P	138.94	M.L.K. Jr. Way / Channing Way (see plan 8305 sheet 37)
88	B0442	BDCM16P-CoB	5000.00	M.L.K. Jr. Way / Allston Way (see plan 8305 sheet 38)
89	B0482	BDCM16P-CoB	156.08	M.L.K. Jr. Way / Addison Street (see plan 8305 sheet 38)
90	B0517	BPCM2	167.30	M.L.K. Jr. Way / Berkeley Way (see plan 8305 sheet 38)
91	B0522	BDCM16P-CoB	172.57	M.L.K. Jr. Way / Hearst Avenue (see plan 8305 sheet 42)
92	B3548	BDBARTM21C-RB17_Eswk	175.93	sidewalk at 1805 M.L.K. Jr. Way (see plan 8305 sheet 39)
93	B0553	BPCM2	176.72	M.L.K. Jr. Way / Delaware Street (see plan 8305 sheet 39)
94	B0599	BPCM3	183.81	M.L.K. Jr. Way / Virginia Street (see plan 8305 sheet 39)
95	B0639	BPCM2	191.34	M.L.K. Jr. Way / Cedar Street (see plan 8305 sheet 40)
96	B0672	BPCM2	193.05	M.L.K. Jr. Way / Vine Street (see plan 8305 sheet 40)
97	B0713	BPCM2	189.99	M.L.K. Jr. Way / Rose Street (see plan 8305 sheet 40)
98	B0733	BPCM2	215.40	M.L.K. Jr. Way / Berryman Street (see plan 8305 sheet 41)
99	B3331	BDCM16P-CoB	5000.00	Thousand Oaks Blvd. / The Alameda (see plan 8305 sheet 43)
100	B2475	BPCM3	304.38	at 1811 Thousand Oaks Blvd. (see plan 8305 sheet 43)
101	B2476	BPCM3	344.25	at 1863 Thousand Oaks Blvd. (see plan 8305 sheet 44)
102	B3021	BDCM16P-CoB	348.47	Thousand Oaks Blvd. / San Fernando Avenue (see plan 8305 sheet 44)
103	B1243	BPCM3	341.83	at 1915 Thousand Oaks Blvd. (see plan 8305 sheet 44)
104	B1274	BPCM3	367.60	at 1974 Thousand Oaks Blvd. (see plan 8305 sheet 44)
105	B1416	BPCM2	1157.77	Grizzly Peak Blvd. / Hill Road (see plan 8305 sheet 45)
106	B1417	BDCM16P-CoB	1178.03	Grizzly Peak Blvd. / Avenida Drive (see plan 8305 sheet 45)
107	B1418	BPCM2	1190.86	at 1417 Grizzly Peak Blvd. (see plan 8305 sheet 45)
108	B1424	BPCM3P	5000.00	Grizzly Peak Blvd. at the Berkeley City Line (see plan 8305 sheet 47)
109	B3018	BDCM16P-CoB	822.39	Wildcat Canyon Road / Cañon Drive (see plan 8305 sheet 48)
110	B2324	BDCCCM11P	821.32	Wildcat Canyon Road east of Woodmont Avenue (see plan 8305 sheet 48)
111	B2853	BDCM16P-CoB	5000.00	Wildcat Canyon Road east of Woodhaven Road (see plan 8305 sheet 50)
112	B2854	IPipeCM16ID-NT	5000.00	Wildcat Canyon Road (see plan 8305 sheet 51)
113	B1991	BDCM16P-CoB	5000.00	Wildcat Canyon Road (see plan 8305 sheet 51)
114	B2071	BPCM1	901.12	Wildcat Canyon Road north of The Spiral (see plan 8305 sheet 51)
115	B2072	BDCM16P-CoB	901.69	Wildcat Canyon Road / The Spiral (see plan 8305 sheet 51)

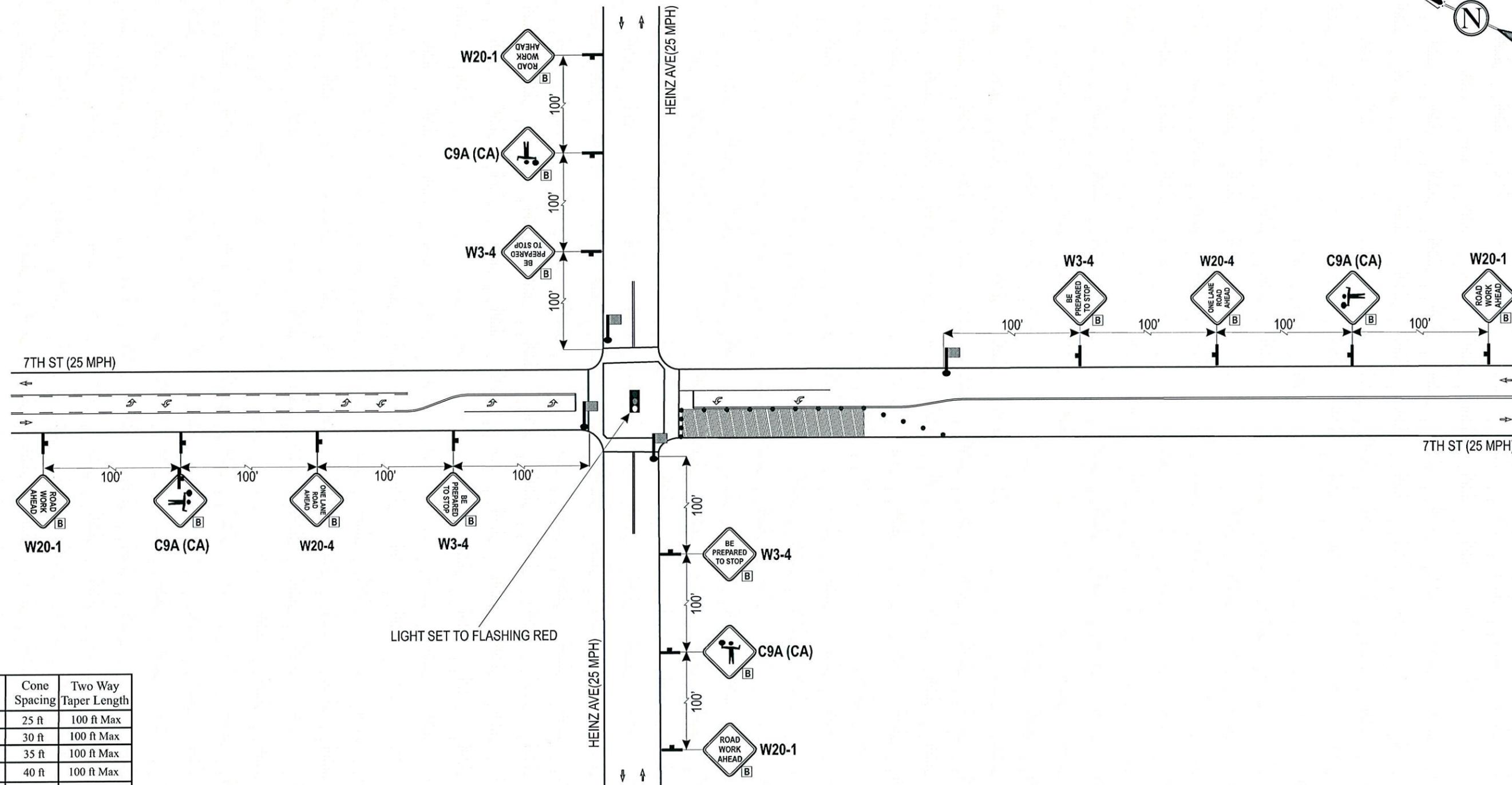
DESCRIPTION LEGEND:

ANWEBMUDM12-AQ-PI-RP = Aluminum Nail & Washer East Bay Municipal Utility District Monument spamped AQ, PI and RP in the curb  
BDBARTM21C-RB17\_Eswk = Brass Disk Bay Area Rapid Transit district Monument 21 times 1/8" (2-5/8") in diameter with a Cross in the East sidewalk and stamped BART RB17 (in a standard BART monument well)  
BDCCCM11P = Brass Disk Contra Costa County Monument 11 times 1/8" (1-3/8") in diameter with a Punch mark (in a standard monument well)  
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 a standard monument well)  
BDCM16P-CoB-RESET2025 = Brass Disk City Monument 16 times 1/8" (2") in diameter with a Punch mark and stamped RESET 2025 and also stamped LS 8525 (in a standard monument well)  
BDCM16P-CoB\_swkF = Brass Disk City Monument 16 times 1/8" (2") in diameter with a Punch mark and stamped CITY OF BERKELEY  
BDCM21P = Brass Disk City Monument 21 times 1/8" (2-5/8") in diameter with a Punch mark (in a standard monument well)  
BDEBMUDM\_PS = Brass Disk East Bay Municipal Utility District Monument (Benchmark) 20 times 1/8" (2-1/2") in diameter with a Cross in the Planter (or Parking) Strip (in a standard EBMUD monument well)  
BDSM17P-DoT = Brass Disk State Monument 17 times 1/8" (2-1/8") in diameter with a Punch mark and stamped DEPARTMENT OF TRANSPORTATION (in a standard monument well)  
BPCM2 = Brass Pin City Monument 2 times 1/8" (1/4") in diameter (in a standard monument well)  
BPCM2\_Wswk = Brass Pin City Monument 2 times 1/8" (1/4") in diameter in the West sidewalk (in a standard monument well)  
BPCM3P = Brass Pin City Monument 3 times 1/8" (3/8") in diameter with a Punch mark (in a standard monument well)  
BPEBMUDM4sqP\_EcurbF = Brass Pin East Bay Municipal Utility District Monument 4 times 1/8" (1/2") square with a Punch mark set Flush in top of the East curb  
CTX\_Scurb = Copper Tack in cut cross ("X") in the South curb  
IBCM10sq = Iron Bolt City Monument 10 times 1/8" (1-1/4") square (in a standard monument well)  
IPCM5sq = Iron Pin City Monument 5 times 1/8" (5/8") square (in a standard monument well)  
IPCM6 = Iron Pin City Monument 6 times 1/8" (3/4") in diameter (in a standard monument well)  
IPipeCM16ID-NT = Iron Pipe City Monument 16 times 1/8" (2") in Interior Diameter with a Nail & Tag stamped RCE 6244 (in a standard monument well)  
N&Tag-LS5530\_Ncurb = Nail & Tag stamped LS 5530 set on top of the north curb  
X\_NEcurb = cut cross ("X") in the Northeast curb  
X\_Eswk = cut cross ("X") in the East sidewalk

## **APPENDIX E**

### **TRAFFIC CONTROL PLAN EXAMPLES**

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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

**LEGEND**

- 28" TRAFFIC CONE
- TEMPORARY SIGN STAND (Showing facing right)
- DIRECTION OF TRAFFIC
- FLAGGER STATION
- WORK ZONE

**Contractor Notes:**

- 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.
- 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.
- 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.
- 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.
- Any conflicting signs will be covered for the length of the job.
- 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.
- The contractor shall take all necessary precautions to allow emergency vehicles to pass through the construction zones without any delays.
- Trench Plate Rental assumes no liability when Contractor does own set up or makes changes to the original traffic control plan.
- 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

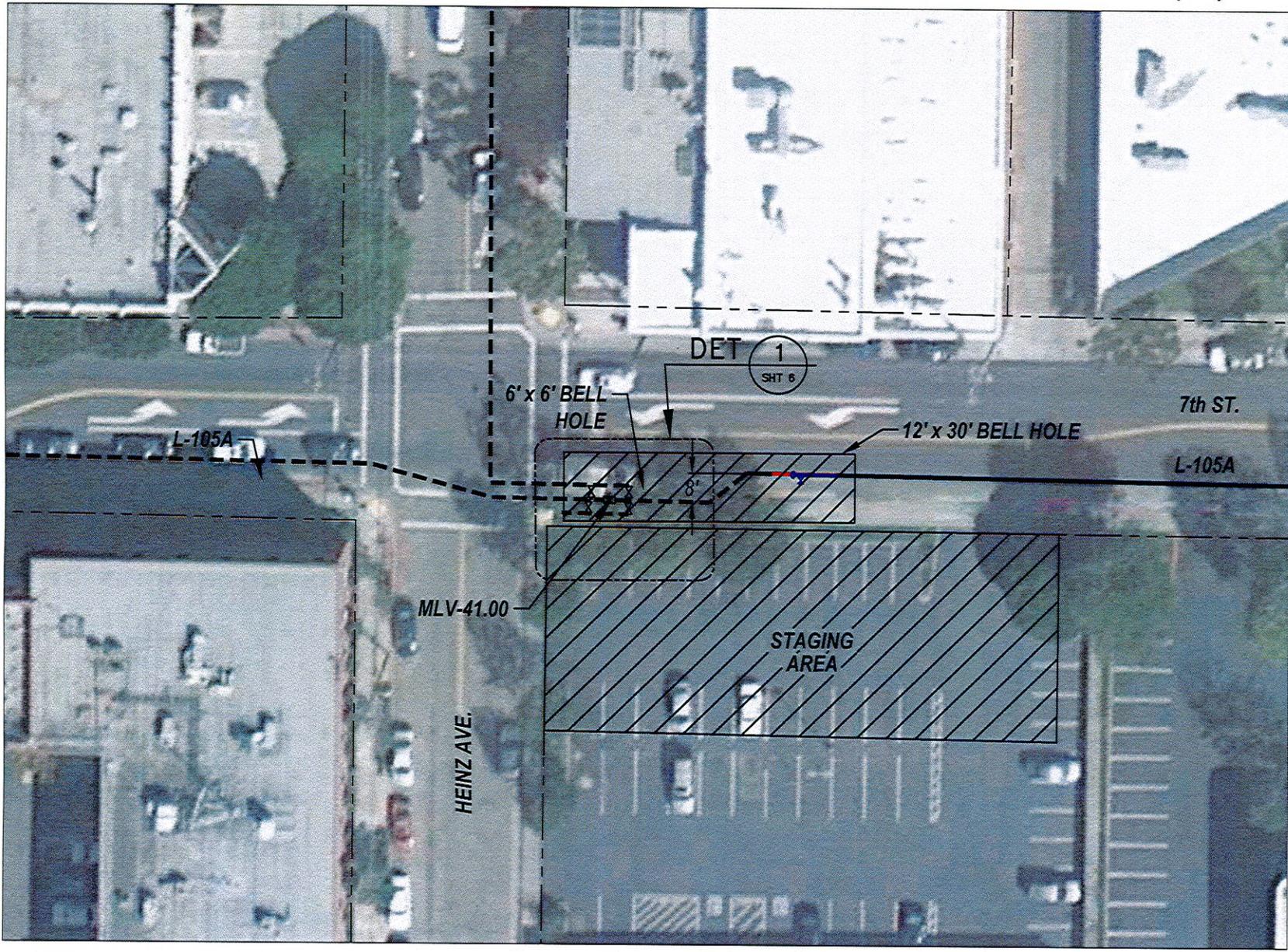
TPR Plan #	PITT 110-11	Scale:	Not to Scale
Project #		Sheet #	1
Date:	8/11/2011 Rev2		8 Sheet

PG&E HYDROTEST T7  
HEINZ AVE. & 7th ST.  
(NOT TO SCALE)

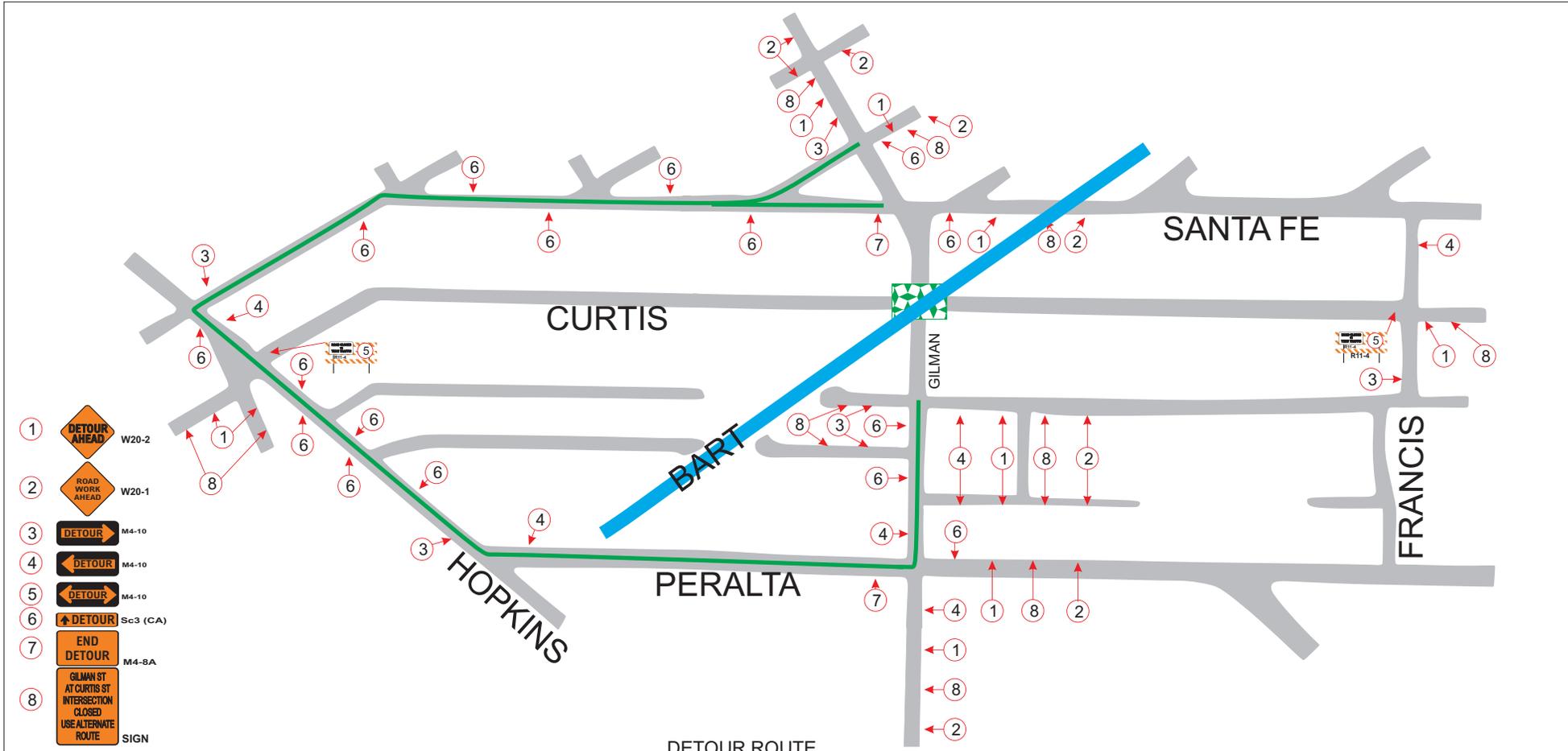
BERKELEY, CA. 94710



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:	<b>BART</b>	
Project Name:	<b>BART OVERCROSSING</b>	
Prime Contractor:	<b>ATKINSON</b>	
Phone Number:	510-483-1101	Date Prepared: 6/21/12
Prepared By:	<b>STATEWIDE</b> TRAFFIC SAFETY & SIGNS	STATEWIDE REFERENCE #: 24.2

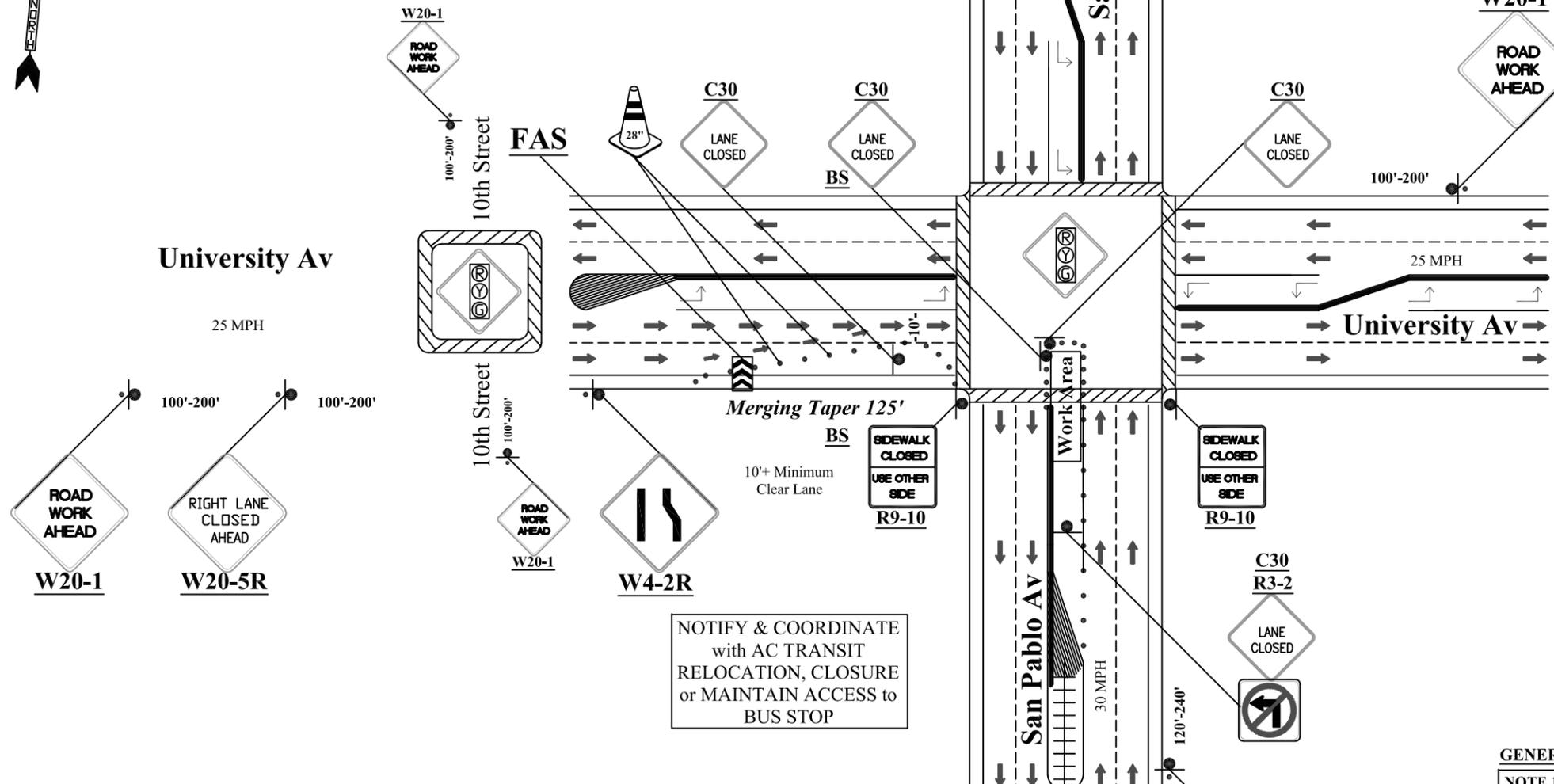
**RIGHT LANE CLOSURE(T10/T11):**  
**PEDESTRIAN CONTROL (TA28/29):**  
**Sewer Installation.**  
**University Ave & San Pablo Ave.**

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



**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  
 H 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

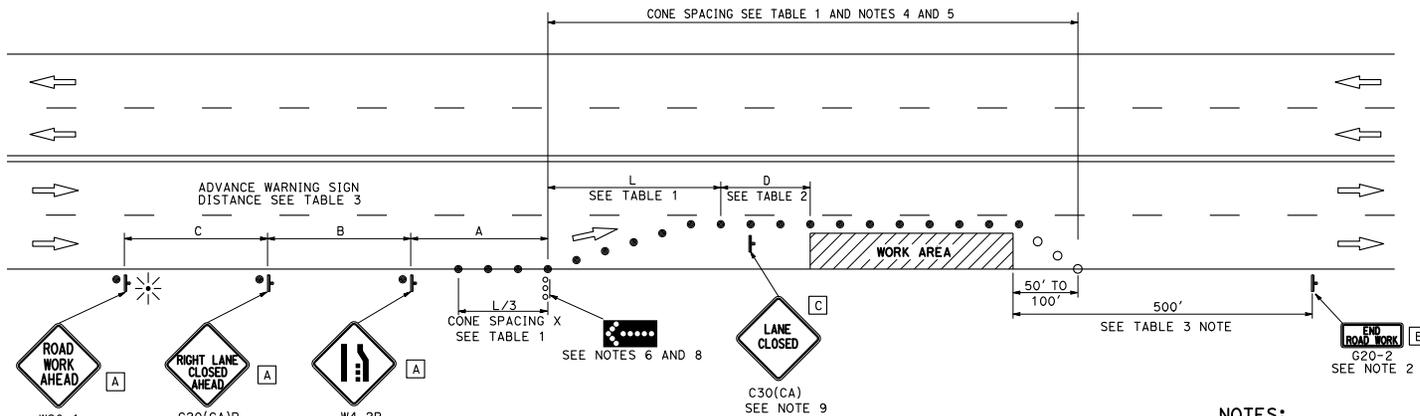
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

*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)
- ▬ 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 No.	TOTAL SHEETS

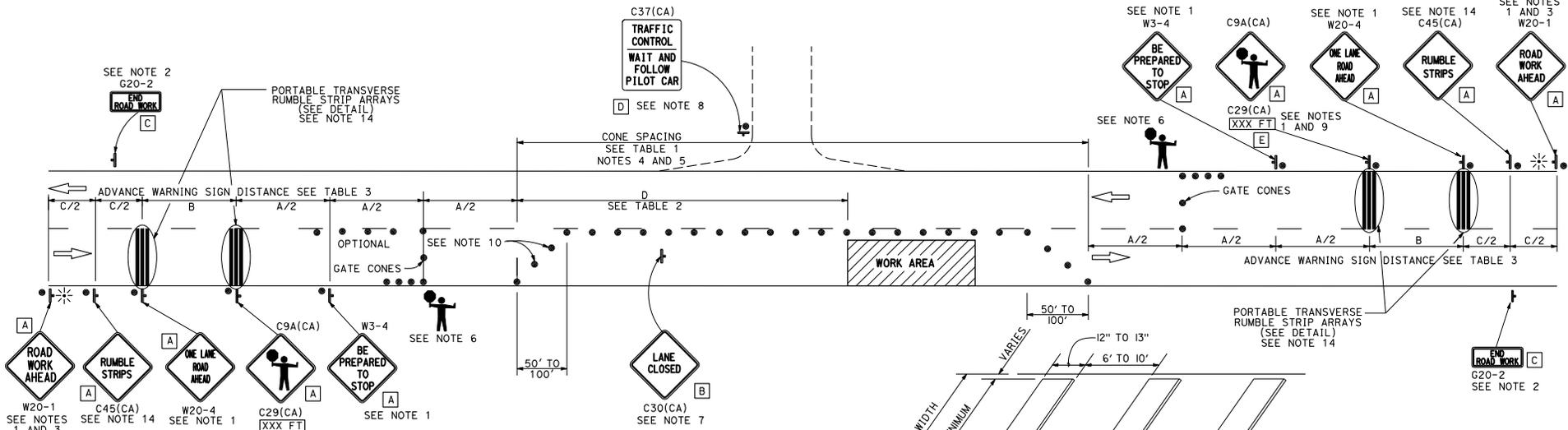
*Devinder Singh*  
REGISTERED CIVIL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

Devinder Singh  
No. C50470  
Exp. 6-30-17  
CIVIL  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF CALIFORNIA

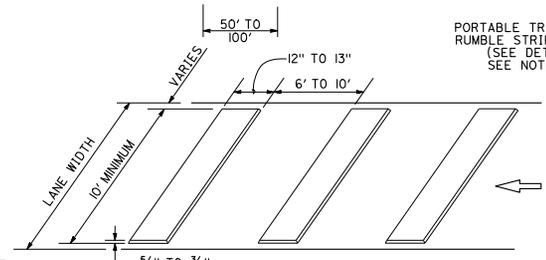
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**TYPICAL LANE CLOSURE 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**

### **UNION PACIFIC RAILROAD SAMPLE AGREEMENT LETTER**

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**UNION PACIFIC RAILROAD**

1400 Douglas Street Omaha, Nebraska 68179  
Mail Stop 1690  
Danielle Allen  
danielleallen@up.com  
402-544-8020

**MAINTENANCE CONSENT LETTER**

September 11, 2018  
Folder No.: 2946-04

BRIAN LIANG  
CITY OF BERKELEY  
1947 CENTER STREET  
BERKELEY, CA 94704

Dear Mr. Liang:

RE: Proposed install and repair of sidewalks to 4<sup>th</sup> Street in the northeast quadrant, for approximately 50 feet in the northwest quadrant, for approximately 50 feet in the southeast quadrant and to 2<sup>nd</sup> Street in the southwest quadrant, paint pavement markings across the crossing that channelize pedestrians, install signage to prohibit parking with 50 feet of the crossing on all four quadrants and install detectable warning tiles on all sidewalk approaches at the existing Gilman Street at-grade public road crossing DOT 751199P at or near Railroad Mile Post 7.06 on the Martinez Subdivision at or near Berkeley, Alameda County, California

Please refer to an application notifying the Railroad Company of the above subject project regarding the City of Berkeley's ("Public Entity's") intention to install and repair sidewalks to 4<sup>th</sup> Street in the northeast quadrant, for approximately 50 feet in the northwest quadrant, for approximately 50 feet in the southeast quadrant and to 2<sup>nd</sup> Street in the southwest quadrant, paint pavement markings across the crossing that channelize pedestrians, install signage to prohibit parking with 50 feet of the crossing on all four quadrants and install detectable warning tiles on all sidewalk approaches at the existing Gilman Street at-grade public road crossing at Railroad Mile Post 7.06 (DOT 751199P) on the Martinez Subdivision in or near Berkeley, Alameda County, California. This letter serves as an acceptance of the proposed work to be performed. Attached hereto is a Railroad Location Print marked **Exhibit A**, which respectively illustrates the general location of the public road crossing work.

If a contractor is to do any of the work performed on or about the Railroad Company's trackage (including substantial maintenance and repair work), then the Public Entity shall require its contractor to execute the Railroad Company's form Contractor's Right of Entry Agreement. Public Entity acknowledges receipt of a copy of Contractor's Right of Entry Agreement and



understanding its term, provisions and requirements, and will inform its contractor of the need to execute the Agreement. Under no circumstances will Public Entity's contractor be allowed on or about the Railroad Company's trackage without first executing the Contractor's Right of Entry Agreement.

In order to protect the property as well as for safety reasons, it is imperative that the Public Entity notify the Railroad Company's Representative(s) at least 48-hours in advance prior to the proposed work to be conducted at the subject crossing. The following information is furnished with regard to the local contact for the Railroad Company:

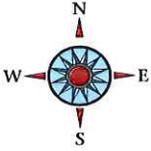
**Telecommunications ("Call Before You Dig"): 1-800-336-9193**

Kevin Yoder Mgr II Ind & Public Proj 916-789-5152 kayoder@up.com
---

Regards,



Danielle Allen  
Senior Manager-Real Estate



**EXHIBIT "A"**  
**RAILROAD LOCATION PRINT**  
ACCOMPANYING A  
MAINTENANCE CONSENT/CONTRACTOR'S  
RIGHT OF ENTRY AGREEMENT



**UNION PACIFIC RAILROAD COMPANY**  
MARTINEZ SUB  
RAILROAD MILE POST 7.06  
BERKELEY, ALAMEDA COUNTY, CALIFORNIA

To accompany an agreement with the  
**CITY OF BERKELEY and/or CONTRACTORS**  
UPRR Folder No. 2946-04      Date: September 11, 2018

**WARNING**

IN ALL OCCASIONS, U.P. COMMUNICATIONS DEPARTMENT MUST BE CONTACTED IN ADVANCE OF ANY WORK TO DETERMINE EXISTENCE AND LOCATION OF FIBER OPTIC CABLE.

PHONE: 1-(800) 336-9193

Folder No.: 2946-04

UPRR Audit No.:

## CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

\_\_\_\_\_

**THIS AGREEMENT** is made and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation ("Railroad"); and

\_\_\_\_\_ (*Name of Contractor*)

a \_\_\_\_\_ corporation ("Contractor").

### **RECITALS:**

Contractor has been hired by the City of Berkeley ("Public Entity") to install and repair of sidewalks to 4<sup>th</sup> Street in the northeast quadrant, for approximately 50 feet in the northwest quadrant, for approximately 50 feet in the southeast quadrant and to 2<sup>nd</sup> Street in the southwest quadrant, paint pavement markings across the crossing that channelize pedestrians, install signage to prohibit parking with 50 feet of the crossing on all four quadrants and install detectable warning tiles on all sidewalk approaches at the existing Gilman Street at-grade public road crossing with all or a portion of such work to be performed on property of Railroad in the vicinity of the Railroad's Mile Post 7.06 (DOT 751199P) on its Martinez Subdivision in or near Berkeley, Alameda County, California, as such location is in the general location shown on the Railroad Location Print marked **Exhibit A**, attached hereto and hereby made a part hereof, which work is the subject of a contract dated September 11, 2018, between the Railroad and the Public Entity.

The Railroad is willing to permit the Contractor to perform the work described above at the location described above subject to the terms and conditions contained in this Agreement

### **AGREEMENT:**

**NOW, THEREFORE**, it is mutually agreed by and between Railroad and Contractor, as follows:

#### **ARTICLE 1 - DEFINITION OF CONTRACTOR.**

For purposes of this Agreement, all references in this agreement to Contractor shall include Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

#### **ARTICLE 2 - RIGHT GRANTED; PURPOSE.**

Railroad hereby grants to Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon

and have ingress to and egress from the property described in the Recitals for the purpose of performing the work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article 4.

**ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B, C & D.**

The General Terms and Conditions contained in **Exhibit B**, the Insurance Requirements contained in **Exhibit C**, and the Minimum Safety Requirements contained in **Exhibit D**, each attached hereto, are hereby made a part of this Agreement.

**ARTICLE 4 - ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE.**

- A. Contractor shall bear any and all costs and expenses associated with any work performed by Contractor, or any costs or expenses incurred by Railroad relating to this Agreement.
- B. Contractor shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

Philip Garber Mgr Track Mntce 402-238-4891 pagarber@up.com
---

- C. Contractor, at its own expense, shall adequately police and supervise all work to be performed by Contractor and shall ensure that such work is performed in a safe manner as set forth in Section 7 of **Exhibit B**. The responsibility of Contractor for safe conduct and adequate policing and supervision of Contractor's work shall not be lessened or otherwise affected by Railroad's approval of plans and specifications involving the work, or by Railroad's collaboration in performance of any work, or by the presence at the work site of a Railroad Representative, or by compliance by Contractor with any requests or recommendations made by Railroad Representative.

**ARTICLE 5 - SCHEDULE OF WORK ON A MONTHLY BASIS.**

The Contractor, at its expense, shall provide on a monthly basis a detailed schedule of work to the Railroad Representative named in Article 4B above. The reports shall start at the execution of this Agreement and continue until this Agreement is terminated as provided in this Agreement or until the Contractor has completed all work on Railroad's property.

**ARTICLE 6 - TERM; TERMINATION.**

- A. The grant of right herein made to Contractor shall commence on the date of this Agreement,

and continue until \_\_\_\_\_, unless sooner terminated as herein  
(Expiration Date)

provided, or at such time as Contractor has completed its work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad's property.

- B. This Agreement may be terminated by either party on ten (10) days written notice to the other party.

**ARTICLE 7 - CERTIFICATE OF INSURANCE.**

- A. Before commencing any work, Contractor will provide Railroad with the (i) insurance binders, policies, certificates and endorsements set forth in **Exhibit C** of this Agreement, and (ii) the insurance endorsements obtained by each subcontractor as required under Section 12 of **Exhibit B** of this Agreement.

- B. All insurance correspondence, binders, policies, certificates and endorsements shall be sent to:

*Union Pacific Railroad Company  
Real Estate Department  
1400 Douglas Street, MS 1690  
Omaha, NE 68179-1690  
UPRR Folder No. 2946-04*

**ARTICLE 8 - DISMISSAL OF CONTRACTOR'S EMPLOYEE.**

At the request of Railroad, Contractor shall remove from Railroad's property any employee of Contractor who fails to conform to the instructions of the Railroad Representative in connection with the work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad's property.

**ARTICLE 9 - CROSSINGS.**

No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.

**ARTICLE 10 - CROSSINGS; COMPLIANCE WITH MUTCD AND FRA GUIDELINES.**

- A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.
- B. Any permanent or temporary changes, including temporary traffic control, to crossings must conform to the Manual of Uniform Traffic Control Devices (MUTCD) and any applicable Federal Railroad Administration rules, regulations and guidelines, and must be reviewed by the Railroad prior to any changes being implemented. In the event the Railroad is found to be out of compliance with federal safety regulations due to the Contractor's modifications, negligence, or

any other reason arising from the Contractor's presence on the Railroad's property, the Contractor agrees to assume liability for any civil penalties imposed upon the Railroad for such noncompliance.

**ARTICLE 11 - EXPLOSIVES.**

Explosives or other highly flammable substances shall not be stored or used on Railroad's property without the prior written approval of Railroad.

**IN WITNESS WHEREOF**, the parties hereto have duly executed this agreement in duplicate as of the date first herein written.

**UNION PACIFIC RAILROAD COMPANY**  
*(Federal Tax ID #94-6001323)*

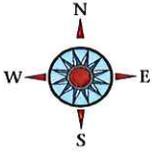
By: \_\_\_\_\_  
Danielle Allen  
Senior Manager-Real Estate

\_\_\_\_\_  
*(Name of Contractor)*

By \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_



**EXHIBIT "A"**  
**RAILROAD LOCATION PRINT**  
ACCOMPANYING A  
MAINTENANCE CONSENT/CONTRACTOR'S  
RIGHT OF ENTRY AGREEMENT



**UNION PACIFIC RAILROAD COMPANY**

MARTINEZ SUB  
RAILROAD MILE POST 7.06  
BERKELEY, ALAMEDA COUNTY, CALIFORNIA

To accompany an agreement with the

**CITY OF BERKELEY and/or CONTRACTORS**

UPRR Folder No. 2946-04      Date: September 11, 2018

**WARNING**

IN ALL OCCASIONS, U.P. COMMUNICATIONS DEPARTMENT MUST BE CONTACTED IN ADVANCE OF ANY WORK TO DETERMINE EXISTENCE AND LOCATION OF FIBER OPTIC CABLE.

PHONE: 1-(800) 336-9193

## EXHIBIT B

### TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

#### GENERAL TERMS & CONDITIONS

#### **Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.**

- A. Contractor agrees to notify the Railroad Representative at least thirty (30) working days in advance of Contractor commencing its work and at least ten (10) working days in advance of proposed performance of any work by Contractor in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such ten (10)-day notice, the Railroad Representative will determine and inform Contractor whether a flagman need be present and whether Contractor needs to implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by Railroad, Railroad will bill Contractor for such expenses incurred by Railroad, unless Railroad and a federal, state or local governmental entity have agreed that Railroad is to bill such expenses to the federal, state or local governmental entity. If Railroad will be sending the bills to Contractor, Contractor shall pay such bills within thirty (30) days of Contractor's receipt of billing. If Railroad performs any flagging, or other special protective or safety measures are performed by Railroad, Contractor agrees that Contractor is not relieved of any of its responsibilities or liabilities set forth in this Agreement.
- B. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Contractor (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.
- C. Reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though Contractor may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Contractor must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Contractor will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days notice must then be given to Railroad if flagging services are needed again after such five day cessation notice has been given to Railroad.

#### **Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED**

- A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

- B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

**Section 3. NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS.**

- A. Contractor shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Contractor at any time that would in any manner impair the safety of such operations. When not in use, Contractor's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroads tracks except at existing open public crossings.
- B. Operations of Railroad and work performed by Railroad personnel and delays in the work to be performed by Contractor caused by such railroad operations and work are expected by Contractor, and Contractor agrees that Railroad shall have no liability to Contractor, or any other person or entity for any such delays. The Contractor shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Contractor.

**Section 4. LIENS.**

Contractor shall pay in full all persons who perform labor or provide materials for the work to be performed by Contractor. Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such work performed. Contractor shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished. If Contractor fails to promptly cause any lien to be released of record, Railroad may, at its election, discharge the lien or claim of lien at Contractor's expense.

**Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.**

- A. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, make arrangements for a cable locator and, if applicable, for relocation or other protection of the fiber optic cable. Contractor shall not commence any work until all such protection or relocation (if applicable) has been accomplished.
- B. In addition to other indemnity provisions in this Agreement, Contractor shall indemnify, defend and hold Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of Contractor, its agents and/or employees, that causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractor, agents and/or employees, on Railroad's property. Contractor shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

**Section 6. PERMITS - COMPLIANCE WITH LAWS.**

In the prosecution of the work covered by this Agreement, Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work including, without limitation, all applicable Federal Railroad Administration regulations.

**Section 7. SAFETY.**

- A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Contractor. Contractor shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Contractor shall at a minimum comply with Railroad's safety standards listed in

**Exhibit D**, hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Contractor's safety responsibilities, Contractor shall notify Railroad if Contractor determines that any of Railroad's safety standards are contrary to good safety practices. Contractor shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

- B. Without limitation of the provisions of paragraph A above, Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.
- C. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Contractor shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Contractor shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.
- D. If and when requested by Railroad, Contractor shall deliver to Railroad a copy of Contractor's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Contractor to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

**Section 8. INDEMNITY.**

- A. To the extent not prohibited by applicable statute, Contractor shall indemnify, defend and hold harmless Railroad, its affiliates, and its and their officers, agents and employees (individually an "Indemnified Party" or collectively "Indemnified Parties") from and against any and all loss, damage, injury, liability, claim, demand, cost or expense (including, without limitation, attorney's, consultant's and expert's fees, and court costs), fine or penalty (collectively, "Loss") incurred by any person (including, without limitation, any Indemnified Party, Contractor, or any employee of Contractor or of any Indemnified Party) arising out of or in any manner connected with (i) any work performed by Contractor, or (ii) any act or omission of Contractor, its officers, agents or employees, or (iii) any breach of this Agreement by Contractor.
- B. The right to indemnity under this Section 8 shall accrue upon occurrence of the event giving rise to the Loss, and shall apply regardless of any negligence or strict liability of any Indemnified Party, except where the Loss is caused by the sole active negligence of an Indemnified Party as established by the final judgment of a court of competent jurisdiction. The sole active negligence of any Indemnified Party shall not bar the recovery of any other Indemnified Party.
- C. Contractor expressly and specifically assumes potential liability under this Section 8 for claims or actions brought by Contractor's own employees. Contractor waives any immunity it may have under worker's compensation or industrial insurance acts to indemnify the Indemnified Parties under this Section 8. Contractor acknowledges that this waiver was mutually negotiated by the parties hereto.
- D. No court or jury findings in any employee's suit pursuant to any worker's compensation act or the Federal Employers' Liability Act against a party to this Agreement may be relied upon or used by Contractor in any attempt to assert liability against any Indemnified Party.
- E. The provisions of this Section 8 shall survive the completion of any work performed by Contractor or the termination or expiration of this Agreement. In no event shall this Section 8 or any other provision of this Agreement be deemed to limit any liability Contractor may have to any Indemnified Party by statute or under common law.

**Section 9. RESTORATION OF PROPERTY.**

In the event Railroad authorizes Contractor to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the work to be performed by Contractor, then in that event Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Contractor shall remove all of Contractor's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the work, restoring Railroad's property to the same state and condition as when Contractor entered thereon.

**Section 10. WAIVER OF DEFAULT.**

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Contractor shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

**Section 11. MODIFICATION - ENTIRE AGREEMENT.**

No modification of this Agreement shall be effective unless made in writing and signed by Contractor and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Contractor and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the work to be performed by Contractor.

**Section 12. ASSIGNMENT - SUBCONTRACTING.**

Contractor shall not assign or subcontract this Agreement, or any interest therein, without the written consent of the Railroad. Contractor shall be responsible for the acts and omissions of all subcontractors. Before Contractor commences any work, the Contractor shall, except to the extent prohibited by law; (1) require each of its subcontractors to include the Contractor as "Additional Insured" in the subcontractor's Commercial General Liability policy and Business Automobile policies with respect to all liabilities arising out of the subcontractor's performance of work on behalf of the Contractor by endorsing these policies with ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage; (2) require each of its subcontractors to endorse their Commercial General Liability Policy with "Contractual Liability Railroads" ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) for the job site; and (3) require each of its subcontractors to endorse their Business Automobile Policy with "Coverage For Certain Operations In Connection With Railroads" ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) for the job site.

## EXHIBIT C

### TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

#### INSURANCE REQUIREMENTS

Contractor shall, at its sole cost and expense, procure and maintain during the course of the Project and until all Project work on Railroad's property has been completed and the Contractor has removed all equipment and materials from Railroad's property and has cleaned and restored Railroad's property to Railroad's satisfaction, the following insurance coverage:

- A. COMMERCIAL GENERAL LIABILITY INSURANCE.** Commercial general liability (CGL) with a limit of not less than \$5,000,000 each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

- B. BUSINESS AUTOMOBILE COVERAGE INSURANCE.** Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less \$5,000,000 for each accident and coverage must include liability arising out of any auto (including owned, hired and non-owned autos).

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

- C. WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY INSURANCE.** Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the state where the work is being performed.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided.

Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

- D. RAILROAD PROTECTIVE LIABILITY INSURANCE.** Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

- E. UMBRELLA OR EXCESS INSURANCE.** If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

- F. POLLUTION LIABILITY INSURANCE.** Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least

\$5,000,000 per occurrence and an aggregate limit of \$10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

#### **OTHER REQUIREMENTS**

- G.** All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.
- H.** Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.
- I.** Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.
- J.** Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.
- K.** All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state where the work is being performed.
- L.** The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

## EXHIBIT D

### TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

#### MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Contractor as well as all employees of any subcontractor or agent of Contractor.

#### **I. CLOTHING**

A. All employees of Contractor will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Contractor's employees must wear:

- i. Waist-length shirts with sleeves.
- ii. Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
- iii. Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

#### **II. PERSONAL PROTECTIVE EQUIPMENT**

Contractor shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

- i. Hard hat that meets the American National Standard (ANSI) Z89.1 – latest revision. Hard hats should be affixed with Contractor's company logo or name.
- ii. Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 – latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.
- iii. Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:
  - 100 feet of a locomotive or roadway/work equipment
  - 15 feet of power operated tools
  - 150 feet of jet blowers or pile drivers
  - 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection – plugs and muffs)
- iv. Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as recommended or requested by the Railroad Representative.

#### **III. ON TRACK SAFETY**

Contractor is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations – 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

- i. Maintain a distance of twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.

- ii. Wear an orange, reflectorized workwear approved by the Railroad Representative.
- iii. Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Contractor must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Contractor will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

#### **IV. EQUIPMENT**

- A. It is the responsibility of Contractor to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Contractor's equipment is unsafe for use, Contractor shall remove such equipment from Railroad's property. In addition, Contractor must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:
- i. Familiar and comply with Railroad's rules on lockout/tagout of equipment.
  - ii. Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
  - iii. Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other railbound equipment.
- B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.
- C. Unless otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.
- D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

#### **V. GENERAL SAFETY REQUIREMENTS**

- A. Contractor shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.
- B. Contractor shall ensure that all employees participate in and comply with a job briefing conducted by the Railroad Representative, if applicable. During this briefing, the Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.
- C. All track work performed by Contractor meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49CFR213.
- D. All employees comply with the following safety procedures when working around any railroad track:
- i. Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
  - ii. Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
  - iii. In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment if the opening is less than one car length (50 feet).
  - iv. Avoid walking or standing on a track unless so authorized by the employee in charge.
  - v. Before stepping over or crossing tracks, look in both directions first.
  - vi. Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.
- E. All employees must comply with all federal and state regulations concerning workplace safety.