

**REFERENCE ONLY**



**CONTRACT DOCUMENTS  
FOR**

**Non-Potable Water Distribution System - Phase III**

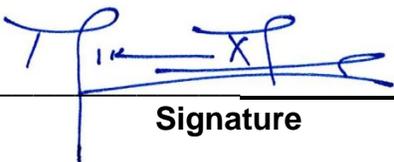
**CIP Project No. 592-59170**

**Bid Opening:**

**Thursday, July 7, 2016 at 2:00 p.m.**

**Location of Bid Submittal: City Clerk  
Brentwood City Hall  
Third Floor  
150 City Park Way  
Brentwood, CA 94513**

**Approved by: Miki Tsubota  
Director of Public Works/City Engineer**

  
\_\_\_\_\_  
Signature

6/13/16  
\_\_\_\_\_  
Date

CITY OF BRENTWOOD  
CONTRA COSTA COUNTY  
STATE OF CALIFORNIA

SPECIFICATIONS FOR THE  
CONSTRUCTION OF

Non-Potable Water Distribution System - Phase III

CIP Project No. 592-59170

Prepared Under the Supervision of:

NV5  
2525 Natomas Park Drive, #300  
Sacramento, CA 95823

Victor M. Alaniz, P.E.  
License # C57825  
Expires 6/30/18



Stamp Seal

A handwritten signature in blue ink, appearing to read "Victor M. Alaniz", written over a horizontal line.

Signature

06-07-2016

Date

**Non-Potable Water Distribution System - Phase III  
CIP Project No. 592-59170**

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**APPENDICIES**

**Appendix “A” – EBMUD Encroachment Permit Application**

- A. EBMUD Temporary Entry Permit - (Required For Potholing)
- B. EBMUD Temporary Construction Permit

**Appendix “B” – Union Pacific Railroad Agreements**

- A. UPRR Agreement 2986-76 (Non-Potable Waterline)
- B. UPRR Agreement 2990-22 (Potable Waterline)

**Appendix “C” - Environmental Mitigation Requirements**

## NOTICE INVITING BIDS

1. **Bid Acceptance.** The City of Brentwood ("City"), will accept sealed bids for its Non-Potable Water Distribution System - Phase III, CIP Project No. 592-59170 ("Project"), by or before Thursday, July 7, 2016, at 2:00 p.m., at its City Clerk's office, located at Brentwood City Hall, Third Floor, 150 City Park Way, Brentwood, California 94513. The bids will be publicly opened and read aloud at Brentwood City Hall, 150 City Park Way, Brentwood, CA 94513.
2. **Project Information.**
  - 2.1 **Location and Description.** The Project is located at Grant Street between O'Hara Avenue and Fairview Avenue, and is described as follows: This work includes extension of existing 12-inch main non-potable waterline, extension of existing 20-inch potable waterline, installation of a new 8-inch non-potable waterline, connections to existing irrigation systems, horizontal direction drilling operations, jack and bore operations, and traffic control, complete and in satisfactory condition, all as shown on the plans and/or as specified herein.
  - 2.2 **Construction Time.** The planned timeframe for beginning and completion of construction of the Project is 60 working days.
  - 2.3 **Engineer's Estimate.** The City Engineer's estimate for the cost of construction cost is: \$1.5 million.
3. **License and Registration Requirements.**
  - 3.1 **License.** This Project requires a valid California contractor's license for the following classification(s): Class "A" or combination of Class "C" Specialty Contractor's License(s).
  - 3.2 **DIR Registration.** City will not accept a *Bid Proposal* from or enter into a contract with a bidder without proof that the bidder and its subcontractors are registered with the California Department of Industrial Relations ("DIR") to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions.
4. **Contract Documents.** Bidders must obtain an electronic copy of the Contract Documents directly from the City of Brentwood. The Contract Documents may be obtained at no charge by sending an email to: [engineering@brentwoodca.gov](mailto:engineering@brentwoodca.gov) or by calling 925-516-5420. The City may reject a bid submitted by a bidder that did not obtain the Contract Documents from the City as required.
5. **Bid Proposal and Security.**
  - 5.1 **Bid Proposal Form.** Each Bid must be submitted using the *Bid Proposal* form provided with the Contract Documents.
  - 5.2 **Bid Security.** The *Bid Proposal* must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to the City of Brentwood, or a bid bond executed by a surety licensed to do business in the State of California on the *Bid Bond* form included with the Contract Documents. The bid

security must guarantee that upon award of the bid, the bidder will execute the *Contract* and submit payment and performance bonds and insurance certificates as required by the Contract Documents within ten days after issuance of the notice of award.

**6. Prevailing Wage Requirements.**

**6.1 General.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

**6.2 Rates.** These prevailing rates are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

**6.3 Compliance.** This Contract is subject to compliance monitoring and enforcement by the DIR, under Labor Code Section 1771.4.

**7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds for 100% of the Contract Price.

**8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code Section 22300.

**9. Subcontractor List.** Each bidder must submit the name, location of the place of business, and California contractor license number, DIR registration number, and percentage of the Work to be performed for each Subcontractor who will perform Work or service or fabricate or install Work for the prime contractor in excess of one-half of 1% of the bid price, using the *Subcontractor List* form included with the Contract Documents. No more than 50% of the Work may be performed by Subcontractors.

**10. Instructions to Bidders.** Additional information is provided in the *Instructions to Bidders*, which should be carefully reviewed before submitting a *Bid Proposal*.

By:   
Margaret Wimberly MMC, City Clerk

6/13/16  
Date

## INSTRUCTIONS TO BIDDERS

Each *Bid Proposal* submitted to the City of Brentwood (“City”) for its Non-Potable Water Distribution System - Phase III (“Project”) must be submitted in accordance with the following instructions and requirements:

### 1. Bid Submission.

**1.1 General.** Each bid must be signed, sealed and submitted to the City, using the form provided in the Contract Documents (“*Bid Proposal*”), by or before the date and time set forth in the *Notice Inviting Bids*, or as amended by subsequent addendum. Faxed or emailed *Bid Proposals* will not be accepted, unless otherwise specified. Late submissions will be returned unopened. City reserves the right to postpone the date and time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all indirect costs such as applicable taxes, insurance and field offices.

**1.2 Bid Envelope.** The envelope containing the sealed *Bid Proposal* and required attachments must be clearly labeled and addressed as follows:

#### **Bid Proposal**

Non-Potable Water Distribution System - Phase III

CIP Project No. 592-59170

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

City of Brentwood

150 City Park Way

Brentwood, California 94513

Attn: City Clerk

**The envelope must also be clearly labeled as follows with the bidder’s name, address, and its registration number as required by the California Department of Industrial Relations (“DIR”) for public works contracts:**

[Contractor company name]

[street address]

[city, state, zip code]

DIR Registration No: \_\_\_\_\_

**Please note:** If the City is unable to confirm that the bidder’s DIR registration is current, the City must disqualify the bidder and return its bid unopened. (Labor Code section 1725.5.)

### 2. Examination of Contract Documents and Project Site. Bidder’s Responsibilities.

Each bidder is solely responsible for diligent and thorough review of the Contract Documents (as defined in the *General Conditions*), examination of Project site, and reasonable and prudent inquiry concerning known and potential site conditions prior to submitting a *Bid Proposal*. However, bidders should not enter onto the Project site without prior written authorization from City. Bidders are responsible for reporting any errors or omissions in the Contract Documents to City prior to submitting a *Bid Proposal*, subject to the limitations of Public Contract Code Section 1104. City expressly disclaims

responsibility for assumptions the bidder might draw from the presence or absence of information provided by City.

3. **Requests for Information.** Questions regarding the Project, the bid procedures or any of the Contract Documents must be submitted in writing using the *Bidder's Request for Information* form provided, at least five working days before the date specified for submission of Bids, to: James Campero at [engineering@brentwoodca.gov](mailto:engineering@brentwoodca.gov).
4. **Addenda.** Any addenda issued prior to the bid opening will constitute part of the Contract Documents. Subject to the limitations of Public Contract Code section 4104.5, City reserves the right to issue addenda prior to bid time.
5. **Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an "equal" item must be submitted with the written request for substitution. All data substantiating the proposed substitute as an "equal item" must be submitted with the written request for substitution. The City Engineer has the sole discretion to determine whether a proposed substitute is an "equal" item, and the City Engineer's decision is final. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code Section 3400(c). Any request for substitution must be submitted to the City Engineer at least five Working Days before the opening of bids so that all interested bidders may be notified of any approved alternative.
6. **Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one *Bid Proposal* unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders, and may also submit a *Bid Proposal* as a prime contractor.
7. **Bid Proposal Form and Enclosures.**
  - 7.1 **Bid Proposal Form.** Each *Bid Proposal* must be completed in ink using the *Bid Proposal* form included in the Contract Documents. The *Bid Proposal* form should be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder's authorized representative. A *Bid Proposal* submitted with terms such as "negotiable," "will negotiate," or similar, will be considered non-responsive.
  - 7.2 **Enclosures.** Each *Bid Proposal* must be accompanied by bid security, as set forth in Section 9 below, and by the completed *Bid Schedule*, *Subcontractor List*, *Non-Collusion Declaration*, and any other required enclosures, using the forms included in the Contract Documents.
  - 7.3 **Bidder's Questionnaire.** After the bids have been opened, the City may request a completed, signed *Bidder's Questionnaire* from one or more of the apparent low bidders. The *Bidder's Questionnaire* must be submitted within 48 hours of the City's request, using the form provided by City. If a bidder fails to fully comply with this requirement following the City's request, its *Bid Proposal* may be rejected as

nonresponsive. A bidder who submits a *Bidder's Questionnaire* which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

8. **Signature Requirements.** Each *Bid Proposal* must be signed by the bidder's authorized representative. A *Bid Proposal* submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A *Bid Proposal* submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the *Bid Proposal*, under California Corporation Code section 313. Alternatively, the *Bid Proposal* may attach a resolution of the corporation, certified by the secretary or assistant secretary under corporate seal, empowering the officer(s) signing the *Bid Proposal* to bind the corporation. A *Bid Proposal* submitted by a limited liability company must be signed with the legal name of the company followed by the signature or signatures required by the company's Articles of Organization.
9. **Bid Security.** Each *Bid Proposal* must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's check, a certified check, or a bid bond, using the form included in the Contract Documents, executed by a surety licensed to do business in the State of California, made payable to the City of Brentwood. The bid security must guarantee that upon award of the bid, the bidder will execute and submit the *Contract* on the form included in the Contract Documents, will submit payment and performance bonds for 100% of the maximum Contract Price, and will submit the insurance certificates and endorsements as required by the Contract Documents within ten days after issuance of the notice of award.
10. **Withdrawal of Bid Proposals.** A *Bid Proposal* may not be withdrawn for a period of 90 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code Section 5100 et seq.
11. **Bid Protest.** Any bid protest must be in writing and received by City Clerk's Office at 150 City Park Way, Brentwood, CA 94513 before 5:00 p.m. no later than two Working Days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements:
  - 11.1 **General.** Only a bidder who has actually submitted a *Bid Proposal* is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. If required by City, the protesting bidder must submit a non-refundable fee in the amount specified by City, based upon City's reasonable costs to administer the bid protest. Any such fee must be submitted to City no later than the Bid Protest Deadline, unless otherwise specified.
  - 11.2 **Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.

- 11.3 Copy to Protested Bidder.** A copy of the protest and all supporting documents must be concurrently transmitted by fax or by email, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 11.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.
- 11.5 Copy to Protesting Bidder.** A copy of the response and all supporting documents must be concurrently transmitted by fax or by email, by or before the Response Deadline, to the protesting bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 11.6 Exclusive Remedy.** The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- 11.7 Right to Award.** City reserves the right to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a notice to proceed with the Work notwithstanding any pending or continuing challenge to its determination.
- 12. Rejection of Bids; Award of Contract.** City reserves the right, acting in its sole discretion, to waive immaterial bid irregularities, the right to accept or reject any and all bids, or to abandon the Project entirely. The Contract will be awarded, if at all, within 90 calendar days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid.
- 13. Bonds.** The successful bidder is required to submit payment and performance bonds as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract price as awarded, including additive alternates, if applicable.
- 14. Evidence of Responsibility.** Within 24 hours following a request by City, a bidder must submit to the City satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by the City, the bidder's organization available for the performance of the Contract and any other required evidence of the bidder's qualifications to perform the proposed Contract. The City may consider such evidence before making its decision awarding the proposed Contract.
- 15. License(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work, and must also obtain a City of Brentwood business license before performing any Work on the

Project. These licenses must remain in effect at all times while Work is being performed on the Project.

16. **Ineligible Subcontractor.** Any subcontractor who is ineligible to perform work on a public works project under Labor Code Sections 1777.1 or 1777.7 is prohibited from performing Work on this Project.
17. **DIR Registration.** City will not accept a *Bid Proposal* from or enter into a contract with a bidder without proof that the bidder and its subcontractors are registered with the DIR to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions.
18. **Bid Schedule.** Each bidder must fully complete the *Bid Schedule* form accompanying the *Bid Proposal* form with unit prices as indicated, and must submit the completed *Bid Schedule* with its *Bid Proposal*.
  - 18.1 **Incorrect Totals.** In the event of a discrepancy between the actual total of the itemized or unit prices shown on the *Bid Schedule* for the base bid, and the amount entered as the base bid on the *Bid Proposal* form, the actual total of the itemized or unit prices shown on the *Bid Schedule* for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the *Bid Schedule* for any bid alternate, and the amount entered for the alternate on the *Bid Proposal* form, the actual total of the itemized prices shown on the *Bid Schedule* for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code Section 5100 et seq.
  - 18.2 **Estimated Quantities.** The quantities shown on the *Bid Schedule* are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the *Bid Schedule*, with no allowance for anticipated profit for quantities that are deleted or decreased.
  - 18.3 Each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code Section 6707.
19. **Post-Award Requests for Information.** After the Contract is awarded, the Contractor must submit written requests for information to:

James Campero, Construction Manager  
City of Brentwood  
Public Works – Engineering Division  
Phone: (925) 516-5420 Fax: (925) 516-5421  
150 City Park Way  
Brentwood, CA 94513  
[engineering@brentwoodca.gov](mailto:engineering@brentwoodca.gov)

**BIDDER'S REQUEST FOR INFORMATION FORM**

**Non-Potable Water Distribution System - Phase III  
CIP Project No. 592-59170**

All requests for information from bidders must be submitted in writing using this form. Fax or email the completed form to: City of Brentwood  
Fax: (925) 516-5421  
Email: [engineering@brentwoodca.gov](mailto:engineering@brentwoodca.gov)

**COMPANY NAME:** \_\_\_\_\_

**CONTACT:** \_\_\_\_\_

**COMPANY ADDRESS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Question/Information Requests:**

Please use the spaces below to clearly set forth each separate question or request for information, providing specific references to the subject document and provision. Attach additional sheets as necessary, continuing with sequential numbering for each request.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_
6. \_\_\_\_\_  
\_\_\_\_\_

## BID PROPOSAL

\_\_\_\_\_ (“Bidder”) hereby submits this *Bid Proposal* to the City of Brentwood (“City”) for its Non-Potable Water Distribution System - Phase III (“Project”) in response to the *Notice Inviting Bids*

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, for the following price (“Base Bid”):

\$ \_\_\_\_\_. [Note: The amount entered should be identical to the amount provided as “Total Base Bid” on the final page of the Bid Schedule.]

2. **Addenda.** Bidder acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

3. **Bidder’s Warranties.** By signing and submitting this *Bid Proposal*, Bidder warrants the following:

3.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents, and represents that, to the best of Bidder’s knowledge there are no errors, omissions, or discrepancies in the Contract Documents subject to the limitations of Public Contract Code Section 1104.

3.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.

3.3 **Bidder is Qualified.** Bidder is fully qualified to perform the Work.

3.4 **Responsibility for Bid.** Bidder has carefully reviewed this *Bid Proposal* and is solely responsible for any errors or omissions contained in its completed Bid.

3.5 **Iran Contracting Act.** Bidder certifies that it is not identified on a list created under the Iran Contracting Act, Public Contract Code 2200 et seq. (the “Act”) as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

4. **Award of Contract .** By signing and submitting this *Bid Proposal*, Bidder agrees that if Bidder is awarded the Contract for the Project, that within ten days following issuance of the Notice of Award to Bidder, Bidder will do all of the following:

4.1 **Execute Contract.** Enter into the Contract with City in accordance with the terms of this *Bid Proposal*, by signing and submitting to City the *Contract* prepared by City using the form included with the Contract Documents;

**4.2 Submit Required Bonds.** Submit to City the *Payment Bond* and the *Performance Bond*, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents; and

**4.3 Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents.

**5. Bid Security.** As a guarantee that if awarded the Contract, it will perform its obligations under Section 4, above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in the following form:

A cashier's check or certified check payable to City and issued by \_\_\_\_\_ Bank in the amount of \$\_\_\_\_\_.

A bid bond, using the *Bid Bond* form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This *Bid Proposal* is hereby submitted on \_\_\_\_\_, 20\_\_\_\_:

s/ \_\_\_\_\_ \*  
Name and Title [print]

s/ \_\_\_\_\_ \*\*  
Name and Title [print]

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Calif. License # and Classification

\_\_\_\_\_  
Address

\_\_\_\_\_  
Phone

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Fax

If required by City, a notarized acknowledgment of execution by Bidder must be attached to the *Bid Proposal*. If a Bidder is a corporation, the *Bid Proposal* must be signed by one corporate officer from each of the following two groups.

**\*Group A.**  
Chairman,  
President, **or**  
Vice-President

**\*\*Group B.**  
Secretary,  
Assistant Secretary,  
CFO **or** Assistant Treasurer

**Otherwise**, the corporation **must** attach a resolution certified by the secretary or assistant secretary under corporate seal empowering the officer(s) signing to bind the corporation.

## BID SCHEDULE

### Non-Potable Water Distribution System - Phase III CIP Project No. 592-59170

This *Bid Schedule* must be completed in ink and must be included with the sealed *Bid Proposal*. The unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the *Bid Proposal Form*. See Section 18 of the *Instructions to Bidders*.

BID ITEM NO.	ITEM DESCRIPTION	EST QTY	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1	Mobilization	1	LS	\$	\$
2	Clearing and Grubbing	1	LS	\$	\$
3	Traffic Control	1	LS	\$	\$
4	Storm Water Pollution Prevention Plan	1	LS	\$	\$
5	Sheeting and Shoring	1	LS	\$	\$
6	Asphalt Concrete	16,050	SF	\$	\$
7	12 inch Non-Potable Waterline - Open Trench	2,600	LF	\$	\$
8	8 inch Non-Potable Waterline - Open Trench	940	LF	\$	\$
9	6 inch Non-Potable Waterline - Open Trench	111	LF	\$	\$
10	4 inch Non-Potable Waterline - Open Trench	230	LF	\$	\$
11	12 inch Non-Potable Waterline (Future Connection)	75	LF	\$	\$
12	20 inch Potable Waterline - Open Trench	1,210	LF	\$	\$
13	20 inch Butterfly Valves	2	EA	\$	\$
14	12 inch Gate Valves	6	EA	\$	\$
15	8 inch Gate Valves	1	EA	\$	\$
16	6 inch Gate Valves	1	EA	\$	\$
17	4 inch Gate Valves	1	EA	\$	\$
18	Blow-off Valves	1	EA	\$	\$
19	UPRR Crossing - 12 inch Non-Potable Waterline	1	LS	\$	\$
20	UPRR Crossing - 20 inch Potable Waterline	1	LS	\$	\$
21	Fairview Crossing (HDD) - 12 inch Non-Potable Waterline	1	LS	\$	\$

BID ITEM NO.	ITEM DESCRIPTION	EST QTY	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
22	12 inch Non-Potable Waterline Connection at O'Hara Avenue	1	LS	\$	\$
23	20 inch Potable Waterline Connection at O'Hara Avenue	1	LS	\$	\$
24	20 inch Potable Waterline Connection at St. Martin Place	1	LS	\$	\$
25	Non-Potable Waterline Service Connection to Irrigation Controller	2	EA	\$	\$
26	Cathodic Protection	1	LS	\$	\$
27	Air Release Valves	6	EA	\$	\$
28	Fire Hydrants	2	EA	\$	\$
29	Traffic Signal Detector Loops	12	EA	\$	\$
30	Striping and Pavement Markers	1	LS	\$	\$

TOTAL BASE BID: Items 1 through 30 inclusive: \$ \_\_\_\_\_  
 [Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.]

BIDDER NAME: \_\_\_\_\_

## SUBCONTRACTOR LIST

### Non-Potable Water Distribution System - Phase III CIP Project No. 592-59170

For each Subcontractor who will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Contract Price,<sup>1</sup> the bidder must list the Subcontractor's name and address for its place of business, its California contractor license number, DIR registration number, a description of the Subcontractor's work and the subcontract price, and the percentage of work to be performed by that Subcontractor. **The Contractor must perform at least 50% of the Work with its own forces.**

SUBCONTRACTOR NAME, ADDRESS AND EMAIL	CA CONTRACTOR LICENSE NO.	DIR REG. NO.	DESCRIPTION OF WORK AND SUBCONTRACT PRICE	PERCENT OF TOTAL WORK

<sup>1</sup> For street or highway construction this requirement applies to any subcontract of \$10,000 or more.

**NONCOLLUSION DECLARATION**

**Non-Potable Water Distribution System - Phase III  
CIP Project No. 592-59170**

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid and will not pay, any person or entity for such purpose.

This declaration is intended to comply with California Public Contract Code Section 7106 and Title 23 U.S.C Section 112.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date], at \_\_\_\_\_ [city], \_\_\_\_\_ [state].

s/ \_\_\_\_\_

\_\_\_\_\_  
Name and Title [print]

**BID BOND**

\_\_\_\_\_ (“Bidder”) has submitted a bid, dated \_\_\_\_\_, 20\_\_\_\_ (“Bid”), to the City of Brentwood (“City”) for work on the Non-Potable Water Distribution System - Phase III (“Project”). Under this duly executed bid bond (“Bid Bond”), Bidder as Principal and \_\_\_\_\_, its surety (“Surety”), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the “Bond Sum”). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

- 1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with the City in accordance with the terms of the Bid.
- 2. **Submittals.** Within ten days following issuance of the notice of award to Bidder, Bidder must submit to City the following:
  - 2.1 **Contract.** The executed *Contract*, using the form provided by City in the Project Contract Documents (“Contract Documents”);
  - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the *Payment Bond* form included with the Contract Documents;
  - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the *Performance Bond* form included with the Contract Documents; and
  - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents, and any other documents required under the *Instructions for Bidders*.
- 3. **Enforcement.** If Bidder fails to execute the *Contract* and to submit the bonds and insurance certificates as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the *Contract* and delivered or transmitted to Surety as follows:

Attn: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_

- 4. **Duration; Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise it will remain in full force and effect for 90 days following award of the Contract or until this *Bid Bond* is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code Sections 2819 and 2845.

This Bid Bond is entered into and effective on \_\_\_\_\_, 20\_\_\_\_\_.

SURETY:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

(Attach Acknowledgement, Notary Seal, and Attorney-In-Fact Certificate)

CONTRACTOR:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**BIDDER'S QUESTIONNAIRE**

**Non-Potable Water Distribution System - Phase III  
CIP Project No. 592-59170**

After the bids have been opened, the City may request a completed, signed *Bidder's Questionnaire* from one or more of the apparent low bidders. The *Bidder's Questionnaire* must be submitted within 48 hours of the City's request, using this form and attaching additional pages as required. City may use the completed Questionnaire to evaluate the Bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any delay, errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of the Contract.

**Part 1: General Information**

Bidder Name: \_\_\_\_\_ ("Bidder")

Check One:  Corporation  
 Partnership  
 Sole Proprietorship  
 Joint Venture of: \_\_\_\_\_  
 Other: \_\_\_\_\_

Contact Person: \_\_\_\_\_

**Part 2: Bidder Experience**

1. How many years has Bidder been in business under its present business name?

\_\_\_\_\_

2. Has Bidder completed projects similar in type and size to this Project as a general contractor?

\_\_\_\_\_

3. Has Bidder ever been disqualified on grounds that it is not responsible?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, provide additional information on a separate sheet of paper regarding the disqualification, including the name and address of the agency or City of the subject project, the type and size of the project, the reasons that Bidder was disqualified as not responsible, and the month and year in which the disqualification occurred.

4. Has Bidder ever been terminated from a construction project, either as a general contractor or as a subcontractor? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, provide additional information on a separate sheet of paper regarding the termination, including the name and address of the agency or City of the subject project, the type and size of the project, whether Bidder was under contract as a prime contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:
  - 5.1 Six most recently completed public works projects within the last three years;
  - 5.2 Three largest completed projects within the last three years; and
  - 5.3 Any project which is similar to this Project.
  
6. Using separate sheets of paper attached to this Questionnaire, provide all of the following information for each project identified in response to the above three categories:
  - 6.1. Project Name
  - 6.2. Location
  - 6.3. City
  - 6.4. City Contact (name and current phone number)
  - 6.5. Architect or Engineer Name
  - 6.6. Architect or Engineer Contact (name and current phone number)
  - 6.7. Construction Manager (name and current phone number)
  - 6.8. Description of Project, Scope of Work Performed
  - 6.9. Initial Contract Value (at time of bid award)
  - 6.10. Final Cost of Construction (including change orders)
  - 6.11. Original Scheduled Completion Date
  - 6.12. Time Extensions Granted (number of days)
  - 6.13. Actual Date of Completion
  - 6.14. Number and amount of Stop Notices or Mechanic's Liens filed
  - 6.15. Amount of liquidated damages assessed against Bidder
  - 6.16. Nature and resolution of any claim, lawsuit, and/or arbitration between Bidder and the City

**Part 3: Verification**

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this *Bidder's Questionnaire* on behalf of the named Bidder, and that all responses and information set forth in this *Bidder's Questionnaire* and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

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

By [name, title]: \_\_\_\_\_

For [name of Bidder]: \_\_\_\_\_

## CONTRACT

### Non-Potable Water Distribution System - Phase III CIP Project No. 592-59170

This public works contract ("Contract") is entered into by and between the City of Brentwood ("City") and \_\_\_\_\_ ("Contractor") for work on the Non-Potable Water Distribution System - Phase III ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the *Notice Inviting Bids*, Contractor has submitted a *Bid Proposal* to perform work on the Project, and on \_\_\_\_\_, 20\_\_, the Brentwood City Council authorized award of this Contract to Contractor for the amount of Contractor's bid.
2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the following:
  - 2.1 Notice Inviting Bids;
  - 2.2 Instructions for Bidders;
  - 2.3 Addenda, if any;
  - 2.4 Bid Proposal and required attachments;
  - 2.5 Contract;
  - 2.6 Payment and Performance Bonds;
  - 2.7 General Conditions;
  - 2.8 Special Conditions;
  - 2.9 Project Drawings and Specifications;
  - 2.10 Change Orders, if any;
  - 2.11 Notice of Award;
  - 2.12 Notice to Proceed;
  - 2.13 Brentwood Standard Plans and Specifications;
  - 2.14 And the following: No other documents
3. **Contractor's Obligations.** Contractor agrees to perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, equipment, transportation, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.
4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \_\_\_\_\_ Dollars (\$\_\_\_\_\_) (the "Contract Price"), in accordance with the payment provisions in the *General Conditions*.
5. **Time for Completion.** Contractor will fully complete the Work for the Project within 60 Working days from the commencement date given in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.

- 6. Liquidated Damages.** If Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of Fifteen Hundred Dollars (\$1,500) for each day of unexcused delay in completion, and the Contract Price will be reduced accordingly.
- 7. Labor Code Compliance.**
- 7.1 General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance.
- 7.2 Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.
- 7.3 DIR Registration.** City will not accept a *Bid Proposal* from or enter into a contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations ("DIR") to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions.
- 8. Workers' Compensation Certification.** Under Labor Code Section 1861, by signing this *Contract*, Contractor certifies as follows: "I am aware of the provisions of Labor Code Section 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."
- 9. Notice.** Any notice, billing, or payment required by the Contract Documents must be made in writing, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, facsimile, or by email as a PDF (or comparable) file. Notice is deemed effective upon delivery unless otherwise specified. Notice for each party must be given as follows:

	<b>City of Brentwood</b>	<b>Contractor</b>
Name/Title	James Campero	
Address	150 City Park Way	
City/state/zip	Brentwood/CA 94513	
Phone	925-516-5420	
Fax	925-516-5421	
Email	engineering@brentwoodca.gov	

**10. General Provisions.**

- 10.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's successors and permitted assigns.

- 10.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract except as expressly provided in the *General Conditions* or *Special Conditions*.
- 10.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the California Superior Court in Contra Costa County, and no other place.
- 10.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this *Contract*.
- 10.5 Integration; Severability.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor. If any provision of the Contract Documents, or portion of a provision, is determined to be illegal, invalid, or unenforceable, the remaining provisions of the Contract Documents will remain in full force and effect.
- 10.6 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporation Code Section 313. Alternatively, the Contractor may attach a resolution of the corporation, certified by the secretary or assistant secretary under corporate seal, empowering the officer(s) signing the Contract to bind the corporation.

*[Signatures are on the following page.]*

The parties agree to this Contract as witnessed by the signatures below:

CONTRACTOR:

CITY OF BRENTWOOD:

\* By: \_\_\_\_\_

By: \_\_\_\_\_

Gustavo "Gus" Vina, City Manager

Printed Name: \_\_\_\_\_

ATTEST:

Title: \_\_\_\_\_

By: \_\_\_\_\_

Margaret Wimberly, MMC, City Clerk

\*\* By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

APPROVED AS TO FORM:

Title: \_\_\_\_\_

By: \_\_\_\_\_

Damien Brower, City Attorney

If required by City, a notarized acknowledgment of execution by Contractor must be attached. If a Contractor is a corporation, Contract must be signed by one corporate officer from each of the following two groups.

**\*Group A.**

Chairman,  
President, **or**  
Vice-President

**\*\*Group B.**

Secretary,  
Assistant Secretary,  
CFO **or** Assistant Treasurer

**Otherwise**, the corporation **must** attach a resolution certified by the secretary or assistant secretary under corporate seal empowering the officer(s) signing to bind the corporation.

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

\_\_\_\_\_  
Contractor's Calif. License Number(s)

Seal:

\_\_\_\_\_  
Expiration Date(s)

**PAYMENT BOND**

The City of Brentwood ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract, dated \_\_\_\_\_, 20\_\_ ("Contract") for work on the Non-Potable Water Distribution System - Phase III ("Project"). The Contract is incorporated by reference into this *Payment Bond* ("Bond").

1. **General.** Under this Bond, Contractor as principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee in an amount not less than (\$ \_\_\_\_\_) ("Bond Sum"), under California Civil Code Sections 9550, et seq.
2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay any of the persons named in California Civil Code Section 9100 amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and its Subcontractors, under California Unemployment Insurance Code Section 13020, with respect to the work and labor, then Surety will pay for the same.
3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code Section 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
5. **Waivers.** Surety waives any requirement to be notified of alterations to the *Contract* or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code Sections 2819 and 2845. City waives requirement of a new bond for any supplemental contract under Civil Code Section 9550. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

6. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court of the County in which the Project is

located, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

7. **Effective Date; Execution.** This Bond is entered into and is effective on \_\_\_\_\_, 20\_\_\_\_\_.

SURETY:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

APPROVED BY CITY:

\_\_\_\_\_ City of Brentwood

s/ \_\_\_\_\_

Name: Gustavo "Gus" Vina

Title: City Manager

## PERFORMANCE BOND

The City of Brentwood ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract, dated \_\_\_\_\_, 20\_\_\_\_ ("Contract") for work on the Non-Potable Water Distribution System - Phase III ("Project"). The Contract is incorporated by reference into this *Performance Bond* ("Bond").

1. **General.** Under this Bond, the Contractor as Principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee for an amount not less than Dollars (\$\_\_\_\_\_) (the "Bond Sum"). By executing this Bond, Contractor and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, to the provisions of this Bond.
2. **Surety's Obligations; Waiver.** If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract. Surety's obligations under this Bond will become null and void upon recordation of the notice of completion, provided Contractor has timely provided a warranty bond as required under the Contract. Otherwise Surety's obligations will remain in full force and effect until expiration of the one year warranty period under the Contract. Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code Sections 2819 and 2845.
3. **Application of Contract Balance.** Upon making a demand on this Bond, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the "Contract Balance" is defined as the total amount payable by City to the Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
4. **Contractor Default.** Upon written notification from City that Contractor is in default under Article 13 of the Contract *General Conditions*, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
  - 4.1 Arrange for completion of the Work under the Contract by Contractor, with the City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
  - 4.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense, or
  - 4.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
5. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.

6. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

7. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court for the County in which the Project is located, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

8. **Effective Date; Execution.** This Bond is entered into and effective on \_\_\_\_\_, 20\_\_\_\_.

SURETY:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**WARRANTY BOND**

The City of Brentwood ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract, dated \_\_\_\_\_, 20\_\_ ("Contract") for work on the Non-Potable Water Distribution System - Phase III ("Project"). The Contract is incorporated by reference into this *Warranty Bond* ("Bond").

1. **General.** Under this Bond, Contractor as principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee in the amount of 15 % of the final Contract Price, ("Bond Sum").
  
2. **Warranty Period.** The Contract requires Contractor to guarantee its work and that of its Subcontractors on the Project, against defects in materials or workmanship which are discovered during the one year period commencing with recordation of the Notice of Completion (the "Warranty Period").
  
3. **Surety's Obligations.** If Contractor faithfully carries out and performs its guarantee under the Contract, and, on due notice from City, repairs and make good at its sole expense any and all defects in materials and workmanship in the Project which are discovered during the Warranty Period, or if Contractor promptly reimburses City for all loss and damage that City sustains because of Contractor's failure to makes such repairs in accordance with the Contract requirements, then Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
  
4. **Waiver.** Surety waives the provisions of Civil Code Sections 2819 and 2845.
  
5. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:  
  
Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_
  
6. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court in which the Project is located, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
  
7. **Effective Date; Execution.** This Bond is entered into and is effective on \_\_\_\_\_, 20\_\_\_\_\_.

*[Signatures are on the following page.]*

SURETY:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

\_\_\_\_\_

s/ \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## GENERAL CONDITIONS

### Article 1 - Definitions

**1.1 Definitions.** The following definitions apply to all of the Contract Documents unless otherwise indicated. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the words “day,” “furnish,” “including,” “install,” and “working day” or “work day.”

**Allowance** means an amount included in the *Bid Proposal* for Work that may or may not be included in the Project, depending on conditions that will not become known until after bids are opened. If the Contract Price includes an Allowance and the cost of performing the Work covered by that Allowance is greater or less than the Allowance, the Contract Price will be increased or decreased accordingly.

**Article**, as used in these *General Conditions*, means a numbered Article of the *General Conditions*, unless otherwise indicated by the context.

**Brentwood Standard Plans and Specifications** means the most current version, at bid time, of the City’s Standard Plans and Specifications.

**Caltrans Standard Plans** means the most current version at bid time of the Standard Plans of the California Department of Transportation.

**Caltrans Standard Specifications** means the version of the Standard Specifications of the California Department of Transportation specified in Section 2 of the *Contract* form, subject to the terms and limitations in Section 3.3 of the *General Conditions*.

**Change Order** means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

**City** means the City of Brentwood, acting through its City Council, officers, employees, and authorized representatives.

**City Engineer** means the City Engineer and Director of Public Works for the City of Brentwood acting directly or through a duly authorized agent, which may be an employee of the City or an outside consultant.

**Claim** means a separate demand by Contractor for change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; or a written demand by Contractor objecting to the amount of Final Payment.

**Contract** means the signed agreement between City and Contractor.

**Contract Documents** means, collectively, all of the documents listed as such in Section 2 of the *Contract*, including the *Notice Inviting Bids*; the *Instructions for Bidders*; addenda, if any; the *Bid Proposal*, and attachments thereto; the *Contract*; the notice of award and notice to proceed; the payment and performance bonds; the *General*

*Conditions*; the *Special Conditions*; the Project Drawings and Specifications; any Change Orders; and any other documents expressly made part of the Contract Documents.

**Contract Price** means the total compensation to be paid to the Contractor for performance of the Work, as set forth in the *Contract* and as amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, or equipment following submission of the *Bid Proposal*.

**Contract Time** means the number of Working Days for performance of the Work, as set forth in the *Contract* and as amended by Change Order.

**Contractor** means the individual, partnership, corporation, or joint-venture who has signed the *Contract* with City to perform the Work.

**Day** means a calendar day unless otherwise specified.

**Design Professional** means the licensed individual(s) or firm(s) retained by City to design the Project and to provide architectural or engineering services to ensure the Project is constructed as intended. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the City Engineer.

**Drawings** means the City-provided plans and graphical depictions of the Project requirements, and does not include Shop Drawings.

**Final Completion** means the Contractor has fully completed all of the Work required by the Contract Documents, including all punch list items, any required commissioning, and has provided all required submittals, including the *Warranty Bond*, instructions and manuals, and as-built drawings to the City's satisfaction.

**Final Payment** means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld pursuant to the Contract Documents, including liquidated damages, up to 125% of the amount of any unreleased stop notice, amounts subject to setoff, up to 150% of any unresolved third-party claim for which Contractor is required to indemnify City, and up to 150% of any amount in dispute as authorized by Public Contract Code Section 7107.

**Furnish** means to purchase and deliver to the Worksite designated for installation.

**Hazardous Materials** means any substance or material identified now or in the future as hazardous under any federal, state, or local law or regulation, or any other substance or material that may be considered hazardous or otherwise subject to statutory or regulatory requirements governing handling, disposal, or cleanup.

**Including** means "including, but not limited to," unless the context requires otherwise.

**Inspector** means the individual(s) or firm(s) retained by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all applicable codes, regulations, and permits.

**Install** means to fix in place for materials, and to fix in place and connect for equipment.

**Project** means the public works project referenced in the *Contract*.

**Project Manager** means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable.

**Section** as used in these *General Conditions*, means a numbered Section of the *General Conditions*, unless otherwise indicated by the context.

**Shop Drawings** means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City approval, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Drawings and Specifications.

**Specifications** means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into this Project by or on behalf of City, and does not include the *Contract*, *General Conditions* or *Special Conditions*.

**Subcontractor** means an individual, partnership, corporation, or joint-venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors, suppliers, fabricators, and equipment lessors of all tiers, unless otherwise indicated by the context.

**Technical Specifications** means Specifications.

**Work** means all of the construction and services necessary or incidental to completing the Project in conformance with the requirements of the Contract Documents.

**Working Day or Work Day** means a day that City is open for normal business, excluding weekends and excluding holidays observed by City.

**Worksite** means the place or places where the Work is performed.

## **Article 2 - Roles and Responsibilities**

### **2.1 Design Professional.**

- (A) **General.** Design Professional, as the City's representative, is responsible for the overall design of the Project, and to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Contract Documents.
- (B) **Interpretation.** Design Professional will decide all questions pertaining to interpretation of the Drawings or Specifications. The Design Professional's decision regarding interpretation of the Drawings or Specifications is final and conclusive.

## 2.2 Contractor.

- (A) **General.** Contractor must provide all labor, materials, equipment and services necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economic and efficient manner in the best interests of City. Contractor is solely responsible for all costs to perform the Work as specified in the Contract Documents, including any Work performed outside the Worksite.
- (B) **Responsibility for the Work.** Contractor is solely responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for, and required to exercise full control over, construction means, methods, techniques, sequences, procedures, and coordination of all portions of the Work with that of all other Contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions.
- (C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including phone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.
- (D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent, acceptable to City, and assistants, as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until the superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.
- (E) **Standards; Compliance.** Contractor must, at all times, ensure that the Work is performed in a good workmanlike manner following best practices and in full compliance with the Contract Documents and all applicable laws, regulations, codes, standards, and permits.
- (F) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or its Subcontractors.
- (G) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City, Project Manager, or the Inspector to be deficient or defective in workmanship, materials, and equipment.

- (H) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos and electronic records. Project records subject to this provision include, but are not limited to, Project cost records and records relating to preparation of Contractor's bid.
- (1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as extra work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.
  - (2) Contractor must continue to maintain its Project records in an organized manner for a period of four years after City's acceptance of the Project or following termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's Project records relating to the Project or to investigate Contractor's plant or equipment during Contractor's normal business hours.

### 2.3 Subcontractors.

- (A) **General.** Contractor must perform at least 50% of the Work with its own forces, as measured by the Contract Price. All Work which is not performed by Contractor with its own forces must be performed by qualified Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work.
- (B) **Contractual Obligations.** Contractor must require every Subcontractor to be bound to the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, and to likewise bind their subcontractors or suppliers. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.
- (C) **Termination of Contract.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, provided that the City accepts the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.
- (D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code Section 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing.
- (E) **Rejection of Subcontractor.** If the City Engineer determines that a Subcontractor is unqualified to perform its Work, is failing to satisfactorily perform its Work, or is

otherwise impeding the progress of the Work, at the request of the City Engineer, that Subcontractor must be permanently removed from the Project and its Work performed by Contractor's own forces or by a duly authorized, qualified Subcontractor. Contractor will be solely responsible for any costs or delays resulting from removal of a Subcontractor under this Section.

## 2.4 Coordination of Work.

- (A) **Concurrent Work.** City reserves the right to perform or to have performed other work on or adjacent to the Project site while the Work is being performed. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, and must avoid hindering, delaying, or interfering with the work of other contractors and subcontractors. To the full extent permitted by law, Contractor must hold harmless and indemnify City, Design Professional, and Project Manager against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of another contractor or subcontractor.
- (B) **Defects.** Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any such known defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work.

## 2.5 Submittals.

Unless otherwise specified, Contractor must submit to Project Manager for review and approval, all schedules, Shop Drawings, samples, product data and similar submittals required by the Contract Documents, or upon request by the Project Manager. All submittals, including requests for information (RFIs) are subject to the provisions of this Section.

- (A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.
- (B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current approved schedule for the Work and within the applicable time specified elsewhere in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.
- (C) **Required Contents.** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).
- (D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections in full conformance with the requirements of this Section.

- (E) **Effect of Review and Approval.** Review and approval of a submittal by the Design Professional will not relieve Contractor from complying with the requirements of the Contract Documents.
- (F) **Enforcement.** Any Work performed or material used without prior approval of a required submittal will be performed at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work, and the cost of additional time or services required of the Design Professional, Project Manager, or Inspector.
- (G) **Excessive RFIs.** RFIs will be considered excessive or unnecessary if the City Engineer determines that the explanation or response to the RFI is clearly and unambiguously discernable in the Contract Documents. The City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to the Contractor.

## 2.6 Material Samples.

- (A) **Engineer Approval.** Before a material is delivered or incorporated into the Work, Contractor must obtain the City Engineer's approval of the material or source for the material, by submitting a representative sample of the material. Samples must be submitted in the manner specified in Section 2.5, above, or as otherwise specified in the Contract Documents. Contractor is solely responsible for the cost to remove and replace materials that were used or installed without the City Engineer's prior written approval.
- (B) **Testing.** If Contractor is required to provide material testing, the test results must be submitted to the City Engineer within five days of the testing at no charge to the City. The testing must be performed as specified in the Contract Documents, or if not specified, in accordance with nationally recognized trade standards.

## Article 3 - Contract Documents

### 3.1 Interpretation of Contract Documents.

- (A) **Drawings and Specifications.** The Drawings and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Drawings and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Drawings and Specifications, the Specifications will control.
- (B) **Duty to Notify.** If Contractor becomes aware of any ambiguity, discrepancy, omission, or error in the Drawings or Specifications, Contractor must immediately notify the Design Professional and request clarification of such, by submitting a

written request for information (RFI) in the manner specified by City. The Design Professional's clarifications or interpretations will be final and binding.

- (C) **Figures and Dimensions.** Figures control over scaled dimensions.
- (D) **Technical or Trade Terms.** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.
- (E) **Measurements.** Contractor must verify all relevant measurements at the Worksite before ordering any material or performing any Work, and will be responsible for the correctness of those measurements.

**3.2 Order of Precedence.** Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the *Special Conditions*, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Notice of Award;
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;
- (I) Specifications;
- (J) Drawings;
- (K) Contractor's Bid Proposal and attachments;
- (L) Notice Inviting Bids;
- (M) Instructions for Bidders;
- (N) Brentwood Standard Plans and Specifications; and
- (O) Any documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, e.g., Caltrans Standard Specifications or Caltrans Special Provisions.

**3.3 Caltrans Standard Specifications.** Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS" means the most current edition of Caltrans' Standard Specifications, unless otherwise specified ("Standard Specifications"), including the most current amendments as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Standard Specifications:

- (A) **Limitations.** None of the "General Provisions" of the Standard Specifications, i.e., Sections 1 through 9, applies to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

- (B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Standard Specifications and a provision of these Contract Documents, as determined by the City Engineer, the provision in the Contract Documents will govern.
- (C) **Meanings.** Terms used in the Standard Specifications are to be interpreted as follows:
  - (1) Any reference to the “Engineer” is deemed to mean the City Engineer.
  - (2) Any reference to the “Special Provisions” is deemed to mean the *Special Conditions*.
  - (3) Any reference to the “State” is deemed to mean the City.

**3.4 For Reference Only.** Contractor is responsible for the careful review of any document, study, or report appended to the Contract Documents solely for informational purposes and identified as “For Reference Only.” Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. However, Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Contractor must promptly notify the City Engineer of any perceived or actual conflict between the Contract Documents and any document provided For Reference Only.

#### **Article 4 - Bonds, Indemnity, and Insurance**

**4.1 Payment and Performance Bonds.** Within ten days following issuance of the notice of award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, using the bond forms included with the Contract Documents.

- (A) **Surety.** Each bond must be issued by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City’s satisfaction, or terminate the Contract for default.

**4.2 Indemnity and Liability.**

- (A) **Contractor’s Indemnity Obligation.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its agents and consultants, and Design Professional (individually, an “Indemnitee,” and collectively the “Indemnitees”) from and against any and all liability, loss, damage, claims, expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, “Liability”) of every nature arising out of or in connection with the operations of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or its failure to comply with any of its obligations under the

Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of the Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this provision will be deemed a material breach of this Contract.

- (B) **Third Party Claims.** City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code Section 9201.
- (C) **No Personal Liability.** No member of the City Council or any individual officer, employee or authorized agent of the City will be personally liable to Contractor or to any Subcontractor for any liability arising under this Contract.

**4.3 Insurance.** No later than ten days following issuance of the notice of award, Contractor is required to procure and provide proof of the insurance coverage required by this section in the form of certificates and endorsements. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract until the date of recordation of the notice of completion. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default.

- (A) **Policies and Limits.** The following insurance policies and limits are required for this Contract unless otherwise specified in the *Special Conditions*:
  - (1) **Commercial General Liability Insurance ("CGL"):** The CGL policy must be issued on an occurrence basis, written on a comprehensive general liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's operations in the performance of the Work, including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, with limits of at least \$5,000,000.00 per occurrence, and \$10,000,000.00 aggregate. The CGL policy must name City as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and must protect City, its officers, employees, and agents against any and all liability for personal injury, death, or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 alone, or both forms CG 20 10 10 01 and CG 20 37 10 01 or CG 20 10 04 13 and CG 20 37 04 13. The CGL coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth herein.

- (2) *Builder's Risk Insurance*: The Builder's Risk Insurance policy must be issued on occurrence basis, for all-risk coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City.
  - (3) *Workers' Compensation Insurance and Employer's Liability*: The policy must comply with the requirements of the California Workers' Compensation Insurance and Safety Act, with of at least \$1,000,000.00. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the Department of Industrial Relations.
  - (4) *Automobile Liability*. The automobile liability policy must provide coverage of at least \$1,000,000 combined single-limit per accident for bodily injury, death or property damage.
- (B) **Notice**. Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days written notice to City, unless due to non-payment of premiums, in which case ten days written notice must be made to City.
- (C) **Waiver of Subrogation**. Each required policy must include an endorsement providing that the carrier agrees to waive any right of subrogation it may have against City.
- (D) **Required Endorsements**. The CGL Policy and the Builder's Risk Policy must include the following specific endorsements:
- (1) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.
  - (2) The insurance provided by Contractor is primary and no insurance or self-insurance held or owned by City, its officers, officials, employees or volunteers may be called upon to contribute to a loss. Any insurance or self-insurance held or owned by City, its officers, officials, employees and volunteers is excess to Contractor's insurance and may not be called on to cover or contribute to any loss covered by Contractor's insurance.
  - (3) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.
- (E) **Subcontractors**. Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the additional insureds and waiver of subrogation. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

- (F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, “deductibles”) are subject to approval by City, acting in its sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If City determines that the deductibles are unacceptably high, at City’s option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required additional insured, as stated in subsection 4.3(A)(1), above; or must provide a financial guarantee, to City’s satisfaction, guaranteeing payment of losses and related investigation, claim administration and legal expenses.

- 4.4 Warranty Bond.** As a condition precedent to Final Completion, Contractor must submit a warranty bond, using the form provided by City, to guarantee its Work as specified in Article 11, Completion and Warranty Procedures. The warranty bond must be issued by a surety admitted in California for 15% of the final Contract Price or as otherwise specified in the Contract Documents. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City.

## **Article 5 - Contract Time**

- 5.1 Time is of the Essence.** Time is of the essence in Contractor’s performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

- (A) **General.** Contractor must commence the Work on the date indicated in the notice to proceed, and must fully complete the Work, in strict compliance with all requirements of the Contract Documents, and within the Contract Time.

- (B) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City’s directive in this regard, City may, at Contractor’s expense, separately contract for additional workers, materials, or equipment or use City’s own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor’s default.

- 5.2 Schedule Requirements.** All schedules must be prepared using standard scheduling software acceptable to Design Professional, and must provide schedules in electronic and paper form as requested.

- (A) **As-Planned (Baseline) Schedule.** Within 15 calendar days following issuance of the notice of award (or as otherwise specified in the *Special Conditions*), Contractor must submit to City for review and approval an as-planned (baseline) schedule showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time using critical path methodology. The as-planned schedule must include the work of all trades required for the Work, and must be

sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the as-planned schedule must be dated, provided in the format specified in the Contract Documents or as required by the City Engineer, and must include, at a minimum, a description of the activity, the start and completion dates, and the duration.

- (B) **Progress Schedules.** Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by the City Engineer, for review and approval with each application for a progress payment. The progress schedule must show how the actual progress of the Work to date compared to the as-planned schedule, and must identify any actual or potential impacts to the critical path.
- (C) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how the Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.
- (D) **Effect of Approval.** Contractor and its Subcontractors must perform the Work in accordance with the most current approved schedule unless otherwise directed by City. City's approval of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.
- (E) **Posting.** Contractor must at all times maintain a copy of the most current approved progress or recovery schedule posted prominently in its on-site office.
- (F) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.
- (G) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays observed by the City, starting no earlier than 7:00 a.m., and ending no later than 3:30 p.m., except as expressly provided in the *Special Conditions*, or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in these Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services. Contractor may not perform Work outside of the authorized Working Days and times without the prior written consent of the City Engineer. A request to perform Work outside of the authorized Working Days and times must be submitted in writing to the City Engineer at least two Working Days in advance. Contractor will be solely responsible for any resulting costs, including overtime inspection, testing or staking.

### 5.3 Delay and Extensions of Contract Time.

- (A) **Excusable Delay.** The Contract Time may be extended if Contractor encounters an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through planning, foresight, and diligence ("Excusable Delay"). Grounds for Excusable Delay may include fire, earthquake, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, suspension for convenience under Article 13, or unusually severe weather.
- (B) **Non-Excusable Delay.** Excusable Delay does not include delay that is concurrent with non-Excusable Delay, and does not include delay caused by:
- (1) Weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;
  - (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for timely completion of the Work;
  - (1) Contractor's failure to provide adequate notification to utility companies for connections or services necessary for the timely performance and completion of the Work;
  - (2) Foreseeable conditions Contractor could have ascertained from reasonably diligent inspection of the Worksite or review of the Contract Documents; or
  - (3) Contractor's financial inability to perform the Work, including insufficient funds to pay its Subcontractors or suppliers.
- (C) **Request for Extension of Contract Time.** A request for an extension of time and associated delay costs must be submitted in writing to the Project Manager within ten calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6, below. Strict compliance with these requirements is necessary to ensure that any delay or delay costs may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of time or delay costs that does not strictly comply with the requirements of Article 5 and Article 6 will be deemed waived.
- (1) **Required Contents.** The request must include a detailed description of the cause(s) of the delay, and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, e.g., by workforce management, change in sequencing, etc. If the delay is still ongoing at the time the request is

submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

- (2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed, or provide a realistic estimate if the duration of the delay is not yet known. The request must specify the amount of any delay-related costs that are claimed, or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known.
- (3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including schedule and cost impacts, including a time impact analysis using critical path methodology, and demonstrating unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.
- (4) *Burden of Proof.* Contractor has the burden of proving 1) that the delay was an Excusable Delay, as defined above, 2) that Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts, 3) that the delay will unavoidably result in delaying Final Completion, and 4) that any delay costs claimed by Contractor were actually incurred and were reasonable under the circumstances.
- (5) *Recoverable Costs.* If Contractor is granted an extension of time for Excusable Delay, recompense for delay costs shall be limited to actual, direct, reasonable, and substantiated costs, and will not include home office overhead, or markup for overhead and profit.
- (6) *Legal Compliance.* Nothing in this provision is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code Section 7102.
- (7) *No Waiver.* Any grant of an extension of time or delay costs due to an Excusable Delay will not operate as a waiver of City's right to assess liquidated damages for unexcused delay.
- (8) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of time or delay costs, Contractor may not stop working pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of time or delay costs is to comply with the Dispute Resolution provisions set forth in Article 12, below.

**5.4 Liquidated Damages.** It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages which are difficult to determine and accurately specify. Pursuant to Public Contract Code section 7203, if Contractor fails to achieve Final Completion within the Contract Time, City will charge

Contractor in the amount specified in the Contract for each day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty.

- (A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable Delay, as set forth above.
- (B) **Milestones.** Liquidated damages will also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.
- (C) **Setoff.** City is entitled to set off the amount of liquidated damages assessed against any payments otherwise due to Contractor, including setoff against release of retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its Performance Bond surety.
- (D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's unexcused delay in achieving Final Completion.

## **Article 6 - Contract Modification**

**6.1 Changes in Work.** City reserves the right to make changes in the Work without invalidating the Contract. City may direct or Contractor may request changes in the Work, and any such changes will be formalized in a Change Order, which may include commensurate changes in the Contract Price or Contract Time as applicable. Contractor must promptly comply with City-directed changes in the Work in accordance with the intent of the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time.

- (A) **City-Directed Change.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to an City-directed change, Contractor must perform the Work as directed and may not delay its work or cease work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute.
- (B) **Contractor's Obligations.** In the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents as opposed to changed or extra Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute.
- (C) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

- (D) **Dispute Resolution.** Contractor's sole recourse for an unresolved dispute related to changes in the Work is to comply with the dispute resolution provisions set forth in Article 12, below.

**6.2 Contractor Change Order Requests.** Contractor must submit a request or proposal for a change in the Work or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

- (A) **Time for Submission.** Any request for a change in the Contract Price must be submitted in writing to the Project Manager within ten calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time.
- (B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, and subcontract amounts. Any estimated cost must be updated in writing as soon as the actual amount is known.
- (C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the *General Conditions*.
- (D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.
- (E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete, and agrees that any costs, expenses, or time extension request not included herein will be deemed waived. Contractor understands that submission of claims which have no basis in fact or which Contractor knows to be false may violate the False Claims Act, as set forth in Government Code Sections 12650 et seq."

- (F) **Effective.** A Change Order is not effective until it is approved by the City Council or the City Council's authorized delegee.

**6.3 Adjustments to Contract Price.** The amount of any increase or decrease to the Contract Price will be determined based on one of the following methods in the order provided:

- (A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or schedule of values, will apply first if unit pricing has previously been provided in Contractor's accepted bid schedule or schedule of values for the affected Work.

- (B) **Lump Sum.** A mutually agreed upon lump sum.
- (C) **Time and Materials.** On a time and materials basis, which may include a not-to-exceed limit, calculated as the total of the following sums:
  - (1) All direct labor costs plus 15% for overhead and profit;
  - (2) All direct material costs, including sales tax, plus 15% for overhead and profit;
  - (3) All direct plant and equipment rental costs, plus 15% for overhead and profit;
  - (4) All direct subcontract costs plus 10% for overhead and profit; and
  - (5) Increased bond or insurance premium costs computed at 1.5% of total of the previous four sums.

**6.4 Unilateral Change Order.** If City disagrees with the amount of compensation or extension of time that Contractor has requested, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time in the amount City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

**6.5 Non-Compliance Deemed Waiver.** Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized extra work.

## **Article 7 - General Construction Provisions**

### **7.1 Permits and Taxes.**

- (A) **General.** Contractor must obtain and pay for any and all permits, fees, or licenses required to perform the Work, unless otherwise indicated in the Contract Documents. Contractor must cooperate with and provide notifications to government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all notices, permits, licenses, and renewals required for the Work.
- (B) **Federal Excise Tax.** Contractor must pay for all taxes on labor, material and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

**7.2 Temporary Facilities.** Contractor must provide, at Contractor's sole expense, any and all temporary facilities, including onsite office, sanitary facilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any utility services incidental thereto.

- (A) **Standards.** Such structures must be safe and adequate for the intended use, and installed and maintained in accordance with all applicable federal, state, and local laws, codes, and regulations.

- (B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.
- (C) **Additional Requirements.** Additional provisions pertaining to temporary facilities may be included in the Specifications or *Special Conditions*.

**7.3 Signs.** Contractor must furnish and install all signs required by the Contract Documents or required by the City Engineer at Contractor's sole expense. No signs may be displayed on or about City's property, except signage which is required by law, by the City Engineer or by the Contract Documents, without City's prior written approval as to content, size, design, and location.

**7.4 Protection of Work and Property.**

- (A) **General.** Contractor is responsible at all times for protecting the Work and materials and equipment to be incorporated into the Work from damage until the Notice of Completion has been recorded. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Drawings. Contractor is liable for any damage caused to City's real or personal property, the real or personal property of adjacent property owners, or the work or personal property of other contractors working for City.
- (B) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Drawings or apparent from inspection of the Project site, Contractor must promptly notify the Project Manager, and must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Project Manager. If the Project Manager's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6, above.
- (C) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, underpinning, etc., necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by law.

**7.5 Noninterference.** Contractor must take reasonable measures to avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must provide written notification to the City Engineer and to the City's Fire and Police Departments at least two Working Days before closing any lane or otherwise obstructing access by emergency vehicles to any area.

**7.6 Materials and Equipment.**

- (A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new and of the best grade for the intended purpose, and furnished in

sufficient quantities to ensure the proper and expeditious performance of the Work. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation, and must be installed in accordance with the manufacturer's recommendation. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work, and is responsible for protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City accepts the Project.

- (B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation of such items in accordance with the Contract Documents. Contractor must promptly notify City of any defects discovered in City-provided materials or equipment. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.
- (C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization required for use of patented or copyright protected materials, equipment, devices or processes that are incorporated into the Work. Contractor's indemnity obligation in Article 4, applies to any claimed violation of intellectual property rights in violation of this provision.

## 7.7 Substitutions.

- (A) **"Or Equal."** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and Contractor may request use of any equal material, product, thing, or service.
- (B) **Request for Substitution.** A request for substitution must be submitted to the Project Manager for approval within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.
- (C) **Substantiation.** All data substantiating the proposed substitute as an "equal" item must be submitted with the written request for substitution. Contractor's failure to timely provide necessary substantiation is ground for rejection of the proposed substitution, without further review.
- (D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution. The City Engineer has sole discretion to determine whether a proposed substitution is "equal," and the City Engineer's determination is final.
- (E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs associated with the substituted item(s).

If the proposed substitution is rejected, Contractor must, without delay, install the item specified.

- (F) **Contractor's Obligations.** The City Engineer's review of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

## 7.8 Testing and Inspection.

- (A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection by Inspector at all times and locations during construction and/or fabrication. All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for inspection.
- (B) **Scheduling and Notification.** Contractor must schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must provide timely notice to all necessary parties as specified in the Contract Documents.
- (C) **Responsibility for Costs.** City will bear the initial cost of testing to be performed by independent testing consultants retained by City, subject to the following exceptions:
  - (1) Contractor will be responsible for the costs of any subsequent tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.
  - (2) Contractor will be responsible for inspection costs, at City's established rates, for inspection time lost because the Work is not ready or Contractor fails to appear for a scheduled inspection.
  - (3) In addition, if any portion of the Work which is subject to testing is covered or concealed by Contractor prior to testing, Contractor will bear the cost of making that portion of the Work available for the testing required by the Contract Documents, and any associated repair or remediation costs.
- (D) **Contractor's Obligations.** Any Work that fails to comply with the requirements of the Contract Documents must be promptly repaired, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work was previously inspected or included in a progress payment. Contractor is solely responsible for any delay occasioned by remediation of noncompliant Work. Inspection of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified.
- (E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 apply to final inspection under Article 11, Completion and Warranty Provisions.

**7.9 Clean up.** Contractor must regularly remove debris and waste materials and maintain the Worksite in clean and neat condition.

(A) **General.** Prior to discontinuing work in an area, Contractor must clean the area and remove all rubbish along with its construction equipment, tools, machinery, waste and surplus materials. Contractor must, at all times, minimize and confine dust and debris resulting from construction activities.

(B) **Completion.** At the completion of the Work, Contractor must remove from the Worksite all of its equipment, tools, surplus materials, waste materials and debris. Before demobilizing from the Worksite, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas.

(C) **Non-Compliance.** If Contractor fails to commence compliance with its cleanup obligations within two business days following written notification from City or its representative, City may undertake appropriate cleanup measures without further notice and the cost will be deducted from any amounts due or to become due the Contractor.

**7.10 Instructions and Manuals.** Contractor must provide three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application. The instructions and manuals, along with any required guarantees, must be delivered to the Design Professional for review.

(B) **Instruction of Personnel.** Contractor or its Subcontractors must instruct City's personnel in the operation and maintenance of any complex equipment as a condition precedent to Final Completion, if required in the Contract Documents.

**7.11 As-built Drawings.** Contractor and its Subcontractors must maintain on the Worksite a separate complete set of the Drawings which will be used solely for the purpose of recording changes made in any portion of the Work in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. Progress payments may be delayed, in whole or in part, until the as-built drawings are brought up to date to the satisfaction of the City Engineer. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities, etc., installed underground, in walls, floors, or otherwise concealed. Deviations from the original

Drawings must be shown in detail. The location of all main runs, whether piping, conduit, ductwork, drain lines, etc., must be shown by dimension and elevation.

- (B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the City Engineer and Design Professional for review and approval as a condition precedent to Final Completion.

**7.12 Existing Utilities.** As required by Government Code Section 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site, if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Drawings or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent such delay was caused by City's failure to provide for removal or relocation of the utility facilities.

**7.13 Notice of Excavation.** Government Code Section 4216.2, requires that except in an emergency, Contractor must contact the appropriate regional notification center, or Underground Services Alert at 800-642-2444 (for Northern California), at least two Working Days, but not more than 14 calendar days before starting any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations, and if practical, Contractor must delineate with white paint or other suitable markings the area to be excavated.

**7.14 Trenching and Excavations.**

- (A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if the Contractor finds any of the following conditions:
- (1) Material that Contractor believes may be a hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law;
  - (2) Subsurface or latent physical conditions at the Worksite differing from those indicated by information about the Worksite made available to bidders prior to the deadline for submitting bids; or
  - (3) Unknown physical conditions at the Worksite of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

- (B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions do materially differ or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.
- (C) **Disputes.** In the event that a dispute arises between the City and the Contractor regarding any of the conditions specified in subsection (A) above, Contractor will not be excused from any scheduled completion date provided for in the Contract Documents, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes between Contractor and City.

**7.15 Trenching of Five Feet or More.** As required by Labor Code Section 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City or its civil or structural engineer, for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it must be prepared by a registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

**7.16 New Utility Connections.** City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

**7.17 Lines and Grades.** Contractor is required to use any benchmark provided by City Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work based on the benchmark(s) provided by the City Engineer.

(A) **Benchmarks.** If Contractor needs to have a benchmark staked or marked, it must submit written request to the City Engineer at least three Working Days in advance or sooner if necessary to avoid delay in performing the Work. In order to avoid inefficiencies created by requesting multiple Site visits by the City Engineer for this purpose, the request must be based upon a minimum of four hours of time for the City Engineer to provide the requested staking and marking. If Contractor submits a request for less than the minimum four hours, based on inefficient planning, Contractor will be billed the difference in cost between the four hour minimum and the City Engineer's actual time to stake or mark.

(B) **Clear Area.** Contractor is responsible for having the area(s) to be staked or marked by the City Engineer cleared in advance of any obstructions. If an area to be staked or marked is not adequately cleared by the time the City Engineer arrives, Contractor will be responsible for City Engineer's standby time, or for any ensuing delay if the City Engineer needs to reschedule the staking or marking to allow Contractor time to clear remaining obstructions.

- (C) **Duty to Protect.** Contractor is responsible for protecting stakes and marks set by the City Engineer against damage or displacement. If the stakes or marks are damaged or displaced, Contractor must request that the City Engineer reset the stakes or marks, providing at least three Working Days' notice. Contractor may be backcharged for the City's cost to reset the stakes or marks if the resetting is required because of Contractor's failure to take appropriate measures to protect the stakes or marks.

#### **7.18 Historic or Archeological Items.**

- (A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Inspector or Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").
- (B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by the City Engineer. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, any such assistance to be compensated as extra work on a time and materials basis under Article 6, Contract Modification. Any suspension of Work required due to discovery of Historic or Archeological Items will be treated as a suspension for convenience under Article 13.

#### **7.19 Environmental Control.** Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor and its Subcontractors shall at all times in the performance of the Work comply with all applicable federal, state, and local laws and regulations concerning pollution of waterways.

- (A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board national Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").
- (B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and the Contractor must comply with the same without adjustment of the Contract Price or the Contract Time. The Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit, the Contractor must comply with all other applicable state, municipal or regional laws, ordinances, rules or regulations governing discharge of stormwater, including applicable municipal stormwater management programs.

#### **7.20 Photographic Documentation.** Contractor is responsible for digital photographic and video documentation of the Project, beginning with photographs of the entire Worksite in its pre-construction condition before starting Work on the Project, and continuing to

document the progress of the Work on a daily basis, or as otherwise directed by the City Engineer. Contractor must provide photographic and video documentation to the City on disc(s) with its payment requests, showing Work performed during the period covered by the payment request, or upon request by the City Engineer.

## **Article 8 - Payment**

**8.1 Schedule of Values.** Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

**8.2 Progress Payments.** Following the last day of each month, or as otherwise required by the *Special Conditions* or *Specifications*, Contractor will submit to the Project Manager for approval, a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

**(A) Application for Payment.**

- (1) Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Worksite, as well as authorized and approved Change Orders. Each pay application must be supported by the Contractor's schedule of values and any other substantiating data required by the Contract Documents.
- (2) Each application for payment must be accompanied by an executed Conditional Waiver And Release Upon Progress Payment, using the form specified in Civil Code Section 8132 for each Subcontractor that performed Work during the period covered by that application.

**(B) Payment of Undisputed Amounts.**

- (1) City will pay the undisputed amount due, as certified by the Design Professional, within thirty (30) days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code Section 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct additional amounts as set forth in Section 8.3, below.
- (2) Within 45 days after receipt of each payment from the City, Contractor must submit an executed Unconditional Waiver And Release Upon Progress Payment, using the form specified in Civil Code Section 8134, from each Subcontractor that has received a progress payment from Contractor following Contractor's receipt of payment from the City.

**8.3 Adjustment of Payment Application.** City may adjust or reject a payment application, including application for Final Payment, in whole or in part, based upon any of the circumstances listed below. Contractor will be notified in writing of the basis for the adjustment, and will be promptly paid once the basis for that adjustment has been remedied and no longer exists.

- (A) Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items;
- (B) Loss or damage caused by Contractor or its Subcontractor(s) arising out of or relating to performance of the Work;
- (C) Contractor's failure to pay its Subcontractors and suppliers when payment is due;
- (D) Failure to timely correct rejected, nonconforming, or defective Work;
- (E) Unexcused delay in performance of the Work;
- (F) Any unreleased stop notice, retained as 125% of the amount claimed;
- (G) Failure to submit any required schedule or schedule update in the manner and within the time specified in the Contract Documents;
- (H) Failure to maintain or submit as-built documents in the manner and within the time specified in the Contract Documents;
- (I) Work performed without approved Shop Drawings, when approved Shop Drawings are required before proceeding with the Work;
- (J) Contractor's payroll records are delinquent or inadequate; and
- (K) Any other costs or charges that may be offset against payments due, as provided in the Contract Documents, including liquidated damages.

**8.4 Acceptance of Work.** Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

**8.5 Retention.** City will retain five percent of the amount due on each progress payment, or the percentage stated in the *Notice Inviting Bids*, whichever is greater, as retention to ensure full and satisfactory performance of the Work.

- (A) ***Substitution of Securities.*** As provided by Public Contract Code Section 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision will fully comply with Public Contract Code Section 22300, and will be subject to approval as to form by City's legal counsel.
- (B) ***Release of Undisputed Retention.*** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld under Section 8.3 or 8.6 will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of

completion, and no later than 60 days following acceptance of the Project by the City Council or authorized designee, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete under Public Contract Code Section 7107(c).

- 8.6 Setoff.** City is entitled to set off any amounts due from Contractor against any payments due to Contractor. City's entitlement to setoff includes progress payments as well as Final Payment and release of retention.
- 8.7 Payment to Subcontractors and Suppliers.** Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Worksite by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of the law, and those of the Contract Documents and applicable subcontract or supplier contract.
- (A) **Withholding for Stop Notice.** City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.
- (B) **Joint Checks.** City reserves the right to issue joint checks made payable to the Contractor and its Subcontractors or suppliers. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by City. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.
- 8.8 Final Payment.** Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. The date of Final Payment is deemed to be effective on the date that City acts to release retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.
- 8.9 Release of Claims.** City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts. Any disputed amounts may be specifically excluded from the release.
- 8.10 Warranty of Title.** Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

## Article 9 - Labor Provisions

- 9.1 Discrimination Prohibited.** Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Federal and California laws including the California Fair Employment and Housing Act (Government Code Sections 12900 et seq.), Government Code Section 11135, and Labor Code Sections 1735, 1777.5, 1777.6, and 3077.5.
- 9.2 Labor Code Requirements.**
- (A) **Eight Hour Day.** Under Labor Code Section 1810, eight hours of labor constitute a legal day's work under this Contract.
  - (B) **Penalty.** Under Labor Code Section 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code Section 1815.
  - (C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code Section 1777.5, which is fully incorporated by reference.
  - (D) **Notices.** Under Labor Code Section 1771.4, Contractor is required to post all job site notices prescribed by law or regulation.
- 9.3 Prevailing Wages.** Each worker performing Work under this Contract that is covered under Labor Code Section 1720 or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in Sections 1771 and 1774 of the Labor Code. The prevailing wage rates are available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Worksite.
- (A) **Penalties.** Under Labor Code Section 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion a day, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.
  - (B) **Federal Requirements.** If this Project is subject to Federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the current applicable prevailing wage rates under federal law.
- 9.4 Payroll Records.** Contractor must comply with the provisions of Labor Code Sections 1776 and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for electronic submission of payroll records.

- (A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:
- (1) The information contained in the payroll record is true and correct.
  - (2) The Contractor or Subcontractor has complied with the requirements of Labor Code Sections 1771, 1811, and 1815 for any Work performed by its employees on the Project.
- (B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, or to the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations, and as further provided by the Labor Code.
- (C) **Enforcement.** Upon notice of noncompliance with Labor Code Section 1776, Contractor or Subcontractor has ten days in which to comply with requirements of this section. If Contractor or Subcontractor fails to do so within the ten day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion a day, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from progress payments then due.

**9.5 Labor Compliance.** Under Labor Code section 1771.4, the Contract for this Project, if awarded on or after January 15, 2015, is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

## **Article 10 - Safety Provisions**

**10.1 Safety Precautions and Programs.** Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must comply with all applicable safety laws, rules and regulations and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at the Worksite, materials and equipment stored on or off site, and property at or adjacent to the Worksite.

- (A) **Reporting Requirements.** Contractor must immediately provide a written report to City of all recordable accidents and injuries occurring at the Worksite. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.
- (B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by law or regulation.

- (C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.
- (D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Worksite is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to the City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with the City's request for corrective measures pursuant to this provision.

**10.2 Hazardous Materials.** Unless otherwise specified, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Worksite that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to the City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

**10.3 Material Safety.** Contractor must maintain Material Safety Data Sheets ("MSDS") at the Worksite, as required by law, for materials or substances used or consumed in the performance of the Work. The MSDS will be accessible and available to Contractor's employees, Subcontractors, and City.

- (A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Worksite and/or used in the performance of the Work.
- (B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Worksite so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

## **Article 11 - Completion and Warranty Provisions**

### **11.1 Final Completion.**

- (A) **Final Inspection.** When the Work required by this Contract is fully performed, Contractor must provide written notification to the Project Manager requesting final inspection. Based on this inspection, the Design Professional will prepare a punch list of items that are incomplete, incorrectly installed, or not operating as required by the Contract Documents. The omission of any such item from this punch list will not relieve the Contractor from fulfilling all requirements of the Contract Documents.

- (B) **Punch List.** City will deliver the punch list to Contractor and will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time.
- (C) **Requirements for Final Completion.** Final Completion will be achieved upon completion or correction of all punch list items, as verified by inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents, and submission of all final submittals, including a warranty bond as required under Section 4.4, instructions and manuals as required under Section 7.10, and as-built drawings as required under Section 7.11, all to City's satisfaction. Once Final Completion is achieved, and the Project has been formally accepted by City, City will file a notice of completion with the County Recorder.
- (D) **Final Payment.** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may elect to accept the Project and record the notice of completion, and withhold up to 150% of City's estimated cost to complete the remaining items from Final Payment.

## 11.2 Warranty.

- (A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.
- (B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of recordation of the notice of completion (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the *Specifications* or *Special Conditions*. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.
- (C) **Warranty Documents.** As a condition precedent to acceptance, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.
- (D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor expressly agrees to act as co-guarantor of such Work.
- (E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its

responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period.

- (F) **City's Remedies.** If Contractor and/or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner, if required by the circumstances, Contractor expressly agrees that City may correct the defects to conform with Contract Documents at Contractor's sole expense, and Contractor agrees to reimburse City for its direct costs, plus an additional 25% as compensation for the City's administrative costs, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor is solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein in addition to any and all costs incurred by City to correct the defective Work.

**11.3 Use Prior to Final Completion.** City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion. City will notify Contractor in writing of its intent to occupy or make use of the Project or any portions of the Project, pursuant to this provision.

- (A) **Non-Waiver.** Occupation or use prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.
- (B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before final completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to perform the Work.

**11.4 Substantial Completion.** For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to recordation of the Notice of Completion, except for warranty work performed under this Article.

## Article 12 - Dispute Resolution

**12.1 Claims.** This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

- (A) **Definition.** “Claim” means a separate demand by Contractor, submitted in writing, for change in the Contract Time or Contract Price that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part.
- (B) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.
- (C) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount, and applies in addition to the provisions of Public Contract Code Sections 20104, et seq.

**12.2 Claims Submission.** The following requirements apply to any Claim subject to this Article:

- (A) **Substantiation.** The Claim must be submitted to City in writing and must include all of the documents necessary to substantiate the Claim including the change order request that was rejected in whole or in part, and City’s rejection. Any Claim for additional payment must include a complete, itemized breakdown of all labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each claimed cost. Any Claim for an extension of time or delay costs must be substantiated with schedule analysis and narrative depicting and explaining claimed time impacts.

- (B) **Certification.** Each Claim must include the following certification, and must be executed by Contractor’s authorized representative:

“The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim are true and correct. Contractor warrants that this Claim is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay claim not included herein is deemed waived. Contractor understands that submission of a Claim which has no basis in fact or which Contractor knows to be false may violate the False Claims Act (Government Code Sections 12650 et seq.).”

- (C) **Submission Deadlines.**
  - (1) A Claim must be submitted within 15 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part.
  - (2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment, or will be deemed waived.

- (3) A Claim disputing the amount of Final Payment must be submitted within 15 days of the effective date of Final Payment, under Section 8.8, above.
- (4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.

**12.3 Claims Under \$50,000.** For any Claim of less than \$50,000.00, City will respond in writing within 45 days of receipt of the Claim, or may first request, in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against Contractor. If Contractor fails to submit the additional documentation to City within 15 days of receipt of City's request, the claim will be deemed waived.

- (A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.
- (B) **City's Response.** City's written response to the Claim, as further documented, will be submitted to Contractor within 15 days after receipt of the further documentation or within a period of time no greater than that taken by Contractor in producing the additional information, whichever is greater.
- (C) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

**12.4 Claims From \$50,000 to \$375,000.** For any Claim of over \$50,000.00, and less than or equal to \$375,000.00, City will respond in writing within 60 days of receipt of the Claim, or may request, in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to the defenses to the Claim that City may have against Contractor. If Contractor fails to submit the additional documentation to City within 30 days of receipt of City's request, the claim will be deemed waived.

- (A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.
- (B) **City's Response.** City's written response to the Claim, as further documented, will be submitted to Contractor within 30 days of receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.
- (C) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

**12.5 Claims Over \$375,000.** For any Claim of over \$375,000.00, City will respond in writing within 90 days of receipt of the Claim. City may request, in writing, within 45 days of receipt of the Claim, any additional documentation supporting the Claim relating to

defenses to the Claim that City may have against the Contractor. If Contractor fails to submit the additional documentation to City within 45 days of receipt of City's request, the claim will be deemed waived.

- (A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.
- (B) **City's Response.** City's response to the Claim, as further documented, will be submitted to Contractor within 45 days after receipt of the further documentation, or within a period of time no greater than that taken by Contractor in producing the additional information or requested documentation, whichever is greater.
- (C) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

## 12.6 Meet and Confer.

- (A) **Claims up to \$375,000.** For Claims less than or equal to \$375,000.00, if Contractor disputes the City's written response, or City fails to respond within the specified time, Contractor must notify City in writing, either within 15 days of receipt of City's response, or within 15 days of City's failure to respond within the specified time, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute City's response, in writing, within the specified times, Contractor's Claim will be deemed waived.
  - (1) Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of all of the individuals that each party requires to represent its interests at the meet and confer conference.
  - (2) The meet and confer conference will be scheduled at a location at or near City's principal office.
  - (3) If the Claim or any portion remains in dispute following the meet and confer conference, the parties may agree to mediation, as set forth in Section 12.7, below, or if unable to agree, Contractor may file a claim as provided in Government Code Section 900 et seq. (a "Government Code Claim").
- (B) **Claims over \$375,000.** For any Claim greater than \$375,000.00, if Contractor disputes the City's written response, or City fails to respond within the specified time, Contractor must notify City in writing, either within 30 days of receipt of City's response, or within 30 days of City's failure to respond within the specified time, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute City's response, in writing, within the specified times, Contractor's Claim will be deemed waived.
  - (1) Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 60 days, or later if needed to ensure the mutual availability of all of the individuals that each party requires to represent its interests at the meet and confer conference.

- (2) The meet and confer conference will be scheduled at a location at or near City's principal office.
- (3) For any Claim or any portion(s) of a Claim that remains in dispute following the meet and confer conference, the parties agree to make a good faith effort to resolve the dispute through mediation as a condition precedent to filing a Government Code Claim and initiating litigation.

## **12.7 Mediation and Government Code Claims.**

(A) **Mediation.** Mediation under this Article will be scheduled within 60 days following conclusion of the meet and confer process, with a mediator that the parties mutually agreed upon. The mediation itself may take place more than 60 days following conclusion of the meet and confer process to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. The parties must share the costs of mediation equally, except costs incurred by each party for representation by legal counsel or any other consultant.

(B) **Government Code Claims.**

- (1) Timely presentment of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract.
- (2) The time for filing a Government Code Claim will be tolled from the time the Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied as a result of the meet and confer process, including any period of time used by the meet and confer process. If the parties agree to mediation pursuant to Section 12.7, below, the time for filing a Government Code Claim will be tolled until conclusion of the mediation by impasse.

**12.8 Tort Claims.** This Article does not apply to tort claims and nothing in this Article is intended nor shall be construed to change the time periods for filing tort-based Government Code Claims.

**12.9 Arbitration.** It is expressly agreed, under California Code of Civil Procedure Section 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.

**12.10 Damages.** Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to recovery of any alleged home office overhead. The Eichleay Formula may not be used for any recovery under the Contract. Contractor is not entitled to consequential damages, including home office overhead or any form of overhead not directly incurred at the Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract.

**12.11 Multiple Claims.** In the interest of efficiency, City, acting in its sole discretion, may elect to process multiple Claims concurrently, in which case the applicable procedures above will be based on the total amount of such Claims rather than the amount of each individual Claim. Any such election will not operate to change or waive any other requirements of this Article.

**12.12 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

### **Article 13 - Suspension and Termination**

**13.1 Suspension for Cause.** In addition to all other remedies available to City, if Contractor fails to perform or correct work in accordance with the Contract Documents, City may immediately order the Work, or any portion of it, suspended until the cause for the suspension has been eliminated to City's satisfaction.

(A) **Failure to Comply.** Contractor will not be entitled to an increase in Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(B) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

**13.2 Suspension for Convenience.** City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience, and not due to any act or omission by Contractor or its Subcontractors. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work as directed by City. The Contract Price and the Contract Time will be equitably adjusted by Change Order to reflect the cost and delay impact occasioned by such suspension for convenience.

**13.3 Termination for Default.** Contractor may be deemed in default for a material breach of or inability to perform the Contract, including Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct rejected work; disregard of laws, regulations, ordinances, rules, or orders of any public agency with jurisdiction over the Project; or if Contractor lacks financial capacity to complete the Work within the Contract Time; or is otherwise responsible for a material breach of the Contract requirements.

(A) **Notice.** Upon City's determination that Contractor is in default, City may provide Contractor and its surety written notice of default and intent to terminate the Contract.

- (B) **Termination.** Within seven calendar days after notice of intent to terminate for default has been given, unless the default is cured or arrangements to cure the default have been made and memorialized in writing, to City's satisfaction, City may terminate the Contract by written notice to Contractor with a copy to Contractor's surety.
- (C) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the *Performance Bond*, within seven calendar days from the date of the notice of termination, Contractor's surety will be deemed to have waived its right to complete the Work under the Contract, and City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination. In addition, City will have the right to use any materials, supplies, and equipment belonging to Contractor and located at the Worksite for the purposes of completing the remaining Work.
- (D) **Wrongful Termination.** If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience, in Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including consequential damages, lost opportunity costs or lost profits.

**13.4 Termination for Convenience.** City reserves the right to terminate all or part of the Contract for convenience upon written notice to Contractor. Upon receipt of such notice, Contractor must immediately stop the Work, comply with City's instructions to protect the completed Work and materials, and use its best efforts to minimize further costs. In the event of termination for convenience, the parties agree that the following will constitute full and fair compensation to Contractor, and that Contractor will not be entitled to any additional compensation:

- (A) **Completed Work.** The value of its Work satisfactorily performed to date, including Project overhead and profit based on Contractor's schedule of values;
- (B) **Demobilization.** Actual and substantiated demobilization costs; and
- (C) **Markup.** Five percent of the total value of the Work performed as of the date of notice of termination or five percent of the value of the Work yet to be completed, whichever is less.

**13.5 Provisions Remaining in Effect.** Upon termination pursuant to this Article, the provisions of the Contract Documents remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, or other such rights and obligations arising prior to the termination date.

## Article 14 - Miscellaneous Provisions

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code Section 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be amended accordingly.
- 14.3 Waiver.** No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy will be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by the waiving party.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that that bids were due.

**SPECIAL CONDITIONS – NOT APPLICABLE**

**FEDERAL REQUIREMENTS – NOT APPLICABLE**

## TECHNICAL SPECIFICATIONS

### SECTION TS-1      GENERAL

#### A. SCOPE

This work includes the construction of a 20" potable water main, 12" and 8" non-potable water main improvements along Grant Street and in Miwok Park complete and in satisfactory condition, all as shown on the plans and/or as specified herein. The project generally includes potholing, excavation, pipeline installation, pavement restoration or trench paving, cathodic protection, and testing in compliance with the City of Brentwood Standards. The work includes installation of the pipelines via trenchless methods, including jack and bore and horizontal directional drilling, when crossing the Union Pacific Railroad and Fairview Avenue along Grant Street.

#### B. SUBMITTALS

After the notice to proceed is issued but prior to the start of construction, the Contractor shall submit to the City Engineer for approval, all required permits and USA for all existing utilities and underground facilities within the project limits. The Contractor shall notify the City Engineer of any known discrepancies between the conditions in the field and the project plans. In addition, the Contractor shall submit to the City Engineer for approval, prior to the start of construction, the following:

1. Traffic Control Plan (Section TS-9)
2. Storm Water Pollution Prevention Plan (Section TS-14)
3. Construction Schedule
4. Designation of Traffic Control Supervisor (Section TS-9)
5. Class 2 Aggregate Base – Specification & Gradation (Section TS-18)
6. Asphalt Concrete Mix Design (Section TS-19)
7. Haul Route Proposal (Section TS-4 B)
8. Emergency Phone Number List
9. Sheeting and Shoring – Section TS-16

Manufacturer's Cut Sheets for the following:

1. Potable Water Pipe (Section TS-21)
2. Non-potable Water Pipe (Section TS-23)
3. Valves (Section TS-21 and 23)
4. Ductile Iron Fittings (Section TS-21 and 23)
5. Couplings (Section TS-21 and 23)
6. Casing Insulator and End Plates (Section TS-22)
7. Steel Casing Pipe (Section TS-22)
8. Cathodic Protection (Section TS-26)
9. Horizontal Directional Drilling (HDD) (Section TS-22)
10. Bore and Jack (Section TS-22)

All submittals requiring review, including working drawings required by these Specifications, shall be made to the Project Manager at 150 City Park Way, Brentwood, CA 94513, Telephone (925) 516-5420, Fax (925) 516-5421.

Electronic copies of all submittals shall be submitted for approval a minimum of ten (10) calendar days in advance of ordering.

#### C. ADJACENT PROPERTY OWNERS

The Contractor shall give written notice seven (7) calendar days in advance of construction to notify all property owners and their tenants indicating the date(s) of construction within or adjacent to their property. Property owners shall also be notified of fences, mailboxes, etc., that will be temporarily removed for construction or relocated. The Contractor shall submit to the City Engineer a sample letter of notification for approval two (2) working days prior to distribution to property owners. The Contractor may obtain a list of property owners and their addresses from the City of Brentwood.

The Contractor shall provide for continuous ingress and egress to private properties adjacent to work through the period of construction. The Contractor's attention is directed to Section TS-6, "Obstructions and Other Utility's Work", of these Contract Documents pertaining to preservation of property and Contractor's responsibility for damage.

Payment for work done under this section shall be considered incidental to the construction of the project and full compensation shall be included in the various items of work and no additional compensation shall be made therefor.

#### D. CONSTRUCTION FENCING

Temporary fencing shall be provided in areas where existing fences are removed temporarily for construction and around all excavations deeper than five (5) feet. However, at the end of each work day, trenches that remain open overnight must be covered with trench plates.

The Contractor shall install temporary orange construction fence on adjacent properties to contain all construction activities within the right-of-way, where no fencing existed prior to construction.

Full compensation for providing temporary construction fencing shall be considered incidental to the construction of the project and full compensation shall be included in other items of work and no additional compensation shall be made therefor.

#### E. SOUND CONTROL REQUIREMENTS

Sound control shall conform to the provisions in City Municipal Code, Section 9.32.030 "Designated Noise Zones".

The noise level from the Contractor's operations, between the hours of 7:00 a.m. to 10:00 p.m. (if this time period is approved by the City Engineer), shall not exceed 60 dBA exterior noise level. From 10:00 p.m. to 7:00 a.m. (if this time period is approved by the City Engineer), shall not exceed 45 dBA exterior noise level.

The noise level requirement shall apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers or transient equipment that may or may

not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

#### F. CONSTRUCTION STAGING AREA

The Contractor shall be responsible for providing and maintaining adequate storage places, field, office, temporary roads, fences, watchmen, etc., and required utilities such as telephone, electric, and water service, at his expense. No water shall be withdrawn from existing fire hydrants for construction purposes until the Contractor has approval from the City for such a connection.

A construction staging area shall be established by the Contractor suitable for storage of equipment and materials necessary to complete the work. The construction staging area shall be in full compliance with applicable laws, rules, and regulations at all times.

Payment for complying with this section and any necessary interim work that may occur for construction staging area shall be included in the various other items of work, and no additional compensation will be allowed therefor.

### **SECTION TS-2 MOBILIZATION**

Mobilization shall conform to the applicable provisions in Section 9-1.16D, "Mobilization", of the Caltrans Standard Specifications. Separate facilities for the Contractor's use shall be as determined by the Contractor.

#### A. MEASUREMENT AND PAYMENT

Payment for "Mobilization" shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in mobilization, including obtaining bonds, insurance and financing, movement of equipment, materials and personnel, supervision, field office, certificates, permits, submittals, utilities, site maintenance, cleanup, dust control, and all other work incidental to the contract not specifically identified under the remaining items or costs incurred prior to the beginning of the work and after completion of the work as shown on the plans, as specified herein, and as directed by the City Engineer. The cost for mobilization shall not exceed five (5) percent of the total bid for this project without documented justification.

A 25% payment of the lump sum total will be paid with the first progress payment, 65% will be paid incrementally over the life of the Contract based on the percentage of the contract time completed to date, and the final 10% will be paid with the last progress payment. No additional compensation for mobilization will be provided for change order work and/or delays.

### **SECTION TS-3 ENVIRONMENTAL MITIGATION AND AVOIDANCE MEASURES**

The Contractor shall be responsible to comply with the environmental mitigation and avoidance measures required for the project and as shown in Exhibit C – Environmental Mitigation and Avoidance Measures.

Payment for work done under this section shall be considered incidental to the construction of the project and full compensation shall be included in the various items of work and no additional compensation shall be made therefor.

### **SECTION TS-4 PERMITS**

#### **A. GENERAL**

The Contractor shall ensure that all necessary permits and licenses have been granted prior to commencing work. The Contractor shall not proceed to work in areas requiring permits or licenses until such are obtained. Contractor shall provide for all inspections and permits required by Federal, State, and local authorities and utility agencies in purchasing, transporting and installing materials.

East Bay Municipal Utility District (EBMUD) will require an encroachment permit for work in their right of way. The Contractor will be required to fully execute this permit and comply with the provisions and requirements contained in the permit. In addition, the Contractor will need to acquire a pothole and temporary construction permit from EBMUD to perform the work. The Contractor is required to pay any fees required by EBMUD. A copy of the encroachment permit is attached in Appendix “A” at the back of this bid document.

The Union Pacific Railroad (UPRR) will require a permit for the work in the railroad’s right of way. The Contractor will be required to fully execute this permit and comply with the provisions and requirements contained in the permit. In addition, the Contractor will need to fill out a Contractor’s right of entry agreement. A copy is attached in Appendix “B” at the back of this bid document.

The Contractor shall not hold the City liable for any delays in obtaining any and all permits, licenses or permissions to construct. Additional working days may be allowed due to permit delays at the discretion of the City Engineer. Payment for any work and/or coordination related to obtaining permits and complying with the provisions of this Section shall be included in the various other items of work, and no additional compensation will be allowed therefor.

The Contractor shall notify the City Engineer in writing of pending permit delays five (5) working days before delay will affect progress of work. Additional working day calculations will only be allowed to start five (5) days after Contractor notifies the City Engineer of pending permit delays.

Payment for work done under this section shall be considered incidental to the construction of the waterline and full compensation shall be included in other items of work and no additional compensation shall be made therefor.

**B. HAUL ROUTE APPROVAL**

The Contractor shall familiarize himself/herself with the condition of the local streets and roads that may be used for hauling material and equipment to and from the job site. Some existing roads may have inadequate pavement sections to support fully loaded trucks or other heavy equipment.

The proposed haul route shall be submitted prior to the start of construction for review and approval by the City Engineer.

**SECTION TS-5      LINES AND GRADES**

Lines and Grades shall conform to the provisions, Section 7.17 "Lines and Grades" of the General Conditions, and these Specifications.

Contractor shall request in writing to the City Engineer the particular scheduling of staking operations desired at least three (3) working days in advance of the time stakes are to be set. In no event, shall a notice of less than three (3) working days be considered a reasonable length of time. The request shall be on a Caltrans staking request form to be provided. The Contractor shall coordinate his work to provide a minimum of four (4) hours work for the field crew.

The Contractor shall ensure that the area to receive stakes shall be free of all obstructions, equipment, stockpiles, etc. If the area to receive stakes is not ready for staking when the City Engineer arrives on the site, the original (3) working day advance time will become void and the City Engineer will have (3) working days from the time the area is then ready for stakes to place the stakes and prepare cut sheets.

One complete set of stakes for each of the following items will be set by the City Engineer after notification has been given to the City Engineer by the Contractor as specified in Section 7.17 of the General Conditions.

**A. WATERLINE (POTABLE)**

Stakes for line and grade every 100 feet and at angle points. One stake at water valves that are over 200 feet from angle points.

**B. WATERLINE (NON-POTABLE)**

Stakes for line and grade every 100 feet and at angle points. One stake at water valves that are over 200 feet from angle points.

**C. EXCLUSIONS TO STAKING**

No staking will be provided for striping, pavement markings, or limit of saw cutting.

The City Engineer shall be the sole judge of the adequacy and sufficiency of the stakes and marks for the purpose for which they are set. If the Contractor requests additional stakes, hubs, grades, or marks other than those set by the City Engineer, the cost of labor, equipment, and materials required to comply with the Contractor's request shall be deducted from any monies due or to become due the Contractor.

The cost of labor, equipment, and materials involved in resetting stakes destroyed or displaced because of the following reasons, will be deducted from any monies due or to become due the Contractor:

1. Negligence or carelessness in use of construction equipment.
2. Stakes ordered by the Contractor that are not used for a long period of time (as determined by the City Engineer) and are lost in the interim.
3. Poor planning of sequence of operations by the Contractor.

A minimum of four (4) hours of 2-men survey crew time will be charged for all re-staking.

## **SECTION TS-6 OBSTRUCTIONS AND OTHER UTILITY'S WORK**

### **A. GENERAL**

Attention is directed to Section 7.12 "Existing Utilities" of the General Conditions, Section 5-1.36, " Property and Facility Preservation", and Section 15, "Existing Facilities," of the Caltrans Standard Specifications.

Due care shall be exercised to avoid injury to existing improvements, adjacent property, and roadside trees, shrubs, and other plants that are not shown on the plans to be removed.

Trees, shrubs, and other plants that are not to be removed, power poles, pole lines, fences, traffic signs, markers, monuments, and all structures above and below ground shall be protected from injury or damage, and if ordered by the City Engineer, the Contractor shall provide and install suitable safeguards, approved by the City Engineer, to protect such objects from injury or damage. If such objects are injured, damaged, or removed by reason of the Contractor's operations, they shall be immediately replaced or restored at the Contractor's expense.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety and welfare of workmen and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi gauge; underground electric supply system conductors or cables, with potential to ground of more than 300 volts, either directly buried or in duct or conduit which do not have concentric grounded conductors or other effectively grounded metal shields or sheaths.

The Contractor shall notify the City Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600

If such facilities are not located on the plans in both alignment and elevation, no work shall be performed in the vicinity of said facilities until the owner, or his representative, has located the facility by potholing, probing, or other means that will locate and identify the facility.

The Contractor shall take care to avoid working in any area of the project which may conflict with the work under way by the utility companies. City water, storm drain, sanitary sewer, Pacific Gas and Electric, Cablecom, AT&T, Kinder-Morgan, Chevron, EBMUD, ECCID, and Calpine facilities exist within the project area. The Contractor shall exercise extreme caution when excavating or performing any work in the vicinity of these facilities and will adequately shore and protect all facilities to prevent any horizontal or vertical movement. The Contractor shall be responsible for the repair and replacement of these or any other facilities damaged during construction. A minimum of two (2) working days prior to beginning of construction, the Contractor shall notify Underground Service Alert (USA), telephone 800-642-2444 to have existing facilities marked in the field. The Contractor shall record the USA order number and furnish the order number to the City Engineer prior to performing any excavations.

The Contractor shall cooperate completely with all utility companies having facilities within the project area. Chevron, Kinder-Morgan, and EBMUD require a representative present during potholing and construction near their facilities. Contractor will contact and coordinate with respective utilities.

Any delay caused by the utility companies in completion of their work will not entitle the Contractor to additional compensation or working days.

#### B. OTHER EXISTING UTILITIES

The following utilities may have facilities within the Project area:

1. Pacific Gas and Electric (Capital Improvement Projects, Commercial, Industrial, Agricultural)  
Contact: Mr. Jim Fisi (925) 779-7759  
Delta District  
2111 Hillcrest Avenue  
Antioch, CA 94509
2. Pacific Gas and Electric (Street Lighting)  
Contact: Ms. Rhonda Martinez (925) 674-6379  
1030 Detroit Avenue  
Concord, CA 94518-2487
3. Pacific Gas and Electric (Gas)  
Contact: Mr. Pierre Nichols (925) 674-6775  
1030 Detroit Avenue  
Concord, CA 94518-2487
4. AT&T (Telephone)  
Contact: Ken Deluth (925) 328-6820  
2600 Camino Ramon, Rm 2E950B  
San Ramon, CA 94583

- 5. Cablecom (Cable)  
Contact: Mr. Ben Greenwood (707) 759-5242  
825 Chadbourne Rd.  
Fairfield, CA 94534
- 6. East Contra Costa Irrigation District  
Contact: Mrs. Patricia Corey (925) 634-5951  
1711 Sellers Avenue  
Brentwood, CA 94513
- 7. Kinder Morgan (Petroleum)  
Contact: Mr. Peter Martin (714) 560-4940
- 8. City of Brentwood  
Public Works Department (925) 516-6000  
Water/Sewer Utilities  
2201 Elkins Way  
Brentwood, CA 94513
- 9. EBMUD - Mokelumne Aqueduct  
Contact: Mr. Bill Pulsifer (209) 946-8009
- 10. UPRR (Railroad)  
Contact: Mr. Kevin Yoder (916) 789-5152
- 11. Calpine (Gas)  
Contact: Mr. Chris Delaney (916) 996-0156
- 12. Chevron (Petroleum)  
Contact: Mr. Jeremy Gross (925) 753-2003

C. LIMITS OF WORK

The street right of way shall be used only for purposes that are necessary to perform the required work. The Contractor shall not occupy the right of way, or allow others to occupy the right of way, for purposes which are not necessary to perform the required work.

Areas available for the use of the Contractor are designated on the plans by easement or right of way lines. Use of the Contractor's work areas and other City-owned property shall be at the Contractor's own risk, and the City shall not be held liable for any damage to or loss of materials or equipment located within such areas.

The Contractor shall remove all equipment, materials, and rubbish from the work areas and other City-owned property which he occupies and shall leave the areas in a presentable condition, in accordance with the provisions in Section 4-1.13, " Cleanup," of the Caltrans Standard Specifications.

The Contractor shall secure at his own expense any area required for plant sites, storage of equipment or materials, or for other purposes if sufficient area is not available to him within the contract limits, or at the sites designated on the plans outside the contract limits.

In the areas of City right of way not designated for the exclusive use by the Contractor, the Contractor shall coordinate with adjacent project and property owners to ensure that storage of materials will not restrict access for those projects or properties. If stored materials must be relocated to provide access, the Contractor shall relocate the stored material at his own expense and no claim for costs to relocate the stored materials will be allowed.

The Contractor shall limit his operations to the areas within the existing City right-of-way or in areas the City has acquired a temporary construction easement. Where the specific limits of work are not designated on the plans or specified in these Specifications, the Contractor shall limit his operation to the existing road rights of way.

All existing structures, residences, operating utilities, power poles, and other devices within the work area shall be maintained at all times during construction.

Payment for complying with this section shall be included in the various other items of work, and no additional compensation will be allowed therefor.

## **SECTION TS-7      EXISTING FACILITIES**

The work performed in connection with various existing roadway facilities shall conform to the provisions in Section 15, "Existing Facilities," of the Caltrans Standard Specifications and these Specifications.

All items of work under this Section, "Existing Facilities", and for which specific bid items are not provided, shall be considered as included in the contract items paid for clearing and grubbing or excavation of the type in which the facilities are located, and no additional compensation will be provided therefor.

### **A.    EXISTING FENCE**

All existing fence removed for construction shall be replaced with temporary six (6) foot chain link fencing until construction is complete and the existing fence is replaced. Type and location of temporary fence shall be adequate to contain animals, to limit access, or to protect property as may be required and as approved by the City Engineer.

The Contractor shall replace, repair, relocate, and/or reconstruct all fences in accordance with the details and at the locations identified on the plans. Any other fence or segment of fence disturbed by the Contractor during the performance of any other contract work shall also be repaired at the Contractor's expense. New materials shall be used and such material shall be a replacement of the original fence in regards to type of fencing, posts, and construction. Temporary fencing and removal and replacement of fences will be considered incidental to the waterline construction and payment shall be included in other items of work and no additional compensation will be allowed therefor.

## B. EXISTING SIGNS

All signs removed for construction shall be replaced after construction. Any existing signs that will not be used in the project shall be salvaged and identified to the City Engineer. The City Engineer will provide an address for the delivery of the salvaged sign(s). Payment for removing and replacing existing signs shall be considered incidental to the construction of the waterline and full compensation shall be included in other items of work and no additional compensation shall be made therefor.

## C. EXISTING DRIVEWAYS

Contractor shall protect driveways during construction. However, if affected contractor shall conform driveways to provide a smooth transition and positive drainage to the new sidewalk.

Material used for transitions shall be similar to the existing material (i.e., asphalt, gravel, etc.)

Payment for driveway conforms shall be considered incidental to the work and full compensation shall be included in various other items of work, and no additional compensation will be allowed therefor.

## D. EXISTING ADJACENT PROPERTIES

Contractor must diligently coordinate the construction activities that affect the existing residents and businesses. Contractor must ensure that the residents and consumers are not prohibited from access or egress at any time unless special arrangements have been made with the property owner mentioned above. Contractor may request from City Engineer a contact list of all residents/businesses within limits of the project. Four items of concern that will require special coordination include:

1. Utility work adjacent to existing resident and businesses. This work must be coordinated with the property owner to not prohibit access or egress, unless special arrangements have been made with the property owner.
2. Proximity of work to adjacent homes and businesses. The Contractor shall use caution to not damage the existing buildings in proximity to the roadway during construction. The Contractor will verify the use of various construction equipment proposed for this project will not cause any damage to the existing buildings surrounding the new roadway. If specialty equipment is required, this expense shall be included in the prices for various contract items and no separate payment will be made therefor. The Contractor will be responsible for any damage to the existing buildings caused by construction.
3. Union Pacific Railroad. The Contractor shall be responsible for coordinating with Union Pacific Railroad for work adjacent to tracks. All work shall be completed per their requirements and to the satisfaction of the Union Pacific Railroad representative.
4. EBMUD: The Contractor shall be responsible for coordinating with EBMUD for work in EBMUD right of way or adjacent to their right of way. All work shall be completed per their requirements and to the satisfaction of the EBMUD representative.

Payment for complying with this section shall be included in the various other items of work, and no additional compensation will be allowed therefor.

## **SECTION TS-8 CLEARING AND GRUBBING**

Clearing and Grubbing shall conform to the provisions of Section 17-2, "Clearing and Grubbing," of the Caltrans Standard Specifications and these Specifications.

All items designated to be removed shall become property of the Contractor and disposed of away from the work site at his or her expense, in a legal manner, and as required in the Caltrans Standard Specifications.

### **A. MEASUREMENT AND PAYMENT**

Payment for "Clearing and Grubbing" shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in clearing and grubbing including the removal and disposal of all the existing materials as shown on the plans, as specified in the Caltrans Standard Specifications, these Specifications, and as directed by the City Engineer.

## **SECTION TS-9 TRAFFIC CONTROL**

Traffic control layout provided as part of the Contract Drawings is for reference, Contractor shall submit proposed traffic control plan for the project. All proposed closures and/or traffic control shall not be static. Contractor shall setup and remove closures and traffic control daily and completely open street to traffic daily by the times specified herein. Traffic control for all work that allows for one (1) lane of traffic in each direction shall be allowed from 7:00 a.m. to 3:30 p.m. Monday through Friday. One lane used for multi-directional traffic shall be restricted from 9:00 a.m. to 3:00 p.m. Monday through Friday, unless approved otherwise by the City Engineer.

Contractor shall submit a construction staging plan in addition to the traffic control plan. The construction staging plan shall identify the various stages of work required for construction and the associated traffic control plans. During Stage 2B and Stage 3 of the construction staging plan shown on the Plans, the Contractor shall coordinate with the City Engineer to modify the Grant Street and Fairview Avenue traffic signal as needed during construction activities to facilitate vehicular and pedestrian movement, including but not limited to placing the traffic signal in flash mode.

Flashing arrow signs are to conform to the requirements of Section 12-3.30, "Flashing Arrow Signs" of the Caltrans Standard Specifications. Flashing arrow signs shall be Type II.

Attention is directed to the Caltrans Standard Specifications: Section 7-1.03, "Public Convenience," Section 7-1.04 "Public Safety," Section 12-3.04 "Portable Delineators," Section 12-1 "Temporary Traffic Control - General," and Section 8-1.06 " Suspensions," and these Specifications.

A minimum of five (5) working days prior to the pre-construction meeting, the Contractor shall submit for the City Engineer's approval, a traffic control plan prepared and stamped by a

Professional Engineer registered in the State of California for the routing of traffic during construction, including the location of advance warning signs. These detailed plans shall also include the location of public convenience and advance warning signs to be used during the construction. The Contractor's attention is directed to the most recent edition of the California Manual on Uniform Traffic Control Devices for a guide to sign placement, taper lengths, etc. The plan shall be submitted for discussion at the pre-construction meeting. Minor or unexpected traffic control changes shall be submitted in writing to the City Engineer no less than two (2) working days before the change for approval. In no case shall changes be made without submittal to and approval of the City Engineer. The traffic control plans must be approved prior to beginning work.

#### A. TRAFFIC CONTROL SUPERVISOR

The Traffic Control System shall be placed, maintained, and removed under the direct supervision of a person who is certified by either the Institute of Transportation Studies (ITS), the American Traffic Safety Services Association (ATSSA), the International Municipal Signal Association, the State of California Department of Transportation (Caltrans) or other agency as approved by the City Engineer as having successfully completed training in the design and operation of work zone traffic control.

The Contractor shall designate in writing the person who shall have the responsibility for supervising the activities associated with the Traffic Control System. This designation, along with proof of certification, shall be provided to the City Engineer for approval, two (2) working days in advance of any planned activity that requires traffic control. The person designated shall have the authority to stop the work if necessary.

Failure of the designated person to be present at the job site when any part of the Traffic Control System is in place shall be considered as failure on the part of the Contractor to perform a provision of the contract, and as such, the City Engineer may, in accordance with Section 8-1.06 "Suspensions" of the Caltrans Standard Specifications suspend all work until such time satisfactory arrangements have been made to have a certified person on the job site at all times when the Traffic Control System is in place. No additional compensation or additional working days will be allowed by reason of such suspension. The days on which the suspension is in effect shall be considered working days if such days are considered working days within the meaning of the definition set forth in Section 1-1.07 "Definitions" of the Caltrans Standard Specifications.

No existing pavement shall be removed until all necessary traffic control devices have been installed to route traffic onto other paved portions of the roadway and such removal has been approved by the City Engineer.

When leaving a work area and entering a roadway carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic. The Contractor's trucks or other mobile equipment which leave a traveled lane, that is open to public traffic, to enter the construction area, shall slow down gradually in advance of the location of the turnoff to give following public traffic an opportunity to slow down. The Contractor shall not use any private driveways or property to turn around or for temporary stockpile of material or staging areas unless written permission is obtained from the property owner by the Contractor. Copies of such permission shall be provided to the Engineer prior to the use of the private property.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location. All traffic control items required by the City Engineer to maintain traffic shall be furnished and installed by the Contractor.

If the Contractor does not furnish and maintain all signs, traffic control devices, or surfacing in accordance with these Specifications, the City shall temporarily suspend the work in accordance with the Caltrans Standard Specifications until deficiencies are corrected or shall perform the required operations and bill the Contractor at double the rate of all City expenses.

Section 12-1.03 "Flagging Costs" of the Caltrans Standard Specifications is amended as follows: The Contractor shall pay fully the cost of furnishing all flagmen, including transporting flagmen, to provide for passage of public traffic through the work site.

The adjustment provisions in Section 4-1.05B, "Work-Character Changes" of the Caltrans Standard Specifications shall not apply to the item of traffic control system. Any adjustment in compensation for traffic control system due to an increase or decrease in the amount of traffic control system required by changes ordered by the City Engineer, or by increase or decreases in quantities in the Engineer's Estimate greater than 25%, will be made on the basis of the cost of the increased or decreased traffic control necessary. Such adjustment will be made on a force account basis as provided in Section 9-1.04, "Force Account," of the Caltrans Standard Specifications for increased traffic control system required by work which is classed as extra work, as provided in Section 4-1.05, "Changes and Extra Work" of the Caltrans Standard Specifications, will be paid for as part of said extra work.

## B. MEASUREMENT AND PAYMENT

Payment for "Traffic Control" shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in preparing traffic control plans for City approval, maintaining contact with and providing construction notification to City and other agencies, and for furnishing and placing barricades, warning devices, signage, flaggers as may be required by the Contract Documents, as shown on the plans, as specified herein, and as directed by the City Engineer.

All flagging costs associated with the project are to be paid by the Contractor.

## **SECTION TS-10 WATERING**

Watering shall conform to the Provisions in Section 10-6, "Watering," of the Caltrans Standard Specifications and these Specifications.

Water for construction purposes (with the exception of water to be used for the waterline testing, as specified in Section TS-26 J, "Connection to Existing Water System" and K, "Testing and Disinfection of Mains and Services" of these Specifications) shall be non-potable water and shall be the responsibility of the Contractor. The Contractor shall make arrangements for obtaining

and purchasing water for construction of the project. The City cannot guarantee the availability of construction water for this project. The Contractor will be required to obtain water through his own means if water is not available through the City, at his own expense at no additional cost to the City.

Payment for complying with the provisions of this Section shall be included in the various other items of work and no additional compensation will be allowed therefor.

#### **SECTION TS-11      DUST CONTROL**

Dust control shall conform to the provisions in Section 14-11.04, "Dust Control," of the Caltrans Standard Specifications and these Specifications.

Attention is directed to "Dust Palliative" of these Specifications regarding the use of a dust palliative to control dust.

The Contractor will be responsible for preventing airborne dust nuisance from the construction site by watering and/or treating the site in such a manner to confine dust particles to the immediate surface of work.

Payment for complying with the provisions of this Section shall be included in the various other items of work and no additional compensation will be allowed therefor.

#### **SECTION TS-12      DUST PALLIATIVE**

Furnishing and applying dust palliative shall conform to the provisions in Section 18, "Dust Palliative," of the Caltrans Standard Specifications.

Payment for complying with the provisions of this Section shall be included in the various other items of work and no additional compensation will be allowed therefor.

#### **SECTION TS-13      ELECTRIC POWER**

The Contractor shall furnish electric power required to perform the work.

Payment for complying with the provisions of this Section shall be included in the various other items of work and no additional compensation will be allowed therefor.

#### **SECTION TS-14      STORM WATER POLLUTION PREVENTION PLAN**

The Contractor shall be responsible for implementing erosion control measures in conformance with the California NPDES (National Pollution Discharge Elimination System) General Permit for Storm Water Discharges associated with construction activity.

Construction activities are regulated under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbances Activities (State Water Resources Control Board [SWRCB] Order No. 2012-0006-DWQ, NPDES Permit No. CAS00002 generally referred to as the Construction General Permit [CGP]). Coverage under a Construction General Permit requires the submission to the SWRCB of the Permit Registration Documents (PRDs), which includes a Notice of Intent (NOI), Storm

Water Pollution Prevention Plan (SWPPP), permit fee, and other required documents, and receipt from the SWRCB of a Water Discharger Identification Number (WDID) for the Project. Site disturbance, mobilization, or construction activities shall not start until the Contractor is in receipt of the WDID Letter issued by the SWRCB.

A copy of the General Permit is available on the SWRCB website:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml)

The Contractor shall comply with RWQCB and City requirements regarding storm water management, inspection, and monitoring.

The Contractor shall comply with the following prohibitions and limitations, which are contained in the Construction General Permit:

- a. Storm water and non-storm water discharge prohibitions:
  1. Discharge of materials other than storm water, which are not otherwise regulated by a NPDES permit, to a separate storm water sewer system or waters of the United States are prohibited.
  2. Storm water and non-storm water discharge shall not cause or threaten to cause pollution, contamination (including sediment) or nuisance.
  3. Storm water and non-storm water discharge regulated by this Construction General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117.3 and 40 CFR Part 302.4.
  4. Discharge of toxic pollutants prohibited by the Clean Water Act Section 307(a).
- b. Receiving Water Limitations:
  1. Storm water and non-storm water discharges to any surface or groundwater shall not adversely impact human health or the environment.
  2. Storm water and authorized non-storm water discharges shall not contain pollutants in quantities that threaten to cause pollution, contamination (including sediment), or a public nuisance.
  3. Discharges located within the watershed of a CWA Section 303(d) impaired body shall limit the Total Maximum Daily Load (TMDL) to that approved by the U.S. EPA for "construction activities" or land disturbances.
  4. Water discharges shall not cause or contribute to a violation of any applicable water quality standards contained in the Statewide Water Quality Control Plan, California Toxics Rule, The National Toxics Rule, California Ocean Plan, Inland Surface Waters and Enclosed Bays and Estuaries Plan, or the applicable Regional Water Board's Basin Plan.

The Contractor is responsible for preparing the appropriate Erosion Control/BMP Project plans required for the SWPPP and shall update them over the construction duration as site conditions change.

The Contractor will be responsible to the RWQCB for the preparation of and compliance with the various management plans called for by the RWQCB. The Contractor shall prepare a SWPPP using their QSD. The Contractor is responsible for providing the detail planning and compliance activities insofar as they would potentially affect the Contractor's methods and means of performing the Work.

If a violation of the Permit is due to the Contractor's actions or inactions and a fine is assessed, the Contractor shall be responsible for the fine and all applicable remediation requirements.

#### Risk Assessment

The Contractor shall confirm the Project can be identified to be a Risk Type 1 based on the SWPPP prepared by their QSD.

#### Contractor Responsibilities

The Contractor shall be responsible for meeting the requirements of the Construction General Permit except as specifically noted otherwise within this Section.

Within fifteen (15) days of the Award of the Contract the Contractor shall submit the following:

- a. PRDs that are to be used by the City to apply for the Project WDID. This information shall be submitted in electronic form suitable for the submittal to the SWRCB using the Storm Water Multiple Application Report Tracking System (SMARTS) website.
- b. SWPPP prepared by a Certified QSD.
- c. Construction Site Monitoring Plan (CSMP).
- d. Site Map.
- e. Active Treatment System (ATS), if applicable.
- f. Names and 24-hour phone numbers for QSD, QSP(s), and other parties responsible for implementing, monitoring, inspecting and maintaining the SWPPP.

Prior to soil disturbing work the Contractor shall implement the measures of the SWPPP and be in receipt of the Project WDID. This is a prerequisite for coverage under the General Permit.

Contractor's QSD and/or QSP shall update the PRDs including but not limited to the SWPPP, CSMP and Site Map for new or changed conditions or if initial documents were incomplete and submit to City.

Contractor shall furnish:

- a. Routine inspection reports on Monday of each week [daily and weekly reports, REAPs, storm event reports (before, during and after inspections)].
- b. Sampling Reports (pH, Turbidity, non-visible pollutants, etc.) within 48 hours of the storm event.
- c. NAL Exceedance Reports within 48 hours of the event.
- d. NEL Violation Reports shall be maintained within twelve (12) hours after the NEL Exceedance has been identified. Note this report must be submitted to the RWQCB within 24 hours of the incident.

The Contractor shall develop and submit the annual report to the City within ten (10) days of August 1 of each year for submittal to the RWQCB by the City. The content shall be complete and fully comply with the requirements of Section XVI of the Construction General Permit. The Contractor's QSD shall prepare and certify the report using the language of Section IV, Item J, Compliance Certification of the Construction General Permit.

Prior to Final Completion the Contractor shall develop and submit an annual report to the City for the time frame between the Notice to Proceed or last previous annual report, and the Final Completion Date.

The Contractor shall provide evidence to the City with the submission of the SWPPP that the individual(s) responsible for the PRDs development including the SWPPP preparation is a Qualified SWPPP Developer (QSD) who has the certification or registration required by Section VII of the General Permit.

The Contractor shall provide evidence to the Construction Manager that the individual(s) responsible for supervising the SWPPP implementation, monitoring and reporting as required by the Construction General Permit is a Qualified SWPPP Developers (QSD) or a Qualified SWPPP Practitioner (QSP) who has the certification and/or registration required by Section VII of the Construction General Permit.

All QSD and QSP(s) must meet the certification and/or registration requirement of Section VII of the Construction General Permit. Contractor shall provide evidence and demonstrate that his Qualified SWPPP Developer and Qualified SWPPP Practitioner are qualified to develop PRDs, SWPPP, etc. and supervise the implementation to the Construction Manager.

Contractor shall be responsible for implementing, monitoring, inspecting, and maintaining best management practices (BMPs) and other measures as detailed in the SWPPP, CSMP, REAP, Site Map, other applicable documents and the requirements of the Construction General Permit. The work shall be supervised by the Contractor's QSP(s).

Contractor shall be responsible for providing equipment, materials, and workers to implement the SWPPP and complying with all the requirements of the General Permit as well as being available for rapid response to BMP failures and emergencies.

The SWPPP together with the weekly reports and rain event reports shall be kept and maintained by the Contractor on the construction site during the duration of the Project. Reports shall be certified by the Contractor's QSD or QSP. Reports shall be submitted to the Construction Manager no later than two (2) business days after actual inspection.

The Contractor shall be responsible for taking the proper actions to prevent storm water or non-storm water coming into contact with contaminants and sediments from migrating offsite or entering public storm drainage systems. The Contractor shall take immediate action if directed by the Construction Manager or if the Contractor observes contaminants and/or sediments entering the storm drainage system, to prevent further storm water from entering the system.

The Contractor shall update the SWPPP whenever there is a change in construction or operations which may affect the discharge of any pollutants from the construction site.

The SWPPP shall be amended by the Contractor's QSD or QSP if it is in violation of any conditions of the Construction General Permit or has not achieved the general objective of reducing pollutants in storm water or non-storm water discharges.

All amendments shall be completed at no additional cost to the City.

The Contractor shall submit all PRDs and other documents (storm event reports, REAPs, Annual Reports, NAL Exceedance Reports, NEL Violation Reports, etc.) to the City. The Contractor's QSD shall certify to the City that the submitted documents are in compliance with the Construction General Permit. The certification shall use the language of Section IV, Item J- Compliance Certification, of the CGP. The Contractor shall furnish the following:

- a. One (1) certified hardcopy.
- b. An electronic copy suitable for submittal to the RWQCB through the State Water Board's SMARTS website (PDF and MS Word formats when available). The Contractor shall be responsible for uploading the information to the SMARTS website and notifying the Construction Manager that the information has been uploaded.

#### City Responsibilities

The City, designated as the Legally Responsible Person (LRP), will submit and certify the Notice of Intent (NOI) and SWPPP via the SWRCB's SMARTS and will obtain the Project WDID. The City requires PRDs from the Contractor in an acceptable electronic format prior to filing the NOI.

The City will review the PRDs submitted and uploaded on the SMARTS website by the Contractor including but not limited to the PRDs, storm event report(s), Annual Report(s), Notices of Violation. Contractor shall provide to the City the written (hard copy) and electronic copy (PDF and/or MS Word format).

The City will have LRP signatory responsibility for the SWPPP as defined in Section IV, Item I- Signatory Requirements of the Construction General Permit.

The City will submit to the RWQCB an annual report(s) as developed by the Contractor and will pay the associated fee.

In accordance with Section II.D of the General Permit, the City will submit a Notice of Termination (NOT), a final site map, and photos to the RWQCB through the SWRCB's SMARTS website within 90 days of completion of all construction activities or when ownership has transferred.

#### A. MEASUREMENT AND PAYMENT

Payment for "Storm Water Pollution Prevention Plan" shall be at the contract unit price per lump sum listed in the bid schedule which shall include full compensation for all aspects of implementing, complying with, and maintaining the measures specified in the Storm Water Pollution Prevention Plan (SWPPP) as required under the NPDES General Permit for Storm Water Discharges Associated with a Linear Underground Project (LUP). Payment for implementing the SWPPP shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in implementing, inspecting, maintaining, testing, monitoring, and reporting under the SWPPP, as described in the Standard Specifications and these Specifications, and as directed by the City Engineer. Contractor shall be responsible for preparing the initial SWPPP and any and all revisions and amendments to the SWPPP including, but not limited to, changes in project size and scope, fines, or anything associated with a change in the SWPPP.

The City will withhold portions of or all partial payments during payment periods in which the Contractor fails to meet the requirements of the SWPPP as determined by the City Engineer. The partial payments withheld for failure of the Contractor to conform to the provisions in this section will be released for payment on the next monthly estimate for partial payment following the date that the approved SWPPP has been properly

implemented and maintained, and water pollution is adequately controlled, as determined by the City Engineer.

## **SECTION TS-15 TRENCH EXCAVATION AND BACKFILL**

Earthwork shall conform to the provisions of Section 19, "Earthwork," of the City of Brentwood Standard Plans and Specifications and Section 19 "Earthwork" of the Caltrans Standard Specifications. Trenches shall be excavated and backfilled as shown on the plans, as specified in these Technical Specifications, and as directed by the City Engineer. The City will retain an independent laboratory to sample and test each potential source of pipe bedding and backfill materials. The corrosive properties of the potential pipe bedding and backfill material shall be assessed. All fill materials shall have a minimum electrical resistivity greater than 3,000 ohm-centimeters, chlorides and sulfates less than 100 parts per million (ppm) each, and pH within a range of 5.5 to 8.5. For concrete structures, the minimum electrical conductivity should exceed 1,000 ohm-centimeters, the chloride should be less than 500 ppm, and the pH should be between 6.0 and 8.5. Approval by the City Engineer is required of the trench and bedding material before trench backfill operations start.

Trenches in existing pavement shall be according to the City of Brentwood Standard Plan ST-25a "Open Trench, Backfill, and Repair of Existing Streets". City will permit Class II Aggregate Base trench backfill in-lieu of the 2-sack cement slurry backfill, however the Contractor shall pay for all material testing costs and Class II Aggregate Base shall meet the requirements of these specifications and City Standards. City Standard Detail W-14 shall still govern where applicable.

### **A. WATER CONTROL AND DEWATERING**

Water control shall conform to the provisions of Section 19-3.3B(5),03D "Water Control and Foundation Treatment," of the Caltrans Standard Specifications and these Technical Specifications. The Contractor shall submit a plan to the City Engineer for the proposed method of dewatering (if required) five (5) days prior to the pre-construction meeting requiring dewatering. The plan shall include all information regarding excavation phasing; pump and pipe location; desilting method; discharge location; and any other applicable information.

All water encountered in the excavation shall be disposed of by the Contractor in such manner as will not damage public or private property or create a nuisance or health menace.

The Contractor shall furnish, install, and operate pumps, pipes, appliances and equipment of sufficient capacity to keep all excavations and accesses free from water until the excavations are backfilled, unless otherwise authorized by the City Engineer.

The Contractor shall provide all facilities necessary to conduct water to the pumps. Water shall be discharge in a manner that meets NPDES requirements and as approved by the City Engineer. A means shall be provided for desilting the water before discharging.

Dewatering system shall remain functional between shifts, on holidays, on weekends, or during work stoppages until all the backfill is placed to avoid movement of the pipe.

## B. EXCAVATION

The Contractor shall do all excavation of whatever substance is encountered to the lines and grades shown on the plans. During trench excavation, any organic material or particles, lumps, or rocks larger than 2½ inches in maximum dimension removed from the excavation shall be disposed off-site. Where it becomes necessary to excavate beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, the void remaining after the removal of the boulders shall be backfilled with suitable material and densified, as approved by the City Engineer. When the work limits allow, material suitable for trench backfill may be stockpiled along the side of the trench. All such material shall be piled in an orderly manner a sufficient distance from the side of the trench to avoid overloading and to prevent sliding into the trench. Stockpiling of excavated material and all vehicles shall be kept at a minimum lateral distance from the crest of the slope equal to no less than one half the slope height. The Contractor shall do such grading as is necessary to prevent surface water from entering the excavation. The Contractor shall remove and dispose of all water entering the excavation. Disposal of water shall be done in a manner to prevent damage or nuisance to adjacent properties and per the National Pollution Discharge Elimination System (NPDES) requirements.

Due to width limitations, proximity of existing utilities, structures and access requirements, the Contractor shall provide a vertical, open trench, shoring system for the entire length of this project. Shoring of all trench excavations shall conform to the Sheeting and Shoring Section of these Specifications.

In areas where the road will be open for traffic, the length of open trench or plated trench permitted at any one time shall not exceed one hundred (100) feet unless this impacts access and egress to any property, or as directed by the City Engineer. All lanes shall be restored to traffic at the end of each workday. The Contractor shall furnish and install non-skid steel plates to span trench sections which have not been backfilled. Non-skid trench plates shall have a manufactured surface with a coefficient of friction that equals or exceeds 0.35.

Approach and ending plates shall be attached to the roadway by a minimum of two (2) dowels predrilled into the corner of the plate and drilled a minimum of two (2) inches into the pavement. Interior plates are to be butted together. Fine graded asphalt concrete shall be compacted to form ramps with a maximum slope of 8.5% with a minimum twelve (12) inches taper to cover all exterior edges of the plates. When the plates are removed, the dowel holes in the pavement shall be backfilled with graded fines of asphalt concrete mix. A concrete slurry or equivalent slurry mix may be substituted with the approval of the City Engineer.

All operations shall be carried out in an orderly fashion. Backfilling, compacting and clean-up work shall be accomplished as sections of the pipe installation are approved and traffic through the work shall be impeded or obstructed as little as possible.

Trench width shall be per City of Brentwood Standard Plan ST-25a "Open Trench, Backfill, and Repair of Existing Streets" and ST-25b "Notes for Open Trench, Backfill, and Repair of Existing Streets". The trench bottom shall be free of bumps or hollows, and graded to provide uniform support along the length of pipe.

Excess excavated material and material unsuitable for backfill shall become the property of the Contractor and shall be removed and disposed of away from the job site at the Contractor's expense. The cost of removal and disposal of excess or unsuitable material shall be considered as included in the unit costs for the pipe installation and no additional compensation will be made therefor.

#### C. TRENCH STABILIZATION

Whenever the bottom of the trench is soft, rocky, or, in the opinion of the City Engineer, otherwise unsuitable as a foundation for the pipe, the unsuitable material shall be removed to a depth of 12 inches below the specified trench bottom elevation and replaced with trench stabilization material. Trench stabilization material for backfilling the trench below the pipe shall conform to the requirements for pipe bedding material so that it will provide a stable and satisfactory foundation. Alternate backfill materials and methods may be used with the approval of the City Engineer.

The costs associated with trench stabilization shall be considered as included in the unit costs for the pipe installation and no additional compensation will be made therefor.

#### D. PIPE BEDDING

Pipe bedding shall be placed above and below the pipe to the lines and grades shown on the plans.

Bedding material shall be placed to approximately the same elevation on both sides of pipe to prevent unequal loading and displacement of the pipe. The difference in elevation of the bedding backfill on either side of pipe shall not exceed six (6) inches at any time.

Bedding material shall consist of Class 2 Aggregate Base,  $\frac{3}{4}$  inch maximum –  $\frac{3}{4}$  clean (not crushed) conforming to Section 26, "Aggregate Bases," of the Caltrans Standard Specifications and of these Technical Specifications. Controlled Low Strength Material (CLSM) may be used for backfill in the pipe zone above the invert of the pipe. CLSM shall consist of Portland cement, aggregate, water, and approved admixtures conforming to the following:

1. **Portland Cement:** ASTM C150, Type II.
2. **Aggregate:** Concrete sand, selected material from the excavation, imported material, or a combination thereof as approved by the City Engineer. Maximum aggregate size shall be  $\frac{3}{4}$  to 1 inch. The soluble sulfate content shall not exceed 0.3 % by dry weight.
3. **Water:** Potable quality.  
Proportion the CLSM to be a flowable, nonsegregation, self-consolidating low shrink slurry. The Contractor shall determine the materials and proportions used to meet the requirements of these Technical Specifications.

The unconfined compressive strength at seven (7) days shall be a minimum of 100 psi and a maximum of 300 psi.

The temperature of the CLSM discharged into the excavation shall be below 90 degrees Fahrenheit.

Contractor shall develop mix design using samples from actual stockpiles to be used. Submit mix design to City Engineer at least fourteen (14) working days prior to use of the material in the Work. Obtain approval of the mix design and strength results from City Engineer.

Bedding material, excluding CLSM, shall be moisture conditioned to 3 percentage points above optimum moisture content, and recompacted to not less than 90% relative compaction as determined by ASTM D1557.

#### E. TRENCH BACKFILL

Trench backfill shall conform to Detail ST-25a "Open Trench, Backfill and Repair of Existing Streets" of City of Brentwood Plans and Specifications. City will permit Class II Aggregate Base trench backfill in-lieu of the 2-sack cement slurry backfill, however the Contractor shall pay for all material testing costs and Class II Aggregate Base shall meet the requirements of these specifications and City Standards. City Standard Detail W-14 shall still govern where applicable.

Trench backfill shall consist of the trench area from the top of the pipe bedding to the ground surface, or if within a roadway, to the bottom of the roadway subgrade.

Native excavated material shall be free of all organic material, rubbish, debris, rocks exceed 2½ inches in any one dimension and other objectionable material.

Backfill shall be compacted by impact, vibration, or by a combination of these methods, as approved by the City Engineer. However, impact type compactors shall not be used around over PVC pipe until backfill over the top of the pipe exceeds four (4) feet in the number of "lifts" specified in the City of Brentwood Standards. No jetting will be permitted.

All backfill shall be placed in maximum eight (8) inch uncompacted lifts.

Compaction shall be moisture conditioned to 3 percentage points above optimum moisture content, and recompacted to not less than 95% relative compaction, as determined by ASTM D1557.

To minimize excessive live loads on pipe, a minimum of four (4) feet of compacted fill shall be placed over the pipe before impact type compactors are used or power-operated hauling or rolling equipment travels over the pipe.

Trench compaction testing shall be provided at no cost to the Contractor by the City of Brentwood. The Contractor shall excavate test pits and provide access to all depths in all trenches by maintaining shoring system components as needed to allow the technician to enter the trench and perform compaction tests at various depths. Costs for retesting and reinspection due to failure of the tested material to meet the compaction requirements will be borne by the Contractor, with the costs for retesting being deducted from the Contractor's monthly progress payments subtotal prior to deducting any applicable retentions.

Excavating test pits and maintaining the trench shoring system for compaction testing shall be included in the unit price per lineal foot paid for pipe installation and no additional compensation shall be made therefor.

#### F. TEMPORARY PAVING

The Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing until permanent paving work can be installed.

Temporary paving shall consist of asphalt cutback rolled to provide a smooth surface. Use of a backhoe or other equipment with grooved tires to roll cutback shall be prohibited. All edges shall be contoured to provide a smooth transition between the existing grade and the cutback surface. The Contractor shall maintain the surface free of depressions, bumps, loose pieces, and other defects at all times.

Temporary pavement shall be replaced with permanent pavement as soon as is practical after the trench is backfilled and as allowed by the City Engineer.

Until the permanent pavement is placed, the base rock and temporary asphaltic plant mix at the surface of the trench shall be maintained at all times. Continuous inspection and maintenance of the trench area will be required.

#### G. MEASUREMENT AND PAYMENT

Trench excavation, water control and dewatering, bedding and backfilling, pavement sawcutting, and placement of temporary paving will be considered as included in the contract unit price paid per linear foot for various types and sizes of pipe installed, and other items of work, and will not be measured or paid as separate items.

### **SECTION TS-16 SHEETING AND SHORING**

Excavations shall be adequately shored and braced so that the earth will not slide, move, or settle and so that all existing improvements of any kind will be fully protected from damage.

Attention is called to Article 6 of "Construction Safety Orders" of the California Division of Industrial Safety which applies to all open excavations made in the earth's surface, including trenches.

Trenches over five (5) feet in depth shall be evaluated for stability prior to personnel entering the trench. Where trenches are deeper than five (5) feet, the Contractor shall comply with the current California Occupational Safety and Health Administration (CAL OSHA) requirements pertaining to trench safety.

At least seven (7) days prior to excavation for any trench five (5) feet or more in depth trenching shall not begin until the Contractor has submitted to the City Engineer a copy of the Contractor's detailed plan for worker protection from the hazards of caving ground during the excavation of such trench.

The Contractor shall be aware that in no case should slope height, inclination, and excavation depths exceed those specified in local, state, or federal safety regulations. Specifically, the Contractor shall be aware of the current OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926.

The Contractor's "responsible person", as defined in 29 CFR Part 1926, shall evaluate the soil exposed in the excavations as part of the Contractor's safety procedures.

In areas where slope trenching will be used, the Contractor shall design temporary construction slopes to conform to OSHA's "Guidelines for Excavation and Temporary Sloping." The temporary slope inclination shall be determined by the Contractor, or responsible subcontractor, based on the subsurface conditions exposed at the time of construction.

The Contractor shall furnish, install and maintain such sheeting, timbering, lagging and bracing as indicated on the Contractor's detailed plans or any additional precautions not specifically set forth necessary to support the sides of the trench. The protection of adjacent structures from movement of the ground and the elimination of the element of danger of life, property, or to existing improvements is the intent of this requirement and shall be the sole responsibility of the Contractor.

Additional supports requested by the City Engineer shall in no way relieve the Contractor of the Contractor's responsibility for the sufficiency of the Contractor's precautions.

All such sheeting, timbering, lagging and bracing shall, unless otherwise required by the City Engineer, be removed during backfilling in such a manner as to prevent any movement of the ground or damage to the piping or other structures.

The Contractor shall submit a copy of the sheeting and shoring plan to the City Engineer prior to beginning excavation.

The Contractor shall assess the adjacent utilities tolerance for settlement and lateral movement in communication with the utility's owners. The Contractor's shoring system shall limit movement to less than the tolerable amount.

Damages resulting from the Contractor's operations shall be repaired or replaced to the satisfaction of the respective utility owner at the Contractor's expense.

Payment for "Sheeting and Shoring" shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in sheeting and shoring as may be required by the Contract Documents, as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-17      CONCRETE CRADLE AND ENCASEMENT**

Concrete cradle and concrete encasement shall be provided at pipe crossings where clearance between the two pipes is less than 12 inches or when the cover over the pipe is less than 24 inches.

Concrete cradle and encasement shall be constructed of concrete conforming to Section 90-1 "General" of the Caltrans Standard Specifications, Type II cement to the dimensions as detailed on the plans.

Full compensation for "Concrete Cradle and Encasement" shall be included in the contract price paid for various contract items and no additional compensation will be allowed therefor.

## **SECTION TS-18      AGGREGATE BASE (CLASS 2)**

Aggregate base shall be Class 2 and shall conform to the provisions in Section 26, "Aggregate Bases", of the Caltrans Standard Specifications and these Technical Specifications.

The coarse aggregate (material retained on the No. 4 sieve) shall consist of material of which at least 25% by weight shall be crushed particles as determined by California Test 205.

Aggregate shall conform to the grading and quality requirements as shown in Section 26, "Aggregate Bases", of the Caltrans Standard Specifications.

Aggregate base shall not consist of any recycled material or products such as "Sierra-Crete" by Dupont, or the like.

No recycled Aggregate Base material will be allowed.

Full compensation for "Aggregate Base (Class 2)" shall be included in the contract price paid for various contract items and no additional compensation will be allowed therefor.

## **SECTION TS-19      ASPHALT CONCRETE**

Asphalt concrete shall be Type A (½" Max., Medium) for surface course and Type A (¾" Max., Medium) for bottom lift and AC leveling courses and shall conform to the provisions in Section 39, "Hot Mix Asphalt," of the Caltrans Standard Specifications and these Technical Specifications.

The following is added in addition to City of Brentwood Standards Section 39 "Hot Mix Asphalt" – Asphalt binder shall be Performance Graded (PG) not the old system Aged Residue (AR) binder. Asphalt binder shall be PG grade 64-10.

Tack coat shall be applied per Section 39-1.09C "Tack Coat" of the Caltrans Standard Specifications.

The application of tack coat shall be considered to be included in the contract price paid for various contract items and no additional compensation will be made therefor.

### **A. MEASUREMENT AND PAYMENT**

Payment for "Asphalt Concrete" shall be at the contract unit price per square foot listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in constructing asphalt concrete, complete in place, including sawcutting existing pavement, subgrade preparation, aggregate base, asphalt concrete pavement, and pavement sealing

to the required depth, width and compaction as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-20 STRIPING AND PAVEMENT MARKERS**

Traffic stripes and pavement legends including crosswalks disrupted by the Contractor during construction shall be restored to the existing or better condition, as specified in Section 84, "Traffic Stripes and Pavement Markings" and Section 85, "Pavement Markers" of the Caltrans Standard Specifications as modified herein, and as directed by the City Engineer. Traffic stripes and pavement legends shall be thermoplastic.

Configuration of traffic stripes, pavement markings and crosswalks shall conform to the detail and methods as set forth in the latest issue of the State of California, Department of Transportation Manual on Uniform Traffic Control Devices unless specifically modified on the plans.

Pavement Marking quantities include traffic arrows and crosswalks.

### **A. MEASUREMENT AND PAYMENT**

Payment for "Striping and Pavement Markers" shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in installation of the striping and pavement markers for Grant Street, Fairview Avenue, Maywood Lane, and St. Martin Place according to existing conditions or as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-21 POTABLE WATERLINE AND VALVES**

### **A. GENERAL**

New potable water pipe shall be polyvinyl chloride (PVC) pipe in the nominal diameters shown on the plans. Contractor shall install ductile iron pipe (DIP) as indicated in the Plans. Fittings, bends and spools shall be ductile iron pipe (DIP). Mechanical Joints shall be used unless specifically specified on the plans.

New potable water mains shall be connected to the existing potable water system as shown on the plans. The Contractor shall provide all fittings and valves required to connect the new lines to the existing mains. The Contractor shall investigate the proposed potable water line connections to verify size and location of existing potable water lines prior to ordering connection fittings.

With the approval of the City Engineer, in place of the No. 10 AWG single strand soft drawn insulated copper wire shown to be installed along the water main in City Standard Drawing W-17, "Locating Wire for Plastic Mains," the Contractor may install metallic marker tape. Tape shall be installed in the center of the trench twelve (12) inches above the top of the pipe along the full length of the trench. The marking tape shall be solid aluminum foil, visible on unprinted side, encased in a protective high visibility, inert polyethylene plastic jacket equal or similar to Terra "D" as manufactured by Reef Industries or Detectatape as manufactured by Allen. The marker tape shall be blue color

for potable water lines, minimum 5.5 mils thick, and minimum twelve (12) inches wide with minimum one (1) inch high permanent black identifying lettering imprinted continuously over entire length. Joining clips shall be tin or nickel-coated, furnished by the tape manufacturer.

Cathodic protection shall be installed per Section TS-26 "Cathodic Protection" of these Technical Specifications.

#### B. POLYVINYL CHLORIDE PIPE

Polyvinyl chloride (PVC) pipe, twelve (12) inches and smaller shall conform to AWWA C900, Class 200. PVC pipe greater than twelve (12) inches in diameter shall conform to AWWA C905, DR-18 (235 psi).

Gaskets for PVC pipe shall be furnished by the pipe manufacturer, and shall conform to ASTM F477.

#### C. DUCTILE IRON PIPE

Ductile Iron Pipe shall be installed as noted in the plans and shall be US Pipe TR Flex or approved equal. See Section TS- 22 "Pipeline Trenchless Installation".

#### D. DUCTILE IRON FITTINGS

Ductile iron pipe for spools shall conform to AWWA C111 and AWWA C151, minimum Class 250. Fittings shall conform to AWWA C110, minimum Class 250 or equivalent as approved by the City Engineer. Spools and fittings shall be cement-mortar lined in conformance with AWWA C104. Coating shall be as specified herein.

Flanges shall conform to AWWA C110, ductile iron, faced and drilled, 125 psi and flat faced. Gaskets shall be 1/16 inches thick, compressed inorganic fiber with nitrile binder rated to 700 F and 1,000 psi. Ring gaskets will not be permitted.

#### E. FLEXIBLE COUPLINGS AND FLANGED COUPLING ADAPTORS

Flanges, rings and follower shall be fusion bonded epoxy lined and coated in conformance with AWWA C213, as manufactured by Smith-Blair or Dresser. Nuts and bolts shall be as specified herein, or may be Type 304 stainless steel.

Middle rings of flexible connectors may be removed if necessary for installation.

#### F. BOLTING

All bolts, washers, and nuts shall conform to ASTM A193 Grade B8M studs and washers and ASTM A194 Grade 8M hex head nuts (ANSI Type 304 Stainless Steel). The nuts, bolts, and washers as specified herein shall be used in all bolting applications for this project. All bolts shall be coated with an approved thread lubricant before assembly.

## G. VALVES

All valves up to twelve (12) inches shall be gate type, iron-body, bronze mounted resilient-seat edge type, complying with AWWA C509-87 and Section 130-1.02C "Valves" of the City of Brentwood Standard Specifications. Valve bodies and wedges shall be of cast iron complying with ASTM A126, Class B. Valve seats shall have a non-metallic surface in compliance with AWWA C550. Valve stems shall be of bronze. Valves shall be provided with an AWWA operating nut with "O" ring seals, closed clockwise, and shall be Mueller No. A2380-24 and A2380-26 or equal, as approved by the City Engineer. Valves may have mechanical joint ends, except where flanged ends are specifically shown on the Drawings.

All valves larger than twelve (12) inches shall be cast-iron butterfly type of the stub or through shaft design in accordance with AWWA C504, with a manual operator with position indicators, stop limits, and be self-locking for intermediate positions. Valve body shall be of cast-iron complying with ASTM A436, Type 1 (Ni-Resist), or ASTM A48, Class 40 and shall have flanged ends in conformance with AWWA C110, 125 psi and flat faced. Valve shafts shall be of stainless steel complying with ASTM A276, Type 304 or carbon steel complying with ASTM A108, with stainless steel journals and static seals to isolate the interior of the disc and the shaft from the water. Seat sealing surfaces shall be Neoprene or Buna N and shall be vulcanized, bonded, mechanically secured, or clamped to the body or disc. Valves shall be provided with an AWWA operating nut. Valve operator shall be gasketed and grease packed for submerged operation at water pressures to 10 psig and shall withstand an input torque of 450 feet lbs. at the extreme operator positions without damage.

All valves shall be lined and coated in accordance with AWWA C550. Lining and coating shall be heat-activated material. A minimum 7-mil dry film thickness is required except where the thickness may be limited by valve operating tolerances.

All valves larger than twelve (12) inch shall be installed with a flanged coupling adapter. Gate valves (twelve [12] inch and smaller) are shown to be connected to a tee. The Contractor, at his option, may substitute a flange X mechanical joint valve in lieu of installing the flanged coupling adapter shown.

All valves shall be installed in a valve box with a circular traffic cover per the City of Brentwood Standard. Valve boxes shall be twelve (12) inch diameter (Christy G12, or equal) Riser shall not be supported on valve, valve operator, or pipe. Risers shall be concrete or PVC.

Where existing valves are shown to be relocated, the Contractor shall reuse all the existing materials, except that new nuts, bolts, and gaskets shall be furnished by the Contractor.

## H. THRUST PROTECTION

Thrust restraint shall be provided at all tees, bends, reducers, caps, or other locations where unbalanced thrust forces may occur. All thrust anchors shall be constructed using (minimum 3,000 psi) concrete specified in Section 90 "Concrete" of the Caltrans Standard

Specifications and Section 130-1.02 "Materials" of the City of Brentwood Standard Specifications. Cement shall be ASTM C-150 Type II. All loose or disturbed soil shall be removed from the surfaces to be poured against such that all concrete is poured against undisturbed soil. No concrete shall be allowed to set up in any joints. Reinforcing steel will be required only where shown on the plans and in the detail drawings. Reinforcing steel shall be fabricated to fit tightly around the waterline fitting and provide adequate development length on both ends of the steel bar using hooks or other methods. Shop drawings for the steel shall be submitted to the City Engineer for review five (5) days prior to installation.

Reinforcing steel shall be epoxy coated. Epoxy coating shall conform to the provisions in Section 52, "Reinforcement," of the Caltrans Standard Specifications and these Technical Specifications.

Place 2 layers of 30 pound building paper between fitting and reinforcing steel. After concrete placement, reinforced steel shall be tightly sealed against the fittings before concrete begins to set up. After concrete hardens, coat all exposed reinforcing bar with Bituminous materials minimum of 0.05 inches as provided in AASHTO Designation: M190, Type A per Section 66-1.02C "Protective Coatings, Linings, and Paving" of the Caltrans Standard Specifications.

Sizes of thrust protection anchors (blocks) are shown on the plans.

Concrete for thrust blocks and concrete anchor blocks under and around in-line valves shall conform to Section 90-1 "General" of the Caltrans Standard Specifications. Cement shall be ASTM C-150 Type II. Reinforcing steel will be required for thrust blocks only where shown on the plans and in detail drawings.

#### I. CONNECTION TO EXISTING WATER SYSTEM

New potable water mains shall be connected to the existing potable water system as shown on the plans. The Contractor shall provide all fittings and valves required to connect the new lines to the existing mains.

#### J. TESTING AND DISINFECTION OF MAINS AND SERVICES

##### 1. "Filling and Flushing"

Lines shall be filled slowly with potable water at a maximum velocity of 1 ft/s (0.3 m/s) while venting all air. Precautions shall be taken to prevent entrapping air in the lines. After filling, lines shall be flushed at blowoffs and dead ends at a minimum velocity of 3 ft/s (0.9 m/s). A minimum of three changes of treated water shall be used in flushing operations. Valves shall be closed slowly to prevent excessive surges while maintaining positive pressure at all times throughout the new line. Flushing water shall be discharged without causing erosion damage, nuisance, or interruption of traffic. The Contractor shall submit a plan for disposing of the chlorinated water to the City Engineer five (5) working days prior to flushing. A special pipeline pig may be required when the required flushing velocity cannot be achieved or when needed to conserve water. The contractor shall make provisions for launching and retrieving the pig.

## 2. Testing

Any connection between the new pipeline being installed and the existing water system shall include an approved double-check valve assembly or other adequate backflow prevention devices installed to prevent flow into the existing system. The devices shall be tested by a certified testing laboratory prior to water being made available to the new mains. The Contractor shall provide certified test results to the City Engineer. The backflow devices assembly shall be required until bacteriological sampling proves the new pipeline is properly disinfected and flushed. The Contractor shall be responsible for providing all temporary piping for testing the main.

Water used for flushing, testing, and disinfecting new potable water mains shall be obtained from the City's water system. The Contractor shall pay costs of all water used for water main flushing, testing, and disinfecting. The Contractor is required to use City of Brentwood furnished meter and to pay the required deposit for meter use. The Contractor, at his expense, shall provide a larger meter if required to complete the work.

After the thrust blocks have obtained sufficient strength and after the completion of sufficient backfill, the newly laid pipe or any valve section thereof, shall be subjected to a hydrostatic pressure test. The pressure test will be conducted immediately prior to paving of the roadway.

If the pipeline under test contains pipes of various diameters, the allowable leakage will be the sum of the computed leakage for each size. Each test shall be witnessed by the City Engineer.

Any leaks, failures, or imperfect construction that develops during any test shall be repaired by the Contractor at the Contractor's expense, and the test repeated until the system is proved satisfactory. After the mains have passed the pressure tests, the City shall take water samples for bacteriological testing from blowoffs and air release valves. The number of samples required shall be equivalent to one sample every 600 lineal feet of water main and one sample from each dead end.

Redisinfection of failed water main sections shall require additional water samples to be taken for bacteriological testing. The Contractor shall pay the City the fee for each additional test on each water sample.

After the samples have passed the bacteriological testing, the Contractor will be notified and arrangements can be made to make tie-ins. Each water sample will have passed the bacteria tests if they show zero total coliform per 100 ml. and not more than 50 non-sheen bacteria per 100 ml.

- a. Leakage Test – Each section of pipe between valves shall be tested in accordance with the requirements of Section 7.3 of AWWA C605, "Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings" and Section 130-1.03B1 "Testing" of the City of Brentwood Standard Specifications. The specified test pressure shall be 200 psi at the lowest point of the section being tested.

3. Disinfection
  - a. Bacteriological samples shall not be taken until a final satisfactory hydrostatic leakage test is completed and excess chlorine has been flushed. If submitted bacteriological samples fail to satisfy minimum requirements, additional chlorination and/or flushing shall be required at the expense of the Contractor until satisfactory samples are obtained. No bacteriological samples shall be taken from fire hydrants. The Contractor shall provide, at his expense, temporary piping for connection to blowoffs and air release valves to extract samples for testing.
  - b. Disinfection and testing shall be in accordance with the Provisions of AWWA C651, "Disinfecting Water Mains" and Section 130-1.03C "Disinfecting Water Mains" of the City of Brentwood Standard Specifications. Sampling for bacteriological testing shall be in accordance with Section 7 of AWWA C651. Samples shall be taken by the Contractor in the presence of the City Engineer. The cost of furnishing containers for samples and for testing of the samples by an approved laboratory shall be borne by the Contractor, and no extra compensation will be allowed therefor.
  - c. Chlorinated water flushed from the system shall not be discharged onto private property or otherwise disposed of in a manner, which would cause damage to private or public property. The Contractor shall submit a plan on discharging chlorinated water to the City Engineer for approval.
  - d. Connection to Discharge of Water Service - No plumbing shall be connected to the discharge side of water services until all disinfection requirements are met and the new mains are connected to the City's distribution system.

The Contractor shall furnish all pumps, gauges, and facilities needed to perform the tests. All equipment must be approved by the City Engineer.

#### K. MEASUREMENT AND PAYMENT

Payment for "20 inch Potable Waterline – Open Trench" shall be at the contract unit price per linear foot listed in the bid schedule. Potable waterlines shall be measured on a linear foot basis by actual field measure along the centerline of the pipeline. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the waterline, complete in place, including locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, trenching, diking, bailing, import soil placement and compaction, pipe, excavation, dewatering (if required), temporary shoring system (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, flushing, testing, and disinfection of waterline, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for flushing, testing, and disinfection for the potable waterlines shall be considered included in the contract unit price paid per linear foot for various types and sizes of pipe installed, and other items of work, and will not be measured or paid as separate items.

Payment for "20 inch Potable Waterline Connection (O'Hara Avenue)" shall be paid for at a lump sum price. The contract lump sum price paid for "20 inch Potable Waterline Connection (O'Hara Avenue)" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in the "20 inch Potable Waterline Connection (O'Hara Avenue), including potholing, determination of connection conditions and method, valves, fittings, couplers, adapters, other necessary appurtenances, excavation, dewatering (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire, warning tape, compaction, testing, sterilizations, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "20 inch Potable Waterline Connection (St. Martin Place)" shall be paid for at a lump sum price. The contract lump sum price paid for "20 inch Potable Waterline Connection (St. Martin Place)" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in the "20 inch Potable Waterline Connection (St. Martin Place), including potholing, determination of connection conditions and method, valves, fittings, couplers, adapters, other necessary appurtenances, excavation, dewatering (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire, warning tape, compaction, testing, sterilizations, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "20 inch Butterfly Valves" shall be at the contract unit price per each listed in the bid schedule. 20 inch Butterfly Valves for non-potable waterline shall be paid for based on the actual number installed. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in 20 inch Butterfly Valves, complete in place, including valve, riser, operating stem, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-22      PIPELINE TRENCHLESS INSTALLATION**

### **A.      GENERAL**

Installation of the potable and non-potable water line by trenchless techniques as shown in the project plans. The contractor shall be responsible for verifying the existence and exact location of all utilities in the project area which may include potholing. All utilities and infrastructure is to be protected during the installation. The contractor shall supply a drawing detailing the profile of the proposed installation for the City's review after defining the locations of existing utilities and 48 hours prior to commencing the installation. During installation, the contractor shall ensure that the pipe joints do not deflect more than 50% of the manufacturer's recommended maximum deflection.

### **B.      UNION PACIFIC RAILROAD CROSSING**

The Contractor shall install the potable and non-potable waterlines crossing the Union Pacific Railroad (UPRR) as shown in the Plans by the bore and jack method or other method as approved by the City Engineer.

### Casing Pipe

Steel casing pipe shall be of leak proof construction and shall conform to the requirements of ASTM A53 (ASTM A139 Grade "B"). The pipe shall be coated inside and outside with a black bituminous coating a minimum of 5 mils thick. Steel casing pipe shall have minimum yield strength of 35,000 psi. Steel casing pipe sections shall have beveled ends with a single v-groove and shall be full penetration butt welded on the outside of the casing in accordance with the applicable portions of AWWA C206 for field welded waterpipe joints. All joints of the steel casing shall be butt welded prior to being subjected to the jacking operation. The welded joints shall be wire brushed and painted with bitumastic enamel coating in accordance with AWWA C203. The minimum inside diameter of the casing pipe shall be 4 inches greater than the largest outside diameter of the carrier pipe, joints, or couplings unless indicated otherwise. In all cases, the casing pipe shall be large enough to allow the carrier pipe to be removed subsequently without disturbing the casing pipe or roadway subgrade. If a larger casing diameter is shown in the plans, the larger diameter shall be used. The minimum thickness for casing pipes shall be 0.250 inches unless otherwise shown on the plans. Larger casing diameters and/or thicker casings shall be installed where required by the agency having jurisdiction for the crossing; as needed to resist H-20 traffic loading under street crossings, and E-80 loading under railroad crossings; as necessary to resist forces transferred to the casing during jacking operations. The Contractor shall supply and install a 36-inch minimum casing pipe in the Union Pacific Railroad right of way as shown in the Plans. Cathodic protection of the casing pipe shall be provided as shown in the Plans and as specified in section TS-26 "Cathodic Protection".

### Carrier Pipe

Carrier pipe for potable water alignment shall be 20-inch diameter fusible polyvinylchloride pipe as described in Section TS-21, "Potable Waterline and Valves". Carrier pipe for the non-potable water alignment shall be 12-inch diameter, fusible polyvinylchloride pipe as described in Section TS-23, "Non-Potable Waterline and Valves".

### Annular Space

Contractor shall prepare a test plan to verify that annular space between the carrier pipe and casing is filled completely with material that meets City Standard W-18.

### Jacking Equipment

The Contractor shall construct the new potable and non-potable waterlines between the limits indicated on the plans in such a manner that there shall be no disturbance of the railroad or drainage channel. Jacking operations shall be confined to the limits indicated on the plans or as directed by the City Engineer.

Casing pipe shall be installed by jacking as indicated on the plans. The jacking pit shall be of adequate size to accommodate the jacking head, frame, jacks, reaction blocks, added section of pipe, and other material and equipment, and to provide sufficient working space. The pit shall be excavated by suitable methods as specified for normal excavations. The jacking head shall be of suitable bearing pieces to protect the pipe from damage due to the thrust from the jacks, and to transfer that thrust from the jacks to the pipe. The jacking frame, upon which the pipe being jacked will rest, shall be of railroad rails or other suitable steel or wooden members set to the correct line and grade to act as guides for true alignment of the pipe. The jacks shall be of ample capacity to provide more than the

anticipated jacking capacity necessary. The reaction blocks shall be suitable to provide for resistance to, and distribution of, the reaction from the jacks. The jacking apparatus shall be strongly constructed, and set and maintained in proper relative position and alignment.

#### Temporary Steel Plating

Steel plates used to cover jacking pits shall have 1-1/4-inch minimum thickness, be sized to extend a minimum of 12 inches beyond the edges of the pits, be capable of supporting HS20-44 truck loading per Caltrans Bridge Design Specification Manual, have a nonskid surface with a minimum friction coefficient of 0.35 as determined by California Test Method 342, and be attached together by welding or another method approved by the City Engineer.

#### Installation of Jacked Steel Casing Pipe

The City Engineer knows of no manmade obstruction in the path of the alignment. However, the Contractor shall remove or penetrate all natural obstructions encountered. If groundwater is found during construction, the Contractor shall control the flow sufficiently to protect the excavation, pipe, and equipment.

Bentonite may be used for lubricating the casing pipe but shall not be projected ahead of the pipe.

Sluicing or jetting will not be permitted.

Jacking of welded steel pipe shall be in accordance with Section 65 "Concrete Pipe" and 70 "Miscellaneous Drainage Facilities" of the Caltrans Standard Specifications.

Any pipe damaged during the jacking operation shall be repaired by the Contractor at no expense to the City in a manner acceptable to the City Engineer. In the event that the pipe is damaged during jacking operations and the defects cannot be corrected to the satisfaction of the City Engineer, the Contractor shall fill the pipe with sand and seal in a manner to prevent future settlement and begin jacking in an alternative location as designated by the City Engineer.

Deviations in line and grade of the casing pipe will only be allowed to the extent that the carrier pipe can be shifted within the casing to compensate for the deviation. The Contractor shall remove all augers and check the alignment and grade of the leading end of the casing often enough to be able to correct any line or grade deviations while the boring is in progress. In no event shall the line and grade checks be at intervals exceeding 40 feet. The Contractor shall correct any deviation from grade or alignment resulting from the bore at no cost to the City. Proper alignment and elevation of the casing pipe shall be consistently maintained throughout the jacking operation.

Special care shall be taken during the installation of the jacked pipe to ensure that no settlement or caving be caused to the above surface. Any caving caused by the placement of the pipe shall be the Contractor's responsibility and he shall repair any area so affected as directed by the City Engineer.

During jacking operations, particular care shall be exercised to prevent caving ahead of the pipe which will cause voids outside of the pipe. If caving occurs, the Contractor shall install three 1½ inch grout ports, 120 degrees apart every 8 feet along the casing. The City

Engineer will inspect each port after opening to confirm the requirement for grouting. Cement grout shall then be pumped into each port under low pressure. Grout shall be placed by positive displacement pumps capable of placing grout at pressures up to 50 psi unless otherwise allowed by the City Engineer. Grout shall be placed at pressures which are requisite for the conditions encountered and will normally be less than 10 psi except in cases where large cave-ins or other adverse conditions may require higher pressures. Gages shall be provided to indicate grout pressure obtained. All voids shall be filled to the satisfaction of the City Engineer. The Contractor shall not use blasting in making excavations through jacked pipe.

#### Carrier Pipe Rollers (optional)

The carrier pipe shall be installed in the casing using bore spacers with runners on maximum 6 foot centers, as manufactured by Pipeline Seal and Insulator, Inc. model S12G-2 or C12G-2, Cascade Waterworks Mfg. model CCS-ER, or equal. Spacers shall be polyvinyl chloride coated 14 gauge steel or 14 gauge 304 stainless steel. Runners shall be glass reinforced or ultra high molecular weight polymer with high abrasion resistance. Spacers and runners shall be installed in accordance with manufacturer's recommendations.

There must be no metallic contact between the casing and the carrier pipe. The positioning of the spacers should ensure that the carrier pipe is adequately supported throughout its length, particularly at the ends, to offset settling and possible electrical shorting. The end spacer must be within 12 inches of the end of the casing pipe, regardless of carrier/casing differential or type of spacer being used.

The first pipe joint outside all casings shall be within 12 inches of the end of the casing. The casing pipe shall then be filled with sand to the top of the casing pipe. After the lines have been pressure tested, end seal shall be placed at each end of the casing pipe.

The pipe shall be jacked ahead when stopping work each night to create a plug of sufficient thickness to assure material stability.

### C. FAIRVIEW AVENUE CROSSING

This section specifies fusible polyvinyl chloride pipe, including standards for dimensionality, testing, quality, acceptable fusion practice, safe handling, storage and installation of the pipe by horizontal directional drilling, directional boring, or guided boring. The Contractor shall install the non-potable waterline crossing Fairview Avenue as shown in the Plans.

#### Requirements

Contractor shall provide fusible polyvinyl chloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification for installation by horizontal directional drilling.

Contractor shall be responsible for all installation processes and procedures associated with the installation by horizontal directional drilling in accordance with this specification.

Pipe Description

Pipe Supplier shall furnish fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification.

Pipe shall conform to the following dimensionality and general characteristics table:

<u>Pipe Description</u>	<u>Nominal Diameter (in.)</u>	<u>DR</u>	<u>Color</u>	<u>Pressure Class (psi)</u>	<u>Required Inner Diameter (in.)</u>
<b>FPVC®</b>	<b>12"</b>	<b>18</b>	<b>Purple</b>	<b>235</b>	<b>11.65"</b>

References

This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those other standards are included as references under this section as if referenced directly. In the event of a conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Unless otherwise specified, references to documents shall mean the documents in effect at the time of design, bid, or construction, whichever is earliest. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.

Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI/AWWA C110/A21.10	American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids
ANSI/AWWA C111/A21.11	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
ANSI/AWWA C153/A21.53	AWWA Standard for Ductile-Iron Compact Fittings for Water Service
AWWA C605	Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
AWWA C651	Standard for Disinfecting Water Mains
AWWA C900	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 12 in. (100mm Through 300mm), for Water Distribution
AWWA C905	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 in. through 48 in. (350mm Through 1200mm), for Water Distribution and Transmission

Reference	Title
AWWA M23	AWWA Manual of Supply Practices PVC Pipe—Design and Installation, Second Edition
ASTM C923	Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
ASTM D1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2152	Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
ASTM D2241	Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR)
ASTM D2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D3034	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F679	Standard Specification for Poly(Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings
ASTM F1057	Standard Practice for Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
ASTM F1417	Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
UNI-B-6	Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe
UNI-PUB-08	Tapping Guide for PVC Pressure Pipe
NSF-14	Plastics Piping System Components and Related Materials
NSF-61	Drinking Water System Components--Health Effects
PPI TR-2	PVC Range Composition Listing of Qualified Ingredients

#### Manufacturer Requirements

All piping shall be made from PVC compound conforming to cell classification 12454 per ASTM D1784.

#### Fusion Technician Requirements

Fusion Technician shall be fully qualified by the pipe supplier to install fusible polyvinylchloride pipe of the type(s) and size(s) being used. Qualification shall be current as of the actual date of fusion performance on the project.

#### Specified Suppliers

Fusible polyvinylchloride pipe shall be used as manufactured under the trade names Fusible C-900®, Fusible C-905®, and FPVC®, for Underground Solutions, Inc., Poway, CA, (858) 679-9551. Fusion process shall be as patented by Underground Solutions, Inc., Poway, CA, Patent No. 6,982,051.

### Warranty

The pipe shall be warranted for one year per the pipe supplier's standard terms.

In addition to the standard pipe warranty, the fusion services shall be warranted for one year per the fusion service provider's standard terms.

### Pre-Construction Submittals

1. The following product data is required from the pipe supplier and/or fusion provider:
2. Pipe Size
3. Dimensionality
4. Pressure Class per applicable standard
5. Color
6. Recommended Minimum Bending Radius
7. Recommended Maximum Safe Pull Force
8. Fusion technician qualification indicating conformance with this specification

The following work plan and information is required from the Contractor.

1. Work plan shall include for each HDD installation any excavation locations and dimensions, interfering utilities, bore dimensions and locations including bend radii used, and traffic control schematics.
2. A project safety and contingency plan which shall include but shall not be limited to drilling fluid containment and cleanup procedures, equipment and plan for compromised utility installations including electrical and power lines, water, wastewater and any other subsurface utility in the area.
3. An HDD schedule identifying daily work hours and working dates for each installation.

### Post-Construction Submittals

The following as-recorded data is required from the Contractor to be submitted to the City:

1. Approved datalogger device reports
2. Fusion joint documentation containing the following information:
  - a. Pipe Size and Thickness
  - b. Machine Size
  - c. Fusion Technician Identification
  - d. Job Identification
  - e. Fusion Joint Number
  - f. Fusion, Heating, and Drag Pressure Settings
  - g. Heat Plate Temperature
  - h. Time Stamp
  - i. Heating and Cool Down Time of Fusion
  - j. Ambient Temperature
3. As-recorded Information
  - a. The as-recorded plan and profile will reflect the actual installed alignment, and reflect the horizontal offset from the baseline and depth of cover.
  - b. All fittings, valves, or other appurtenances will also be referenced and shown.
  - c. A daily project log, along with tracking log sheets, should they be used, shall be provided. Tracking log sheet data, should it be employed, shall include any and all that apply, including inclination, depth, azimuth, and hydraulic pull-back and rotational force measured.

### Fusible Polyvinyl Chloride (PVC) Pressure Pipe for Non-Potable Water

Fusible polyvinyl chloride pipe shall conform to AWWA C900, ASTM D2241 or ASTM D1785 for standard dimensionality, as applicable. Testing shall be in accordance with the referenced AWWA standard.

Fusible polyvinyl chloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinyl chloride pipe shall be manufactured in a standard 40 foot nominal length, or custom lengths as specified.

Fusible polyvinyl chloride pipe shall be purple in color for reclaim, reuse, or other non-potable water distribution or conveyance.

Pipe shall be marked as follows:

1. Nominal pipe size
2. PVC
3. Dimension Ratio, Standard Dimension Ratio, or Schedule
4. AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable
5. AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable
6. Extrusion production-record code
7. Trademark or trade name
8. Cell Classification 12454 and/or PVC material code 1120 may also be included
9. For reclaim water service, the wording: "Reclaimed Water, NOT for Potable Use"

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

### Fusion Joints

Unless otherwise specified, fusible polyvinyl chloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed as described in this specification.

### Connections and Fittings for Pressure Applications

Connections shall be defined in conjunction with the coupling of project piping, as well as the tie-ins to other piping systems.

### Ductile Iron Mechanical and Flanged Fittings

Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard ductile iron fittings conforming to AWWA/ANSI C110/A21.10, or AWWA/ANSI C153/A21.53 and AWWA/ANSI C111/A21.11.

Connections to fusible polyvinyl chloride pipe may be made using a restrained or non-restrained retainer gland product for PVC pipe, as well as for MJ or flanged fittings.

Bends, tees and other ductile iron fittings shall be restrained with the use of thrust blocking or other means as indicated in the construction documents.

Ductile iron fittings and glands must be installed per the manufacturer's guidelines.

#### PVC Gasketed, Push-on Fittings

Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard PVC pressure fittings conforming to AWWA C900 or AWWA C905.

Acceptable fittings for use joining fusible polyvinyl chloride pipe other sections of fusible polyvinylchloride pipe or other sections of PVC pipe shall include gasketed PVC, push-on type couplings and fittings, including bends, tees, and couplings as shown in the drawings.

Bends, tees and other PVC fittings shall be restrained with the use of thrust blocking or other restraint products as indicated in the construction documents.

PVC gasketed, push-on fittings and mechanical restraints, if used, must be installed per the manufacturer's guidelines.

#### Fusible Polyvinyl Chloride Sweeps or Bends

Fusible polyvinyl chloride sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe being joined using the sweep or bend.

Fusible polyvinyl chloride sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least 2 feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation. There shall be no gasketed connections utilized with a fusible polyvinyl chloride sweep.

Standard fusible polyvinyl chloride sweep or bend angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4 inch through 16 inch.

#### Sleeve Type Couplings

Sleeve-type mechanical couplings shall be manufactured for use with PVC pressure pipe, and may be restrained or unrestrained as indicated in the construction documents.

Sleeve-type couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

#### Expansion and Flexible Couplings

Expansion-type mechanical couplings shall be manufactured for use with PVC pipe, and may be restrained or unrestrained as indicated in the construction documents.

Expansion-type mechanical couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

### Connection Hardware

Bolts and nuts for buried service shall be made of non-corrosive, high-strength, low-alloy steel having the characteristics specified in ANSI/AWWA C111/A21.11, regardless of any other protective coating.

### Drilling System Equipment

The directional drilling equipment, as a minimum, shall consist of a directional drilling rig of sufficient capacity to perform the bore(s) and pull-back of the pipe(s), a drilling fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations, and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project. All required equipment shall be included in the emergency and contingency plan as submitted per these specifications.

### Drilling Rig

The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull drill pipe while delivering a pressurized fluid mixture to a drill head. The machine shall be anchored to withstand the pulling, pushing and rotating forces required to complete the project.

The drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. The hydraulic system shall be free from leaks.

The drilling rig shall have a system to monitor pull-back hydraulic pressure during pull-back operations.

### Drill Head

The horizontal directional drilling equipment shall produce a stable fluid lined tunnel with the use of a steer-able drill head and any subsequent pre-reaming heads.

The system must be able to control the depth and direction of the drilling operation.

Drill head shall contain all necessary cutters and fluid jets for the operation, and shall be of the appropriate design for the ground medium being drilled.

### Drilling Fluid (Drilling Mud)

Drilling fluid shall be composed of clean water and the appropriate additive(s) for the fluid to be used. Water shall be from a clean source and shall meet the mixing requirements of the mixture manufacturer(s).

The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods. No hazardous additives may be used.

Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall(s).

Drilling fluid shall be disposed of off-site in accordance with local, state and federal requirements and/or permit conditions.

No additional chemicals or polymer surfactants shall be allowed to be added to the drilling fluid unless they have been submitted per this specification.

#### Mixing System

A drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for the project.

The mixing system shall be able to ensure thorough mixing of the drilling fluid. The drilling fluid reservoir tank shall be sized for adequate storage of the fluid.

The mixing system shall continually agitate the drilling fluid during drilling operations.

#### Drilling Fluid Delivery and Recovery System

The drilling fluid pumping system shall have a minimum capacity to supply drilling fluid in accordance with the drilling equipment pull-back rating at a constant required pressure.

The delivery system shall have filters or other appropriate in-line equipment to prevent solids from being pumped into the drill pipe.

Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. The use of spill containment measures shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps, vacuum truck(s), and/or storage of sufficient size shall be in place to contain excess drilling fluid.

A closed-loop drilling fluid system and a drilling fluid cleaning system should be used to whatever extent practical, depending upon project size and conditions. Under no circumstances shall drilling fluid that has escaped containment be reused in the drilling system.

#### Drilling Control System

Calibration of the electronic detection and control system shall be verified prior to the start of the bore.

The drilling head shall be remotely steer-able by means of an electronic or magnetic detection system. The drilling head location shall be monitored in three dimensions:

- a. Offset from the baseline,
- b. Distance along the baseline, and
- c. Depth of cover.

Point of rotation of the head shall also be monitored.

Pipe pull heads shall be utilized that employ a positive through-bolt design assuring a smooth wall against the pipe cross-section at all times.

Pipe pull heads shall be specifically designed for use with fusible polyvinylchloride pipe, and shall be as recommended by the pipe supplier.

### Delivery and Off-Loading

Pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the City Engineer.

Each pipe shipment should be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Notify the City Engineer immediately if more than immaterial damage is found. Each pipe shipment should be checked for quantity and proper pipe size, color, and type.

Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.

Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.

During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.

If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

### Handling and Storage

Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the City Engineer.

Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected unless determined acceptable by the City Engineer.

Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.

Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.

If pipe is to be stored for periods of 1 year or longer, the pipe should be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.

Pipe shall be stored and stacked per the pipe supplier's guidelines.

### Fusion Process

Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine.

Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process. Fusion machines must incorporate the following elements:

- a. HEAT PLATE - Heat plates shall be in good condition with no deep gouges or scratches. Plates shall be clean and free of any debris or contamination. Heater controls shall function properly; cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused, per the pipe supplier's guidelines.
- b. CARRIAGE – Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.
- c. GENERAL MACHINE - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.
- d. DATA LOGGING DEVICE – An approved datalogging device with the current version of the pipe supplier's recommended and compatible software shall be used. Datalogging device operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.

Other equipment specifically required for the fusion process shall include the following:

- a. Pipe rollers shall be used for support of pipe to either side of the machine
- b. A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement, extreme temperatures, and /or windy weather, per the pipe supplier's recommendations.
- c. An infrared (IR) pyrometer for checking pipe and heat plate temperatures.
- d. Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.
- e. Facing blades specifically designed for cutting fusible polyvinylchloride pipe shall be used.

### Joint Recording

Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine. The fusion data logging and joint report shall be generated by software developed specifically for the butt-fusion of fusible polyvinyl chloride pipe. The software shall register and/or record the parameters required by the pipe supplier and these specifications. Data not logged by the data logger shall be logged manually and be included in the Fusion Technician's joint report.

### Drilling Operations

Bore path and alignment are as indicated in the contract documents. The path of the bore may be modified based on field and equipment conditions. Entry and exit locations and control-point elevations shall be maintained as indicated in the contract documents.

Bend radii shown in the contract documents are minimum allowable radii and shall not be reduced.

### Location and Protection of Underground Utilities

Correct location of all underground utilities that may impact the HDD installation is the responsibility of the Contractor, regardless of any locations shown on the drawings or previous surveys completed.

Utility location and notification services shall be contacted by the Contractor prior to the start of construction.

All existing lines and underground utilities shall be positively identified, including exposing those facilities that are located within an envelope of possible impact of HDD installation as determined for the project specific site conditions. It is the Contractor and HDD system operator's responsibility to determine this envelope of safe offset from existing utilities. This will include, but is not limited to, soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign subsurface material.

### Site Location Preparation

Work site as indicated on drawings shall be graded or filled to provide a level working area. No alterations beyond what is required for operations are to be made

Contractor shall confine all activities to designated work areas.

### Drilling Layout and Tolerances

The drill path shall be accurately surveyed with entry and exit areas placed in the appropriate locations within the areas indicated on drawings. If using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.

Instrumentation shall be provided and maintained at all times that accurately locates the pilot hole, measures drill-string axial and torsional loads and measures drilling fluid discharge rate and pressure.

Entry and exit areas shall be drilled so as not to exceed the bending limitations of the pipe as recommended by the pipe supplier.

### Pilot Hole Bore

Pilot hole shall be drilled along bore path. In the event that the pilot bore does deviate from the bore path, it may require the Contractor to pull-back and re-drill from the location along bore path before the deviation.

The Contractor shall limit curvature in any direction to reduce force on the pipe during pull-back. The minimum radius of curvature shall be no less than that specified by the pipe supplier and as indicated on the drawings.

Reaming

After successfully completing the pilot hole, the bore hole shall be reamed to a diameter which meets the requirements of the pipe being installed. The following table is offered as an estimated guide:

<b>Nominal Pipe Diameter</b>	<b>Bore Hole Diameter</b>
< 8 inches	Pipe Dia. + 4 inches
8 inches to 24 inches	Pipe Dia. X 1.5
> 24 inches	Pipe Dia. + 12 inches

Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.

In the event of a drilling fluid fracture, returns loss or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.

Pipe Pull-Back and Insertion

Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.

Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.

The pipe entry area shall be graded as needed to provide support for the pipe and to allow free movement into the bore hole.

The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.

The fusible polyvinylchloride pipe may be continuously or partially supported on rollers or other friction decreasing implement during joining and insertion approved by the City Engineer, as long as the pipe is not over-stressed or critically abraded prior to, or during installation.

A swivel shall be used between the reaming head and the fusible polyvinylchloride pipe to minimize torsion stress on the pipe assembly.

Buoyancy modification shall be at the sole discretion of the Contractor, and shall not exceed the pipe supplier's guidelines in regards to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.

Once pull-back operations have commenced, the operation shall continue without interruption until the pipe is completely pulled through the bore hole.

The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor.

#### Installation Cleanup

Following the installation, the project site shall be returned to a condition equal to or better than the pre-construction condition of the site. All excavations will be backfilled and compacted per the construction documents and jurisdictional standards. All pavement and hardscape shall be repaired per applicable jurisdictional standards, excess materials shall be removed from the site, and disturbed areas shall be re-landscaped. All drilling fluid shall be properly disposed of per these specifications and all applicable jurisdictional laws.

Contractor shall verify that all utilities, structures, and surface features in the project area are sound.

#### Preparation Prior to Making Connections into Existing Piping Systems

Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the contractor shall:

1. Field verify location, size, piping material, and piping system of the existing pipe.
2. Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
3. Have installed all temporary pumps and/or pipes in accordance with established connection plans.

Unless otherwise approved by the City Engineer, new piping systems shall be completely assembled and successfully tested per Section TS-21 and TS-23 prior to making connections into existing pipe systems.

#### Pipe System Connections

Pipe connections shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines and as indicated in the construction documents. Pipe connections to structures shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines.

Pipe installed via HDD shall be filled with water prior to making any connections to the existing system or other portions of the project.

#### Tapping for Potable and Non-Potable Water Applications

Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or sleeves. No direct tapping will be permitted. Tapping shall be performed in accordance with the applicable sections for Saddle Tapping per Uni-Bell PVC Pipe Association Tapping Guide.

All connections requiring a larger diameter than that recommended by the pipe supplier, shall be made with a pipe connection as specified and indicated on the drawings.

Equipment used for tapping shall be made specifically for tapping PVC pipe:

1. Tapping bits shall be slotted “shell” style cutters, specifically made for PVC pipe. ‘Hole saws’ made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.
2. Manually operated or power operated drilling machines may be used.

Taps may be performed while the pipeline is filled with water and under pressure (‘wet’ tap,) or when the pipeline is not filled with water and not under pressure (‘dry’ tap).

#### Testing

Testing shall comply with all applicable jurisdictional building codes, statutes, standards, regulations, and laws.

#### Hydrostatic Testing and Leakage Testing for Pressure Piping

Hydrostatic and leakage testing for piping systems that contain mechanical jointing, as well as fused PVC jointing, shall comply with AWWA C605.

Unless agreed to or otherwise designated by the City Engineer, for a simultaneous hydrostatic and leakage test following installation, a pressure equal to 150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation shall be applied. The duration of the pressure test shall be for two (2) hours.

If hydrostatic testing and leakage testing are performed at separate times, follow procedures as outlined in AWWA C605.

In preparation for pressure testing the following parameters must be followed:

1. All air must be vented from the pipeline prior to pressurization. This may be accomplished with the use of the air relief valves or corporation stop valves, vent piping in the testing hardware or end caps, or any other method which adequately allows air to escape the pipeline at all high points. Venting may also be accomplished by ‘flushing’ the pipeline in accordance with the parameters and procedures as described in AWWA C605.
2. The pipeline must be fully restrained prior to pressurization. This includes complete installation of all mechanical restraints per the restraint manufacturer’s guidelines, whether permanent or temporary to the final installation. This also includes the installation and curing of any and all required thrust blocking. All appurtenances included in the pressure test, including valves, blow-offs, and air-relief valves shall be checked for proper installation and restraint prior to beginning the test.
3. Temporary pipeline alignments that are being tested, such as those that are partially installed in their permanent location shall be configured to minimize the amount of potentially trapped air in the pipeline.

#### Disinfection of the Pipeline for Potable Water Piping

After installation, the pipeline, having passed all required testing, shall be disinfected prior to being put into service. Unless otherwise directed by the City Engineer, the pipeline will be disinfected per AWWA C651.

#### Partial Testing

Segments of the pipe may be tested separately in accordance with standard testing procedure, as approved by the City Engineer. Testing of each HDD installation prior to connection to the system or other piping is required.

#### D. MEASUREMENT AND PAYMENT

Payment for “UPRR Crossing – 20 inch Potable Waterline” shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the UPRR Crossing – 20 inch Potable Waterline, complete in place, including but not limited to:

- Potholing to locate utilities
- Trenchless equipment, materials, work, and operations required for installation including any excavated pits or areas
- Dewatering (if required)
- Temporary shoring system (if required)
- Furnishing and installing 20 inch fusible PVC pipe
- Furnishing and installing 42 inch steel casing
- Flushing, testing, and disinfecting
- Pressure grouting
- Banding straps
- End seals, annular space fill, and casing spacers.

as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for “UPRR Crossing – 12 inch Non-Potable Waterline” shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the UPRR Crossing – 12 inch Non-Potable Waterline, complete in place, including but not limited to:

- Potholing to locate utilities
- Trenchless equipment, materials, work, and operations required for installation including any excavated pits or areas
- Dewatering (if required)
- Temporary shoring system (if required)
- Furnishing and installing 12 inch fusible PVC pipe
- Furnishing and installing 24 inch steel casing
- Flushing and testing
- Pressure grouting
- Banding straps
- End seals, annular space fill, and casing spacers.

as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for “Fairview Crossing (HDD) – 12 inch Non-Potable Waterline” shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the Fairview Crossing (HDD) – 12 inch Non-Potable Waterline, complete in place, including mobilization, locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, drilling pit, pipe insertion pit, trenching, diking, bailing, import soil placement and compaction, furnishing and installing fusible PVC pipe and appurtenances, dewatering (if required), temporary shoring system (if required), drilling rig, drill head, drilling fluid, mixing system, drilling control system,

fusion joint recording, pilot hole bore, reaming, pipe pull valve, and insertion, pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, and compaction, flushing and testing, demobilization, repair and reconnection of utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-23      NON-POTABLE WATERLINE AND VALVES**

### **A. GENERAL**

All non-potable waterline (installed by open trench method) shall be AWWA C-900 polyvinyl chloride (PVC) pipe Class 200 in the nominal diameters shown on the plans. Fittings, bends and spools shall be ductile iron pipe (DIP). All fittings, except for valves, shall have a minimum pressure rating of at least two hundred (200) PSI.

A number 10 AWG single strand insulated soft copper wire shall be installed along the water main as shown in City of Brentwood Standard Drawing W-17 "Locating Wire for Plastic Mains".

The non-potable water pipeline shall be flushed and tested prior to final paving.

### **B. NON-POTABLE WATER PIPE**

Polyvinyl chloride (PVC) pipe shall conform to AWWA C900, Class 200 and shall be purple colored. Gaskets for PVC pipe shall be furnished by the pipe manufacturer and shall conform to ASTM F477. All pipes shall be purple in color and embossed or be integrally stamped / marked "Caution: Reclaimed Water – Do Not Drink", and "Peligro: Agua Impura – No Beber" or similar. Pipe shall be PW Purple Plus or JM Purple Save, or approved equal.

Materials and construction of the non-potable water line shall conform with the "Potable Water Notes" noted on the plans, except as modified herein; Title 22, Chapter 3 Regulations of the California Code of Regulations; guidelines for distribution of non-potable water developed by the American Water Works Association (AWWA); and the requirements specified herein.

Valves covers on reclaimed water line shall be of a non-interchangeable shape with potable water covers and a recognizable "RW" inscription cast on the top surface.

Any above ground, exposed reclaimed water facilities shall be consistently color-coded (purple) and identified using suitable, waterproof identification tags to differentiate reclaimed water facilities from potable water facilities. Tags shall be purple in color with the words "Caution: Reclaimed Water – Do Not Drink", and " Peligro: Agua Impura – No Beber" or similar on the other side.

### **C. DUCTILE IRON FITTINGS**

Ductile iron pipe for spools shall conform to AWWA C111 and AWWA C151, minimum Class 250. Fittings shall conform to AWWA C110, minimum Class 250. Spools and

fittings shall be cement-mortar lined in conformance with AWWA C104. Coating shall be as specified herein.

Flanges shall conform to AWWA C110, ductile iron, faced and drilled, 125 psi and flat faced. Gaskets shall be 1/16 in. thick, compressed inorganic fiber with nitrile binder rated to 700°F and 1,000 psi. Ring gaskets will not be permitted.

#### D. FLEXIBLE COUPLING AND FLANGED COUPLING ADAPTORS

Flanges, rings and follower shall be fusion-bonded epoxy lined and coated in conformance with AWWA C213, as manufactured by Smith-Blair or Dresser. Nuts and bolts shall be as specified herein, or may be Type 304 stainless steel.

Middle rings of flexible connectors may be removed if necessary for installation.

#### E. BOLTING

All bolts, washers, and nuts shall conform to ASTM A193 Grade B8M studs and washers and ASTM A194 Grade 8M hex head nuts (ANSI Type 304 Stainless Steel). The nuts, bolts, and washers as specified herein shall be used in all bolting applications for this project. All bolts shall be coated with an approved thread lubricant before assembly.

#### F. VALVES

All valves twelve (12) inches and smaller shall be gate type, iron-body, bronze mounted resilient-seat edge type, complying with AWWA C509-9 with a design working pressure of two hundred (200) PSI and Section 140-1.02C "Valves" of the City of Brentwood Standard Specifications. Valve bodies and wedges shall be of cast iron complying with ASTM A126, Class B. Gate valves shall have a resilient seat with non-rising stem conforming to AWWA C504-90. Valve stems shall be of bronze. Valves shall be provided with an AWWA operating nut with "O" ring seals, closed clockwise, and shall be Mueller No. A2380-24 and A2380-26 or equal as approved by the City Engineer. Valves may have mechanical joint ends, except where flanged ends are specifically shown on the Drawings.

All valves shall be lined and coated in accordance with AWWA C550. Lining and coating shall be heat-activated material. A minimum 7-mil dry film thickness is required except where the thickness may be limited by valve operating tolerances.

Gate valves twelve (12) inches and smaller, are shown to be connected to a tee. The Contractor may substitute a flange X mechanical joint valve in lieu of installing the flanged coupling adapter shown.

All valves shall be installed in a valve box with a circular traffic cover per the City of Brentwood Standard. Valve boxes shall be twelve (12) inches in diameter (Christy G12, or equal) Riser shall not be supported on valve, valve operator, or pipe. Risers shall be concrete or PVC.

Where existing valves are shown to be relocated, the Contractor shall reuse all the existing materials, except that new nuts, bolts and gaskets shall be furnished by the Contractor.

## G. THRUST PROTECTION

Thrust restraint shall be provided at all tees, bends, reducers, caps, or other locations 11 ¼ degrees or greater. All thrust anchors shall be constructed using (minimum 3,000 psi) concrete specified in Section 90-1 "Concrete" of the Caltrans Standard Specifications. Cement shall be ASTM C-150 Type II. All loose or disturbed soil shall be removed from the surfaces to be poured against such that all concrete is poured against undisturbed soil. No concrete shall be allowed to set up in any joints. Reinforcing steel will be required only where shown on the plans and in the detail drawings. Reinforcing steel shall be fabricated to fit tightly around the waterline fitting and provide adequate development length on both ends of the steel bar using hooks or other methods. Shop drawings for the steel shall be submitted to the City Engineer for review five (5) days prior to installation.

Reinforcing steel shall be epoxy coated. Epoxy coating shall conform to the provisions in Section 52, "Reinforcement," of the Caltrans Standard Specifications and these Technical Specifications.

Place 2 layers of 30 pound building paper between fitting and reinforcing steel. After concrete placement, reinforced steel shall be tightly sealed against the fittings before concrete begins to set up. After concrete hardens, coat all exposed reinforcing bar with Bituminous materials minimum of 0.05 inches as provided in AASHTO Designation: M190, Type A per Section 66-1.02C "Protective Coatings, Linings, and Paving" of the Caltrans Standard Specifications.

Thrust blocks shall conform to City of Brentwood Standard Plan W-15 "Thrust Block Bearing Area".

## H. CONNECTION TO EXISTING NON-POTABLE WATER SYSTEM

New non-potable water mains shall be connected to the existing non-potable water system as shown on the plans. The Contractor shall provide all fittings and valves required to connect the new non-potable water lines to the existing non-potable water mains.

## I. TESTING OF MAIN

Water used for flushing and testing new water mains shall be obtained from the City's water system. The Contractor shall pay costs of all water used for water main flushing and testing. The Contractor is required to use City of Brentwood furnished meter and to pay the required deposit for meter use. The Contractor, at his expense, shall provide a larger meter if required to complete the work.

After the thrust blocks have obtained sufficient strength and after backfilling and compacting the trench to the plane upon which the asphalt surfacing is to be placed, the newly laid pipe or any valve section thereof, shall be subjected to a hydrostatic pressure test. The line shall be tested at one hundred fifty (150) PSI for four (4) hours. The pressure test will be conducted immediately prior to paving of the roadway.

If the pipeline under test contains pipes of various diameters, the allowable leakage will be the sum of the computed leakage for each size. Each test shall be witnessed by the City Engineer.

Any leaks, failures or imperfect construction that develops during any test shall be repaired by the Contractor at the Contractor's expense, and the test repeated until the system is proved satisfactory.

The Contractor shall furnish all pumps, gauges, and facilities needed to perform the tests. All equipment must be approved by the City Engineer.

#### J. Measurement and Payment

Measurement: The non-potable water line shall be measured by the horizontal linear foot for the size and type of pipe installed, measured along the centerline of the pipe, except as otherwise noted in the plans or these specifications.

Water valves will be counted in a unit of each by actual number installed.

Elbows, tees, reducers, and other appurtenances will not be counted separately and shall be deemed included in the cost of the non-potable water line installation.

Payment for "12 inch Non-Potable Waterline – Open Trench" shall be at the contract unit price per linear foot listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the 12 inch Non-Potable Waterline – Open Trench, complete in place, including, locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, trenching, diking, bailing, import soil placement and compaction, pipe, excavation, dewatering (if required), temporary shoring system (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, flushing and testing, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "8 inch Non-Potable Waterline – Open Trench" shall be at the contract unit price per linear foot listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the 8 inch Non-Potable Waterline – Open Trench, complete in place, including locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, trenching, diking, bailing, import soil placement and compaction, pipe, excavation, dewatering (if required), temporary shoring system (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, flushing and testing, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "6 inch Non-Potable Waterline – Open Trench" shall be at the contract unit price per linear foot listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the 6 inch Non-Potable Waterline – Open Trench, complete in place, including

locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, trenching, diking, bailing, import soil placement and compaction, pipe, excavation, dewatering (if required), temporary shoring system (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, flushing and testing, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for “4 inch Non-Potable Waterline – Open Trench” shall be at the contract unit price per linear foot listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the 4 inch Non-Potable Waterline – Open Trench, complete in place, including locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, trenching, diking, bailing, import soil placement and compaction, pipe, excavation, dewatering (if required), temporary shoring system (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, flushing and testing, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for “12 inch Non-Potable Waterline – Future Connection” shall be at the contract unit price per linear foot listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the 12 inch Non-Potable Waterline – Future Connection at Fairview Avenue and Grant Street, complete in place, including, locating utilities, saw-cutting pavement, removal and disposal of unsuitable materials, trenching, diking, bailing, import soil placement and compaction, pipe, excavation, dewatering (if required), temporary shoring system (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire and terminal boxes, warning tape, flushing and testing, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for flushing and testing for the non-potable waterlines shall be considered included in the contract unit price paid per linear foot for various types and sizes of pipe installed, and other items of work, and will not be measured or paid as separate items.

Payment for “12 inch Gate Valves” shall be at the contract unit price per each listed in the bid schedule. 12 inch gate valves for non-potable waterline shall be paid for based on the actual number installed. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in 12 inch Gate Valves, complete in place, including valve, riser, operating stem, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for “8 inch Gate Valves” shall be at the contract unit price per each listed in the bid schedule. 8 inch gate valves for non-potable waterline shall be paid for based on the actual number installed. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in 8 inch Gate Valves, complete in place, including valve, riser, operating stem, valve box and lid and other

appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "6 inch Gate Valves" shall be at the contract unit price per each listed in the bid schedule. 6 inch gate valves for non-potable waterline shall be paid for based on the actual number installed. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in 6 inch Gate Valves, complete in place, including valve, riser, operating stem, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "4 inch Gate Valves" shall be at the contract unit price per each listed in the bid schedule. 4 inch gate valves for non-potable waterline shall be paid for based on the actual number installed. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in 4 inch Gate Valves, complete in place, including valve, riser, operating stem, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "12 inch Non-Potable Waterline Connection (O'Hara Avenue)" shall be paid for at a lump sum price. The contract lump sum price paid for "12 inch Non-Potable Waterline Connection (O'Hara Avenue)" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in the "12 inch Non-Potable Waterline Connection (O'Hara Avenue), including potholing, determination of connection conditions and method, valves, fittings, couplers, adapters, other necessary appurtenances, excavation, dewatering (if required), pipe bedding, initial and intermediate backfill, ductile iron fittings, thrust blocks, locator wire, warning tape, compaction, testing, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

Payment for "Non-Potable Waterline Service Connection To Irrigation Controllers" shall be at the contract unit price per each listed in the bid schedule. Non-potable waterline service connection to irrigation controllers shall be paid for based on the actual number of connections installed. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in service connections to irrigation controllers, complete in place, including disconnection from PWL, connection to new 12" NPWL, miscellaneous pipe, fittings, valves, excavation, dewatering (if required), pipe bedding, initial and intermediate backfill, thrust blocks, bollards, locator wire, warning tape, compaction, repair and reconnection of existing services and utilities encountered as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-24      BLOWOFF ASSEMBLIES**

Two (2) inch blowoff assembly shall be installed for waterlines as shown on the plans per City of Brentwood Construction Detail W-10 "2 Inch Blowoff Assembly".

Payment for "Blow-off Valves" shall be at the contract unit price per each listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in Blow-off Valves, complete in

place, including connection piping, fittings, valve, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-25 SURFACE RESTORATION**

Surface restoration shall consist of restoring all areas within the limits of work to its original existing condition prior to construction or to the condition shown on the plans or specified in these Specifications.

The Contractor shall restore all paved areas, such as driveways, curb and gutter, roadway surfaces, ditches, etc., landscaped areas and all other improvements disturbed or damaged by his operations.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in restoring all paved areas, gravel surface restoration, and vegetative areas to their original condition, shall be considered as included in the respective contract unit prices for the various contract items, and no additional compensation will be allowed therefor.

## **SECTION TS-26 CATHODIC PROTECTION**

### **A. GENERAL**

Cathodic protection shall conform to the provisions of the City of Brentwood Standard Specifications and Standard Plans.

The Contractor shall furnish all materials, install all equipment, and provide all labor necessary to provide a complete cathodic protection system. The work shall include the items listed below, and all other work, accessories, appurtenances, and miscellaneous work required to provide complete cathodic protection.

Cathodic protection shall be furnished and installed and shall comply in all respects with the requirements of the latest City of Brentwood standards for cathodic protection and corrosion control, these Specifications, and as directed by the City Engineer.

The Contractor shall furnish all materials, install all equipment and provide all labor necessary to complete the work shown on the drawings and or listed below and all other work and miscellaneous items not specifically mentioned but reasonably inferred, including all accessories and appurtenances required for a complete system. The intent of this specification is to provide for a complete, functional cathodic protection system for the ductile iron valves and fittings, and steel casings for the Project.

Work included in this section consists of the components of the cathodic protection system, including anodes, cables, test stations and any other work necessary to complete the installation. A partial list of work included is as follows:

1. Cathodic protection with H-1 alloy magnesium anodes of all new buried, ductile iron pipe, fittings, valves, and appurtenances associated with the referenced potable and non-potable water pipelines.

2. Cathodic protection with H-1 alloy magnesium anodes of all buried, copper pipe and appurtenances associated with the referenced potable and non-potable water pipelines.
3. Cathodic protection with H-1 alloy magnesium anodes of steel casing of the potable and non-potable water pipelines.
4. Encasement of all buried ductile iron pipe, fittings, valves, risers and appurtenances associated with the referenced water pipelines in polyethylene. Cathodic protection of steel casing of the water main and non-potable water main pipelines.
5. Encasement of any buried copper pipe associated with the referenced potable and non-potable water pipelines in polyethylene sleeving.
6. Coating steel casings with abrasion resistant epoxy coating.
7. Field coating with abrasion resistant epoxy coating of cut-back area at steel casing welded joints.
8. Bonding of buried, non-welded, non-insulating, ferrous metal pipe joints.
9. Electrical isolation of the new pipelines from existing metallic pipelines, from dissimilar metal pipelines, and above grade structures utilizing insulating joints.
10. Installation of prepackaged anodes, insulating joints, cables, and test stations.
11. Trenching, drilling, and other excavation.
12. Backfill and compaction of backfill.
13. Provide shop drawings, reports, permits, and obtain City Engineer's approval where required.
14. Correction of all deficiencies.
15. Cleanup and restoration of surface.
16. The work shall include the provision of all materials, equipment, and apparatus not specifically mentioned herein or noted on the plans, but which are obviously necessary to complete the work specified.

The Contractor shall not substitute for the specified materials unless approved by the City Engineer.

Electrical continuity of the test leads, proper operation of anodes, and all other cathodic protection components shall be tested by the Project Corrosion Consultant, in order to ensure proper installation and operation. The Contractor shall be responsible for correction of all deficiencies identified by the testing and all costs incurred for retesting prior to final acceptance.

Compaction of backfill for anodes and trenches shall match the existing conditions and shall be approved by the City Engineer.

All materials, workmanship, and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety Orders of the Industrial Accident Commission, and all other applicable State, County, or City of Brentwood standards and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

This section contains references to the following documents. They are a part of this section as specified and modified. In case of a conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

- American Society of Testing and Materials (ASTM)
- American Water Works Association (AWWA)
- American National Standards Institute (ANSI)
- Industrial Cable Engineers Association (ICEA)
- National Electrical Manufacturers Association (NEMA)
- National Association of Corrosion Engineers (NACE)

Prior to commencing work, the Contractor shall submit for approval by the City Engineer copies of the following items in accordance with submittal procedures: A complete list of cathodic protection equipment and material, including name and manufacturer, catalog number, size, finish and any other pertinent data necessary for proper identification and to determine conformance with specifications. These items include but are not limited to:

- a. Prepackaged H-1 Alloy Magnesium Anodes
- b. Cables
- c. Cable Terminations
- d. Exothermic Welding Equipment and Supplies
- e. Cable-To-Casing Coating Material
- f. Traffic Boxes
- g. Terminal Boxes, Shunts and Hardware
- h. Cable Warning Tape
- i. Cable Identification Tags
- j. Abrasion Resistant Epoxy Coating for Casings
- k. Bitumastic
- l. Insulating Flange Kits

After the Contractor has completed the installation of the cathodic protection system, the contractor shall test the system, in accordance with this section, and provide test results to the City Engineer for review and approval.

The Contractor shall coordinate and properly relate this work to the site and to the work of all trades. The general locations of the facilities are shown on the drawings. However, the Contractor shall visit the premises and thoroughly familiarize himself with all details of the work and working conditions, verify existing conditions in the field, determine the exact

locations of existing pipelines and structures and advise the City Engineer of any discrepancy that may prevent or hinder the specified work from being completed. The Contractor shall be solely responsible for location and marking underground structures so as to avoid damage during construction.

**B. PRODUCTS**

All materials shall conform to the requirements set forth herein or as designated on the drawings, unless otherwise specified. All materials must be new, free from defects, and shall be of the best commercial quality for the purpose specified. The Contractor shall furnish all necessary items and accessories not shown on the drawings or specified herein, but which are required to fully carry out the specified intent of the work, without additional cost to the City.

Magnesium Anodes

Magnesium anodes for the steel casings shall be H-1 alloy, Grade C, (Galvorod/ProMag), Magnesium. Each anode shall be cast with a steel core, and the core shall protrude from one end and shall be of sufficient length to permit attachment of a lead wire.

Each anode shall conform to the following chemical composition:

Chemical Composition	
Aluminum	5.0 – 7.0%
Manganese	0.15% Min
Zinc	2.0 – 4.0%
Silicon	0.30% Max
Iron	0.003% Max.
Nickel	0.003% Max.
Copper	0.10% Max.
Total Other Impurities	0.3 % Max Total
Magnesium	Balance

Bare anode dimensions:

Nominal Wt. Bare (lbs)	Height (in.)	Width (in.)	Length (in.)
5	3	3	7.5
9	3	3	13.5
17	4	4	17
32	5	5	21
50	8	-	15

Each anode shall be furnished with a lead wire attached to one end of the steel core, and the wire shall be of sufficient length to attach to the test station as shown on the drawings. The wire shall be connected to the steel core by silver soldering, and the connection shall be mechanically secured before soldering. The entire connection shall be insulated with an electrical potting compound. The cable attached to the anode shall be No. 10 AWG, Type THHN, stranded, single conductor copper.

The anode shall be prepackaged in a permeable cloth bag filled with a mixture of 75% ground hydrated gypsum, 20% powdered bentonite, and 5% anhydrous sodium sulfate. Backfill shall have a grain size so that 100% is capable of passing through a 100-mesh screen. The mixture shall be firmly packed around the anode within the cloth bag by

means of adequate vibration so that the magnesium ingot is completely surrounded with a minimum 1 inch of backfill material.

#### Cables

Cables used for joint bonding shall be single conductor, stranded copper, Type CP, insulated for 600 volts with High Molecular Weight Polyethylene (HMWPE) in accordance with the requirements of ASTM D 1248, Type 1, Class C, Grade 5 and ICEA NEMA S 61 402.

All cables for anodes and test stations shall be THHN, stranded, copper, sized as shown on the drawings, conforming to Federal Specification J-C-30. Cables shall be color coded as shown on the drawings.

#### Cable Terminations

All cables that terminate in the terminal boxes shall have ring type connectors that are sized appropriately for the terminal bolts. The ring connectors shall be either a soldered ring type connection or a heavy duty, compression type crimp connection.

#### Cable-To-Pipe or Cable-To-Casing Connections

All cable connections to the steel casing shall be accomplished utilizing an exothermic welding process such as "Cadweld" by Erico Products, Inc., "Thermoweld" by Continental Industries, Inc., or approved equal. Each cable shall be fitted with a copper sleeve for accomplishing the weld and cartridge, sleeves and molds for each weld shall be furnished by the same manufacturer. All materials for welding shall be sized and in accordance with recommendations in manufacturers' literature.

#### Cable-To-Pipe-or-Casing Coating Material

Epoxy paste or Royston Handy Caps may, at the discretion of the Corrosion Engineer, be used as alternatives to liquid epoxy resin. Epoxy paste such as Aquamend as manufactured by Polymeric Systems, Inc., may be used. The Royston Handy Cap, which is a molded plastic cap filled with a corrosion resistant compound on a base of thick elastomeric tape, as manufactured by Royston Laboratories Division may be used only with its associated Roybond 747 primer. The dimensions of the Handy Cap are as follows: 4 inch by 4 inch overall, 10 mils minimum sheet thickness, 125 mils minimum tape thickness. Roybond 747 manufactured by Royston Laboratories Division shall be used to prime the exposed metal surfaces and the 4 inch by 4 inch area to be covered by the Handy Cap.

#### Test Station

Ground level test stations shall be Brooks, Type 1RT traffic box with a 12 pound cast iron lid as shown on the drawing. The cover shall be manufactured with "CP-TEST" markings for easy identification.

#### Terminal Boxes

Terminal boxes shall be locking type, constructed of high-impact, UV-stabilized, fire-resistant and impact resistant Lexan® polycarbonate material, Model "Big Fink", as manufactured by Cott Manufacturing Company or approved equal. The test box shall be provided with sufficient hardware and terminals for each cable as shown on the drawings. Each test box shall include an anti-spin gasket. All hardware shall be from the same manufacturer.

Terminal Boxes for the anode test stations shall be supplied with 6 amp, 0.01 ohm shunts within 1% accuracy, which shall be mounted on the back side of the terminal box as shown in the drawings.

#### Cable Warning Tape

All buried test station and anode cables shall have plastic warning tape installed a minimum of 12 inches above the top of the cables for the entire buried length of the cables. The warning tape shall be 4 inches wide and shall be yellow with black lettering with the legend "CAUTION, CATHODIC PROTECTION CABLES BURIED BELOW" in 3 inches high lettering printed at a minimum of seven foot intervals along the entire buried length of the cable.

#### Cable Identification Tags

All cables in the terminal boxes shall be identified. The identification tags shall be white plastic "zip-tie" type straps with a plastic tab of sufficient size to allow the pipeline station to be written on the tab with a permanent felt tip marker.

#### Rigid PVC Conduit and Fittings

Rigid polyvinylchloride (PVC) conduit and fittings shall be Schedule 40, manufactured to NEMA TC-2 and WC-1094 specifications and shall be U.L. approved.

#### Epoxy Coating for Steel Casing

The coating system for the buried portion of the steel casings shall be Amerlock® 400 epoxy coating manufactured by PPG Amercoat, or equal.

#### Bitumastic

Coating for all buried bolts, nuts and metallic washers shall be Bitumastic 50, coal tar mastic coating, as manufactured by Carboline or approved equal.

#### Insulating Flanges

Insulating flanges shall be installed to electrically isolate the water pipeline from plumbing inside of new building. The complete assembly shall be for water service, suitable for wet and dry locations, and have an ANSI pressure rating equal to that of the flanges between which it is installed.

Each insulating flange set shall consist of a full-face central gasket, a full-length sleeve for each flange bolt, and two oversized insulating washers with two oversized steel washers for each bolt.

1. All full face flange gaskets shall be new, 1/8 inch thick, having a dielectric constant of 800 volts per mil minimum, and in compliance with ANSI/NSFS-61 requirements. The insulating flange gasket shall be Quad-seal, Pyrox G-10 material, as manufactured by Advance Products & Systems, Inc., Part no. GETQG10F, Garlock Gylon Style 3505, or Pyrox G-10 as manufactured by PSI, Inc. Outside/inside diameter of the gasket shall not be smaller than the outside/inside diameter of the flange. Before installation, all gaskets shall require inspection by the City Engineer for adherence to the specifications.

2. The steel alloy of the washers shall be the same as the alloy of the bolts. The outside diameter of the steel backup washers shall be equal to or 1/8 inch smaller than the outside diameter of the insulating washer.
3. Insulating sleeves and insulating washers shall be a minimum 1/32 inch and 1/8 inch thick respectively. Bolt sleeves shall be Pyrox G-10 material or fabric reinforced phenolic resin or mylar, and insulating washers shall be constructed of Pyrox G-10 material or fabric reinforced phenolic resin.

#### Polyethylene Encasement

All buried ductile iron fittings and piping shall be encased in 8-mil thick polyethylene in accordance with AWWA Standard C-105. The polyethylene sleeves used for encasement of the copper lateral shall be minimum 6-mils thick and shall be of sufficient diameter to slip over the pipe without getting damaged.

### C. CONSTRUCTION GENERAL REQUIREMENTS

All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety, Electrical Orders; The National Electric Code, General Construction Safety Orders of the Industrial Accident Commission; and all other applicable State, County, or City of Brentwood standards and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

#### Storage of Materials

All materials and equipment to be used in construction shall be stored in such a manner to be protected from detrimental effects from the elements. If warehouse storage cannot be provided, materials and equipment shall be stacked well above ground level and protected from the elements with plastic sheeting or other method as appropriate.

#### Anodes

Installation of Anodes for Casings: Anodes shall be installed in the trench horizontally or vertically in native soil, after excavation to a 6 foot depth, a minimum of 5 feet from the casings. For casings installed by the jack and bore technique, the anodes may be installed in the bore pit, following the approval of the Project Corrosion Engineer. Spacing between anodes shall be 6 feet (minimum) if multiple anodes are installed at a single test station location.

Installation of Anodes for Ductile Iron Fittings or Copper Pipe: Anodes shall be installed in the trench horizontally or vertically after excavation to proper depth, equal to the bottom of the pipeline, a minimum of 2 feet from copper piping, and a minimum of 3 feet from the fittings or pipelines. Spacing between anodes shall be 10 feet (minimum) if multiple anodes are installed at a single test station location.

Installation in the Trench: Prior to placing anodes in the trench or hole, paper or plastic bags shall be removed, but the cloth bag shall remain around the anode. Care shall be exercised during installation to prevent damage to the cloth bag and loss of backfill

material. After placing anodes in the trench, native soil, free of rocks and other foreign objects shall be placed around the anode to a minimum cover of one foot above the anode. Flood each anode with 5 gallons of fresh water when the backfill reaches one foot above the anode. Remainder of the trench shall then be backfilled with native soil. During installation, anodes shall not be supported or handled by use of attached wires.

The number of anodes to be installed at each test station is designated on the drawings.

#### Cables

Inspect bottom of finished trenches to ensure they are free from stones, roots, other materials which might injure the insulation of the conductors.

Lay wires in the ground straight, without kinks, with a minimum cover of 30 inches.

Run cable in continuous length, free of joints or splices, unless otherwise specified or indicated on Drawings. Use care during installation to avoid punctures, cuts and similar damage to the insulation. Replace entire cable run where any damage to insulation occurs.

Leave a minimum of 18 inches of slack for each conductor at each test station housing. Slack shall be that amount of wire which, when the cover is removed and the wire extended, protrudes beyond the opening of the box or enclosure.

No wire bend shall have a radius of less than eight times the diameter of that wire.

Strip insulation from the cable to make metal-to-metal connection to each binding post of the terminal box.

Cable warning tape shall be installed 12-inches above the entire buried length of the cable.

#### Cable-To-Pipe or Cable-To-Casing Connections

Install exothermic weld connections in accordance with the Drawings.

Remove coating materials from the surface over an area just sufficient to make the connection.

Clean steel surfaces to white metal by grinding or filing prior to welding the conductor. Resin impregnated grinding wheels are not permitted.

The conductor shall be welded to the pipe by the exothermic process with a copper sleeve fitted over the conductor, and only sufficient insulation shall be removed from the conductor to allow placing in welding mold.

Test exothermic welds for adherence to the pipe and for electrical continuity between the pipe and wires.

Use a 22 ounce hammer for testing adherence after the weld has cooled and all slag is removed. Test the connection by striking a blow using a moderate amount of force to the weld. Take care to avoid hitting the wires.

The cable to pipe connections shall be tested with a low resistance ohmmeter by the Contractor and approved by the Owner's Agent prior to backfill.

Do not bury connections to the structures or piping until the City Engineer has inspected the connections and given permission to backfill. Connections made in violation of this provision will be rejected.

All defective welds shall be removed and replaced.

All exposed surfaces of copper and steel shall be covered with a minimum thickness of 1/4-inch of insulating material as shown on the drawings. As an alternative the exposed metal and surrounding surface shall be cleaned of contaminants and coated with Royston Roybond 747 primer. After the primer has dried, the Royston Handy Cap shall be applied.

#### Ground Clamp for Cable to Copper Pipe Connections

Cut wire with a wire cutter to prevent deforming the wire ends. Do not deform the wire. Remove enough insulation from the wire to ensure metal-to-metal contact with the receiver and set screw/bolt of the ground clamp.

#### Test Stations

Test stations shall be installed at locations designated on the drawings and at all anode installation locations. The terminal end of each cable shall be identified with the structure identification using the permanent cable identification tags. Test stations shall be installed in sidewalks or non-traffic areas for easy access for future testing.

#### Joint Bonding

All non-welded rubber gasket joints, mechanical joints, flange joints and threaded joints shall be bonded with a #8 AWG/HMWPE stranded copper cable as shown on the drawings. The overall length of the conductor shall permit maximum movement of the pipe joint without transferring any tensile stress to the cable, per pipe manufacturer's recommendations. The bonded pipe sections shall be tested for continuity, prior to backfilling.

#### Insulating Flanged Joints

All insulating components of the insulating flanged gasket set shall be cleaned of all dirt, grease, oil and other foreign materials immediately prior to assembly. Bolt holes in mating flanges shall be properly aligned at the time bolts and insulating sleeves are inserted to prevent damage to the insulation. The bolts shall be tightened in the sequence recommended by the manufacturer. After flanged bolts have been tightened, each insulating washer shall be inspected for cracks or other damage. All damaged washers shall be replaced. After assembly, resistance between each bolt and flange shall be measured with an approved ohmmeter, and the minimum resistance shall be 50,000 ohms. Where the insulating joint is assembled in the shop and shipped as a unit, resistance shall be measured in the shop between the flanges and between each bolt and flange and shall meet the above requirements. In addition, the completed assembly shall be tested with a flange insulation tester such as Gas Electronics Model 601, or equal for the integrity of the insulation. In case where the insulating flange is assembled in the field the completed assembly shall be tested with a flange insulation tester such as Gas Electronics Model 601, or equal prior to backfilling.

#### Insulating Corporation Stops

Install insulating corporation stops between ductile iron pipe and copper service pipe, to electrically isolate the dissimilar metals.

#### Epoxy for Steel Casings

The exterior surface of the steel casing shall be prepared according to SSPC-SP-10 with a 2 to 3 mil profile. The prepared surface shall be coated with two coats of PPG Amercoat Amerlock® 400 epoxy coating (or equal) for a minimum total dry film thickness (DFT) of 10 mils.

The cut-back area at the joint welds shall be field coated. Remove all loose rust, dirt, moisture, grease or other contaminants from surface. Power-tool clean (SSPC-SP3) or hand-tool clean (SSPC-SP2). The prepared surface shall be coated with one coat of Amerlock® 400 epoxy coating for a minimum total dry film thickness (DFT) of 8 mils.

#### Polyethylene Encasement of Pipes and Fittings

The ductile iron pipes and fittings shall be encased in minimum 8-mils thick polyethylene in accordance with AWWA C-105. The copper services shall be encased in 6-mil thick polyethylene sleeves.

#### Energizing and Testing

After the contractor has completed the installation of the cathodic protection system, the system will be energized, tested, and adjusted by the Project Corrosion Consultant to assure conformance with the specifications, electrical isolation, pipe-to-soil potential measurements, anode current output, etc. Any and all deficiencies shall be corrected by the Contractor at his cost and retested prior to final acceptance. All retesting shall be at the Contractor's expense. Contractor shall submit the test results to the City Engineer for review and approval.

#### D. MEASUREMENT AND PAYMENT

Payment for "Cathodic Protection" shall be at the contract unit price per lump sum listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in the Cathodic Protection, including insulating flanges, bonded joints, anodes, cable and wire, test stations, crimping lugs, flanged coupling adapters, as shown on the plans, according to the City Standards, as specified herein, and as directed by the City Engineer.

#### **SECTION TS-27 AIR RELEASE VALVES**

One (1) inch air release valves shall be installed for waterlines as shown on the plans per City of Brentwood Construction Detail W-11 "Standard Air and Vacuum Relief Valve".

Payment for "Air Release Valves" shall be at the contract unit price per each listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in Air Release Valves, complete in place, including connection piping, fittings, valve, vent, enclosure, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-28 FIRE HYDRANTS**

Fire hydrant assembly shall be installed for non-potable waterlines as shown on the plans per City of Brentwood Construction Detail W-2 "Industrial/Commercial Fire Hydrant Installation".

Payment for "Fire Hydrants" shall be at the contract unit price per each listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in Fire Hydrants, complete in place, including connection piping, fittings, valve, valve box and lid and other appurtenances required by City standards, as shown on the plans, as specified herein, and as directed by the City Engineer.

## **SECTION TS-29 TRAFFIC SIGNAL DETECTOR LOOPS**

### **A. GENERAL**

Signal detector loops shall be removed and/or replaced as shown on the plans and as directed by the City Engineer. Loop type is indicated on the plans. Traffic signal detector loops shall be replaced within 24 hours of being removed, damaged, disconnected, or disturbed.

Contractor must contact Contra Costa County Traffic Signal Maintenance, John Abraham at (925) 313-7054, prior to removal of any loops.

Detectors shall conform to Section 86-5.01, "Vehicle Detectors" of the State Standard Specifications and these Technical Specifications. Loop wire shall be Type 2 #12 stranded THWN conductor inside polyethylene tube. Loop lead-in cable shall be Type B. The loop conductor connection shall be soldered. The number of lead-in cables required to achieve the specified detection shall be installed.

Residue resulting from slot cutting operation shall not be permitted to flow across shoulders or lanes occupied by public traffic and shall be removed from the pavement surface.

Each cable shall be identified in the pull-box nearest the loop and in the controller cabinet as to its "phase and loop number." Detector lead-in cables shall be tagged at the terminal board in the controller cabinet and shall conform to Section 86-5.01, "Vehicle Detectors" details.

Conductors to be buried in the pavement shall be installed only in the presence of the City Engineer. All loops in a single lane shall be of the same type per location, unless otherwise noted on the Plans where the loop is closest to the crosswalk. Where one traffic signal detector consists of a sequence of 4 loops in a single lane, the front loop closest to the limit line or crosswalk shall be located 0.3 m from the line. All loops shall be connected in series.

Loop detector lead in cable shall be run continuously without splice from the detector termination pullbox to the field terminals in the controller cabinet.

Hot melt asphaltic loop filler shall be used to install all loops in existing pavement, and in the final lift in new asphalt when not installed in the next to last lift. The Asphaltic Emulsion Sealant shall be "Overcoat Loop Filler," or approved equivalent, shall be used to install the detector loops prior to installing the final lift of asphalt. Epoxy shall be used in concrete surfaces. Asphalt concrete shall be used to fill all curb termination points.

The Contractor shall test the detectors with a motor driven cycle, as defined in the California Vehicle Code, that is licensed for street use by the DMV of the State of California. The Contractor shall provide a detection area of the detector at not less than three miles per hour, or not more than seven miles per hour with an operator driven motor vehicle. The vehicle shall not exceed 220 pounds and the engine displacement shall not exceed 100 cubic centimeters.

## B. MATERIALS

Sensor units shall be Detector Systems Digital Loop Model 10, or City-approved equal. The Contractor shall identify loop wires by lane number, loop number, and start/finish using tie wraps and permanent marker.

Loops shall be installed as per Standard Plan ES – 5B and shall conform to the following:

### 1. Conduit

Conduit which is installed underground shall be Type 3, rigid, nonmetallic type, Schedule 40. All conduits shall enter a pullbox with a 90-degree elbow, unless permitted otherwise by the City Engineer.

All conduits shall have a 1/4 inch pullrope installed in them.

After conductors have been installed, the ends of the conduits terminating in pull boxes and controller cabinets shall be sealed with a sealing compound approved by the City Engineer.

When a standard coupling cannot be used for coupling metal type conduit, a UL listed threaded union coupling, as specified in Section 86-2.05C, "Installation," of the Caltrans Standard Specifications, or a concrete tight split coupling or concrete tight set screw coupling shall be used.

### 2. Loop Detectors:

At the Contractor's option, where Type A loop is designated on the Plans, a Type E loop may be substituted.

For Type E detector loops, sides of the slot shall be vertical and the minimum radius of the slot entering and leaving the circular part of the loop shall be 1.5 inch. Slot width shall be a maximum of 0.75 inch. Loop wire for circular loops shall be Type 2. Slots of circular loops shall be filled with elastomeric sealant or hot melt rubberized asphalt sealant.

The depth of loop sealant above the top of the uppermost loop wire in the sawed slots shall be 2 inch, minimum.

3. Bike Loops:  
Type D detector loop is designated for bike loops.

C. PAYMENT AND MEASUREMENT

Payment for "Traffic Signal Detector Loops" shall be measured per each detector loop installed as measured in field, regardless of the quantity of detector loops removed at the contract unit price per each listed in the bid schedule. This work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in removing and replacement of detector loops in compliance with the Contract Drawings and these technical specifications and no additional compensation will be allowed therefor. Any damage to existing detector loops outside the limits of work due to the failure of any Contractor to protect these facilities shall be repaired by the Contractor at no additional cost.

**APPENDIX “A” – EBMUD ENCROACHMENT PERMIT APPLICATION**

- A. EBMUD Temporary Entry Permit - (Required for Potholing)
- B. EBMUD Temporary Construction Permit

**Temporary Entry Permit**  
For Property Owned by  
**East Bay Municipal Utility District**  
**DATE**

**WATER SUPPLY DIVISION**  
**AQUEDUCT SECTION**

**PERMITTEE:**

**PHONE NO.:**

**PROJECT:**

**DESCRIPTION OF USE/WORK TO BE PERFORMED:**

Temporary access to EBMUD's aqueduct right of way

**TERM OF PERMIT:**

**FEE:**

**EBMUD CONTACT:** Bill Pulsifer, Assistant Superintendent  
1804 West Main Street, Stockton, CA 95203

**PHONE NO.:** (209) 946-8009

**Permission may be given subject to the following terms and conditions:**

1. Permittee's work will in no way interfere with the operations of EBMUD, and Permittee will not damage the land, aqueducts or other property of EBMUD. Permittee will promptly restore, repair or reimburse EBMUD for any such damage.
2. It is understood by Permittee that this permission will be given solely for the purpose and for the period of time noted above.
3. Permittee expressly agrees to indemnify, defend and hold harmless EBMUD, its directors, officers and employees from and against any and all loss, liability, expense, claims, costs, suits and damages (including attorney's fees) arising out of the operations or performance under this permit.
4. Underground Service Alert (USA) must be notified two working days before any excavating or grading.

5. EBMUD reserves the right to cancel its permission at any time if, in its opinion, EBMUD's property is being damaged or the security of any of its structures or premises are in danger.
6. The type and weight of any and all equipment to be used by Permittee on EBMUD's property must be approved in advance by EBMUD. Vibratory compaction equipment is prohibited over the aqueducts.
7. Vehicular parking and storage of equipment or materials on EBMUD's property is prohibited.
8. The plan for the execution of the work must be approved by EBMUD.
9. Upon completion of work, the ground surface shall promptly be restored to as near as possible to the condition that existed prior to entry. The site will be left in a clean and presentable condition and free from waste.
10. All work areas shall be inspected by EBMUD for final approval.
11. All EBMUD survey monuments and markers shall be undisturbed. If any EBMUD survey marker must be disturbed, it will be replaced or relocated by EBMUD at Permittee's expense.
12. Permittee agrees to reimburse EBMUD for costs for inspection, review, permit fees/licenses and related expenses incurred by EBMUD in relation to this project.
13. At least 48 hours prior to start of work, Permittee shall contact the EBMUD contact identified below.
14. Permittee shall provide evidence of liability insurance and workers' compensation coverage by returning the attached certificates with this signed permit. Permittee agrees and understands that no work may commence on EBMUD's property until this permit is executed and all certificates are properly filled out and returned to EBMUD.
15. Permittee understands and agrees that all work and use of EBMUD's property shall cease and terminate by the date shown above.
16. Permittee shall have a copy of this permit in possession while on EBMUD property.
17. Permittee agrees to assume all risk of damage to any and all property of the Permittee or any property under the control or custody of Permittee while on EBMUD property.
18. Permittee understands that no work may commence on EBMUD property until the permit is executed.

**SPECIAL CONDITIONS:**

1. Permittee shall contact \_\_\_\_\_, Aqueduct Section Maintenance Supervisor, at \_\_\_\_\_ for access and notification of commencing work. 24 hours notice is required.
2. Permittee, upon completion of work, shall clean up and restore worksite and repair any damage caused. Site shall be left in as found condition. EBMUD will inspect and approve condition of EBMUD property at worksite and Permittee is responsible for all damage that may have been caused by work performed.

Please sign this Temporary Entry Permit along with a check in the amount of \$100 for permit fees to me at the above address.

**SIGNATURES:**

Permittee:

East Bay Municipal Utility District

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

cc: Supervisor  
File

Enclosure

File No. \_\_\_\_\_

**APPLICATION FOR USE OF EBMUD PROPERTY  
OR REQUEST FOR INFORMATION**

Please complete this form with as much information as possible. Incomplete applications cannot be processed and will result in delays in the District's response time. Please return this form with two insurance documents and appropriate fees to: **EBMUD, 1804 W. MAIN STREET, STOCKTON, CA 95203.**

APPLICANT NAME: \_\_\_\_\_  
(please print)

FIRM (if applicable): \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: Residence: \_\_\_\_\_ Business: \_\_\_\_\_

EMAIL ADDRESS (can expedite application process): \_\_\_\_\_

ADDRESS/LOCATION OF EBMUD PROPERTY (Attach map or identify with Assessor's Parcel Number or Aqueduct Station Number): \_\_\_\_\_

USE REQUESTED: (Give a complete description of your project. Include type, size and weights of equipment and vehicles. Attach an extra sheet, if necessary):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ARE OTHER COUNTY/CITY APPROVALS OR PERMITS REQUIRED? YES  NO   
If yes, please give details.

\_\_\_\_\_  
\_\_\_\_\_

Under the California Environmental Quality Act (CEQA) your request to use EBMUD property may be considered a project which requires completion of environmental documentation. Has any type of environment documentation (Negative Declaration or Environmental Impact Report) already been completed for this project? If so, please submit a copy of that documentation, highlighting the area(s) which specifically deal with your requested use of EBMUD property.

ADDITIONAL COMMENTS/REMARKS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

NOTE: If your project involves or requires any soils studies, engineering plans or environmental documentation, these documents must be attached in duplicate with this application.



# CERTIFICATE OF COMMERCIAL GENERAL AND AUTO LIABILITY INSURANCE

**THIS IS TO CERTIFY TO:**

East Bay Municipal Utility District (EBMUD)  
 Department: Aqueduct Section  
 Street Address: \_\_\_\_\_  
 Mailing Address: 1804 West Main Street  
 City, State, Zip: Stockton, CA 95203

**THE FOLLOWING DESCRIBED POLICY HAS BEEN ISSUED TO:**

District Contract Number: \_\_\_\_\_  
 Insured: \_\_\_\_\_  
 Address: \_\_\_\_\_

**LOCATION AND DESCRIPTION OF PROJECT/AGREEMENT:**

**TYPE OF INSURANCE:** Commercial General and Automobile Liability Coverage/Endorsements as required by agreement.

**LIMITS OF LIABILITY:**

**(MINIMUM)** \$2,000,000/Occurrence, Bodily Injury, Property Damage-General Liability  
 \$2,000,000/Occurrence, Bodily Injury, Property Damage-Auto Liability

**SELF INSURED RETENTION (\$):** (Auto) \_\_\_\_\_ (GL) \_\_\_\_\_ (if applicable)  
 Aggregate Limits (AUTO) \_\_\_\_\_ (GL) \_\_\_\_\_ (if applicable)

**INSURANCE COMPANY(IES):** (Auto) \_\_\_\_\_ (GL) \_\_\_\_\_

**POLICY NUMBER(S):** (Auto) \_\_\_\_\_ (GL) \_\_\_\_\_

**POLICY TERM:** From: (Auto) \_\_\_\_\_ (GL) \_\_\_\_\_ To: (Auto) \_\_\_\_\_ (GL) \_\_\_\_\_

**THE FOLLOWING COVERAGES OR ENDORSEMENTS ARE INCLUDED IN THE POLICY(IES):**

1.  The District, its Directors, Officers and Employees are *Additional Insureds* in the policy(ies) as to work being performed under this agreement. ENDORSEMENT NO. \_\_\_\_\_
2.  The coverage is *Primary and non-contributory* to any other applicable insurance carried by the District.
3.  The policy(ies) covers *contractual liability*.
4.  The policy(ies) is written on an *occurrence* basis.
5.  The policy(ies) covers District's Property in Consultant's care, custody and control.
6.  The policy(ies) covers *personal injury* (libel, slander, and wrongful entry and eviction) liability.
7.  The policy(ies) covers *explosion, collapse, and underground* hazards.
8.  The policy(ies) covers *products and completed operations*.
9.  The policy(ies) covers the use of *owned, non-owned* and hired automobiles.
10.  The policy(ies) and/or a separate pollution liability policy(ies) shall cover pollution liability for claims related to the release or the threatened release of pollutants into the environment arising out of or resulting from Consultant's performance under this agreement.
11.  The policy(ies) will not be canceled nor the above coverages/endorsements reduced without 30 days written notice to East Bay Municipal Utility District at the address above.

**IT IS HEREBY CERTIFIED that the above policies provide liability insurance as required by the agreement between the East Bay Municipal Utility District and the insured.**

Signed \_\_\_\_\_ Firm \_\_\_\_\_  
 Address \_\_\_\_\_ Date \_\_\_\_\_  
 \_\_\_\_\_ Phone \_\_\_\_\_



# CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

**THIS IS TO CERTIFY TO:** East Bay Municipal Utility District (EBMUD)  
Department: Aqueduct Section  
Street Address:  
Mailing Address: 1804 West Main Street  
City, State, Zip: Stockton, CA 95203

**THE FOLLOWING DESCRIBED POLICY HAS BEEN ISSUED TO:**

District Purchase Order  
Number: \_\_\_\_\_  
(Completed by EBMUD) \_\_\_\_\_  
Insured: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

**LOCATION AND DESCRIPTION OF PROJECT/AGREEMENT:**

\_\_\_\_\_

**TYPE OF INSURANCE:** Workers' Compensation Insurance as required by California State Law.

The Workers' Compensation Carrier agrees to waive rights of recovery against District regardless of the applicability of any insurance proceeds, and to require all indemnifying parties to do likewise. All Workers' Compensation coverage maintained or procured by permit Holder shall be endorsed to delete the subrogation condition as to District, or must specifically allow the named insured to waive subrogation prior to a loss.

**INSURANCE COMPANY:** \_\_\_\_\_

**POLICY NUMBER:** \_\_\_\_\_

**POLICY TERM:** From: \_\_\_\_\_ To: \_\_\_\_\_

**The policy will not be canceled nor the above coverage reduced without 30 days written notice to East Bay Municipal Utility District at the address above.**

**IT IS HEREBY CERTIFIED the above policy provides insurance as required by the agreement between East Bay Municipal Utility District at the Insured.**

Signed: \_\_\_\_\_

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

E-mail \_\_\_\_\_ Address: \_\_\_\_\_

Phone: \_\_\_\_\_

"This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or conditions of any contract or other document with respect to which this certificate or verification or insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of the policies."

**APPENDIX “B” – UNION PACIFIC RAILROAD AGREEMENTS**

- A. UPRR AGREEMENT 2986-76 (NON-POTABLE WATERLINE)
- B. UPRR AGREEMENT 2990-22 (POTABLE WATERLINE)

## **PIPELINE CROSSING AGREEMENT**

Mile Post: 59.82, Tracy Subdivision  
Location: Brentwood, Contra Costa County, California

**THIS AGREEMENT (“Agreement”)** is made and entered into as of May 18, 2016, (“Effective Date”) by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation, (“Licensor”) and **CITY OF BRENTWOOD**, to be addressed at 150 City Park Way, Brentwood, California 94513 (“Licensee”).

### **IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:**

#### **Article 1.     LICENSOR GRANTS RIGHT.**

In consideration of the license fee to be paid by the Licensee and in further consideration of the covenants and agreements herein contained to be by the Licensee kept, observed and performed, the Licensor hereby grants to the Licensee the right to construct and thereafter, during the term hereof, to maintain and operate

one 12” non-flammable liquid pipeline for transporting and conveying non-potable water only

across Licensor's track(s) and property (the “Pipeline”) in the location shown and in conformity with the dimensions and specifications indicated on the print dated May 16, 2016 and marked **Exhibit A**, attached hereto and hereby made a part hereof. Under no circumstances shall Licensee modify the use of the Pipeline for a purpose other than transporting and conveying non-potable water, and the Pipeline shall not be used to convey any other substance, any fiber optic cable, or for any other use, whether such use is currently technologically possible, or whether such use may come into existence during the life of this Agreement.

For the purposes of Exhibit A, Licensee acknowledges that if it or its contractor provides to Railroad digital imagery depicting the Pipeline crossing, Licensee authorizes Railroad to use the Digital Imagery in preparing the print attached as an exhibit hereto. Licensee represents and warrants that through a license or otherwise, it has the right to use the Digital Imagery and to permit Railroad to use the Digital Imagery in said manner.

#### **Article 2.     LICENSE FEE.**

Upon execution of this Agreement, the Licensee shall pay to the Licensor a one-time License Fee of **Two Thousand Five Hundred Dollars (\$2,500.00)**.

#### **Article 3.     CONSTRUCTION, MAINTENANCE AND OPERATION.**

The grant of right herein made to the Licensee is subject to each and all of the terms, provisions, conditions, limitations and covenants set forth herein and in **Exhibit B**, attached hereto and hereby made a part hereof.

**Article 4. DEFINITION OF LICENSEE.**

For purposes of this Agreement, all references in this Agreement to the Licensee shall include the Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority. If a contractor is hired by the Licensee for any work performed on the Pipeline (including initial construction and subsequent relocation or maintenance and repair work), then the Licensee shall provide a copy of this Agreement to its contractor and require its contractor to comply with all the terms and provisions hereof relating to the work to be performed. Any contractor or subcontractor shall be deemed an agent of Licensee for the purpose of this Agreement, and Licensee shall require such contractor or subcontractor to release, defend and indemnify Licensor to the same extent and under the same terms and conditions as Licensee is required to release, defend and indemnify Licensor herein.

**Article 5. INSURANCE.**

A. During the life of the License, Licensee shall fully comply with the insurance requirements described in **Exhibit C**.

B. Failure to maintain insurance as required shall entitle, but not require, Licensor to terminate this License immediately.

C. If the Licensee is subject to statute(s) limiting its insurance liability and/or limiting its ability to obtain insurance in compliance with **Exhibit C** of this license, those statutes shall apply.

D. Licensee hereby acknowledges that it has reviewed the requirements of **Exhibit C**, including without limitation the requirement for Railroad Protective Liability Insurance during construction, maintenance, installation, repair or removal of the pipeline which is the subject of this Agreement.

**Article 6. TERM.**

This Agreement shall take effect as of the Effective Date first herein written and shall continue in full force and effect until terminated as herein provided.

**IN WITNESS WHEREOF**, the parties hereto have caused this Agreement to be executed as of the date first herein written.

**UNION PACIFIC RAILROAD COMPANY**

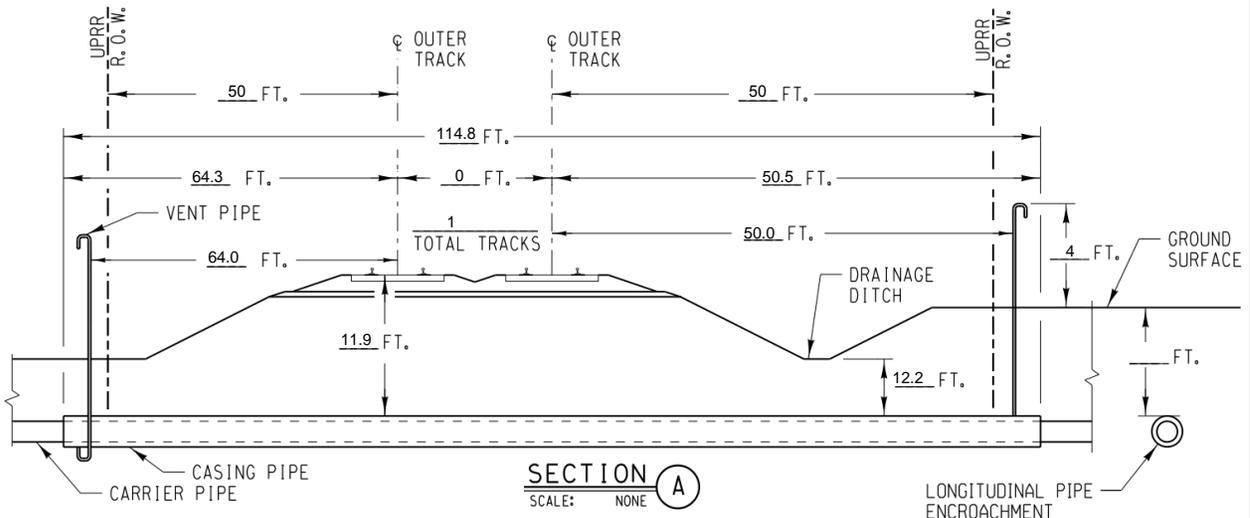
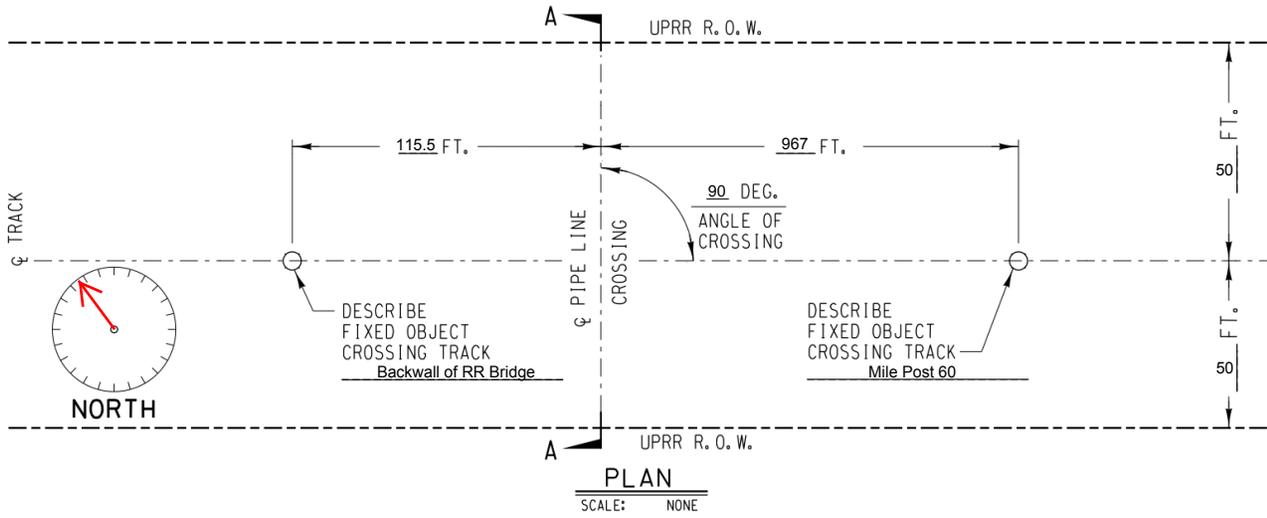
**CITY OF BRENTWOOD**

By: \_\_\_\_\_  
Kylan Crawford  
Senior Manager

By: \_\_\_\_\_  
Name Printed: \_\_\_\_\_  
Title: \_\_\_\_\_

# NON-FLAMMABLE LIQUID PIPELINE

- CROSSING
- ENCROACHMENT
- BOTH



- NOTES:  
 1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK  
 2) REFER TO AREMA VOLUME 1. CHAPTER 1. PART 5. SECTION 5.1

- A) METHOD OF INSTALLATION Bored and Jacked
- B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT \_\_\_\_\_
- C) SIGNS PROVIDED? At minimum signs will be provided as stated above
- D) CARRIER MATERIAL Plastic. IF RCP, CLASS V? NA.  
 COMMODITY TO BE CONVEYED Non-Potable Water.  
 OPERATIONAL PRESSURE 100.0 PSI. MAOP 100.0 PSI.  
 WALL THICKNESS (INCH)/ SCHEDULE 0.73". DIAMETER 12.0 IN.  
 CATHODIC/COATING PROTECTION Yes
- E) CASING MATERIAL Steel Pipe. IF RCP, CLASS V? NA.  
 TOTAL LENGTH CASING PIPE: 114.0 FT.  
 WALL THICKNESS 0.437 IN. DIAMETER 24.0 IN.  
 CATHODIC/COATING PROTECTION Yes  
 CASING PIPE IS Sealed AT THE ENDS.
- F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES  
64.0 AND 50.0.



**BUILDING AMERICA®**

**EXHIBIT "A"**

SUBDIVISION: <u>Tracy Sub.</u>	
TRACK TYPE: <u>Mainline Track</u>	
M.P.: <u>59.82</u>	LAT.: <u>37.953859176003</u>
E.S.M.: <u>1193+91 ±</u>	LONG.: <u>-121.7164939641</u>
NEAREST CITY: <u>BRENTWOOD</u>	COUNTY: <u>Contra Costa</u> STATE: <u>CA</u>
APPLICANT: <u>City of Brentwood Public Works Department</u>	
FILE NO.: <u>0298676</u>	DATE: <u>5/16/2016</u>

## **EXHIBIT B**

### **Section 1. 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 Licensor to use and maintain its entire property including the right and power of the Licensor to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, 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 the Licensor without liability to the Licensee 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 the Licensor's property, and others) and the right of the Licensor to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

### **Section 2. CONSTRUCTION, MAINTENANCE AND OPERATION.**

- A. The Pipeline shall be designed, constructed, operated, maintained, repaired, renewed, modified and/or reconstructed by the Licensee in strict conformity with (i) Licensor's current standards and specifications ("UP Specifications"), except for variances approved in advance in writing by the Licensor's Assistant Vice President Engineering – Design, or his authorized representative; (ii) such other additional safety standards as the Licensor, in its sole discretion, elects to require, including, without limitation, American Railway Engineering and Maintenance-of-Way Association ("AREMA") standards and guidelines (collectively, "UP Additional Requirements"), and (iii) all applicable laws, rules and regulations ("Laws"). If there is any conflict between the requirements of any Law and the UP Specifications or the UP Additional Requirements, the most restrictive will apply.
- B. All work performed on property of the Licensor in connection with the design, construction, maintenance, repair, renewal, modification or reconstruction of the Pipeline shall be done to the satisfaction of the Licensor.
- C. Prior to the commencement of any work in connection with the design, construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the Pipeline from Licensor's property, the Licensee shall submit to the Licensor plans setting out the method and manner of handling the work, including the shoring and cribbing, if any, required to protect the Licensor's operations, and shall not proceed with the work until such plans have been approved by the Licensor's Assistant Vice President Engineering Design, or his authorized representative, and then the work shall be done to the satisfaction of the Licensor's Assistant Vice President Engineering Design or his authorized representative. The Licensor shall have the right, if it so elects, to provide such support as it may deem necessary for the safety of its track or tracks during the time of construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the Pipeline, and, in the event the Licensor provides such support, the Licensee shall pay to the Licensor, within fifteen (15) days after bills shall have been rendered

therefore, all expenses incurred by the Licensor in connection therewith, which expenses shall include all assignable costs.

- D. The Licensee shall keep and maintain the soil over the Pipeline thoroughly compacted and the grade even with the adjacent surface of the ground.
- E. In the prosecution of any work covered by this Agreement, Licensee 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 3. NOTICE OF COMMENCEMENT OF WORK / LICENSOR REPRESENTATIVE / SUPERVISION / FLAGGING / SAFETY.**

- A. If an emergency should arise requiring immediate attention, the Licensee shall provide as much notice as practicable to Licensor before commencing any work. In all other situations, the Licensee shall notify the Licensor at least ten (10) days (or such other time as the Licensor may allow) in advance of the commencement of any work upon property of the Licensor in connection with the construction, maintenance, repair, renewal, modification, reconstruction, relocation or removal of the Pipeline. All such work shall be prosecuted diligently to completion. The Licensee will coordinate its initial, and any subsequent work with the following employee of Licensor or his or her duly authorized representative (hereinafter "Licensor Representative" or "Railroad Representative"):

JUSTIN D. ROGERS  
MGR TRACK MNTCE  
33 BRIDGEHEAD RD  
MARTINEZ, CA 94553  
Work # 402-233-1746  
Cell # 402-676-9562  
Email: jdrogers@up.com

ROBERT MENDOZA  
MGR SIGNAL MNTCE  
1851 B, 5th Street  
Oakland, CA 94607  
Work phone: 916-789-6023  
Cell phone: 530-632-9620  
Email: rmendoz1@up.com

- B. Licensee, at its own expense, shall adequately police and supervise all work to be performed. The responsibility of Licensee for safe conduct and adequate policing and supervision of work shall not be lessened or otherwise affected by Licensor's approval of plans and specifications involving the work, or by Licensor's collaboration in performance of any work, or by the presence at the work site of a Licensor Representative, or by compliance by Licensee with any requests or recommendations made by the Licensor Representative.
- C. At the request of Licensor, Licensee shall remove from Licensor's property any employee who fails to conform to the instructions of the Licensor Representative in connection with the work on Licensor's property. Licensee shall indemnify Licensor against any claims arising from the removal of any such employee from Licensor's property.
- D. Licensee shall notify the Licensor Representative at least ten (10) working days in advance of proposed performance of any work 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 Licensor'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 Licensor Representative will determine and inform Licensee whether a flagman need be present and whether any special protective or safety measures need to be implemented. If flagging or other special protective or safety measures are performed by Licensor, Licensor will bill Licensee for such expenses incurred by Licensor, unless Licensor and a federal, state or local governmental entity have agreed that Licensor is to bill such expenses to the federal, state or local governmental entity. If Licensor will be sending the bills to Licensee, Licensee shall pay such bills within thirty (30) days of receipt of billing. If Licensor performs any flagging, or other special protective or safety measures are performed by Licensor, Licensee agrees that Licensee is not relieved of any of responsibilities or liabilities set forth in this Agreement.

- E. 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 Licensor 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, Licensee (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.
- F. Reimbursement to Licensor 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 Licensor is required to pay the flagman and which could not reasonably be avoided by Licensor by assignment of such flagman to other work, even though Licensee may not be working during such time. When it becomes necessary for Licensor to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Licensor 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, Licensee 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 Licensor if flagging services are needed again after such five day cessation notice has been given to Licensor.
- G. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Licensee or its contractor. Licensee shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Licensee and its contractor shall at a minimum comply with Licensor's safety standards listed in **Exhibit D**, hereto attached, to ensure uniformity with the safety standards followed by Licensor's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Licensor if it determines that any of Licensor's safety standards are contrary to good safety

practices. Licensee and its contractor shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

- H. Without limitation of the provisions of paragraph G above, Licensee shall keep the job site free from safety and health hazards and ensure that their employees are competent and adequately trained in all safety and health aspects of the job.
- I. Licensee 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. Prompt notification shall be given to Licensor of any U.S. Occupational Safety and Health Administration reportable injuries. Licensee shall have a non-delegable duty to control its employees while they are on the job site or any other property of Licensor, 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.
- J. If and when requested by Licensor, Licensee shall deliver to Licensor a copy of its safety plan for conducting the work (the "Safety Plan"). Licensor shall have the right, but not the obligation, to require Licensee 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 4. LICENSEE TO BEAR ENTIRE EXPENSE.**

The Licensee shall bear the entire cost and expense incurred in connection with the design, construction, maintenance, repair and renewal and any and all modification, revision, relocation, removal or reconstruction of the Pipeline, including any and all expense which may be incurred by the Licensor in connection therewith for supervision, inspection, flagging, or otherwise.

**Section 5. REINFORCEMENT, RELOCATION OR REMOVAL OF PIPELINE.**

- A. The license herein granted is subject to the needs and requirements of the Licensor in the safe and efficient operation of its railroad and in the improvement and use of its property. The Licensee shall, at the sole expense of the Licensee, reinforce or otherwise modify the Pipeline, or move all or any portion of the Pipeline to such new location, or remove the Pipeline from the Licensor's property, as the Licensor may designate, whenever, in the furtherance of its needs and requirements, the Licensor, at its sole election, finds such action necessary or desirable.
- B. All the terms, conditions and stipulations herein expressed with reference to the Pipeline on property of the Licensor in the location hereinbefore described shall, so far as the Pipeline remains on the property, apply to the Pipeline as modified, changed or relocated within the contemplation of this section.

**Section 6. NO INTERFERENCE WITH LICENSOR'S OPERATION.**

- A. The Pipeline and all parts thereof within and outside of the limits of the property of the Licensor shall be designed, constructed and, at all times, maintained, repaired, renewed and operated in such manner as to cause no interference whatsoever with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Licensor and nothing shall be done or suffered to be done by the Licensee at any time that would in any manner impair the safety thereof.

- B. Explosives or other highly flammable substances shall not be stored on Licensor's property without the prior written approval of Licensor.
- C. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Licensor's trackage shall be installed or used by Licensor or its contractors without the prior written permission of Licensor.
- D. When not in use, any machinery and materials of Licensee or its contractors shall be kept at least fifty (50) feet from the centerline of Licensor's nearest track.
- E. Operations of Licensor and work performed by Licensor's personnel may cause delays in the work to be performed by Licensee. Licensee accepts this risk and agrees that Licensor shall have no liability to Licensee or any other person or entity for any such delays. Licensee shall coordinate its activities with those of Licensor and third parties so as to avoid interference with railroad operations. The safe operation of Licensor's train movements and other activities by Licensor take precedence over any work to be performed by Licensee.

**Section 7. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.**

- A. Fiber optic cable systems may be buried on the Licensor'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. Licensee shall telephone the Licensor during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except for 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 the Licensor's premises to be used by the Licensee. If it is, Licensee will telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Licensee's expense, and will commence no work on the Licensor's property until all such protection or relocation has been accomplished. Licensee shall indemnify and hold the Licensor harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of or caused in any way by Licensee's failure to comply with the provisions of this paragraph.
- B. IN ADDITION TO OTHER INDEMNITY PROVISIONS IN THIS AGREEMENT, THE LICENSEE SHALL, AND SHALL CAUSE ITS CONTRACTOR TO, RELEASE, INDEMNIFY, DEFEND AND HOLD THE LICENSOR HARMLESS FROM AND AGAINST ALL COSTS, LIABILITY AND EXPENSE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS AND EXPENSES) CAUSED BY THE NEGLIGENCE OF THE LICENSEE, ITS CONTRACTORS, AGENTS AND/OR EMPLOYEES, RESULTING IN (1) ANY DAMAGE TO OR DESTRUCTION OF ANY TELECOMMUNICATIONS SYSTEM ON LICENSOR'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 LICENSOR'S PROPERTY, EXCEPT IF SUCH COSTS, LIABILITY OR EXPENSES ARE CAUSED SOLELY BY THE DIRECT ACTIVE NEGLIGENCE OF THE LICENSOR. LICENSEE FURTHER AGREES THAT IT SHALL NOT HAVE OR SEEK RECOURSE AGAINST LICENSOR 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 LICENSOR'S PROPERTY OR A CUSTOMER OR USER OF SERVICES OF THE FIBER OPTIC CABLE ON**

## **LICENSOR'S PROPERTY.**

### **Section 8. CLAIMS AND LIENS FOR LABOR AND MATERIAL; TAXES.**

- A. The Licensee shall fully pay for all materials joined or affixed to and labor performed upon property of the Licensor in connection with the construction, maintenance, repair, renewal, modification or reconstruction of the Pipeline, and shall not permit or suffer any mechanic's or materialman's lien of any kind or nature to be enforced against the property for any work done or materials furnished thereon at the instance or request or on behalf of the Licensee. The Licensee shall indemnify and hold harmless the Licensor against and from any and all liens, claims, demands, costs and expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.
- B. The Licensee shall promptly pay or discharge all taxes, charges and assessments levied upon, in respect to, or on account of the Pipeline, to prevent the same from becoming a charge or lien upon property of the Licensor, and so that the taxes, charges and assessments levied upon or in respect to such property shall not be increased because of the location, construction or maintenance of the Pipeline or any improvement, appliance or fixture connected therewith placed upon such property, or on account of the Licensee's interest therein. Where such tax, charge or assessment may not be separately made or assessed to the Licensee but shall be included in the assessment of the property of the Licensor, then the Licensee shall pay to the Licensor an equitable proportion of such taxes determined by the value of the Licensee's property upon property of the Licensor as compared with the entire value of such property.

### **Section 9. RESTORATION OF LICENSOR'S PROPERTY.**

In the event the Licensee in any manner moves or disturbs any of the property of the Licensor in connection with the construction, maintenance, repair, renewal, modification, reconstruction, relocation or removal of the Pipeline, then in that event the Licensee shall, as soon as possible and at Licensee's sole expense, restore such property to the same condition as the same were before such property was moved or disturbed, and the Licensee shall indemnify and hold harmless the Licensor, its officers, agents and employees, against and from any and all liability, loss, damages, claims, demands, costs and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from injury to or death of persons whomsoever, or damage to or loss or destruction of property whatsoever, when such injury, death, damage, loss or destruction grows out of or arises from the moving or disturbance of any other property of the Licensor.

### **Section 10. INDEMNITY.**

- A. As used in this Section, "Licensor" includes other railroad companies using the Licensor's property at or near the location of the Licensee's installation and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (a) injury to or death of persons whomsoever (including the Licensor's officers, agents, and employees, the Licensee's officers, agents, and employees, as well as any other person); and/or (b) damage to or loss or destruction of property whatsoever (including Licensee's property, damage to the roadbed, tracks, equipment, or other property of the Licensor, or property in its care or custody).
- B. AS A MAJOR INDUCEMENT AND IN CONSIDERATION OF THE LICENSE AND

**PERMISSION HEREIN GRANTED, TO THE FULLEST EXTENT PERMITTED BY LAW, THE LICENSEE SHALL, AND SHALL CAUSE ITS CONTRACTOR TO, RELEASE, INDEMNIFY, DEFEND AND HOLD HARMLESS THE LICENSOR FROM ANY LOSS OF ANY KIND, NATURE OR DESCRIPTION ARISING OUT OF, RESULTING FROM OR RELATED TO (IN WHOLE OR IN PART):**

**1. THE PROSECUTION OF ANY WORK CONTEMPLATED BY THIS AGREEMENT INCLUDING THE INSTALLATION, CONSTRUCTION, MAINTENANCE, REPAIR, RENEWAL, MODIFICATION, RECONSTRUCTION, RELOCATION, OR REMOVAL OF THE PIPELINE OR ANY PART THEREOF;**

**2. ANY RIGHTS OR INTERESTS GRANTED PURSUANT TO THIS LICENSE;**

**3. THE PRESENCE, OPERATION, OR USE OF THE PIPELINE OR CONTENTS ESCAPING THEREFROM;**

**4. THE ENVIRONMENTAL STATUS OF THE PROPERTY CAUSED BY OR CONTRIBUTED TO BY LICENSEE;**

**5. ANY ACT OR OMISSION OF LICENSEE OR LICENSEE'S OFFICERS, AGENTS, INVITEES, EMPLOYEES, OR CONTRACTORS OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR ANYONE THEY CONTROL OR EXERCISE CONTROL OVER; OR**

**6. LICENSEE'S BREACH OF THIS AGREEMENT,**

**EXCEPT WHERE THE LOSS IS CAUSED BY THE SOLE DIRECT AND ACTIVE NEGLIGENCE OF THE LICENSOR, AS DETERMINED IN A FINAL JUDGMENT BY A COURT OF COMPETENT JURISDICTION, IT BEING THE INTENTION OF THE PARTIES THAT THE ABOVE INDEMNITY WILL OTHERWISE APPLY TO LOSSES CAUSED BY OR ARISING FROM, IN WHOLE OR IN PART, LICENSOR'S NEGLIGENCE.**

C. Upon written notice from Licensor, Licensee agrees to assume the defense of any lawsuit or proceeding brought against any indemnitee by any entity, relating to any matter covered by this License for which Licensee has an obligation to assume liability for and/or save and hold harmless any indemnitee. Licensee shall pay all costs incident to such defense, including, but not limited to, reasonable attorney's fees, investigators' fees, litigation and appeal expenses, settlement payments and amounts paid in satisfaction of judgments.

**Section 11. REMOVAL OF PIPELINE UPON TERMINATION OF AGREEMENT.**

Prior to the termination of this Agreement howsoever, the Licensee shall, at Licensee's sole expense, remove the Pipeline from those portions of the property not occupied by the roadbed and track or tracks of the Licensor and shall restore, to the satisfaction of the Licensor, such portions of such property to as good a condition as they were in at the time of the construction of the Pipeline. If the Licensee fails to do the foregoing, the Licensor may, but is not obligated, to perform such work of removal and restoration at the cost and expense of the Licensee. In the event of the removal by the Licensor of the property of the Licensee and of the restoration of the roadbed and property as herein provided, the Licensor shall in no manner be liable to the Licensee for any damage sustained by the

Licensee for or on account thereof, and such removal and restoration shall in no manner prejudice or impair any right of action for damages, or otherwise, that the Licensor may have against the Licensee.

**Section 12. WAIVER OF BREACH.**

The waiver by the Licensor of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Licensee shall in no way impair the right of the Licensor to avail itself of any remedy for any subsequent breach thereof.

**Section 13. TERMINATION.**

- A. If the Licensee does not use the right herein granted or the Pipeline for one (1) year, or if the Licensee continues in default in the performance of any covenant or agreement herein contained for a period of thirty (30) days after written notice from the Licensor to the Licensee specifying such default, the Licensor may, at its option, forthwith immediately terminate this Agreement by written notice.
- B. In addition to the provisions of subparagraph (a) above, this Agreement may be terminated by written notice given by either party hereto to the other on any date in such notice stated, not less, however, than thirty (30) days subsequent to the date upon which such notice shall be given.
- C. Notice of default and notice of termination may be served personally upon the Licensee or by mailing to the last known address of the Licensee. Termination of this Agreement for any reason shall not affect any of the rights or obligations of the parties hereto which may have accrued, or liabilities, accrued or otherwise, which may have arisen prior thereto.

**Section 14. AGREEMENT NOT TO BE ASSIGNED.**

The Licensee shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of the Licensor, and it is agreed that any transfer or assignment or attempted transfer or assignment of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without such consent in writing, shall be absolutely void and, at the option of the Licensor, shall terminate this Agreement.

**Section 15. SUCCESSORS AND ASSIGNS.**

Subject to the provisions of Section 14 hereof, this Agreement shall be binding upon and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

**Section 16. SEVERABILITY.**

Any provision of this Agreement which is determined by a court of competent jurisdiction to be invalid or unenforceable shall be invalid or unenforceable only to the extent of such determination, which shall not invalidate or otherwise render ineffective any other provision of this Agreement.

Approved: Insurance Group  
Created: 9/23/05  
Last Modified: 03/29/10  
Form Approved, AVP-Law

**EXHIBIT C**  
**Union Pacific Railroad Company**  
**Contract Insurance Requirements**

Licensee shall, at its sole cost and expense, procure and maintain during the life of this Agreement (except as otherwise provided in this Agreement) the following insurance coverage:

**A. Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. 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.

**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 limit of not less \$2,000,000 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.

**C. Workers Compensation and Employers** Liability insurance. Coverage must include but not be limited to:

Licensee’s statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Licensee 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.

**D. Railroad Protective Liability** insurance. Licensee 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 only as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000.

The definition of “JOB LOCATION” and “WORK” on the declaration page of the policy shall refer to this Agreement and shall describe all WORK or OPERATIONS performed under this agreement

**E. Umbrella or Excess insurance.** If Licensee utilizes umbrella or excess policies, and these policies must “follow form” and afford no less coverage than the primary policy.

**Other Requirements**

**F.** 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 Licensee’s liability under the indemnity provisions of this Agreement.

**G.** Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed.

**H.** Licensee 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 for damages covered by the workers compensation and employers liability or commercial umbrella or excess liability obtained by Licensee required in this agreement, where permitted by law This waiver must be stated on the certificate of insurance.

**I.** 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(s) in which the work is to be performed.

**J.** The fact that insurance is obtained by Licensee or by Railroad on behalf of Licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Licensee or any third party will not be limited by the amount of the required insurance coverage.

**EXHIBIT D**  
**SAFETY STANDARDS**

**MINIMUM SAFETY REQUIREMENTS**

The term "employees" as used herein refer to all employees of Licensee or its contractors, subcontractors, or agents, as well as any subcontractor or agent of any Licensee.

**I. Clothing**

- A. All employees of Licensee 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, Licensee'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**

Licensee shall require its employee 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 Licensee'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**

Licensee and its contractor are 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 minimum distance of at least twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
- (ii) Wear an orange, reflectorized work wear 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. Licensee must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Licensee 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 Licensee to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Licensee's equipment is unsafe for use, Licensee shall remove such equipment from Railroad's property. In addition, Licensee 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:
  - Familiar and comply with Railroad's rules on lockout/tagout of equipment.
  - Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
  - Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other rail bound 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. Licensee shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.
- B. Licensee 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 Licensee 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 of 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.

## **PIPELINE CROSSING AGREEMENT**

Mile Post: 59.81, Tracy Subdivision  
Location: Brentwood, Contra Costa County, California

**THIS AGREEMENT (“Agreement”)** is made and entered into as of May 18, 2016, (“Effective Date”) by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation, (“Licensor”) and **CITY OF BRENTWOOD**, to be addressed at 150 City Parkway, Brentwood, California 94513 (“Licensee”).

### **IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:**

#### **Article 1.     LICENSOR GRANTS RIGHT.**

In consideration of the license fee to be paid by the Licensee and in further consideration of the covenants and agreements herein contained to be by the Licensee kept, observed and performed, the Licensor hereby grants to the Licensee the right to construct and thereafter, during the term hereof, to maintain and operate

one 20” non-flammable liquid pipeline for transporting and conveying potable water only

across Licensor's track(s) and property (the “Pipeline”) in the location shown and in conformity with the dimensions and specifications indicated on the print dated May 16, 2016 and marked **Exhibit A**, attached hereto and hereby made a part hereof. Under no circumstances shall Licensee modify the use of the Pipeline for a purpose other than transporting and conveying potable water, and the Pipeline shall not be used to convey any other substance, any fiber optic cable, or for any other use, whether such use is currently technologically possible, or whether such use may come into existence during the life of this Agreement.

For the purposes of Exhibit A, Licensee acknowledges that if it or its contractor provides to Railroad digital imagery depicting the Pipeline crossing, Licensee authorizes Railroad to use the Digital Imagery in preparing the print attached as an exhibit hereto. Licensee represents and warrants that through a license or otherwise, it has the right to use the Digital Imagery and to permit Railroad to use the Digital Imagery in said manner.

#### **Article 2.     LICENSE FEE.**

Upon execution of this Agreement, the Licensee shall pay to the Licensor a one-time License Fee of **Two Thousand Five Hundred Dollars (\$2,500.00)**.

#### **Article 3.     CONSTRUCTION, MAINTENANCE AND OPERATION.**

The grant of right herein made to the Licensee is subject to each and all of the terms, provisions, conditions, limitations and covenants set forth herein and in **Exhibit B**, attached hereto and hereby made a part hereof.

**Article 4. DEFINITION OF LICENSEE.**

For purposes of this Agreement, all references in this Agreement to the Licensee shall include the Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority. If a contractor is hired by the Licensee for any work performed on the Pipeline (including initial construction and subsequent relocation or maintenance and repair work), then the Licensee shall provide a copy of this Agreement to its contractor and require its contractor to comply with all the terms and provisions hereof relating to the work to be performed. Any contractor or subcontractor shall be deemed an agent of Licensee for the purpose of this Agreement, and Licensee shall require such contractor or subcontractor to release, defend and indemnify Licensor to the same extent and under the same terms and conditions as Licensee is required to release, defend and indemnify Licensor herein.

**Article 5. INSURANCE.**

A. During the life of the License, Licensee shall fully comply with the insurance requirements described in **Exhibit C**.

B. Failure to maintain insurance as required shall entitle, but not require, Licensor to terminate this License immediately.

C. If the Licensee is subject to statute(s) limiting its insurance liability and/or limiting its ability to obtain insurance in compliance with **Exhibit C** of this license, those statutes shall apply.

D. Licensee hereby acknowledges that is has reviewed the requirements of **Exhibit C**, including without limitation the requirement for Railroad Protective Liability Insurance during construction, maintenance, installation, repair or removal of the pipeline which is the subject of this Agreement.

**Article 6. TERM.**

This Agreement shall take effect as of the Effective Date first herein written and shall continue in full force and effect until terminated as herein provided.

**IN WITNESS WHEREOF**, the parties hereto have caused this Agreement to be executed as of the date first herein written.

**UNION PACIFIC RAILROAD COMPANY**

**CITY OF BRENTWOOD**

By: \_\_\_\_\_

Kylan Crawford  
Senior Manager

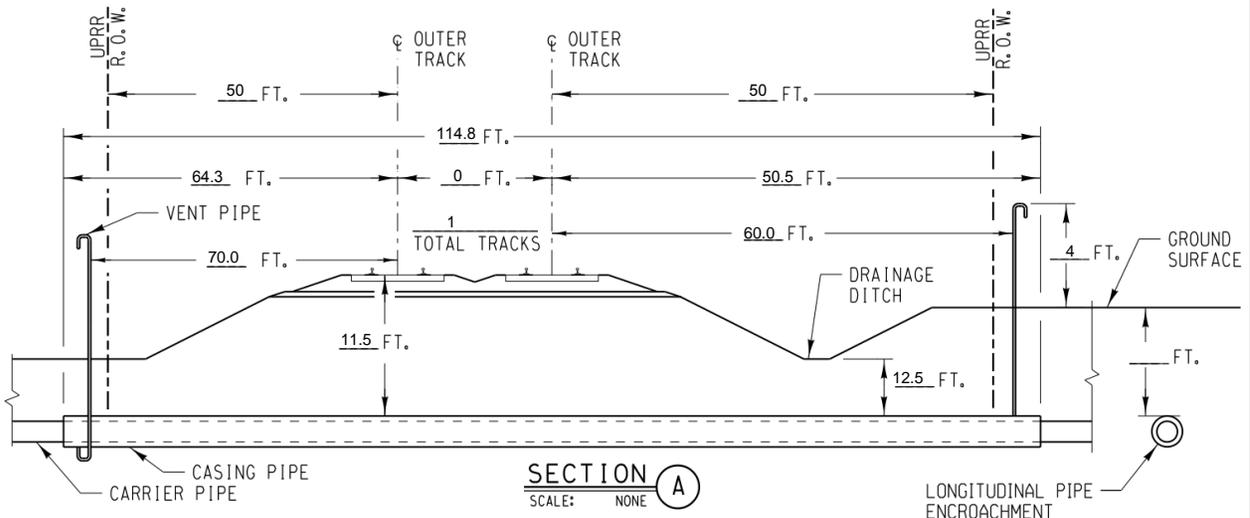
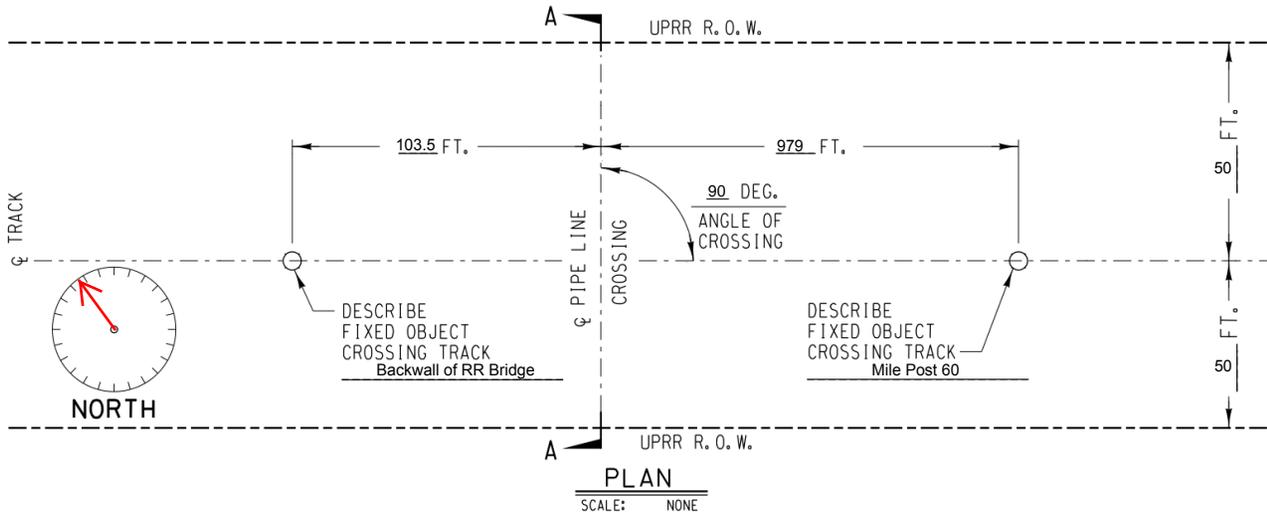
By: \_\_\_\_\_

Name Printed: \_\_\_\_\_

Title: \_\_\_\_\_

# NON-FLAMMABLE LIQUID PIPELINE

- CROSSING
- ENCROACHMENT
- BOTH



- NOTES:  
 1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK  
 2) REFER TO AREMA VOLUME 1. CHAPTER 1. PART 5. SECTION 5.1

- A) METHOD OF INSTALLATION Bored and Jacked
- B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT \_\_\_\_\_
- C) SIGNS PROVIDED? At minimum signs will be provided as stated above
- D) CARRIER MATERIAL Plastic. IF RCP, CLASS V? NA.  
 COMMODITY TO BE CONVEYED Potable Water.  
 OPERATIONAL PRESSURE 100.0 PSI. MAOP 100.0 PSI.  
 WALL THICKNESS (INCH)/ SCHEDULE 1.20". DIAMETER 20.0 IN.  
 CATHODIC/COATING PROTECTION Yes
- E) CASING MATERIAL Steel Pipe. IF RCP, CLASS V? NA.  
 TOTAL LENGTH CASING PIPE: 115.0 FT.  
 WALL THICKNESS 0.562 IN. DIAMETER 36.0 IN.  
 CATHODIC/COATING PROTECTION Yes  
 CASING PIPE IS Sealed AT THE ENDS.
- F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES 64.3 AND 50.5.



**BUILDING AMERICA®**

## EXHIBIT "A"

SUBDIVISION: <u>Tracy Sub.</u>	
TRACK TYPE: <u>Mainline Track</u>	
M.P.: <u>59.81</u>	LAT.: <u>37.953876095511</u>
E.S.M.: <u>1194+03 ±</u>	LONG.: <u>-121.7164832353</u>
NEAREST CITY: <u>BRENTWOOD</u>	COUNTY: <u>Contra Costa</u> STATE: <u>CA</u>
APPLICANT: <u>CITY OF BRENTWOOD</u>	
FILE NO.: <u>0299022</u>	DATE: <u>5/16/2016</u>

## **EXHIBIT B**

### **Section 1. 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 Licensor to use and maintain its entire property including the right and power of the Licensor to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, 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 the Licensor without liability to the Licensee 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 the Licensor's property, and others) and the right of the Licensor to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

### **Section 2. CONSTRUCTION, MAINTENANCE AND OPERATION.**

- A. The Pipeline shall be designed, constructed, operated, maintained, repaired, renewed, modified and/or reconstructed by the Licensee in strict conformity with (i) Licensor's current standards and specifications ("UP Specifications"), except for variances approved in advance in writing by the Licensor's Assistant Vice President Engineering – Design, or his authorized representative; (ii) such other additional safety standards as the Licensor, in its sole discretion, elects to require, including, without limitation, American Railway Engineering and Maintenance-of-Way Association ("AREMA") standards and guidelines (collectively, "UP Additional Requirements"), and (iii) all applicable laws, rules and regulations ("Laws"). If there is any conflict between the requirements of any Law and the UP Specifications or the UP Additional Requirements, the most restrictive will apply.
- B. All work performed on property of the Licensor in connection with the design, construction, maintenance, repair, renewal, modification or reconstruction of the Pipeline shall be done to the satisfaction of the Licensor.
- C. Prior to the commencement of any work in connection with the design, construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the Pipeline from Licensor's property, the Licensee shall submit to the Licensor plans setting out the method and manner of handling the work, including the shoring and cribbing, if any, required to protect the Licensor's operations, and shall not proceed with the work until such plans have been approved by the Licensor's Assistant Vice President Engineering Design, or his authorized representative, and then the work shall be done to the satisfaction of the Licensor's Assistant Vice President Engineering Design or his authorized representative. The Licensor shall have the right, if it so elects, to provide such support as it may deem necessary for the safety of its track or tracks during the time of construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the Pipeline, and, in the event the Licensor provides such support, the Licensee shall pay to the Licensor, within fifteen (15) days after bills shall have been rendered therefore, all expenses incurred by the Licensor in connection therewith, which expenses shall

include all assignable costs.

- D. The Licensee shall keep and maintain the soil over the Pipeline thoroughly compacted and the grade even with the adjacent surface of the ground.
- E. In the prosecution of any work covered by this Agreement, Licensee 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 3. NOTICE OF COMMENCEMENT OF WORK / LICENSOR REPRESENTATIVE / SUPERVISION / FLAGGING / SAFETY.**

- A. If an emergency should arise requiring immediate attention, the Licensee shall provide as much notice as practicable to Licensor before commencing any work. In all other situations, the Licensee shall notify the Licensor at least ten (10) days (or such other time as the Licensor may allow) in advance of the commencement of any work upon property of the Licensor in connection with the construction, maintenance, repair, renewal, modification, reconstruction, relocation or removal of the Pipeline. All such work shall be prosecuted diligently to completion. The Licensee will coordinate its initial, and any subsequent work with the following employee of Licensor or his or her duly authorized representative (hereinafter "Licensor Representative" or "Railroad Representative"):

JUSTIN D. ROGERS  
MGR TRACK MNTCE  
33 BRIDGEHEAD RD  
MARTINEZ, CA 94553  
Work # 402-233-1746  
Cell # 402-676-9562  
Email: jdrogers@up.com

ROBERT MENDOZA  
MGR SIGNAL MNTCE  
1851 B, 5th Street  
Oakland, CA 94607  
Work phone: 916-789-6023  
Cell phone: 530-632-9620  
Email: rmendoz1@up.com

- B. Licensee, at its own expense, shall adequately police and supervise all work to be performed. The responsibility of Licensee for safe conduct and adequate policing and supervision of work shall not be lessened or otherwise affected by Licensor's approval of plans and specifications involving the work, or by Licensor's collaboration in performance of any work, or by the presence at the work site of a Licensor Representative, or by compliance by Licensee with any requests or recommendations made by the Licensor Representative.
- C. At the request of Licensor, Licensee shall remove from Licensor's property any employee who fails to conform to the instructions of the Licensor Representative in connection with the work on Licensor's property. Licensee shall indemnify Licensor against any claims arising from the removal of any such employee from Licensor's property.
- D. Licensee shall notify the Licensor Representative at least ten (10) working days in advance of proposed performance of any work 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 Licensor'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 Licensor Representative will determine and inform Licensee whether a flagman need be present and whether any special protective or safety measures need to be implemented. If flagging or other special protective or safety measures are performed by Licensor, Licensor will bill Licensee for such expenses incurred by Licensor, unless Licensor and a federal, state or local governmental entity have agreed that Licensor is to bill such expenses to the federal, state or local governmental entity. If Licensor will be sending the bills to Licensee, Licensee shall pay such bills within thirty (30) days of receipt of billing. If Licensor performs any flagging, or other special protective or safety measures are performed by Licensor, Licensee agrees that Licensee is not relieved of any of responsibilities or liabilities set forth in this Agreement.

- E. 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 Licensor 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, Licensee (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.
- F. Reimbursement to Licensor 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 Licensor is required to pay the flagman and which could not reasonably be avoided by Licensor by assignment of such flagman to other work, even though Licensee may not be working during such time. When it becomes necessary for Licensor to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Licensor 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, Licensee 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 Licensor if flagging services are needed again after such five day cessation notice has been given to Licensor.
- G. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Licensee or its contractor. Licensee shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Licensee and its contractor shall at a minimum comply with Licensor's safety standards listed in **Exhibit D**, hereto attached, to ensure uniformity with the safety standards followed by Licensor's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Licensor if it determines that any of Licensor's safety standards are contrary to good safety practices. Licensee and its contractor shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

- H. Without limitation of the provisions of paragraph G above, Licensee shall keep the job site free from safety and health hazards and ensure that their employees are competent and adequately trained in all safety and health aspects of the job.
- I. Licensee 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. Prompt notification shall be given to Licensor of any U.S. Occupational Safety and Health Administration reportable injuries. Licensee shall have a non-delegable duty to control its employees while they are on the job site or any other property of Licensor, 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.
- J. If and when requested by Licensor, Licensee shall deliver to Licensor a copy of its safety plan for conducting the work (the "Safety Plan"). Licensor shall have the right, but not the obligation, to require Licensee 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 4. LICENSEE TO BEAR ENTIRE EXPENSE.**

The Licensee shall bear the entire cost and expense incurred in connection with the design, construction, maintenance, repair and renewal and any and all modification, revision, relocation, removal or reconstruction of the Pipeline, including any and all expense which may be incurred by the Licensor in connection therewith for supervision, inspection, flagging, or otherwise.

**Section 5. REINFORCEMENT, RELOCATION OR REMOVAL OF PIPELINE.**

- A. The license herein granted is subject to the needs and requirements of the Licensor in the safe and efficient operation of its railroad and in the improvement and use of its property. The Licensee shall, at the sole expense of the Licensee, reinforce or otherwise modify the Pipeline, or move all or any portion of the Pipeline to such new location, or remove the Pipeline from the Licensor's property, as the Licensor may designate, whenever, in the furtherance of its needs and requirements, the Licensor, at its sole election, finds such action necessary or desirable.
- B. All the terms, conditions and stipulations herein expressed with reference to the Pipeline on property of the Licensor in the location hereinbefore described shall, so far as the Pipeline remains on the property, apply to the Pipeline as modified, changed or relocated within the contemplation of this section.

**Section 6. NO INTERFERENCE WITH LICENSOR'S OPERATION.**

- A. The Pipeline and all parts thereof within and outside of the limits of the property of the Licensor shall be designed, constructed and, at all times, maintained, repaired, renewed and operated in such manner as to cause no interference whatsoever with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Licensor and nothing shall be done or suffered to be done by the Licensee at any time that would in any manner impair the safety thereof.
- B. Explosives or other highly flammable substances shall not be stored on Licensor's property without the prior written approval of Licensor.

- C. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Licensor's trackage shall be installed or used by Licensor or its contractors without the prior written permission of Licensor.
- D. When not in use, any machinery and materials of Licensee or its contractors shall be kept at least fifty (50) feet from the centerline of Licensor's nearest track.
- E. Operations of Licensor and work performed by Licensor's personnel may cause delays in the work to be performed by Licensee. Licensee accepts this risk and agrees that Licensor shall have no liability to Licensee or any other person or entity for any such delays. Licensee shall coordinate its activities with those of Licensor and third parties so as to avoid interference with railroad operations. The safe operation of Licensor's train movements and other activities by Licensor take precedence over any work to be performed by Licensee.

**Section 7.      PROTECTION OF FIBER OPTIC CABLE SYSTEMS.**

- A. Fiber optic cable systems may be buried on the Licensor'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. Licensee shall telephone the Licensor during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except for 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 the Licensor's premises to be used by the Licensee. If it is, Licensee will telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Licensee's expense, and will commence no work on the Licensor's property until all such protection or relocation has been accomplished. Licensee shall indemnify and hold the Licensor harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of or caused in any way by Licensee's failure to comply with the provisions of this paragraph.
- B. IN ADDITION TO OTHER INDEMNITY PROVISIONS IN THIS AGREEMENT, THE LICENSEE SHALL, AND SHALL CAUSE ITS CONTRACTOR TO, RELEASE, INDEMNIFY, DEFEND AND HOLD THE LICENSOR HARMLESS FROM AND AGAINST ALL COSTS, LIABILITY AND EXPENSE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS AND EXPENSES) CAUSED BY THE NEGLIGENCE OF THE LICENSEE, ITS CONTRACTORS, AGENTS AND/OR EMPLOYEES, RESULTING IN (1) ANY DAMAGE TO OR DESTRUCTION OF ANY TELECOMMUNICATIONS SYSTEM ON LICENSOR'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 LICENSOR'S PROPERTY, EXCEPT IF SUCH COSTS, LIABILITY OR EXPENSES ARE CAUSED SOLELY BY THE DIRECT ACTIVE NEGLIGENCE OF THE LICENSOR. LICENSEE FURTHER AGREES THAT IT SHALL NOT HAVE OR SEEK RECOURSE AGAINST LICENSOR 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 LICENSOR'S PROPERTY OR A CUSTOMER OR USER OF SERVICES OF THE FIBER OPTIC CABLE ON LICENSOR'S PROPERTY.**

**Section 8. CLAIMS AND LIENS FOR LABOR AND MATERIAL; TAXES.**

- A. The Licensee shall fully pay for all materials joined or affixed to and labor performed upon property of the Licensor in connection with the construction, maintenance, repair, renewal, modification or reconstruction of the Pipeline, and shall not permit or suffer any mechanic's or materialman's lien of any kind or nature to be enforced against the property for any work done or materials furnished thereon at the instance or request or on behalf of the Licensee. The Licensee shall indemnify and hold harmless the Licensor against and from any and all liens, claims, demands, costs and expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.
- B. The Licensee shall promptly pay or discharge all taxes, charges and assessments levied upon, in respect to, or on account of the Pipeline, to prevent the same from becoming a charge or lien upon property of the Licensor, and so that the taxes, charges and assessments levied upon or in respect to such property shall not be increased because of the location, construction or maintenance of the Pipeline or any improvement, appliance or fixture connected therewith placed upon such property, or on account of the Licensee's interest therein. Where such tax, charge or assessment may not be separately made or assessed to the Licensee but shall be included in the assessment of the property of the Licensor, then the Licensee shall pay to the Licensor an equitable proportion of such taxes determined by the value of the Licensee's property upon property of the Licensor as compared with the entire value of such property.

**Section 9. RESTORATION OF LICENSOR'S PROPERTY.**

In the event the Licensee in any manner moves or disturbs any of the property of the Licensor in connection with the construction, maintenance, repair, renewal, modification, reconstruction, relocation or removal of the Pipeline, then in that event the Licensee shall, as soon as possible and at Licensee's sole expense, restore such property to the same condition as the same were before such property was moved or disturbed, and the Licensee shall indemnify and hold harmless the Licensor, its officers, agents and employees, against and from any and all liability, loss, damages, claims, demands, costs and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from injury to or death of persons whomsoever, or damage to or loss or destruction of property whatsoever, when such injury, death, damage, loss or destruction grows out of or arises from the moving or disturbance of any other property of the Licensor.

**Section 10. INDEMNITY.**

- A. As used in this Section, "Licensor" includes other railroad companies using the Licensor's property at or near the location of the Licensee's installation and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (a) injury to or death of persons whomsoever (including the Licensor's officers, agents, and employees, the Licensee's officers, agents, and employees, as well as any other person); and/or (b) damage to or loss or destruction of property whatsoever (including Licensee's property, damage to the roadbed, tracks, equipment, or other property of the Licensor, or property in its care or custody).
- B. AS A MAJOR INDUCEMENT AND IN CONSIDERATION OF THE LICENSE AND PERMISSION HEREIN GRANTED, TO THE FULLEST EXTENT PERMITTED BY LAW, THE LICENSEE SHALL, AND SHALL CAUSE ITS CONTRACTOR TO, RELEASE, INDEMNIFY, DEFEND AND HOLD HARMLESS THE LICENSOR FROM**

**ANY LOSS OF ANY KIND, NATURE OR DESCRIPTION ARISING OUT OF, RESULTING FROM OR RELATED TO (IN WHOLE OR IN PART):**

**1. THE PROSECUTION OF ANY WORK CONTEMPLATED BY THIS AGREEMENT INCLUDING THE INSTALLATION, CONSTRUCTION, MAINTENANCE, REPAIR, RENEWAL, MODIFICATION, RECONSTRUCTION, RELOCATION, OR REMOVAL OF THE PIPELINE OR ANY PART THEREOF;**

**2. ANY RIGHTS OR INTERESTS GRANTED PURSUANT TO THIS LICENSE;**

**3. THE PRESENCE, OPERATION, OR USE OF THE PIPELINE OR CONTENTS ESCAPING THEREFROM;**

**4. THE ENVIRONMENTAL STATUS OF THE PROPERTY CAUSED BY OR CONTRIBUTED TO BY LICENSEE;**

**5. ANY ACT OR OMISSION OF LICENSEE OR LICENSEE'S OFFICERS, AGENTS, INVITEES, EMPLOYEES, OR CONTRACTORS OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR ANYONE THEY CONTROL OR EXERCISE CONTROL OVER; OR**

**6. LICENSEE'S BREACH OF THIS AGREEMENT,**

**EXCEPT WHERE THE LOSS IS CAUSED BY THE SOLE DIRECT AND ACTIVE NEGLIGENCE OF THE LICENSOR, AS DETERMINED IN A FINAL JUDGMENT BY A COURT OF COMPETENT JURISDICTION, IT BEING THE INTENTION OF THE PARTIES THAT THE ABOVE INDEMNITY WILL OTHERWISE APPLY TO LOSSES CAUSED BY OR ARISING FROM, IN WHOLE OR IN PART, LICENSOR'S NEGLIGENCE.**

C. Upon written notice from Licensor, Licensee agrees to assume the defense of any lawsuit of proceeding brought against any indemnitee by any entity, relating to any matter covered by this License for which Licensee has an obligation to assume liability for and/or save and hold harmless any indemnitee. Licensee shall pay all costs incident to such defense, including, but not limited to, reasonable attorney's fees, investigators' fees, litigation and appeal expenses, settlement payments and amounts paid in satisfaction of judgments.

**Section 11. REMOVAL OF PIPELINE UPON TERMINATION OF AGREEMENT.**

Prior to the termination of this Agreement howsoever, the Licensee shall, at Licensee's sole expense, remove the Pipeline from those portions of the property not occupied by the roadbed and track or tracks of the Licensor and shall restore, to the satisfaction of the Licensor, such portions of such property to as good a condition as they were in at the time of the construction of the Pipeline. If the Licensee fails to do the foregoing, the Licensor may, but is not obligated, to perform such work of removal and restoration at the cost and expense of the Licensee. In the event of the removal by the Licensor of the property of the Licensee and of the restoration of the roadbed and property as herein provided, the Licensor shall in no manner be liable to the Licensee for any damage sustained by the Licensee for or on account thereof, and such removal and restoration shall in no manner prejudice or impair any right of action for damages, or otherwise, that the Licensor may have against the Licensee.

**Section 12. WAIVER OF BREACH.**

The waiver by the Licensor of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Licensee shall in no way impair the right of the Licensor to avail itself of any remedy for any subsequent breach thereof.

**Section 13. TERMINATION.**

- A. If the Licensee does not use the right herein granted or the Pipeline for one (1) year, or if the Licensee continues in default in the performance of any covenant or agreement herein contained for a period of thirty (30) days after written notice from the Licensor to the Licensee specifying such default, the Licensor may, at its option, forthwith immediately terminate this Agreement by written notice.
- B. In addition to the provisions of subparagraph (a) above, this Agreement may be terminated by written notice given by either party hereto to the other on any date in such notice stated, not less, however, than thirty (30) days subsequent to the date upon which such notice shall be given.
- C. Notice of default and notice of termination may be served personally upon the Licensee or by mailing to the last known address of the Licensee. Termination of this Agreement for any reason shall not affect any of the rights or obligations of the parties hereto which may have accrued, or liabilities, accrued or otherwise, which may have arisen prior thereto.

**Section 14. AGREEMENT NOT TO BE ASSIGNED.**

The Licensee shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of the Licensor, and it is agreed that any transfer or assignment or attempted transfer or assignment of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without such consent in writing, shall be absolutely void and, at the option of the Licensor, shall terminate this Agreement.

**Section 15. SUCCESSORS AND ASSIGNS.**

Subject to the provisions of Section 14 hereof, this Agreement shall be binding upon and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

**Section 16. SEVERABILITY.**

Any provision of this Agreement which is determined by a court of competent jurisdiction to be invalid or unenforceable shall be invalid or unenforceable only to the extent of such determination, which shall not invalidate or otherwise render ineffective any other provision of this Agreement.

Approved: Insurance Group  
Created: 9/23/05  
Last Modified: 03/29/10  
Form Approved, AVP-Law

**EXHIBIT C**  
**Union Pacific Railroad Company**  
**Contract Insurance Requirements**

Licensee shall, at its sole cost and expense, procure and maintain during the life of this Agreement (except as otherwise provided in this Agreement) the following insurance coverage:

**A. Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. 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.

**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 limit of not less \$2,000,000 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.

**C. Workers Compensation and Employers** Liability insurance. Coverage must include but not be limited to:

Licensee’s statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Licensee 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.

**D. Railroad Protective Liability** insurance. Licensee 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 only as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000.

The definition of “JOB LOCATION” and “WORK” on the declaration page of the policy shall refer to this Agreement and shall describe all WORK or OPERATIONS performed under this agreement

**E. Umbrella or Excess insurance.** If Licensee utilizes umbrella or excess policies, and these policies must “follow form” and afford no less coverage than the primary policy.

**Other Requirements**

**F.** 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 Licensee’s liability under the indemnity provisions of this Agreement.

**G.** Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed.

**H.** Licensee 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 for damages covered by the workers compensation and employers liability or commercial umbrella or excess liability obtained by Licensee required in this agreement, where permitted by law This waiver must be stated on the certificate of insurance.

**I.** 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(s) in which the work is to be performed.

**J.** The fact that insurance is obtained by Licensee or by Railroad on behalf of Licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Licensee or any third party will not be limited by the amount of the required insurance coverage.

**EXHIBIT D**  
**SAFETY STANDARDS**

**MINIMUM SAFETY REQUIREMENTS**

The term "employees" as used herein refer to all employees of Licensee or its contractors, subcontractors, or agents, as well as any subcontractor or agent of any Licensee.

**I. Clothing**

- A. All employees of Licensee 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, Licensee'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**

Licensee shall require its employee 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 Licensee'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**

Licensee and its contractor are 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 minimum distance of at least twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
- (ii) Wear an orange, reflectorized work wear 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. Licensee must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Licensee 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 Licensee to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Licensee's equipment is unsafe for use, Licensee shall remove such equipment from Railroad's property. In addition, Licensee 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:
  - Familiar and comply with Railroad's rules on lockout/tagout of equipment.
  - Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
  - Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other rail bound 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. Licensee shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.
- B. Licensee 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 Licensee 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.

**APPENDIX “C” - ENVIRONMENTAL MITIGATION REQUIREMENTS**



## PUBLIC WORKS DEPARTMENT – ENGINEERING DIVISION

150 City Park Way Brentwood, CA 94513 (925) 516-5420 Fax (925) 516-5421  
Website Address: <http://www.brentwoodca.gov/>

# DRAFT MITIGATED NEGATIVE DECLARATION

### A. DESCRIPTION OF PROJECT:

**Project Title:** Non-Potable Water Distribution System – Phase II & Water System Connections

**CIP #:** 592-59160

**Project Location:** The project site is located in the City of Brentwood on Grant Street between O’Hara Avenue and Shady Willow Lane. The project also includes pipeline extensions southward from Grant Street on Shady Willow Lane and in the Miwok Trail alignment to Miwok Park.

**Project Proponent:** City of Brentwood, Public Works Department – Engineering Division, Anthony Salam, CIP Manager

**Project Description:** The project proposes pipeline extensions along the (unpaved) Grant Street alignment from the intersection of Grant Street and O’Hara Avenue under the Union Pacific Railroad (UPRR) and continuing in the paved alignment of Grant Street. A 12-inch diameter non-potable water line would extend westward approximately 6,370 feet from O’Hara Avenue to Shady Willow Lane, and then south approximately 1,140 feet in Shady Willow Lane from Grant Street to Empire Avenue. The non-potable water line will include stub outs at Fairview Avenue, Shady Willow Lane, and Empire Avenue. In addition, an 8-inch diameter non-potable water line would extend south from Grant Street, approximately 1,100 feet, primarily in the alignment of the Miwok Trail to connect with an irrigation booster pump in Miwok Park. A 20-inch diameter potable water line connection to complete a loop would also be placed in Grant Street from O’Hara Avenue to St. Martin’s Place, a distance of approximately 1,250 feet.

### B. CONDITIONS (Mitigation and Avoidance Measures):

The City will implement the following mitigation and avoidance measures to reduce the impacts of the project to a less than significant level.

**Air Quality:** In accordance with BAAQMD requirements, the project will implement the following measures to reduce fugitive dust emissions:

**AM AQ-1:** All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

**AM AQ-2:** All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

**AM AQ-3:** All visible mud or dirt track-out onto public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

**AM AQ-4:** All vehicle speeds on unpaved roads shall be limited to 15 mph.

**AM AQ-5:** All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.

**AM AQ-6:** Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]).

Clear signage shall be provided for construction workers at all access points.

**AM AQ-7:** All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

**AM AQ-8:** A publicly visible sign shall be posted with the telephone number and person to contact at the City of Brentwood regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

**Biological Resources:** The following mitigation measure will reduce project-related impacts to Swainson's hawks to a less-than-significant level.

**MM BIO-1.1:** As described in Section 6.4.3, page 6-41 of the HCP/NCCP, pre-construction surveys for Swainson's hawks will be conducted by a qualified biologist if work will occur during the breeding season (1 February to 31 August). Surveys will be conducted to determine if Swainson's hawks are nesting within 1,000 feet of the project site.

If an active Swainson's hawk nest is found during the pre-construction survey, the following mitigation measures, as described in Section 6.4.3 page 6-41 of the HCP/NCCP, will be implemented:

**MM BIO-1.2:** During the nesting season (15 March – September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate a smaller buffer could be used, the Implementing Entity will coordinate with CDFG/USFWS to determine the appropriate buffer size.

If young fledge prior to 15 September, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project applicant can apply to the Implementing Entity for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFG. While the nest is occupied, activities outside the buffer can take place.

The following mitigation measures would reduce impacts to burrowing owls to a less-than-significant level.

**MM BIO-2.1:** As described in Section 6.4.3, page 6-40 of the HCP/NCCP, pre-construction surveys for burrowing owls shall be conducted by a qualified biologist in potential habitat in conformance with the CDFG guidelines, no more than 30 days prior to the start of construction. Surveys will be conducted within 500 feet of the project footprint, but not on adjacent parcels under different ownership. Surveys during the breeding season (1 February – 31 August) will document whether burrowing owls are nesting on or directly adjacent to disturbance areas. During the non-breeding season (1 September – 31 January), surveys will document whether burrowing owls are using habitat in or directly adjacent to disturbance areas.

If burrowing owls are located on or immediately adjacent to the site the following mitigation measures, as described in Section 6.4.3 page 6-40 of the HCP/NCCP, will be implemented:

**MM BIO-2.2:** If burrowing owls are found during the breeding season (1 February – 31 August), the project proponent will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a non-disturbance buffer zone. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (1 September – 31 January), the project proponent should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone.

**MM BIO-2.3:** If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for one week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated by hand tools and refilled to prevent reoccupation. Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

The Project will implement the following measures to avoid impacts on covered migratory birds:

**AM BIO-1:** To the extent feasible, construction activities shall be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds, including most raptors, in the greater San Francisco Bay Area and Delta extends from February 1<sup>st</sup> through August 31<sup>st</sup>.

**AM BIO-2:** If it is not possible to schedule construction activities between September 1<sup>st</sup> and January 31<sup>st</sup>, then pre-construction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project construction. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to

be established around the nest (typically 250 feet for raptors and 50-100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project construction.

**Cultural Resources:** The following avoidance measures will ensure the project will result in less than significant impacts to archaeological resources in the event cultural materials are discovered in the project alignment:

**AM CULT-1.1:** If any significant cultural materials are exposed or discovered during construction activities, operations should stop within 40 feet of the find and a qualified professional archaeologist contacted for evaluation and further recommendations. If it appears that additional work will damage a deposit eligible for placement on the California Register of Historic Resources (CRHR), a plan for evaluation of the resources should be submitted to the Brentwood Planning Department for approval. Evaluations normally include a program of limited hand excavation to extract data and materials of potential significance.

If a CRHR eligible resource is identified, a plan for mitigation of impacts should be submitted to the Brentwood Planning Department for approval. Mitigation normally takes the form of limited data retrieval through hand excavation coupled with continued archaeological monitoring inside the area designated as archaeologically sensitive in order to record and/or remove for analysis significant archaeological materials. Monitoring also aids in identification of human burials and associated grave goods, and can help limit damage to them.

**AM CULT-1.2:** Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The Contra Costa County Coroner shall be notified and shall make a determination as to whether the remains are Native American.

If the Coroner determines that the remains are not subject to his/her authority, the Native American Heritage Commission shall be notified to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

**Noise:** The following mitigation measures will be required to reduce project construction noise impacts:

**MM NOI-1.1:** Construction shall be prohibited on Sundays and City holidays. Per the City's General Plan, construction of the project will be limited to the hours of 9 a.m. to 7 p.m. on weekdays and 8 a.m. to 7 p.m. on Saturday.

**MM NOI-1.2:** All construction equipment shall use properly operating mufflers and be staged away from sensitive receptors. These criteria shall be included in the grading plan prior to grading permit issuance.

### C. DETERMINATION

On the basis of this initial study:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the Proposed Project and in general subsequent development projects could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier General Plan EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier General Plan EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



\_\_\_\_\_  
Signature

\_\_\_\_\_  
Anthony Salam  
Printed Name

\_\_\_\_\_  
May 24, 2012

Date

\_\_\_\_\_  
City of Brentwood  
For