

# City of San Diego

CONTRACTOR'S NAME: TC Construction Company, Inc.  
ADDRESS: 10540 Prospect Avenue, Santee, CA 92071  
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CITY CONTACT: Lisa Nguyen - Contract Specialist, Email: LTNguyen@sandiego.gov  
Phone No. (619) 533-3435, Fax No. (619) 533-3633  
J. Soriano / J. Borja / LJI

## CONTRACT DOCUMENTS



## FOR

## ORIGINAL

## PACIFIC BEACH PIPELINE SOUTH

BID NO.: K-16-1306-DBB-3  
SAP NO. (WBS): S-12015 / B-12117  
CLIENT DEPARTMENT: 2000  
COUNCIL DISTRICT: 2  
PROJECT TYPE: KA / JA

**THIS CONTRACT IS SUBJECT TO THE FOLLOWING:**

- PHASED-FUNDING
- FEDERAL EQUAL OPPORTUNITY CONTRACTING REQUIREMENTS.
- PREVAILING WAGE RATES: STATE  FEDERAL
- APPRENTICESHIP
- THIS IS A SDWSRF FUNDED CONTRACT THROUGH THE STATE OF CALIFORNIA

**BID DUE DATE:**

**2:00 PM**

**JANUARY 11, 2016**

**CITY OF SAN DIEGO**

**PUBLIC WORKS CONTRACTS**

**1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C**

**SAN DIEGO, CA 92101**

0210397

# ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineers:

*Kevin Gibson*

Registered Engineer

*11/20/15*

Date

Seal:



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# CITY OF SAN DIEGO, CALIFORNIA

## NOTICE INVITING BIDS

1. **FULL AND OPEN COMPETITION:** This contract may only be bid by Contractors on the City's approved Prequalified Contractor's List (see Notice Inviting Bids, Prequalification of Contractors), regardless of the status for SLBE-ELBE qualification(s) For information regarding the Contractors Prequalified list visit the City's web site: <http://www.sandiego.gov>.
2. **SUMMARY OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works and appurtenances for the construction of the Project as described in ATTACHMENT A.
3. **PRE-BID MEETING:**
  - 3.1. There will be a Pre-Bid Meeting to discuss the scope of the Project, bidding requirements, pre-qualification process, and Equal Opportunity Contracting Program requirements and reporting procedures in the Public Works Contracts, Conference Room at 1010 Second Avenue, 14<sup>th</sup> Floor, San Diego, CA 92101 **at 10:00 A.M., on December 17, 2015.**
  - 3.2. **The Pre-Bid Meeting has been designated as MANDATORY. All potential bidders are required to attend.** Bid may be declared **non-responsive** if the Bidder fails to attend the Pre-Bid Meeting when specified to be mandatory. Attendance at the Pre-Bid Meeting will be evidenced by the representative's signature on the attendance roster. It shall be the responsibility of the Bidder's representative to complete and sign the attendance roster. **No Bidders will be admitted after the specified start time of the mandatory Pre-Bid Meeting.**
4. **PREQUALIFICATION OF CONTRACTORS:**
  - 4.1. Contractors submitting Bid must be pre-qualified for the total amount proposed, inclusive of all alternate items prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified may be deemed **non-responsive** and ineligible for award. Complete information and links to the on-line prequalification application are available at:  
  
<http://www.sandiego.gov/cip/bidopps/prequalification.shtml>
  - 4.2. The completed application must be submitted online no later than 2 weeks prior to the bid opening. For additional information or the answer to questions about the prequalification program, contact David Stucky at 619-533-3474 or [dstucky@sandiego.gov](mailto:dstucky@sandiego.gov).
  - 4.3. As a result of the City's fiduciary requirement to safeguard vendor data, City staff will not be able to provide information regarding contractors' prequalification status over the telephone. Contractors may access real-time information about their prequalification status via their vendor profile on [PlanetBids™](#).

## INSTRUCTIONS TO BIDDERS

1. **ELECTRONIC FORMAT RECEIPT AND OPENING OF BIDS:** Bids will be received in **electronic format (eBids) EXCLUSIVELY** at the City of San Diego's electronic bidding (eBidding) site, at: <http://www.sandiego.gov/cip/bidopps/index.shtml>. and are due by the date, and time shown on the cover of this solicitation for the performance of work on **PACIFIC BEACH PIPELINE SOUTH** (Project).
  - 1.1. **BIDDERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit an electronic bid.
  - 1.2. The City's bidding system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Contractors who disable their browsers' cookies will not be able to log in and use the City's bidding system.
  - 1.3. The City's electronic bidding system is responsible for bid tabulations. Upon the bidder's or proposer's entry of their bid, the system will ensure that all required fields are entered. **The system will not accept a bid for which any required information is missing.** This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.
  - 1.4. **BIDS REMAIN SEALED UNTIL BID DEADLINE.** eBids are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256 bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Bids submitted prior to the "Bid Due Date and Time" are not available for review by anyone other than the submitter which has until the "Bid Due Date and Time" to change, rescind or retrieve its proposal should it desire to do so.
  - 1.5. **BIDS MUST BE SUBMITTED BY BID DUE DATE AND TIME.** Once the bid deadline is reached, no further submissions are accepted into the system. Once the Bid Due Date and Time has lapsed, bidders, proposers, the general public, and City staff are able to immediately see the results on line. City staff may then begin reviewing the submissions for responsiveness, EOCB compliance and other issues. The City may require any Bidder to furnish statement of experience, financial responsibility, technical ability, equipment, and references.
  - 1.6. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
  - 1.7. **RECAPITULATION OF THE WORK.** Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.
  - 1.8. **BIDS MAY BE WITHDRAWN** by the Bidder prior to, but not after, the time fixed for opening of bids.

**1.8.1. Important Note:** Submission of the electronic bid into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take time for the bidder's submission to upload and be received by the City's eBidding system. It is the bidder's sole responsibility to ensure their bids are received on time by the City's eBidding system. The City of San Diego is not responsible for bids that do not arrive by the required date and time.

**1.9. ACCESSIBILITY AND AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE.** : To request a copy of this solicitation in an alternative format, contact the Public Works Contract Specialist listed in the cover of this solicitation at least five (5) working days prior to the Bid/Proposal due date to ensure availability.

**2. ELECTRONIC BID SUBMISSIONS CARRY FULL FORCE AND EFFECT**

**2.1.** The bidder, by submitting its electronic bid, acknowledges that doing so carries the same force and full legal effect as a paper submission with a longhand (wet) signature.

**2.2.** By submitting an electronic bid, the bidder certifies that the bidder has thoroughly examined and understands the entire Contract Documents (which consist of the plans and specifications, drawings, forms, affidavits and the solicitation documents), and that by submitting the eBid as its bid proposal, the bidder acknowledges, agrees to and is bound by the entire Contract Documents, including any addenda issued thereto, and incorporated by reference in the Contract Documents.

**2.3.** The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certification, forms and affidavits submitted as part of this bid are true and correct.

**2.4.** The Bidder agrees to the construction of the project as described in Attachment "A-Scope of Work" for the City of San Diego, in accordance with the requirements set forth herein for the electronically submitted prices. The Bidder guarantees the Contract Price for a period of 120 days (90 days for federally funded contracts and contracts valued at \$500,000 or less) from the date of Bid opening. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent.

**3. BIDS ARE PUBLIC RECORDS:** Upon receipt by the City, Bids shall become public records subject to public disclosure. It is the responsibility of the respondent to clearly identify any confidential, proprietary, trade secret or otherwise legally privileged information contained within the Bid. General references to sections of the California Public Records Act (PRA) will not suffice. If the Contractor does not provide applicable case law that clearly establishes that the requested information is exempt from the disclosure requirements of the PRA, the City shall be free to release the information when required in accordance with the PRA, pursuant to any other applicable law, or by order of any court or government agency, and the Contractor will hold the City harmless for release of this information.

**4. SUBCONTRACTING PARTICIPATION PERCENTAGES:**

**4.1.** The City affirms that in any contract entered into pursuant to this advertisement, DBE will be afforded full opportunity to submit Bids in response to this invitation.

- 4.2. This Federally assisted project includes subcontracting participation percentages for DBE participation. DBE goal commitments and Good Faith Efforts (GFE) shall be made prior to bidding. DBE commitments and GFE made after the Bid opening will not be considered for the Award of Contract.
- 4.3. This project is subject to the federal equal opportunity regulations and the following requirements. The City reserves the right to audit the Contractor's compliance with the federal requirements set forth below.
- 4.4. Following are federally subcontracting participation percentages for this contract. For the purpose of achieving the subcontractor participation percentage, Additive or Deductive, and Type II Allowance Bid Items will not be included in the calculation.
- 4.5. **Environmental Protection Agency (EPA)** - In accordance with EPA's Program for Utilization of Small, Minority Disadvantaged and Women Business Enterprises in procurement under Federal assistance programs, the Contractor agrees to the applicable "fair share" objectives negotiated with EPA as follows:
- 4.6. **State Water Resource Control Board - Safe Drinking Water State Revolving Fund (SDWSRF):**

	MBE*	WBE*
1. Construction	11%	4%
2. Supplies	2%	2%
3. Services	4%	2%
4. Equipment (combined in above)	2%	1%

Note: MBEs and WBEs must be certified by EPA, SBA, DOT or by state, local, Tribal, or private entities whose certification criteria match EPAs in order to be counted toward MBE/WBE accomplishments. MBEs and WBEs are a part of the larger universe of DBEs.

- 4.7. Bid may be **declared non-responsive** if the Bidder fails any of the following conditions:
  - 1. Submission of GFE documentation, as specified in the Special Provisions.
  - 2. Attending the Pre-Submittal Meeting.
  - 3. Bidder's submission of Good Faith Effort documentation, saved in searchable Portable Document Format (PDF) and stored on Compact Disc (CD) or Digital Video Disc (DVD), demonstrating the Bidder made a good faith effort to outreach to and include DBE Subcontractors shall be submitted within **4 Working Days** of the Bid opening.
- 4.8. For additional Funding Agency Equal Opportunity Contracting Program requirements and provisions, see Attachment D.



4.9. To request a copy of the agenda on an alternative format, or to request a sign language or oral interpreter for this meeting, call the Public Works Contracts at (619) 533-3450 at least 5 Working Days prior to the Pre-Bid Meeting to ensure availability.

**5. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:**

5.1. **Prior** to the Award of the Contract or each Task Order, you and your Subcontractors and Suppliers must register with the City’s web-based vendor registration and bid management system. For additional information go to:

<http://www.sandiego.gov/purchasing/bids-contracts/vendorreg.shtml>.

5.2. The City may not award the contract until registration of all subcontractors and suppliers is complete. In the event this requirement is not met within the time frame specified in the Notice of Intent to Award letter, the City reserves the right to rescind the Notice of Award / Intent to Award and to make the award to the next responsive and responsible bidder / proposer.

6. **JOINT VENTURE CONTRACTORS:** Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 10 Working Days after receiving the Contract forms. See 2-1.1.2, “Joint Venture Contractors” in The WHITEBOOK for details.

7. **PREVAILING WAGE RATES:** Refer to Attachment D, Funding Agency Provisions.

**8. INSURANCE REQUIREMENTS:**

8.1. All certificates of insurance and endorsements required by the contract are to be provided upon issuance of the City’s Notice of Intent to Award letter.

8.2. Refer to sections 7-3, “LIABILITY INSURANCE”, and 7-4, “WORKERS’ COMPENSATION INSURANCE” of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

9. **REFERENCE STANDARDS:** Except as otherwise noted or specified, the Work shall be completed in accordance with the following standards:

Title	Edition	Document Number
Standard Specifications for Public Works Construction (“The GREENBOOK”)	2012	PITS070112-01
City of San Diego Standard Specifications for Public Works Construction (“The WHITEBOOK”)*	2012	PITS070112-02
City of San Diego Standard Drawings*	2012	PITS070112-03
Caltrans Standard Specifications	2010	PITS070112-04
Caltrans Standard Plans	2010	PITS070112-05
California MUTCD	2012	PITS070112-06
City Standard Drawings - Updates Approved For Use (when specified)*	Varies	Varies

Title	Edition	Document Number
Standard Federal Equal Employment Opportunity Construction Contract Specifications and the Equal Opportunity Clause Dated 09-11-84	1984	769023
NOTE: *Available online under Engineering Documents and References at: <a href="http://www.sandiego.gov/publicworks/edocref/index.shtml">http://www.sandiego.gov/publicworks/edocref/index.shtml</a>		

10. **CITY'S RESPONSES AND ADDENDA:** The City, at its option, may respond to any or all questions submitted in writing via the City's eBidding web site in the **form of an addendum**. No other responses to questions, oral or written shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addendum are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda at the time of bid submission.
11. **CITY'S RIGHTS RESERVED:** The City reserves the right to cancel the Notice Inviting Bids at any time, and further reserves the right to reject submitted Bids, without giving any reason for such action, at its sole discretion and without liability. Costs incurred by the Bidder(s) as a result of preparing Bids under the Notice Inviting Bids shall be the sole responsibility of each bidder. The Notice Inviting Bids creates or imposes no obligation upon the City to enter a contract.
12. **CONTRACT PRICING FORMAT:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth herein.
- 12.1. Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being non-responsive. Alternative proposals will not be considered unless called for.
- 12.2. The Bidder agrees to the construction of **Pacific Beach Pipeline South**, for the City of San Diego, in accordance with these contract documents for the prices listed below. The Bidder guarantees the Contract Price for a period of 120 days (90 days for federally funded contracts and contracts valued at \$500,000 or less) from the date of Bid opening to Award of the Contract. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent e.g., bond and insurance.
- 12.3. Unit prices shall be entered for all unit-price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceeds two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
13. **SUBCONTRACTOR INFORMATION:**
- 13.1. **LISTING OF SUBCONTRACTORS.** In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act" of the California Public Contract Code, the Bidder shall provide the **NAME and ADDRESS** of each Subcontractor who will perform work, labor, render services or who specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also state within the description, whether the subcontractor is a **CONSTRUCTOR, CONSULTANT** or **SUPPLIER**. The Bidder shall further state within the description, the **PORTION** of

the work which will be performed by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement may result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which Bidders are seeking recognition towards achieving any mandatory, voluntary (or both) subcontracting participation goals.

**13.2. LISTING OF SUPPLIERS.** Any Bidder seeking the recognition of Suppliers of equipment, materials, or supplies obtained from third party Suppliers towards achieving any mandatory or voluntary (or both) subcontracting participation goals shall provide, at a minimum, the **NAME, LOCATION (CITY)** and the **DOLLAR VALUE** of each supplier. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for materials and supplies unless vendor manufactures or substantially alters materials and supplies, in which case, 100% will be credited. The Bidder is to indicate within the description whether the listed firm is a supplier or manufacturer. If no indication is provided, the listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage.

**13.3. LISTING OF SUBCONTRACTORS OR SUPPLIERS FOR ALTERNATES.** For subcontractors or suppliers to be used on additive or deductive alternate items, in addition to the above requirements, bidder shall further note "ALTERNATE" and alternate item number within the description.

**14. SUBMITTAL OF "OR EQUAL" ITEMS:** See Section 4-1.6, "Trade Names or Equals" in The WHITEBOOK and as amended in the SSP.

**15. AWARD PROCESS:**

**15.1.** The Award of this contract is contingent upon the Contractor's compliance with all conditions precedent to Award.

**15.2.** Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening and award the Contract approximately within 7 days of receipt of properly executed Contract, bonds, and insurance documents.

**15.3.** This contract will be deemed executed, and effective, only upon the signing of the Contract by the Mayor or designee of the City and approval as to form the City Attorney's Office.

**15.4.** The low Bid will be determined by Base Bid plus the Alternates.

Once the low bid has been determined, the City may, at its sole discretion, award the contract for the Base bid plus one or more alternates.

16. **SUBCONTRACT LIMITATIONS:** The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 2-3, "SUBCONTRACTS" in The GREENBOOK and as amended in the SSP which requires the Contractor to self-perform not less than the specified amount. Failure to comply with this requirement shall render the bid **non-responsive** and ineligible for award.
17. **AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: <http://www.sandiego.gov/cip/>. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Public Works Contracts.
18. **SUBMISSION OF QUESTIONS:**
- 18.1. The Director (or designee), of the Public Works Department is the officer responsible for opening, examining, and evaluating the competitive Bids submitted to the City for the acquisition, construction and completion of any public improvement except when otherwise set forth in these documents. All questions related to this solicitation shall be submitted to:
- Public Works Contracts  
1010 Second Avenue, 14<sup>th</sup> Floor  
San Diego, California, 92101  
Attention: [Contract Specialist listed on the front cover hereof]
- OR:
- Email address of the Contract Specialist listed on the front cover hereof.
- 18.2. Questions received less than 14 days prior to the date for opening of Bids may not be considered.
- 18.3. Clarifications deemed by the City to be material shall be issued by Addenda and uploaded to the City's online bidding service.
- 18.4. Only questions answered by formal written addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect. It is the Bidder's responsibility to become informed of any Addenda that have been issued and to include all such information in its Bid.
19. **ONLY ONE BID PER CONTRACTOR SHALL BE ACCEPTED:** No person, firm, or corporation shall be allowed to make, file, or be interested in more than one (1) Bid for the same work unless alternate Bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or from submitting a Bid in its own behalf. Any Bidder who submits more than one bid will result in the rejection of all bids submitted.
20. **SAN DIEGO BUSINESS TAX CERTIFICATE:** The Contractor and Subcontractors, not already having a City of San Diego Business Tax Certificate for the work contemplated shall secure the appropriate certificate from the City Treasurer, Civic Center Plaza, first floor and submit to the Contract Specialist upon request or as specified in the Contract Documents. Tax

Identification numbers for both the Bidder and the listed Subcontractors must be submitted on the City provided forms within these documents.

**21. BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY):**

- 21.1. For bids \$250,000 and above, bidders shall submit Bid Security at bid time. Bid Security shall be in one of the following forms: a cashier's check, or a properly certified check upon some responsible bank; or an approved corporate surety bond payable to the City of San Diego for an amount of not less than 10% of the total bid amount.
- 21.2. This check or bond, and the monies represented thereby, will be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into the contract and furnish the required final performance and payment bonds.
- 21.3. The Bidder agrees that in the event of the Bidder's failure to execute this contract and provide the required final bonds, the money represented by the cashier's or certified check will remain the property of the City; and the Surety agrees that it will pay to the City the damages, not exceeding the sum of 10% of the amount of the Bid, that the City may suffer as a result of such failure.
- 21.4. At the time of bid submission, bidders must upload and submit an electronic PDF copy of the aforementioned bid security. Whether in the form of a cashier's check, a properly certified check or an approved corporate surety bond payable to the City of San Diego, the bid security must be uploaded to the City's eBidding system. Within twenty-four (24) hours after the bid due date and time, the first five (5) apparent low bidders must provide the City with the original bid security.
- 21.5. Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original within twenty-four (24) hours may cause the bid to be rejected and deemed **non-responsive**.

**22. AWARD OF CONTRACT OR REJECTION OF BIDS:**

- 22.1. This contract may be awarded to the lowest responsible and reliable Bidder.
- 22.2. Bidders shall complete the entire Bid schedule (also referred to as "schedule of prices" or Proposal form). Incomplete price schedules may be rejected as being non-responsive.
- 22.3. The City reserves the right to reject any or all Bids, and to waive any informality or technicality in Bids received and any requirements of these specifications as to bidding procedure.
- 22.4. Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City from the Bidder within 3 Working Days, excluding Saturdays, Sundays, and state holidays, after the opening of Bids, of written notice which includes proof of honest, credible, clerical error of material nature, free from fraud or fraudulent intent, and of evidence that reasonable care was observed in the preparation of the Bid.

- 22.5. A bidder who is not selected for contract award may protest the award of a contract to another bidder by submitting a written protest in accordance with section 22.3017 of the San Diego Municipal Code.
- 22.6. The City of San Diego will not discriminate with regard to race, religious creed, color, national origin, ancestry, physical handicap, marital status, sex or age, in the award of contracts.
- 22.7. Each Bid package properly executed as required by these specifications shall constitute a firm offer, which may be accepted by the City within the time specified in the Proposal.
- 22.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of any proposed alternates, additive items or options as detailed herein.

**23. BID RESULTS:**

- 23.1. The availability of the bids on the City's eBidding system shall constitute the public announcement of the apparent low bidder. In the event that the apparent low bidder is subsequently deemed non-responsive or non-responsible, a notation of such will be made on the eBidding system. The new ranking and apparent low bidder will be adjusted accordingly.
- 23.2. To obtain Bid results, visit the City's eBidding site, request results via e-mail to the "City Contact" person listed in the title page of these documents, or via courier, personal delivery or U.S. Postal service delivery of a request for results accompanied by provide a self-addressed, stamped envelope, referencing bid number and bid tabulations will be mailed. Bid results cannot be given over the telephone.

**24. THE CONTRACT:**

- 24.1. The Bidder to whom award is made shall execute a written contract with the City of San Diego and furnish good and approved bonds and insurance certificates specified by the City within 14 days after receipt by Bidder of a form of contract for execution unless an extension of time is granted to the Bidder in writing.
- 24.2. If the Bidder takes longer than 14 days to fulfill these requirements, then the additional time taken shall be added to the Bid guarantee. The Contract shall be made in the form adopted by the City, which includes the provision that no claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
- 24.3. If the Bidder to whom the award is made fails to enter into the contract as herein provided, the award may be annulled and the Bidder's Guarantee of Good Faith will be subject to forfeiture. An award may be made to the next lowest responsible and reliable Bidder who shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.
- 24.4. Pursuant to the San Diego City Charter section 94, the City may only award a public works contract to the lowest responsible and reliable Bidder. The City will require the Apparent Low Bidder to (i) submit information to determine the Bidder's responsibility and reliability, (ii) execute the Contract in form provided by the City,

and (iii) furnish good and approved bonds and insurance certificates specified by the City within 14 Days, unless otherwise approved by the City, in writing after the Bidder receives notification from the City, designating the Bidder as the Apparent Low Bidder and formally requesting the above mentioned items.

- 24.5.** The award of the Contract is contingent upon the satisfactory completion of the above mentioned items and becomes effective upon the signing of the Contract by the Mayor or designee and approval as to form the City Attorney's Office. If the Apparent Low Bidder does not execute the Contract or submit required documents and information, the City may award the Contract to the next lowest responsible and reliable Bidder who shall fulfill every condition precedent to award. A corporation designated as the Apparent Low Bidder shall furnish evidence of its corporate existence and evidence that the officer signing the Contract and bond for the corporation is duly authorized to do so.
- 25. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK:** The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 2-7, and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of Work, the quantities of materials to be furnished, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.
- 26. CITY STANDARD PROVISIONS:** This contract is subject to the following standard provisions. See The WHITEBOOK for details.
- 26.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
- 26.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
- 26.3.** The City of San Diego Municipal Code §22.3004 for Pledge of Compliance.
- 26.4.** The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
- 26.5.** Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.
- 26.6.** The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
- 26.7.** The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.
- 27. PRE-AWARD ACTIVITIES:**
- 27.1.** The contractor selected by the City to execute a contract for this Work shall submit the required documentation as specified in the herein and in the Notice of Award. Failure

to provide the information as specified may result in the Bid being rejected as **non-responsive**.

**27.2.** The decision that bid is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

**28. SUPPLEMENTAL AGREEMENTS:** Supplemental agreements attached to this contract for the items of Work such as extended revegetation maintenance and monitoring and emulsion aggregate slurry shall be signed by the BIDDER at the time of submission of the primary BID. The signed agreements shall be accompanied by the evidence of a bond (i.e., labor and materials) and insurance as specified in 2-4, "CONTRACT BONDS," 7-3, "LIABILITY INSURANCE," and 7-4 WORKERS' COMPENSATION INSURANCE. Bonds shall be in amount of the Contract Price for the Work included in the supplemental agreements.

**28.1. Partial Release of Performance Bond and Labor and Materialmen's Bond:** For information regarding partial release of bonds for this Contract, see Supplementary Special Provisions, **Appendix K**

**29. PHASED FUNDING:**

For additional Phased Funding Provisions, see Attachment B.

**30. ADDITIVE/DEDUCTIVE ALTERNATES:**

**30.1.** The additive/deductive alternates have been established to allow the City to compare the cost of specific portions of the Work with the Project's budget and enable the City to make decision prior to award. The award will be established as described in the Bid. The City reserves the right to award the Contract for the Base Bid only or the Base Bid plus one or more Alternates.

**30.2.** For water pipeline projects, the Plans typically show all cut and plug and connection work to be performed by City Forces. However, Bidders shall refer to Bidding Documents to see if all or part of this work will be performed by the Contractor.



**CONTRACT AGREEMENT AND  
PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND**

# CONTRACT AGREEMENT

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## CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and **TC CONSTRUCTION COMPANY, INC.** herein called "Contractor" for construction of **PACIFIC BEACH PIPELINE SOUTH**; Bid No. **K-16-1306-DBB-3**; in the amount of THIRTY THREE MILLION SEVEN HUNDRED FIFTY EIGHT THOUSAND THREE HUNDRED FIFTEEN DOLLARS AND ZERO CENTS (\$33,758,315.00), which is comprised of the Base Bid plus/minus Additive/Deductive Alternates A, B & C.

IN CONSIDERATION of the payments to be made hereunder and the mutual undertakings of the parties hereto, City and Contractor agree as follows:

1. The following are incorporated into this contract as though fully set forth herein:
  - (a) The attached Faithful Performance and Payment Bonds.
  - (b) The attached Proposal included in the Bid documents by the Contractor.
  - (c) Reference Standards listed in the Instruction to Bidders and the Supplementary Special Provisions (SSP).
  - (d) Phased Funding Schedule Agreement, Long-Term Revegetation Maintenance Contract.
  - (e) That certain documents entitled **PACIFIC BEACH PIPELINE SOUTH**, on file in the office of the City Clerks as Document No. **S-12015 / B-12117**, as well as all matters referenced therein.
2. The Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manner **PACIFIC BEACH PIPELINE SOUTH**; Bid Number **K-16-1306-DBB-3**, San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claims incident to such performances.
4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
5. This contract is effective as of the date that the Mayor or designee signs the agreement.

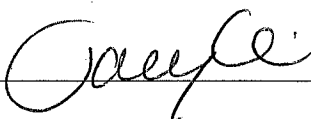
**CONTRACT AGREEMENT (continued)**

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Resolution No. R- 310391 authorizing such execution.

**THE CITY OF SAN DIEGO**

**APPROVED AS TO FORM**

Jan I. Goldsmith, City Attorney

By 

By 

Print Name: STALEY LLORENTE  
Mayor or designee / ALCO

Print Name: Pedro De Lara, Jr.  
Deputy City Attorney

Date: 5-26-16

Date: 5/27/16

**CONTRACTOR**

By 

Print Name: AUSTIN CAMERON

Title: PRESIDENT

Date: 3/23/2016

City of San Diego License No.: B1987004773

State Contractor's License No.: 402459

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000003132

## PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

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### FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

TC CONSTRUCTION COMPANY, INC. \_\_\_\_\_, a corporation, as principal, and Liberty Mutual Insurance Company \_\_\_\_\_, a corporation authorized to do business in the State of California, as Surety, hereby obligate themselves, their successors and assigns, jointly and severally, to The City of San Diego a municipal corporation in the sum of THIRTY THREE MILLION SEVEN HUNDRED FIFTY EIGHT THOUSAND THREE HUNDRED FIFTEEN DOLLARS AND ZERO CENTS (\$33,758,315.00) for the faithful performance of the annexed contract, and in the sum of THIRTY THREE MILLION SEVEN HUNDRED FIFTY EIGHT THOUSAND THREE HUNDRED FIFTEEN DOLLARS AND ZERO CENTS (\$33,758,315.00) for the benefit of laborers and materialmen designated below.

### Conditions:

If the Principal shall faithfully perform the annexed contract **PACIFIC BEACH PIPELINE SOUTH**; Bid Number **K-16-1306-DBB-3**, San Diego, California then the obligation herein with respect to a faithful performance shall be void; otherwise it shall remain in full force.

If the Principal shall promptly pay all persons, firms and corporations furnishing materials for or performing labor in the execution of this contract, and shall pay all amounts due under the California Unemployment Insurance Act then the obligation herein with respect to laborers and materialmen shall be void; otherwise it shall remain in full force.

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Article 2. Claimants, (iii) public works of improvement commencing with Civil Code Section 9100 of the Civil Code of the State of California.

Changes in the terms of the annexed contract or specifications accompanying same or referred to therein shall not affect the Surety's obligation on this bond, and the Surety hereby waives notice of same.

**PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND**  
(continued)

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The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

Dated March 22, 2016

Approved as to Form

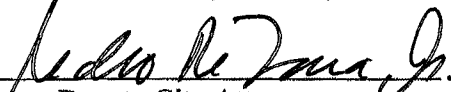
TC Constuction Company, Inc.

Principal

By 

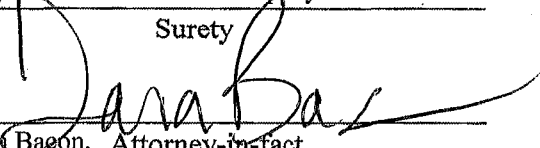
AUSTIN CAMERON, PRESIDENT  
Printed Name of Person Signing for Principal

Jan I. Goldsmith, City Attorney


By   
Deputy City Attorney

Liberty Mutual Insurance Company

Surety

By   
Tara Bacon, Attorney-in-fact

Approved:

By   
Mayor or Designee ALCO

790 The City Drive, Suite 200

Local Address of Surety

Orange, CA 92868

Local Address (City, State) of Surety

(800) 763-9268

Local Telephone No. of Surety

Premium \$ 219,106.00

Bond No. 024061830

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

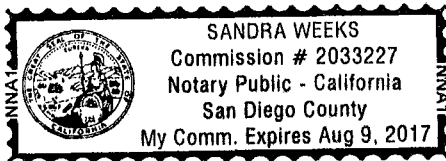
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California )  
County of San Diego )  
On March 23, 2016 before me, Sandra Weeks, Notary Public  
Date Here Insert Name and Title of the Officer  
personally appeared Austin Cameron  
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Sandra Weeks  
Signature of Notary Public

Place Notary Seal Above

**OPTIONAL**

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

**Description of Attached Document**

Title or Type of Document: Performance Bond Labor Materials Document Date: \_\_\_\_\_  
Number of Pages: 1 Signer(s) Other Than Named Above: N/A

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: Austin Cameron Signer's Name: \_\_\_\_\_  
 Corporate Officer — Title(s): President  Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  Partner —  Limited  General  
 Individual  Attorney in Fact  Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_  Other: \_\_\_\_\_

Signer Is Representing: IC Construction Co Inc. Signer Is Representing: \_\_\_\_\_

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**  
**CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of San Diego )

On March 22, 2016 before me, Minna Huovila, Notary Public  
(insert name and title of the officer)

personally appeared Tara Bacon,  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are  
subscribed to the within instrument and acknowledged to me that he/she/they executed the same in  
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the  
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing  
paragraph is true and correct.

WITNESS my hand and official seal.

Signature 

(Seal)



**THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.**

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7239741

American Fire and Casualty Company  
The Ohio Casualty Insurance Company

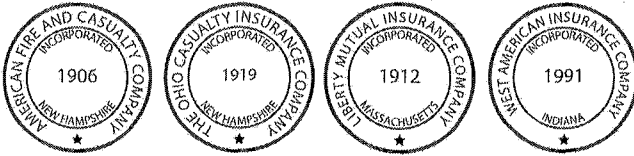
Liberty Mutual Insurance Company  
West American Insurance Company

**POWER OF ATTORNEY**

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Bradley R. Orr; Dale G. Harshaw; Geoffrey Shelton; John R. Qualin; Kyle King; Tara Bacon

all of the city of San Diego, state of CA each individually if there be more than one named; its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 14th day of January, 2016.



American Fire and Casualty Company  
The Ohio Casualty Insurance Company  
Liberty Mutual Insurance Company  
West American Insurance Company

By: David M. Carey  
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss  
COUNTY OF MONTGOMERY

On this 14th day of January, 2016, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Teresa Pastella, Notary Public  
Plymouth Twp., Montgomery County  
My Commission Expires March 28, 2017  
Member, Pennsylvania Association of Notaries

By: Teresa Pastella  
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

**ARTICLE IV – OFFICERS** – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

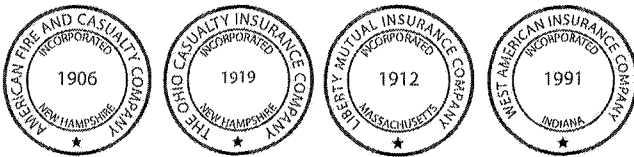
**ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings.** Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

**Certificate of Designation** – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

**Authorization** – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 22nd day of March, 2016.



By: Gregory W. Davenport  
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



## ATTACHMENTS

## SCOPE OF WORK

1. **SCOPE OF WORK:** Construction consists of the replacement of existing water mains with new 8 inch, 12 inch, 16 inch, 20 inch, 24 inch & 30 inch water main, appurtenances, water services, fire hydrants, existing water main removal and abandonment. Installation of pressure regulating station, and removal of the existing Pacific Beach reservoir; replacement of existing sewer mains with 8 inch, 10 inch, 12 inch, and 18 inch sewer mains, replacement of existing 8 inch and 14 inch forcemains with new 14 inch forcemains, rehabilitation of existing 8 inch sewer mains, laterals, manholes, and removal and abandonment of existing sewer main, street resurfacing, curb ramps, and all other incidental work.

1.1. The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids and Plans numbered **38005-01-D** through **38005-162-D**, and **38005-T1-D** through **38005-T195-D** inclusive.

2. **CONSTRUCTION COST:** The City's estimated construction cost for this contract is **\$23,117,500.00**.

3. **LOCATION OF WORK:** The location of the Work is as follows:

The project is located within Council District 2: Mission Bay Park, Mission Beach Precise, Midway Pacific/Highway, Peninsula, Pacific Beach, Uptown, Ocean Beach, and Old Town Communities areas as shown in Appendix "E".

4. **CONTRACT TIME:** The Contract Time for completion of the Work, including Moratoriums and the Plant Establishment Period, shall be **800 Working Days**.

5. **CONTRACTOR'S LICENSE CLASSIFICATION:** In accordance with the provisions of California Law, the Contractor shall possess valid appropriate license(s) at the time that the Bid is submitted. Failure to possess the specified license(s) shall render the Bid as **non-responsive** and shall act as a bar to award of the Contract to any Bidder not possessing required license(s) at the time of Bid.

5.1. The City has determined the following licensing classifications for this contract:

Option	Classifications
1	CLASS A
2	CLASS C34

- 5.2. The Bidder shall satisfy the licensing requirement by meeting **at least** one of the listed options.

**ATTACHMENT A**  
**SCOPE OF WORK**

## PHASED FUNDING PROVISIONS

### 1. PHASED FUNDING:

- 1.1. For phased funded contracts, the City typically secures enough funds for the first 90 days of the contract prior to award. Within 10 Working Days after Bid opening date the Apparent Low Bidder must contact the Project Manager to discuss fund availability and the duration of the first phase and submit the Pre-Award Schedule to the City for approval and preparation of the first Phased Funding Schedule Agreement.
- 1.2. The Apparent Low Bidder will be required to provide a Pre-award Schedule in accordance with 6-1, "CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK" and 9-3, "PAYMENT" prior to award of Contract.
- 1.3. If the Bid submitted by the Apparent Low Bidder is rejected by the City for any reason, then within 5 Working Days after receiving notice, the next Apparent Low Bidder must provide the Pre-Award Schedule. This process will continue until the City has selected the Apparent Low Bidder or have decided to reject all Bids.
- 1.4. The first Phased Funding Schedule Agreement must show the fund availability for the first phase. Within 22 Working Days from the date of the Bid Opening or notice to the next Apparent Low Bidder (whichever occurs last) and once a Pre-Award Schedule is accepted by the City, the City will present the first Phased Funding Schedule Agreement to you when you are selected as the Apparent Low Bidder as defined in the City's Municipal Code, §22.3003.
- 1.5. At the City's request, you must meet with the City's project manager before execution of the first Phased Funding Schedule Agreement to discuss his or her comments and requests for revision to the Pre-Award Schedule.
- 1.6. Your failure to perform the following may result in the Bid being rejected as **non-responsive**:
  1. meet with the City's project manager, if requested to do so, to discuss and respond to the City's comments regarding the Pre-Award Schedule,
  2. revise the Pre-Award Schedule as requested by the City within the specified 22 Working Days timeframe, or
  3. execute the first Phased Funding Schedule Agreement within a day after receipt.

**ATTACHMENT B**  
**PHASED FUNDING PROVISIONS**

## PHASED FUNDING SCHEDULE AGREEMENT

**BID NUMBER:** K-16-1306-DBB-3

**CONTRACT OR TASK TITLE:** Pacific Beach Pipeline South

**CONTRACTOR:** TC Construction Company, Inc.

Funding Phase	Phase Description	Phase Start	Phase Finish	Not-to-Exceed Amount
1	Mobilization, Construction of Water & Sewer Mains	NTP	08/31/2016	<u>Sewer:</u> \$ 25,910.00 <u>Water:</u> \$ 530,000.00
2	2A Construction of Water & Sewer Mains	09/1/2016	01/16/2017	<u>Sewer:</u> \$1,750,000.00 <u>Water:</u> \$5,900,000.00
	2B Construction of Water & Sewer Mains	01/17/2017	08/31/2017	<u>Sewer:</u> \$ 0.00 <u>Water:</u> \$3,401,000.00
3	3A Construction of Water & Sewer Mains	09/01/2017	01/15/2018	<u>Sewer:</u> \$1,030,000.00 <u>Water:</u> \$4,425,933.00
	3B Construction of Water & Sewer Mains	01/16/2018	08/30/2018	<u>Sewer:</u> \$ 0.00 <u>Water:</u> \$4,000,000.00
4	4A Construction of Water & Sewer Mains	08/31/2018	01/14/2019	<u>Sewer:</u> \$ 0.00 <u>Water:</u> \$4,695,472.00
	4B Construction of Water & Sewer Mains	01/15/2019	09/02/2019	<u>Sewer:</u> \$ 0.00 <u>Water:</u> \$4,000,000.00
5	5A Construction of Water & Sewer Mains	09/03/2019	01/13/2020	<u>Sewer:</u> \$ 0.00 <u>Water:</u> \$2,500,000.00
	5B Construction of Water & Sewer Mains, Paving and remaining items of work	01/14/2020	Project Completion	<u>Sewer:</u> \$ 0.00 <u>Water:</u> \$1,500,000.00
<b>Total =</b>				<b>\$33,758,315.00</b>

Notes:

- (1) City Supplement 9-3.6, "PHASED FUNDING COMPENSATION" applies.
- (2) The total of all funding phases shall be equal to the TOTAL BID PRICE as shown on BID SCHEDULE 1 - PRICES.
- (3) This PHASED FUNDING SCHEDULE AGREEMENT will be incorporated into the CONTRACT and shall only be revised by a written modification to the CONTRACT.

CITY OF SAN DIEGO

By: Roberto Vejar Parra  
 Name: Roberto Vejar-Parra  
 Project Manager

Department Name: Public Works/ROWD  
 Date: 03/22/16

CONTRACTOR: **TC CONSTRUCTION CO, INC**

By: Austin Cameron  
 Name: Austin Cameron

Title: President  
 Date: 3/16/16

**-END OF PHASED FUNDING SCHEDULE AGREEMENT-**

**PHASED FUNDING SCHEDULE AGREEMENT**

Check one:

- First Phased Funding Schedule Agreement  
 Final Phased Funding Schedule Agreement

**NOTE: THIS IS A SAMPLE PHASED FUNDING SCHEDULE AGREEMENT FORM.** Particulars left blank in this sample, the total number of phases, and the amounts assigned to each phase will be filled with funding specific information as the result of the Pre-Award Schedule, and subsequent Schedules, required by these Bid Documents and approved by the City.

**BID NUMBER:** \_\_\_\_\_

**CONTRACT OR TASK TITLE:** \_\_\_\_\_

**CONTRACTOR:** \_\_\_\_\_

Funding Phase	Phase Description	Phase Start	Phase Finish	Not-to-Exceed Amount
1				\$
	<u>Additional phases to be added</u>			
	<u>to this form as necessary.</u>			
Total				\$

Notes:

- (1) City Supplement 9-3.6, "PHASED FUNDING COMPENSATION" applies.
- (2) The total of all funding phases shall be equal to the TOTAL BID PRICE as shown on BID SCHEDULE 1 - PRICES.
- (3) This PHASED FUNDING SCHEDULE AGREEMENT will be incorporated into the CONTRACT and shall only be revised by a written modification to the CONTRACT.

CITY OF SAN DIEGO

CONTRACTOR

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

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

Name: \_\_\_\_\_  
Project Manager

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

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

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

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

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

**-END OF PHASED FUNDING SCHEDULE AGREEMENT-**

**ATTACHMENT C**  
**EQUAL OPPORTUNITY CONTRACTING PROGRAM**



## EQUAL OPPORTUNITY CONTRACTING PROGRAM

1. To The WHITEBOOK, Chapter 10, Sections D and E, DELETE each in its entirety, and SUBSTITUTE with the following:

### **D. CITY'S EQUAL OPPORTUNITY COMMITMENT.**

#### **1. Nondiscrimination in Contracting Ordinance.**

1. The Contractor, Subcontractors and Suppliers shall comply with requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

The Contractor shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers. The Contractor shall provide equal opportunity for subcontractors to participate in subcontracting opportunities. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the contract and may result in contract termination, debarment, or other sanctions.

The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. Disclosure of Discrimination Complaints. As part of its Bid or Proposal, the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors, or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.
3. Upon the City's request, the Contractor agrees to provide to the City, within 60 days, a truthful and complete list of the names of all Subcontractors and Suppliers that the Contractor has used in the past 5 years on any of its contracts that were undertaken within San Diego County, including the total dollar amount paid by the Contractor for each subcontract or supply contract.
4. The Contractor further agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Nondiscrimination in Contracting Ordinance, Municipal Code §§22.3501 through 22.3517. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against the Contractor up to and including contract termination, debarment and other sanctions for violation of the provisions of the Nondiscrimination in Contracting Ordinance. The Contractor further understands and agrees that the procedures, remedies and sanctions provided for in the Nondiscrimination in Contracting Ordinance apply only to violations of the Ordinance.

**E. EQUAL EMPLOYMENT OPPORTUNITY OUTREACH PROGRAM.**

1. The Contractor, Subcontractors and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

The Contractor shall not discriminate against any employee or applicant for employment on any basis prohibited by law. Contractor shall provide equal opportunity in all employment practices. Prime Contractor shall ensure their subcontractors comply with this program. Nothing in this section shall be interpreted to hold a prime contractor liable for any discriminatory practice of its subcontractors.

The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. If the Contract is competitively solicited, the selected Bidder shall submit a Work Force Report (Form BB05), within 10 Working Days after receipt by the Bidder of Contract forms to the City for approval as specified in the Notice of Intent to Award letter from the City.
3. If a Work Force Report is submitted, and the City determines there are under-representations when compared to County Labor Force Availability data, the selected Bidder shall submit an Equal Employment Opportunity Plan.
4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:
  1. The Contractor shall maintain a working environment free of discrimination, harassment, intimidation and coercion at all sites and in all facilities at which the Contractor's employees are assigned to work.
  2. The Contractor reviews its EEO Policy, at least annually, with all on-site supervisors involved in employment decisions.
  3. The Contractor disseminates and reviews its EEO Policy with all employees at least once a year, posts the policy statement and EEO posters on all company bulletin boards and job sites, and documents every dissemination, review and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.
  4. The Contractor reviews, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintains written documentation of these reviews.
  5. The Contractor discusses its EEO Policy Statement with subcontractors with whom it anticipates doing business, includes the EEO Policy Statement in its subcontracts, and provides such documentation to the City upon request.

6. The Contractor documents and maintains a record of all bid solicitations and outreach efforts to and from subcontractors, contractor associations and other business associations.
7. The Contractor disseminates its EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit, maintains files documenting these efforts, and provides copies of these advertisements to the City upon request.
8. The Contractor disseminates its EEO Policy to union and community organizations.
9. The Contractor provides immediate written notification to the City when any union referral process has impeded the Contractor's efforts to maintain its EEO Policy.
10. The Contractor maintains a current list of recruitment sources, including those outreaching to people of color and women, and provides written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.
11. The Contractor maintains a current file of names, addresses and phone numbers of each walk-in applicant, including people of color and women, and referrals from unions, recruitment sources, or community organizations with a description of the employment action taken.
12. The Contractor encourages all present employees, including people of color and women employees, to recruit others.
13. The Contractor maintains all employment selection process information with records of all tests and other selection criteria.
14. The Contractor develops and maintains documentation for on-the-job training opportunities, participates in training programs, or both for all of its employees, including people of color and women, and establishes apprenticeship, trainee, and upgrade programs relevant to the Contractor's employment needs.
15. The Contractor conducts, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourages all employees to seek and prepare appropriately for such opportunities.
16. The Contractor ensures the company's working environment and activities are non-segregated except for providing separate or single-user toilets and necessary changing facilities to assure privacy between the sexes.

**ATTACHMENT D**  
**SAFE DRINKING WATER STATE REVOLVING FUND (SDWSRF)**  
**FUNDING AGENCY PROVISIONS**

## FUNDING AGENCY PROVISIONS

**IN THE EVENT THAT THESE REQUIREMENTS CONFLICT WITH THE CITY'S GENERAL EOC REQUIREMENTS, THE FUNDING AGENCY'S REQUIREMENTS WILL CONTROL.**

**1. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246).**

1.1. The goal and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, as follows:

	<u>Goal</u>
1. Minority Participation:	16.9%
2. Female Participation:	6.9%

1.2. These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs Work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the Work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both federally involved and non-federally involved Work.

1.3. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals.

1.4. The hours of minority and female employment and training shall be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

1.5. The Contractor shall provide written notification to the Director the Office of Federal Contract Compliance Programs within 10 Working Days of award of any Subcontract in excess of \$10,000 at any tier for Work under the Contract resulting from this solicitation. The notification shall list the name, address and telephone number of the Subcontractor; employer identification number of the Subcontractor; estimated dollar amount of the Subcontract; estimated starting and completion dates of the Subcontract; and the geographical area in which the subcontract is to be performed. The "covered area" is the City of San Diego.

**2. EQUAL OPPORTUNITY CLAUSES:**

2.1. The following equal opportunity clauses are incorporated by reference herein:

1. The equal opportunity clause located 41 CFR 60.1.4(a), which specifies the obligations imposed under Executive Order 11246.
2. The equal opportunity clause located at 41 CFR 60-741.5, which contains the obligations imposed by Section 503 of the Rehabilitation Act of 1973.
3. The "Equal Opportunity Clause" (Resolution No. 765092) filed on December 4, 1978, in the Office of the City Clerk, San Diego, California and incorporated in the "Standard Federal Employment Opportunity Construction Contract Specifications (Executive Order 11246 - Document No. 769023, filed September 11, 1984, in the Office of the City Clerk, San Diego, California) is applicable to all non-exempt City construction contracts and subcontracts of \$2,000 or more.
4. Age Discrimination Act of 1975, Pub. L. 94-135.
5. Title VI of the Civil Rights Act of 1964, Pub. L. 88-352.
6. Section 13 of the Federal Water Pollution Control Acts Amendments of 1972, Pub. L. 92-5200 (the Clean Water Act).
7. Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112 (Executive Orders 11914 and 11250).
8. Women's Minority Business Enterprises, Executive Orders 11625, 12138 and 12432.
9. Section 129 of the Small Business Administration Reauthorization and Amendment Act of 1988, Pub. L. 100-590.

**3. STANDARD FEDERAL EQUAL EMPLOYMENT SPECIFICATIONS:**

- 3.1. The Contractor is required to comply with the 16 "Standard Federal Equal Employment Specifications" located at 41 CFR 60-4.3 for federal and federally-assisted construction contracts in excess of \$10,000, set forth below.
- 3.2. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative actions steps at least as extensive as the following:
  1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign 2 or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

3. Maintain a current file of the names, addresses and telephone numbers of each minority and female walk-in applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
4. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
5. Develop on-the-job training opportunities, participate in training programs for the area, or both which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under C.1. above.
6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreements; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignments, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, foreman, etc., prior to the initiation of Work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and dispositions of the subject matter.
8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
9. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

10. Encourage present minority and female employees to recruit other minority persons and women and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
13. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
14. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

**4. VIOLATION OR BREACH OF REQUIREMENTS:**

- 4.1. If at any time during the course of the Contract there is a violation of the Affirmative Action or Equal Employment Opportunity requirements by the Contractor, or the Subcontractors, the City will notify the Contractor of the breach. The City may withhold any further progress payments to the Contractor until the City is satisfied that the Contractor and Subcontractors are in full compliance with these requirements.

**5. MONTHLY EMPLOYMENT UTILIZATION REPORTS:**

- 5.1. Refer to GENERAL EQUAL OPPORTUNITY CONTRACTING PROGRAM REQUIREMENTS, CONSTRUCTION CONTRACTOR REQUIREMENTS in The WHITEBOOK and the following:
  1. State of California Department of Transportation Payroll Report. Due to the City weekly.
  2. Federal and Non-Federal Work in San Diego County. Submit an updated list only if work is complete or new contracts have been awarded during the span of this project.

**6. RECORDS OF PAYMENTS TO DBEs:**

- 6.1. The Contractor shall maintain records and documents of payments to DBEs for 5 years following the NOC. These records shall be made available for inspection upon request by any authorized representative of the City, funding agency, or both. The reporting requirement shall be extended to any certified DBE Subcontractor.



**7. FEDERAL WAGE REQUIREMENTS FOR FEDERALLY FUNDED PROJECTS:**

- 7.1. The successful Bidder's work shall be required to comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR chapter 60).
- 7.2. This Executive Order pertains to Equal Employment Opportunity regulations and contains significant changes to the regulations including new goals and timetables for women in construction and revised goals and time-tables for minorities in construction.
- 7.3. Minimum wage rates for this project have been predetermined by the Secretary of Labor and are set forth in the Decision of the Secretary and bound into the specifications book. Should there be any difference between the state or federal wage rates, including health and welfare funds for any given craft, mechanic, or similar classifications needed to execute the Work, it shall be mandatory upon the Contractor or subcontractor to pay the higher of the two rates.
- 7.4. The minimum wage rate to be paid by the Contractor and the Subcontractors shall be in accordance with the Federal Labor Standards Provisions (see pages below) and Federal Wage Rates (see Wage Rates below) and General Prevailing Wage Determination made by the State of California, Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1, whichever is higher.
- 7.5. A Contractor having 50 or more employees and its Subcontractors having 50 or more employees and who may be awarded a contract of \$50,000 or more will be required to maintain an affirmative action program, the standards for which are contained in the specifications.
- 7.6. To be eligible for award, each Bidder shall comply with the affirmative action requirements which are contained in the specifications.
- 7.7. Women will be afforded equal opportunity in all areas of employment. However, the employment of women shall not diminish the standards of requirements for the employment of minorities.

**8. PREVAILING WAGE RATES:** Pursuant to San Diego Municipal Code section 22.3019, construction, alteration, demolition, repair and maintenance work performed under this Contract is subject to State prevailing wage laws. For construction work performed under this Contract cumulatively exceeding \$25,000 and for alteration, demolition, repair and maintenance work performed under this Contract cumulatively exceeding \$15,000, the Contractor and its subcontractors shall comply with State prevailing wage laws including, but not limited to, the requirements listed below.

- 8.1. **Compliance with Prevailing Wage Requirements.** Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.

- 8.1.1.** Copies of such prevailing rate of per diem wages are on file at the City and are available for inspection to any interested party on request. Copies of the prevailing rate of per diem wages also may be found at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Contractor and its subcontractors shall post a copy of the prevailing rate of per diem wages determination at each job site and shall make them available to any interested party upon request.
- 8.1.2.** The wage rates determined by the DIR refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, then the published rate of wage shall be in effect for the life of this Contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the DIR, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this Contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this Contract, each successive predetermined wage rate shall apply to this Contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this Contract, such wage rate shall apply to the balance of the Contract.
- 8.2. Penalties for Violations.** Contractor and its subcontractors shall comply with California Labor Code section 1775 in the event a worker is paid less than the prevailing wage rate for the work or craft in which the worker is employed.
- 8.3. Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.
- 8.3.1.** For contracts entered into on or after April 1, 2015, Contractor and their subcontractors shall furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.
- 8.4. Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.
- 8.5. Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on design professionals and subcontractors of \$25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections 1810 through 1815.

- 8.6. Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.
- 8.7. Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that “I am aware of the provisions of Section 3700 of the California Labor Code 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 of this Contract.”
- 8.8. Labor Compliance Program.** The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego’s Equal Opportunity Contracting Department at 619-236-6000.
- 8.9. Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. As of March 1, 2015, no contractor or subcontractor may be listed on a bid or proposal for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5. As of April 1, 2015, a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City upon request.
- 8.9.1.** A Contractor’s inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.

9. **WAGE RATES:** This contract shall be subject to the following Davis-Bacon Wage Decisions:

General Decision Number: CA150001 11/13/2015 CA1

Superseded General Decision Number: CA20140001

State: California

Construction Types: Building, Heavy (Heavy and Dredging),  
Highway and Residential

County: San Diego County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	02/13/2015
3	03/27/2015
4	05/29/2015
5	06/19/2015
6	07/10/2015
7	07/17/2015
8	07/24/2015
9	07/31/2015
10	08/07/2015
11	08/14/2015
12	09/04/2015
13	10/09/2015
14	11/06/2015
15	11/13/2015

ASBE0005-002 07/01/2015

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 36.74	19.49
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 25.38	16.81

ASBE0005-004 06/29/2015

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 18.06	10.57

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 41.17	28.27

BRCA0004-008 11/01/2015

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 34.44	17.21

BRCA0018-004 06/01/2014

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.45	11.38
TILE FINISHER.....	\$ 23.78	9.84
TILE LAYER.....	\$ 35.14	14.33

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BRCA0018-010 09/01/2013

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 26.59	10.34
TERRAZZO WORKER/SETTER.....	\$ 33.63	11.13

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CARP0409-002 07/01/2008

	Rates	Fringes
Diver		
(1) Wet.....	\$ 663.68	9.82
(2) Standby.....	\$ 331.84	9.82
(3) Tender.....	\$ 323.84	9.82
(4) Assistant Tender.....	\$ 299.84	9.82

Amounts in "Rates" column are per day

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CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

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CARP0547-001 07/01/2009

	Rates	Fringes
CARPENTER		
(1) Bridge.....	\$ 37.28	10.58
(2) Commercial Building....	\$ 32.30	10.58
(3) Heavy & Highway.....	\$ 37.15	10.58
(4) Residential Carpenter..	\$ 25.84	10.58
(5) Residential		
Insulation Installer.....	\$ 18.00	8.16
MILLWRIGHT.....	\$ 37.65	10.58
PILEDRIVERMAN.....	\$ 37.28	10.58

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CARP0547-002 07/01/2009

	Rates	Fringes
Drywall		
(1) Work on wood framed construction of single family residences, apartments or condominiums under four stories		
Drywall Installer/Lather...	\$ 21.00	8.58

Drywall Stocker/Scrapper...\$ 11.00	6.67
(2) All other work	
Drywall Installer/Lather...\$ 27.35	9.58
Drywall Stocker/Scrapper...\$ 11.00	6.67

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 \* ELEC0569-001 08/31/2015

	Rates	Fringes
Electricians (Tunnel Work)		
Cable Splicer.....	\$ 46.88	13.54
Electrician.....	\$ 46.13	13.52
Electricians: (All Other Work, Including 4 Stories Residential)		
Cable Splicer.....	\$ 40.75	13.10
Electrician.....	\$ 41.00	13.36

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 \* ELEC0569-005 06/01/2015

	Rates	Fringes
Sound & Communications		
Sound Technician.....	\$ 29.55	11.92

SOUND TECHNICIAN: Terminating, operating and performing final check-out

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 ELEC0569-006 10/05/2015

Work on street lighting; traffic signals; and underground systems and/or established easements outside of buildings

	Rates	Fringes
Traffic signal, street light and underground work		
Utility Technician #1.....	\$ 29.50	8.31
Utility Technician #2.....	\$ 24.65	8.16

STREET LIGHT & TRAFFIC SIGNAL WORK:

UTILITY TECHNICIAN #1: Installation of street lights and traffic signals, including electrical circuitry, programmable controller, pedestal-mounted electrical meter enclosures and laying of pre-assembled cable in ducts. The layout of electrical systems and communication installation including proper position of trench depths, and radius at duct banks, location for manholes, street lights and

traffic signals.

UTILITY TECHNICIAN #2: Distribution of material at jobsite, installation of underground ducts for electrical, telephone, cable TV and communication systems. The setting, leveling, grounding and racking of precast manholes, handholes and transformer pads.

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\* ELEC0569-008 08/31/2015

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories).....	\$ 30.75	7.54

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ELEC1245-001 06/01/2015

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 52.85	15.53
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 42.21	14.32
(3) Groundman.....	\$ 32.28	14.03
(4) Powderman.....	\$ 47.19	14.60

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

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ELEV0018-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.90	28.38

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.  
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.



	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 39.95	23.35
GROUP 2.....	\$ 40.73	23.35
GROUP 3.....	\$ 41.02	23.35
GROUP 4.....	\$ 42.51	23.35
GROUP 5.....	\$ 41.86	23.35
GROUP 6.....	\$ 41.83	23.35
GROUP 8.....	\$ 42.84	23.35
GROUP 9.....	\$ 42.19	23.35
GROUP 10.....	\$ 42.96	23.35
GROUP 11.....	\$ 42.31	23.35
GROUP 12.....	\$ 43.13	23.35
GROUP 13.....	\$ 43.23	23.35
GROUP 14.....	\$ 43.26	23.35
GROUP 15.....	\$ 43.34	23.35
GROUP 16.....	\$ 43.46	23.35
GROUP 17.....	\$ 43.63	23.35
GROUP 18.....	\$ 43.73	23.35
GROUP 19.....	\$ 43.84	23.35
GROUP 20.....	\$ 43.96	23.35
GROUP 21.....	\$ 44.13	23.35
GROUP 22.....	\$ 44.23	23.35
GROUP 23.....	\$ 44.34	23.35
GROUP 24.....	\$ 44.46	23.35
GROUP 25.....	\$ 44.63	23.35
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1.....	\$ 41.30	23.35
GROUP 2.....	\$ 42.08	23.35
GROUP 3.....	\$ 42.37	23.35
GROUP 4.....	\$ 42.51	23.35
GROUP 5.....	\$ 42.73	23.35
GROUP 6.....	\$ 42.84	23.35
GROUP 7.....	\$ 42.96	23.35
GROUP 8.....	\$ 43.13	23.35
GROUP 9.....	\$ 43.30	23.35
GROUP 10.....	\$ 44.30	23.35
GROUP 11.....	\$ 45.30	23.35
GROUP 12.....	\$ 46.30	23.35
GROUP 13.....	\$ 47.30	23.35
OPERATOR: Power Equipment (Tunnel Work)		
GROUP 1.....	\$ 41.80	23.35

GROUP 2.....	\$ 42.58	23.35
GROUP 3.....	\$ 42.87	23.35
GROUP 4.....	\$ 43.01	23.35
GROUP 5.....	\$ 43.23	23.35
GROUP 6.....	\$ 43.34	23.35
GROUP 7.....	\$ 43.46	23.35

**PREMIUM PAY:**

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

**SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS**

**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine

operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

**GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).**

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor;

Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

#### GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving

equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in

tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with

the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

## CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

#### TUNNEL CLASSIFICATIONS

GROUP 1: Skid loader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading



shield (tunnel); Pumpcrete gun operator; Tractor compressor  
drill combination operator; Tugger hoist operator (2 drum);  
Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

#### ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the  
portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as  
defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1,

T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the

intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

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 ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

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 IRON0377-002 07/01/2015

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 27.08	20.21
Ornamental, Reinforcing and Structural.....	\$ 33.50	28.85

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,  
Naval Post Graduate School - Monterey, Yermo Marine Corps  
Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

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LABO0089-001 07/01/2014

	Rates	Fringes
LABORER (BUILDING and all other Residential Construction)		
Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19
LABORER (RESIDENTIAL CONSTRUCTION - See definition below)		
(1) Laborer.....	\$ 25.47	14.52
(2) Cleanup, Landscape, Fencing (Chain Link & Wood).	\$ 24.18	14.52

RESIDENTIAL DEFINITION: Wood or metal frame construction of single family residences, apartments and condominiums - excluding (a) projects that exceed three stories over a garage level, (b) any utility work such as telephone, gas, water, sewer and other utilities and (c) any fine grading work, utility work or paving work in the future street and public right-of-way; but including all rough grading work at the job site behind the existing right of way

#### LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete Screeding for Rought Strike-off; Concrete, water curing; Demolition laborer; Flagman; Gas, oil and/or water pipeline laborer; General Laborer; General clean-up laborer; Landscape laborer; Jetting laborer; Temporary water and air lines laborer; Material hoseman (walls, slabs, floors and decks); Plugging, filling of Shee-bolt holes; Dry packing of concrete; Railroad maintenance, Repair Trackman and road beds, Streetcar and railroad construction trac laborers; Slip form raisers; Slurry seal crews (mixer

operator, applicator operator, squeegee man, Shuttle man, top man), filling of cracks by any method on any surface; Tarman and mortar man; Tool crib or tool house laborer; Window cleaner; Wire Mesh puling-all concrete pouring operations

GROUP 2: Asphalt Shoveler; Cement Dumper (on 1 yard or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute man, pouring concrete, the handling of the chute from ready mix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks; Concrete curer-impervious membrane and form oiler; Cutting torch operator (demolition); Guinea chaser; Headboard man-asphalt; Laborer, packing rod steel and pans; membrane vapor barrier installer; Power broom sweepers (small); Rii-Prap, stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Tank sealer and cleaner; Tree climber, faller, chain saw operator, Pittsburgh Chipper and similar type brush shredders; Underground laborers, including caisson bellow

GROUP 3: Buggymobile; Concrete cutting torch; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2 1/2 feet drill steel or longer; Dri Pak-it machine; High sealer (including drilling of same); Hydro seeder and similar type; Impact wrench, multi-plate; Kettlemen, potmen and men applying asphalt, lay-kold, creosote, line caustic and similar type materials (applying means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operators of pneumatic, gas, electric tools, vibrating machines, pavement breakers, air blasting, come-along, and similar mechanical tools not separately classified herein; Pipelayers back up man coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rotary Scarifier or multiple head concrete chipping scarifier; Steel header board man and guideline setter; Tampers, Barko, Wacker and similar type; Trenching machine, handpropelled

GROUP 4: Asphalt raker, luterman, ironer, asphalt dumpman and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), Grinder or sander; Concrete saw man; cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Laser beam in connection with laborer's work; Oversize concrete vibrator operator 70 pounds and over; Pipelayer performing all services in the laying, installation and all forms of connection of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all

forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid, gas, air or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzleman), Porta shot-blast, water blasting

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller-all power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power.

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LABO0089-002 11/01/2012

	Rates	Fringes
LABORER (MASON TENDER).....	\$ 27.98	13.39

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LABO0089-004 07/01/2015

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19

LABORER CLASSIFICATIONS

GROUP 1: Laborer: General or Construction Laborer, Landscape Laborer. Asphalt Rubber Material Loader. Boring Machine Tender (outside), Carpenter Laborer (cleaning, handling, oiling & blowing of panel forms and lumber), Concrete Laborer, Concrete Screeding for rough strike-off, Concrete water curing. Concrete Curb & Gutter laborer, Certified Confined Space Laborer, Demolition laborer & Cleaning of Brick and lumber, Expansion Joint Caulking; Environmental Remediation, Monitoring Well, Toxic waste and Geotechnical Drill tender, Fine Grader, Fire Watcher, Limbers, Brush Loader, Pilers and Debris Handlers. flagman. Gas Oil and

Water Pipeline Laborer. Material Hoseman (slabs, walls, floors, decks); Plugging, filling of shee bolt holes; Dry packing of concrete and patching; Post Holer Digger (manual); Railroad maintenance, repair trackman, road beds; Rigging & signaling; Scaler, Slip-Form Raisers, Filling cracks on any surface, tool Crib or Tool House Laborer, Traffic control (signs, barriers, barricades, delineator, cones etc.), Window Cleaner

GROUP 2: Asphalt abatement; Buggymobile; Cement dumper (on 1 yd. or larger mixers and handling bulk cement); Concrete curer, impervious membrane and form oiler; Chute man, pouring concrete; Concrete cutting torch; Concrete pile cutter; driller/Jackhammer, with drill steel 2 1/2 feet or longer; Dry pak-it machine; Fence erector; Pipeline wrapper, gas, oil, water, pot tender & form man; Grout man; Installation of all asphalt overlay fabric and materials used for reinforcing asphalt; Irrigation laborer; Kettleman-Potman hot mop, includes applying asphalt, lay-klold, creosote, lime caustic and similar tyhpes of materials (dipping, brushing, handling) and waterproofing; Membrane vapor barrier installer; Pipelayer backup man (coating, grouting, making of joints, sealing caulkiing, diapering including rubber basket joints, pointing); Rotary scarifier, multiple head concrete chipper; Rock slinger; Roto scraper & tiller; Sandblaster pot tender; Septic tank digger/installer; Tamper/wacker operator; Tank scaler & cleaner; Tar man & mortar man; Tree climber/faller, chainb saw operator, Pittsburgh chipper & similar type brush shredders.

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter, Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting, m makeing of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper

scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

GROUP 4: Any worker exposed to raw sewage. Asphalt Raker, Luteman, Asphalt Dumpman, Asphalt Spreader Boxes, Concrete Core Cutter, Concrete Saw Man, Cribber, Shorer, Head Rock Slinger. Installation of subsurface instrumentation, monitoring wells or points, remediation system installer; Laborer, asphalt-rubber distributor bootman; Oversize concrete vibrator operators, 70 pounds or over. Pipelayer, Prefabricated Manhole Installer, Sandblast Nozzleman (Water Balsting-Porta Shot Blast), Traffic Lane Closure.

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Horizontal directional driller, Boring system, Electronic tracking, Driller: all power drills excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and all other types of mechanical drills without regard to form of motive power. Environmental remediation, Monitoring well, Toxic waste and Geotechnical driller, Toxic waste removal. Welding in connection with Laborer's work.

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LABO0300-005 01/01/2014

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 28.00	15.25

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

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LABO1184-001 08/01/2015

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 32.60	12.16
(2) Vehicle Operator/Hauler.	\$ 32.77	12.16
(3) Horizontal Directional		



Drill Operator.....	\$ 34.62	12.16
(4) Electronic Tracking Locator.....	\$ 36.62	12.16
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 33.76	15.04
GROUP 2.....	\$ 35.06	15.04
GROUP 3.....	\$ 37.07	15.04
GROUP 4.....	\$ 38.81	15.04

**LABORERS - STRIPING CLASSIFICATIONS**

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

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LABO1414-003 08/05/2015

Rates      Fringes

LABORER		
PLASTER CLEAN-UP LABORER....	\$ 30.16	17.11

PLASTER TENDER.....\$ 32.71 17.11

Work on a swing stage scaffold: \$1.00 per hour additional.

Work at Military Bases - \$3.00 additional per hour:  
Coronado Naval Amphibious Base, Fort Irwin, Marine Corps Air Station-29 Palms, Imperial Beach Naval Air Station, Marine Corps Logistics Supply Base, Marine Corps Pickle Meadows, Mountain Warfare Training Center, Naval Air Facility-Seeley, North Island Naval Air Station, Vandenberg AFB.

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PAIN0036-001 07/01/2015

Rates Fringes

Painters: (Including Lead Abatement)

(1) Repaint (excludes San Diego County).....\$ 27.29 12.83  
(2) All Other Work.....\$ 30.72 12.83

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

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PAIN0036-010 10/01/2014

Rates Fringes

DRYWALL FINISHER/TAPER

(1) Building & Heavy Construction.....\$ 26.84 14.29  
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories).....\$ 21.00 13.91

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PAIN0036-012 10/01/2015

Rates Fringes

GLAZIER.....\$ 40.80 17.66

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PAIN0036-019 07/01/2015

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 26.77	13.00

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 PLAS0200-005 08/06/2015

	Rates	Fringes
PLASTERER.....	\$ 38.44	13.77

NORTH ISLAND NAVAL AIR STATION, COLORADO NAVAL AMPHIBIOUS  
 BASE, IMPERIAL BEACH NAVAL AIR STATION: \$3.00 additional  
 per hour.

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 PLAS0500-001 07/01/2015

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1.....	\$ 26.47	17.32
GROUP 2.....	\$ 28.12	17.32
GROUP 3.....	\$ 30.75	17.27

CEMENT MASONS - work inside the building line, meeting the  
 following criteria:

GROUP 1: Residential wood frame project of any size; work  
 classified as Type III, IV or Type V construction;  
 interior tenant improvement work regardless the size of the  
 project; any wood frame project of four stories or less.

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

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 PLUM0016-006 07/01/2015

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton.....	\$ 50.46	20.71
Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not		

to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 45.96	20.71
Work ONLY on new additions and remodeling of commercial buildings, bars, restaurants, and stores not to exceed 5,000 sq. ft. of floor space.....	\$ 44.51	19.73
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 35.16	18.06

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PLUM0016-011 07/01/2015

	Rates	Fringes
PLUMBER/PIPEFITTER		
Residential.....	\$ 37.17	16.63

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PLUM0345-001 07/01/2014

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter..	\$ 29.27	19.75
Sewer & Storm Drain Work....	\$ 33.24	17.13

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ROOF0045-001 07/01/2012

	Rates	Fringes
ROOFER.....	\$ 25.08	7.28

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SFCA0669-001 07/01/2013

	Rates	Fringes
SPRINKLER FITTER.....	\$ 34.86	18.66

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SHEE0206-001 01/01/2012

	Rates	Fringes
SHEET METAL WORKER		
Camp Pendleton.....	\$ 35.05	19.23
Except Camp Pendleton.....	\$ 33.05	19.23
Sheet Metal Technician.....	\$ 25.22	6.69

SHEET METAL TECHNICIAN - SCOPE:

a. Existing residential buildings, both single and multi-family, where each unit is heated and/or cooled by a separate system b. New single family residential buildings including tracts. c. New multi-family residential buildings, not exceeding five stories of living space in height, provided each unit is heated or cooled by a separate system. Hotels and motels are excluded. d. LIGHT COMMERCIAL WORK: Any sheet metal, heating and air conditioning work performed on a project where the total construction cost, excluding land, is under \$1,000,000 e. TENANT IMPROVEMENT WORK: Any work necessary to finish interior spaces to conform to the occupants of commercial buildings, after completion of the building shell

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TEAM0036-001 07/01/2012

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 15.40	20.50
GROUP 2.....	\$ 24.99	20.50
GROUP 3.....	\$ 25.19	20.50
GROUP 4.....	\$ 25.39	20.50
GROUP 5.....	\$ 25.59	20.50
GROUP 6.....	\$ 26.09	20.50
GROUP 7.....	\$ 27.59	20.50

FOOTNOTE: HAZMAT PAY: Work on a hazmat job, where hazmat certification is required, shall be paid, in addition to the classification working in, as follows: Levels A, B and C - +\$1.00 per hour. Workers shall be paid hazmat pay in increments of four (4) and eight (8) hours.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

GROUP 2: 2-axle Dump Truck, 2-axle Flat Bed, Concrete Pumping Truck, Industrial Lift Truck, Motorized Traffic Control, Pickup Truck on Jobsite

GROUP 3: 2-axle Water Truck, 3-axle Dump Truck, 3-axle Flat Bed, Erosion Control Nozzleman, Dump Crete Truck under 6.5 yd, Forklift 15,000 lbs and over, Prell Truck, Pipeline Work Truck Driver, Road Oil Spreader, Cement Distributor or Slurry Driver, Bootman, Ross Carrier

GROUP 4: Off-road Dump Truck under 35 tons 4-axles but less

than 7-axles, Low-Bed Truck & Trailer, Transit Mix Trucks under 8 yd, 3-axle Water Truck, Erosion Control Driver, Grout Mixer Truck, Dump Crete 6.5yd and over, Dumpster Trucks, DW 10, DW 20 and over, Fuel Truck and Dynamite, Truck Greaser, Truck Mounted Mobile Sweeper 2-axle Winch Truck

GROUP 5: Off-road Dump Truck 35 tons and over, 7-axles or more, Transit Mix Trucks 8 yd and over, A-Frame Truck, Swedish Cranes

GROUP 6: Off-Road Special Equipment (including but not limited to Water Pull Tankers, Athey Wagons, DJB, B70 Wuclids or like Equipment)

GROUP 7: Repairman

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local); a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing

the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier. Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION



**10. FEDERAL LABOR STANDARDS PROVISIONS (Office of the Secretary of Labor 29 CFR 5):**

**Applicability**

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

**A. 1. Minimum Wages. (i)** All laborers and mechanics employed or working upon the site of the work, (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project) will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

**(ii) (A)** Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Federal Agency or its designee shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

**(1)** The work to be performed by the classification requested is not performed by a classification in the wage determination; and

**(2)** The classification is utilized in the area by the construction industry; and

**(3)** The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

**(B)** If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of

receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**2. Withholding.** The Federal Agency or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the Federal Agency or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**3. Payrolls and basic records.** (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has

been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

**(ii) (A)** The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Agency or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to the Federal Agency or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired.

Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at

<http://www.dol.gov/esa/whd/forms/wh347instr.htm>

or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Agency or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to the Federal Agency, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or, owner).

**(B)** Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

**(1)** That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

**(2)** That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

**(3)** That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Agency or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, Federal agency or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**4. Apprentices and Trainees. (i) Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination.

Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(ii) Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to, and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(iii) Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

**6. Subcontracts.** The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.59(a)(1) through (10 and such other clauses as the Federal Agency may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. (i) Certification of Eligibility.** By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

**(ii)** No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1)..

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**b. Contract Work Hours and Safety Standards Act.** The provisions of this paragraph b are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

**(1) Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**(2) Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in subparagraph (b)(1) of this section, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (b)(1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (b)(1) of this section.

**(3) Withholding for unpaid wages and liquidated damages.** The Federal Agency or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b)(2) of this section.

**(4) Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (b)(1) through (4) of this section.

**C. In addition to the clauses contained in paragraph (b),** in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## 11. AGENCY SPECIFIC PROVISIONS:

Note: Failure to comply with these specifications e.g., taking the specified steps prior to Bid opening, and to submit the forms located in Volume 2 with the Bid will lead to the Bid being declared **non-responsive** and, therefore, shall be rejected.

### 11.1. All EPA Funded Contracts:

1. Federal Disadvantaged Business Enterprise (DBE) regulations apply to this project. (Reference 40 Code of Federal Regulations Part 33 - Participation by Disadvantaged Business Enterprises in U.S. Environmental Protection Agency Programs).
2. The responsive Bid shall conform to GFE to increase DBE awareness of procurement opportunities through race and gender neutral efforts. Race and gender neutral efforts are ones which increase awareness of contracting opportunities in general, including outreach, recruitment and technical assistance.
3. Bidder agrees that it will cooperate with and assist the City in fulfilling the DBE Good Faith Effort Requirement achieving "fair share objectives" and will exercise GFE to achieve such minimum participation of small, minority and women owned businesses. In particular, in submitting a bid, the Bidder shall, in the selection of Subcontractors, and Suppliers for the procurement of equipment, supplies, construction, and services related to the project, at a minimum, undertake the affirmative GFE steps.
4. In accordance with EPA's Program for Utilization of Small, Minority Disadvantaged and Women Business Enterprises in procurement under Federal assistance programs, the Contractor agrees to the applicable "fair share objectives" as specified in the Notice Inviting Bids.
5. The provisions in the Contract Documents have been incorporated to prevent unfair practices that adversely affect DBEs.
6. If a DBE Subcontractor fails to complete the Work under the subcontract for any reason, the Contractor shall employ the 6 GFE if soliciting a replacement Subcontractor. The Contractor shall employ the 6 GFE described below even if the Contractor has achieved its fair share objectives.
7. Good Faith Efforts:
  - a) The Contractor shall demonstrate that efforts were made to attract DBEs on this contract. The "Good Faith" effort requires the Contractor and any Subcontractors to take the steps listed in these specifications to assure that DBEs are used whenever possible as sources of supplies, construction, equipment, or services even if the Contractor has achieved its fair share objectives.
  - b) If the Contractor awards subcontracts, it shall require the Subcontractors to take the steps in these specifications.
  - c) For the EPA defined GFE, see the steps below:

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process. Include with the GFE documentation a completed copy of the form AA61, "List of Work Made Available."
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the services and assistance of the U.S. Small Business Administration (SBA) and the Minority Business Development Agency (MDBA) of the Department of Commerce (DOC). See "DBE Potential Resources Centers" Section in a later part these specifications.
6. If the Contractor awards Subcontracts, the Contractor shall take the steps in paragraphs (1) through (5) above.

**11.1.1. Safe Drinking Water State Revolving Fund (SDWSRF) Contracts:**

**11.1.2.** For contracts subject to SDWSRF, refer to Subsection 11.1, "All EPA Funded Contracts" above and the following:

1. Each Bid shall include submission of Disadvantaged Business Enterprise Information Form, identifying each proposed Subcontractor and Supplier for the Project.
2. Using the Disadvantaged Business Enterprise Information Form, the Bidder shall provide the following information for each proposed Subcontractor and Supplier:
  1. firm's name;
  2. contact person;
  3. entity's mailing address,
  4. telephone number;



5. e-mail address;
  6. the procurement on which the proposed Subcontractor and Supplier quoted, and when; and
  7. proposed Subcontractor and Supplier status as a DBE or non-DBE.
3. The Apparent Low Bidder shall submit documentation showing that, prior to Bid opening, the required GFE was made. The documentation shall be received by the City within **4 Working Day** following Bid opening, except the Disadvantaged Business Enterprise Information Form, which is to be submitted with the Bid. Failure to submit Disadvantaged Business Enterprise Information Form with the Bid will cause the Bid to be rejected as **non-responsive**.
  4. If the Apparent Low Bidder is rejected or considered as non-responsible or has any non-responsive low DBE Subcontractor, a complete explanation must be provided to the City.
  5. Using the Verification of Qualification form below, Apparent Low Bidder shall provide evidence of certification by a federal, state, or local government entity for each DBE firm to be utilized. Such certification documentation shall be submitted within 4 Working Days following bid opening.
  6. If additional procurement becomes necessary after the Award of the Contract, the GFE shall be applied, and, if DBE Subcontracts are awarded, Verification of Qualification shall be provided to the City by the Contractor within 10 Working Days following the award of each new Subcontract.
  7. Any deviation from the information contained in Disadvantaged Business Enterprise Information Form shall not result in a reduction of DBE participation without prior approval of the City.
  8. Failure of the Apparent Low Bidder to perform the 6 affirmative GFE steps prior to Bid opening, to submit Disadvantaged Business Enterprise Information Form with its bid, or both will lead to Bid being declared non-responsive. The City may then award the contract to the next low responsive, responsible Bidder meeting the requirements of these contract provisions.
  9. The Contractor shall provide each proposed Subcontractor and Supplier copies of EPA Form 6100-2 and EPA Form 6100-3.
  10. See "DBE Potential Resources Centers" Section in a later part these specifications.

**11.1.3. Semiannual DBE Utilization Reporting:**

The Contractor shall report to the City on a semiannual basis, their utilization of Minority Business Enterprise and Women's Business Enterprise Subcontractors and Suppliers using EPA Form 5700-52A.

**12. DBE POTENTIAL RESOURCES CENTERS:**

- 12.1. Utilization of SBA and MBDA resources is required at no cost. These agencies offer several services, including Internet access to databases of DBEs.
- 12.2. For additional assistance, the recipient or contractor can telephone the local offices of both agencies in their area (SBA Minority Enterprise Development Offices and DOC MBDA Regional Centers). The Internet web sites also include names, addresses, and phone or fax numbers of local SBA and MBDA centers. Do not write to these sources
- 12.3. The Contractor shall provide documentation that the local SBA/MBDA offices or web sites were notified of the contracting bid opportunity at least 15 Working Days prior to Bid opening and solicitation to DBE subcontractors at least 10 Working Days prior to Bid opening. Documentation shall not only include the efforts to contact the information sources and list the Contract opportunity, but also the solicitation and response to the bid request.
- 12.4. Include qualified DBEs on solicitation lists and record the information on Form AA63. Solicitation shall be as broad as possible. The following web sites include a list of available sources for expanding the search for eligible DBEs:
  - 1. <http://www.sba.gov>
  - 2. <http://www.ccr.gov>
  - 3. <http://www.mbda.gov>
- 12.5. If DBE sources are not located, explain why and describe the efforts made.
- 12.6. The Contractor shall send invitations to at least 3 (or all, if less than 3) DBE vendors for each item of work referred by sources contacted. The invitations shall adequately specify the items for which bids are requested. The record of "good faith" efforts shall indicate a real desire for a positive response, such as a certified mail receipt or a documented telephone conversation.
- 12.7. A regular letter or an unanswered telephone call is not an adequate "good faith" effort. A list of all sub-bidders, including the bidders not selected and non DBE Subcontractors, and bid amount for each item of the Work shall be submitted on Form AA62. If a low bid was not accepted, an explanation shall be provided.
- 12.8. Federal Agencies (must be contacted and solicitations posted on their websites):

Name and Address	Telephone and Web Site
<b>U.S. Small Business Administration</b>	(415) 744-6820 Extension 0
455 Market Street, Suite 600	PRO-Net Database: <a href="http://www.ccr.gov/">http://www.ccr.gov/</a> <sup>1</sup>
San Francisco, CA 94105	Bid Notification: <a href="http://web.sba.gov/subnet/">http://web.sba.gov/subnet/</a> <sup>2</sup>
RE: Minority Enterprise Development Offices	
<b>U.S. Department of Commerce</b>	(415) 744-3001
Minority Business Development Agency	Phoenix/ Opportunity Database:

211 Main Street, Room 1280	<a href="http://www.mbda.gov">http://www.mbda.gov</a> <sup>3</sup>
San Francisco, CA 94105	RE: Business Development Centers

**12.9. State Agencies (must be contacted):**

Name and Address	Telephone and Web Site
<b>California Department of Transportation</b>	Mailing Address: PO Box 942874
(CALTRANS) Business Enterprise Program <sup>4</sup>	Sacramento, CA 94274-0015
1820 Alhambra Blvd.	(916) 227-9599
Sacramento, CA 95816	<a href="http://www.dot.ca.gov/hq/bep">www.dot.ca.gov/hq/bep</a>
<b>CA Public Utilities Commission (CPUC)</b> <sup>5</sup>	
505 Van Ness Avenue	<a href="http://www.cpuc.ca.gov/static/supplierdiversity">http://www.cpuc.ca.gov/static/supplierdiversity</a>
San Francisco, CA 94102-3298	

**Notes:**

1. PRO-Net new database is the SBA's electronic search engine that was put on line January 1, 2004, containing business profiles for nearly 200,000 businesses. The SBA requests Internet contact only for a list of potential DBE subcontractors that can be downloaded from PRO-Net: <http://www.ccr.gov>. Downloading will verify that the prime contractor made the required contact with the SBA. Provide copy of search records with GFE documentation.
2. The Contractor shall use SUB-Net to post subcontracting opportunities. The Contractor shall post Subcontractor opportunities at least 15 Working Days prior to bid opening. Small businesses can review this web site to identify opportunities in their areas of expertise. The web site is designed primarily as a place for large businesses to post solicitations and notices. Provide copy of the Display Solicitation Record with the GFE documentation.
3. The Contractors shall use MBDA web portal to post subcontracting opportunities. The Contractor shall post subcontractor opportunities at least 15 Working Days prior to Bid opening. Small businesses can review this web site to identify opportunities in their areas of expertise. The web site is designed primarily as a place for large businesses to post solicitations and notices. Provide copy of the Offer Overview with the GFE documentation.
4. Based on the federal DBE program, CALTRANS maintains a database and provides directories of minority and woman-owned firms. Provide copy of search records with GFE documentation.
5. CPUC maintains a database of DBE-owned business enterprises and serves to inform the public. Provide copy of search records with GFE documentation.

**13. GOOD FAITH EFFORT DOCUMENTATION SUBMITTALS:**

**13.1.** The affirmative GFE steps documentation shall be submitted **within 4 Working Days of the Bid Opening**. If this documentation is not submitted when due, the City will declare the Bid **non-responsive** and reject it.

**13.2.** The required documentation shall be submitted and logged in at the following address:

CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>TH</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101  
SUBJECT: AFFIRMATIVE GOOD FAITH EFFORT DOCUMENTATION  
BID NO. K-16-1306-DBB-3

**13.3.** The Contractor shall maintain the records documenting compliance with requirements including documentation of its GFE and data relied upon in formulating its fair share objectives.

**14. FORMS:**

**14.1.** The Contractor shall demonstrate that efforts were made to attract DBEs on this contract. The Contractor and Subcontractors shall take the steps listed in these specifications to assure that DBEs are used whenever possible as sources of supplies, construction, equipment, or services. In addition to the specified GFE documentation, the Bidder shall submit the following forms:

**14.1.1. VOLUME 1 FORMS** - The following forms in Volume 1 shall be completed and submitted within **4 Working Days of the Bid opening**. Failure to include any of the forms shall cause the Bid to be deemed **non-responsive**.

1. EPA FORM 6100-2 DBE Subcontractor Participation Form
2. SDWSRF Verification of Qualification
3. Form AA61 List of Work Made Available
4. Form AA62 Summary of Bids Received
5. Form AA63 Good Faith Effort List of Subcontractors Solicited

**14.1.2. VOLUME 2 FORMS** - See EPA forms 6100-2, 6100-3, and 6100-4 for additional required information to comply with EPA requirements. These forms are included in the Contract Documents or shall be obtained from: [http://www.epa.gov/osbp/dbe\\_forms.htm](http://www.epa.gov/osbp/dbe_forms.htm). The following EPA forms in Volume 2 **shall be completed and submitted with the Bid**. Failure to include any of the forms shall cause the Bid to be deemed **non-responsive**.

1. SDWSRF DBE Information Form
2. EPA FORM 6100-3 DBE Subcontractor Performance Form
3. EPA FORM 6100-4 DBE Subcontractor Utilization Form

**SDWSRF FUNDING AGENCY PROVISIONS**

**FORMS**



OMB Control No.: 2090-0030  
 Approved: 08/13/2013  
 Approval Expires: 08/31/2015

**Disadvantaged Business Enterprise (DBE) Program  
 DBE Subcontractor Participation Form**

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE<sup>1</sup> subcontractor<sup>2</sup> the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid / Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

<sup>1</sup> A DBE is a Disadvantage, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

EPA FORM 6100-2 (DBE Subcontractor Participation Form)



**CALIFORNIA DEPARTMENT OF PUBLIC HEALTH  
SAFE DRINKING STATE REVOLVING FUND PROGRAM  
MBE/WBE UTILIZATION  
FOR COMPLIANCE WITH  
FEDERAL SDWSRF REQUIREMENTS**

**PART I. (Reports are required even if no procurements are made during the reporting period.)**

<b>1A. FEDERAL FISCAL YEAR</b> 20_____	<b>1B. REPORTING PERIOD (Check ALL appropriate boxes)</b> <input type="checkbox"/> 1 <sup>st</sup> (Oct-Dec) <input type="checkbox"/> 2 <sup>nd</sup> (Jan-Mar) <input type="checkbox"/> 3 <sup>rd</sup> (Apr-Jun) <input type="checkbox"/> 4 <sup>th</sup> (Jul-Sep) <input type="checkbox"/> Annual <input type="checkbox"/> Check if this is the last report for the project (Project completed).				
<b>1C. REVISION OF A PRIOR REPORT?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No Year: _____ Quarter: _____	<b>BRIEFLY DESCRIBE THE REVISIONS YOU ARE MAKING:</b>				
<b>2A. SUBMIT REPORT TO:</b> Safe Drinking Water State Revolving Fund Program MBE/WBE Coordinator (MS 7418) 1616 Capitol Avenue P.O. Box 997413 Sacramento, CA 95899-7413		<b>3A. SDWSRF FUNDING RECIPIENT NAME AND ADDRESS</b>			
<b>2B. STATE CONTACT</b> Mally Vue (mally.vue@cdph.ca.gov)		<b>2C. PHONE/FAX:</b> (916) 449-5600 (916) 449-5656	<b>3B. SDWSRF FUNDING AGREEMENT NUMBER:</b>		
<b>2D. STATE CONTACT</b> Name: E-mail:		<b>3C. RECIPIENT REPORTING CONTACT:</b> Name: E-mail:			
<b>3D. PHONE:</b> Fax:		<b>3E. CONTACT:</b> Name: E-mail:			
<b>4A. TOTAL SDWSRF FUNDING ASSISTANCE AMOUNT</b> SDWSRF LOAN: \$ _____ SDWSRF GRANT: \$ _____		<b>4B. If NO procurement and NO accomplishments</b> were made this reporting period, check and skip to Block No. 7. (Procurements are all expenditures through contract, order, purchase, lease or barter of supplies, equipment, construction, or services needed to complete Federal assistance programs. <u>Accomplishments</u> , in this context, are procurements made with MBEs and/or WBEs. <div style="text-align: right;"><input type="checkbox"/></div>			
<b>4C. Total Procurements and MBE/WBE Accomplishments This Reporting Period</b> (Only include amount not reported in any prior reporting period)					
Were procurements made under this SDWSRF funding assistance during this reporting period? Yes <input type="checkbox"/> No <input type="checkbox"/>					
Total procurement made with SDWSRF funding assistance during this reporting period: Amount \$ _____					
Actual MBE/WBE Accomplishment with SDWSRF funding assistance during this reporting period:					
	<u>Construction</u>	<u>Equipment</u>	<u>Services</u>	<u>Supplies</u>	<u>Total</u>
<b>SMBE:</b>	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
<b>SWBE:</b>	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
<b>5. COMMENTS: (If no MBE/WBE procurements were accomplished during the reporting period, please explain what steps you are taking to achieve the MBE/WBE Program requirements specified in the terms and conditions of the Assistance Agreement.)</b>					
<b>7. NAME OF RECIPIENT'S AUTHORIZED REPRESENTATIVE</b>				<b>TITLE</b>	
<b>8. SIGNATURE OF RECIPIENT'S AUTHORIZED REPRESENTATIVE</b>				<b>DATE</b>	

Use for EPA FORM 5700-52A



**CDPH SDWSRF  
MBE/WBE UTILIZATION REPORT  
FOR COMPLIANCE WITH FEDERAL SDWSRF FUNDING REQUIREMENTS**

A. WATER SYSTEM NAME:		B. PROJECT TITLE		C. SDWSRF LOAN NUMBER		D. CLAIMS SUBMITTED From _____ to _____ (date) (date)	
1. Procurement Made By		2. Business Enterprise		3. \$ Value of Procurement	4. Date of Award:	5. Type of Product or Services (Enter Code)	6. MBE/WBE Contractor or Subcontractor/Vendor Firm/Contact/Phone
Water System	Contractor	Minority	Women				
							FIRM CONTACT ADDR CITY/ZIP PH:
							FIRM CONTACT ADDR CITY/ZIP PH:
							FIRM CONTACT ADDR CITY/ZIP PH:
							FIRM CONTACT ADDR CITY/ZIP PH:
							FIRM CONTACT ADDR CITY/ZIP PH:
							FIRM CONTACT ADDR CITY/ZIP PH:

Type of product or service codes			
1 = Construction	2 = Supplies	3 = Services	4 = Equipment

Note: Refer to Terms and conditions of your Assistance Agreement to determine the frequency of reporting. Recipients are required to submit MBE/WBE reports to EPA beginning with the Federal fiscal year quarter the recipients receive the award, continuing until the project is completed.

CDPH MBE/WBE UTILIZATION FORM (Use for EPA 5700-52)

**DISADVANTAGED BUSINESS ENTERPRISE INFORMATION FORM**

WATER SYSTEM NAME:	WATER SYSTEM NUMBER-PROJECT NUMBER:
PROJECT DESCRIPTION:	PROJECT LOCATION:

**PRIME CONTRACTOR INFORMATION**

<b>NAME/ADDRESS:</b> Name of firm Contact person Address, City, Zip Phone Email  <input type="checkbox"/> DBE <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> OTHER	<b>TYPE OF CONTRACT</b> <input type="checkbox"/> ARCHITECT/ENGINEER(A/E) <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SUPPLIER/SERVICE (S/S)
<b>AMOUNT OF CONTRACT/BID:</b> _____ \$	

**SUBCONTRACTOR INFORMATION**

<input type="checkbox"/> DBE <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> OTHER	<b>NAME /ADDRESS:</b> Name of firm Contact person Address, City, Zip Phone Email
<input type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/> SUPPLIER/SERVICE <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> BROKER	
<b>TYPE OF CONTRACT</b>	
<b>CONTRACT AMOUNT \$</b>	
<input type="checkbox"/> DBE <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> OTHER	<b>NAME /ADDRESS:</b> Name of firm Contact person Address, City, Zip Phone Email
<input type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/> SUPPLIER/SERVICE <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> BROKER	
<b>TYPE OF CONTRACT</b>	
<b>CONTRACT AMOUNT \$</b>	
<input type="checkbox"/> DBE <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> OTHER	<b>NAME /ADDRESS:</b> Name of firm Contact person Address, City, Zip Phone Email
<input type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/> SUPPLIER/SERVICE <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> BROKER	
<b>TYPE OF CONTRACT</b>	
<b>CONTRACT AMOUNT \$</b>	

**SUBCONTRACTING PARTICIPATION PERCENTAGES FOR MBE & WBE PARTICIPATION**

	% MBE	% WBE
<b>Construction</b>	11%	4%
<b>Equipment</b>	2%	1%
<b>Services</b>	4%	2%
<b>Supplies</b>	2%	2%

<b>FORM COMPLETED BY:</b>		
NAME	TITLE	PHONE
SIGNATURE	DATE	EMAIL

DBE Contractor Information Form (06/09 rev)      Additional pages attached

*Failure to complete and submit this form with bid - Will cause the bid to be rejected as non-responsive*

Attachment 9

DISADVANTAGED BUSINESS ENTERPRISE INFORMATION FORM		
WATER SYSTEM NAME: Pacific Beach Pipeline South	WATER SYSTEM NUMBER-PROJECT NUMBER: K-16-1306-DBB-3	
PROJECT DESCRIPTION: replacement of water mains	PROJECT LOCATION: San Diego	
PRIME CONTRACTOR INFORMATION		
NAME/ADDRESS: Name of firm TC Construction Company Inc. Contact person Austin Cameron Address, 10540 Prospect Ave. City, Zip Santee, CA 92071 Phone 619-448-4560 Email acameron@tcincsd.com	TYPE OF CONTRACT <input type="checkbox"/> ARCHITECT/ENGINEER(A/E) <input checked="" type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SUPPLIER/SERVICE (S/S)	
<input type="checkbox"/> DBE <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input checked="" type="checkbox"/> OTHER	AMOUNT OF CONTRACT/BID: <span style="float: right;">33,758,315.00</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">A1</span> \$ 33,003,955.00	
SUBCONTRACTOR INFORMATION		
<input type="checkbox"/> DBE <input type="checkbox"/> MBE <input checked="" type="checkbox"/> WBE <input type="checkbox"/> OTHER  <input checked="" type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/> SUPPLIER/SERVICE <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> BROKER	NAME /ADDRESS: Name of firm Loveless & Linton Consulting Contact person Rebekah Loveless Address, 1421 W. Lewis St City, Zip San Diego 92103 Phone 619.922.0718 Email rebekah@loveless-linton.com	
TYPE OF CONTRACT Archaeological & Paleontological Monitoring  CONTRACT AMOUNT \$ 150,608		
<input type="checkbox"/> DBE <input checked="" type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> OTHER  <input checked="" type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/> SUPPLIER/SERVICE <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> BROKER	NAME /ADDRESS: Name of firm Ayala Boring Inc. Contact person Dean Ayala Address, 10150 Poplar Avenue City, Zip Fontana 92335 Phone 909-350-8940 Email dayala@ayalaboring.com	
TYPE OF CONTRACT Jack & Bore  CONTRACT AMOUNT \$ 157,625		
<input type="checkbox"/> DBE <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> OTHER  <input type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/> SUPPLIER/SERVICE <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> BROKER	NAME /ADDRESS: Name of firm Contact person Address, City, Zip Phone Email	
TYPE OF CONTRACT  CONTRACT AMOUNT \$		
GOALS FOR MBE & WBE PARTICIPATION		
	% MBE	% WBE
Construction	11%	4%
Supplies	2%	1%
Services	4%	2%
Equipment	2%	2%
FORM COMPLETED BY		
NAME AUSTIN CAMERON  	TITLE PRESIDENT	PHONE 619-448-4560
SIGNATURE	DATE 2-17-16	EMAIL ACAMERON@TCINCSD.COM

FAILURE TO COMPLETE AND SUBMIT THIS FORM WITH BID -WILL CAUSE THE BID TO BE REJECTED AS NON-RESPONSIVE

**MINORITY BUSINESS ENTERPRISE/WOMEN'S BUSINESS ENTERPRISE (MBE/WBE)<sup>1</sup>  
VERIFICATION OF QUALIFICATION**

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH  
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT

<b>Firm Name:</b> Loveless & Linton Consulting		<b>Phone:</b> 619.922.0718	
<b>Address:</b> 1286 University Ave #391 San Diego, CA 92103			
<b>Principal Service or Product:</b> Archaeological/Native American/Paleontological Monitoring Programs			
<input type="checkbox"/> - MBE <input checked="" type="checkbox"/> - WBE			
<input type="checkbox"/> - Prime Contractor <input type="checkbox"/> - Supplier of Material/Service <input checked="" type="checkbox"/> - Subcontractor <input type="checkbox"/> - Broker			
<input type="checkbox"/> - Sole Ownership <input type="checkbox"/> - Corporation <input checked="" type="checkbox"/> - Partnership <input type="checkbox"/> - Joint Venture			
Names of Owners	Percent Ownership	MBE- Ethnic Identity <sup>1</sup>	WBE
Brandon Linton	49	Native American	
Rebekah Loveless	51		Woman
<b>Agency Certifying MBE/WBE Qualification</b> Small Business Association SBA			
<b>Certifying Agency Address</b> US Small Business Administration 409 3rd St, SW Washington DC 20416		<b>Certifying Agency Phone</b>	
<b>Certification number</b> NA <b>CAGE 6Z5N3</b>		<b>Date Certified</b> 11/14 and re-submitted 2/16	
<b>Submitted by:</b> Rebekah Loveless		<b>Date</b> 2/12/16	

<sup>1</sup>Refer to definitions on next page.

**MINORITY BUSINESS ENTERPRISE/WOMEN'S BUSINESS ENTERPRISE (MBE/WBE)<sup>1</sup>  
VERIFICATION OF QUALIFICATION**

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH  
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT

<b>Firm Name:</b> Ayala Boring Inc.		<b>Phone:</b> 909-350-8940		
<b>Address:</b> 10150 Poplar Avenue, Fontana, CA 92335				
<b>Principal Service or Product:</b> Horizontal Boring / Pipe Jacking				
<input checked="" type="checkbox"/> - MBE <input type="checkbox"/> - WBE				
<input type="checkbox"/> - Prime Contractor <input type="checkbox"/> - Supplier of Material/Service <input checked="" type="checkbox"/> - Subcontractor <input type="checkbox"/> - Broker				
<input type="checkbox"/> - Sole Ownership <input checked="" type="checkbox"/> - Corporation <input type="checkbox"/> - Partnership <input type="checkbox"/> - Joint Venture				
Names of Owners		Percent Ownership	MBE Ethnic Identity <sup>1</sup>	WBE
Ralph G. Ayala, Jr.	President/CFO	100%	Hispanic	
Ralph G. Ayala III	Vice President	0%	Hispanic	
Dean B. Ayala	Secretary	0%	Hispanic	
<b>Agency Certifying MBE/WBE Qualification</b> City of Los Angeles				
<b>Certifying Agency Address</b> City of Los Angeles 1149 S Broadway LA CA 90015 County of Los Angeles 110 N Eastern Ave LA CA 90063 SCMSDC 1359 Broadway, 10th Fl, New York, NY 10018		<b>Certifying Agency Phone</b> 213-847-1922 877-669-2237		
<b>Certification number</b> #4000 #27260 #SC06719		<b>Date Certified</b> January 5, 2012 April 9, 2014 March 1, 2015		
<b>Submitted by:</b> Dean B. Ayala		<b>Date</b> January 28, 2016		

<sup>1</sup>Refer to definitions on next page.

**MINORITY BUSINESS ENTERPRISE/WOMEN'S BUSINESS ENTERPRISE (MBE/WBE)<sup>1</sup>  
VERIFICATION OF QUALIFICATION**

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH  
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT

<b>Firm Name:</b>	<b>Phone:</b>		
<b>Address:</b>			
<b>Principal Service or Product:</b>			
<input type="checkbox"/> - MBE <input type="checkbox"/> - WBE			
<input type="checkbox"/> - Prime Contractor <input type="checkbox"/> - Supplier of Material/Service <input type="checkbox"/> - Subcontractor <input type="checkbox"/> - Broker			
<input type="checkbox"/> - Sole Ownership <input type="checkbox"/> - Corporation <input type="checkbox"/> - Partnership <input type="checkbox"/> - Joint Venture			
<b>Names of Owners</b>	<b>Percent Ownership</b>	<b>MBE- Ethnic Identity<sup>1</sup></b>	<b>WBE</b>
<b>Agency Certifying MBE/WBE Qualification</b>			
<b>Certifying Agency Address</b>		<b>Certifying Agency Phone</b>	
<b>Certification number</b>		<b>Date Certified</b>	
<b>Submitted by:</b>		<b>Date</b>	

<sup>1</sup>Refer to definitions on next page.

## **MINORITY BUSINESS ENTERPRISE/WOMEN'S BUSINESS ENTERPRISE (MBE/WBE)**

An MBE is a business that is, (1) at least 51 percent owned and controlled by one or more minority individuals, or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more minority individuals; and (2) whose daily business operations are managed and directed by one or more of the minority owners.

A WBE is a business that is, (1) at least 51 percent owned by one or more women, or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more women; and, (2) whose daily business operations are managed and directed by one or more of the women owners.

### **MINORITY INDIVIDUALS INCLUDE:**

(a) American Indians

Persons having origins in any of the original peoples of North America. To qualify in this group, a person shall be a citizen of the United States and meet one or more qualifying criteria including:

- (1) Be at least one-fourth Indian descent (as evidenced by registration with the Bureau of Indian Affairs);
- (2) Characteristic Indian name;
- (3) Recognition in the community as an Indian;
- (4) Membership in a tribe, band or group of American Indians (recognized by the Federal Government), as evidenced by a tribal enrollment number or similar indication; and
- (5) Characteristic Indian appearance and features.

(b) Black Americans

U.S. citizens, other than Hispanic, having origins in any of the black racial groups of Africa.

(c) Asian Americans

U.S. citizens having origins in any of the original peoples of the Far East, Southern Asia, the Indian subcontinent or the Pacific Islands. This area includes, for example, China, Japan, Korea, the Philippine Islands and Samoa. The Indian subcontinent takes in the countries of India, Pakistan, Bangladesh, Sri Lanka, Nepal, Sikkim, and Bhutan.

(d) Hispanic Americans

U.S. citizens of Mexican, Puerto Rican, Cuban, or other Spanish culture or origin, regardless of race. Only those persons from Central and South American countries who are of Spanish origin, descent, or culture should be included in this category. Persons from Brazil, Guyana, Surinam or Trinidad, for example, would be classified according to their race and would not necessarily be included in the Hispanic category. In addition, the category does not include persons from Portugal, who should be classified according to race.

(e) American Eskimos and American Aleuts

CDPH MBEWBE Verification Form (11/2010 mv)

**LIST OF WORK MADE AVAILABLE**

List items of the Work the Bidder made available to DBE firms. Identify those items of the Work the Bidder might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar amount and percentage of the Base Bid. The Bidder must demonstrate that enough work to meet the goal was made available to DBE firms.

ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID



**SUMMARY OF BIDS RECEIVED**

Type of Job	NAICS CODES	Company Name	Selected (Y/N)	Bid Amount	DBE	Non-DBE	Explanation for not Selecting

**USE ADDITIONAL FORMS AS NECESSARY**

**DISADVANTAGE BUSINESS ENTERPRISE (DBE)  
GOOD FAITH EFFORT LIST OF SUBCONTRACTORS SOLICITED**

<b>Contractor Name</b>	<b>Contractor Address</b>	<b>How Located</b>	<b>Date of Contact</b>	<b>Contact Method</b>	<b>Task Description</b>	<b>Response (Yes/No)</b>

**USE ADDITIONAL FORMS AS NECESSARY**

**ATTACHMENT E**  
**SUPPLEMENTARY SPECIAL PROVISIONS**

## **SUPPLEMENTARY SPECIAL PROVISIONS**

The following Supplementary Special Provisions (SSP) modifies the following documents:

- 1) Standard Specifications for Public Works Construction (The GREENBOOK) currently in effect.
  - 2) The City of San Diego Standard Specifications for Public Works Construction (The WHITEBOOK).
- 

### **SECTION 1 – TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS**

#### **1-2 TERMS AND DEFINITIONS.**

**Normal Working Hours.** To the City Supplement, ADD the following:

The Normal Working Hours are 9:00PM to 5:00AM. Construction subject to day work and hours outside of normal work hours as indicated in the Traffic Control Plans.

### **SECTION 2 - SCOPE AND CONTROL OF WORK**

#### **2-3.2 Self Performance.** DELETE in its entirety and SUBSTITUTE with the following:

1. You must perform, with your own organization, Contract work amounting to at least 50% of the base bid alone or base bid and any additive or deductive alternate(s) that together when added or deducted form the basis of award.

#### **2-5.3.1 General.** To the City Supplement, ADD the following

7. For products for which an AML is available, products listed in the AML shall be used. A submittal review will be conducted for products not identified on an AML on a case-by-case basis when:
  - a) The product type or category is not in the AML.
  - b) The AML does not list at least two available manufacturers of the product.
  - c) The material or manufacturer listed in the AML is no longer available. Documentation to substantiate the product is no longer available or in production is required as part of the submittal.

In the case of conducting a submittal review when required by the Plans or Special Provisions, or when requested by the Engineer, all submittals shall be accompanied by the City's submittal form.

The Product Submittal Form is available for download at:

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

**2-7 SUBSURFACE DATA. ADD the following:**

4. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests of subsurface conditions at the Work Site:
  1. Final Report of Geotechnical Investigation, Pacific Beach Pipeline dated March 9, 2015 by Allied Geotechnical Engineers.
5. The reports listed above is available for review by contacting the Contract Specialist or visiting:

[ftp://ftp.sannet.gov/OUT/ECP/2-7%20SUBSURFACE%20DATA/1306\\_Pacific%20Beach%20Pipeline%20Subsurface%20Data/](ftp://ftp.sannet.gov/OUT/ECP/2-7%20SUBSURFACE%20DATA/1306_Pacific%20Beach%20Pipeline%20Subsurface%20Data/)

**2-9.1 Permanent Survey Markers. To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:**

Pursuant to Division 3, Chapter 15 of the Business and Professions Code, the Contractor shall not disturb survey monuments that "control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control" until they have been tied out by a Registered Land Surveyor or Registered Civil Engineer authorized to practice land surveying within the State of California.

Monument Preservation will be performed by City Public Works Field Engineering Division (PW-FED) Field Survey Section on all Projects, unless permission is obtained for these services in writing by PW-FED.

The Contractor shall submit to the Engineer a minimum of 7 Days prior to the start of the Work a list of controlling survey monuments which may be disturbed. The Agency (or the owner on a Private Contract) will:

- a) set survey points outside the affected work area that reference and locate each controlling survey monument that may be disturbed,
- b) file a Corner Record or Record of Survey with the County Surveyor after setting the survey points to be used for re-establishment of the disturbed controlling survey monuments, and
- c) file a Corner Record of Record of Survey with the County Surveyor after re-establishment of the disturbed controlling survey monuments.

**2-14.3 Coordination.** To the City Supplement, ADD the following:

Other adjacent City projects are scheduled for construction for the same time period in the vicinity of West Mission Bay Drive Bridge as indicated in the plan drawings and at Ingraham Street at Buena Vista Street/Jewell Street. See Appendix "F" for approximate location. Coordinate the Work with the adjacent project(s) as listed below:

- a) West Mission Bay Drive Bridge Project, Jong Choi, (619) 533-5493
- b) Sewer & Water GJ Crown Point, Regan Owen, (619) 533-5205

**2-15 TECHNICAL STUDIES AND DATA.** To the City Supplement, ADD the following:

5. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests at the Work Site:
  1. Biology Letter Report for the Pacific Beach Pipeline Project dated August 22, 2014 by Tierra Data Inc.
  2. City of San Diego – Pacific Beach Pipeline Soil Corrosivity Assessment dated April 7, 2014 by RF YEAGER Engineering.
  3. Historical Resource Technical Report dated March 13, 2015 by Rincon Consultants.
6. The reports listed above are available for review by contacting the Contract Specialist or visiting:

[ftp://ftp.sanmet.gov/OUT/ECP/2-15%20TECHNICAL%20STUDIES%20AND%20DATA/1306 %20Pacific%20Beach%20Pipeline%20Technical%20Studies/](ftp://ftp.sanmet.gov/OUT/ECP/2-15%20TECHNICAL%20STUDIES%20AND%20DATA/1306%20Pacific%20Beach%20Pipeline%20Technical%20Studies/)

## SECTION 4 - CONTROL OF MATERIALS

**ADD:**

**4-1.1.1**

**Buy America.** None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are in compliance of section 4-1.1.2.

The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

**4-1.1.2**

**Steel and Iron Materials (23 CFR 635.410).** Furnish steel and iron materials to be incorporated into the work with certificates of compliance. Steel and iron materials must be produced in the U.S. except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)].
2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or \$2,500, materials produced outside the U.S. may be used.

Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition.
2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.

**4-1.3.4 Inspection Paid For By The Contractor.** To the City Supplement, ADD the following:

Special inspection services associated with the Pressure Regulation Station Relocation including soil, pier foundations, cast-in-place and site pre-cast concrete, post installed anchors in concrete or masonry, structural steel and steel deck, special cases, and masonry level B as detailed in the plans, shall be included in the Bid item for 390/307 Zone Pressure Regulation Station Relocation.

**4-1.3.5 Special Inspection.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

1. Special inspection and testing by the Special Inspectors must meet the minimum requirements of the building codes specified in the Contract Documents.
2. Contractor Responsibilities:
  1. You must notify the Special Inspector prior to performing any item of Work that requires Special Inspection and must review the Contract Documents and perform any necessary preparatory Work at the Site.
  2. You are responsible for providing the Special Inspector access to Plans and Specifications at the Project's Site.
  3. You are responsible for retaining at the Site all Special Inspection records submitted by the Special Inspector and providing these records for review by the Engineer upon request.
  4. You must not perform any items of Work that requires Special Inspection without the presence of the Special Inspector(s) during the performance of that Work. Work requiring continuous inspection performed without Special Inspection is subject to removal.
  5. You must employ a sufficient number of Special Inspectors to assure inspection of all Work requiring Special Inspection without hindering the progress of the Work.

6. Special Inspector must comply with all requirements of the Engineer and the building permit.
  7. Upon completion of task requiring Special Inspection, you must submit to the Engineer all Special Inspection reports that certify that the Work requiring Special Inspection has been completed in accordance with the Contract Documents and the applicable building codes and approved by the Engineer.
3. Duties and responsibilities of the Special Inspector. You must ensure the following requirements are met by the Special Inspectors employed by you.
1. The Special Inspector is not authorized to do any of the following:
    - a) Inspect or approve any items of Work for which the building permit has not been issued.
    - b) Inspect or approve any items of Work before the Engineer has made the initial inspection. Deviations from this procedure must be requested in writing from Engineer.
    - c) Inspect or approve any items of Work other than that for which they are specifically certified.
    - d) Accept alternate materials, structural changes, or revisions to Plans.
  2. The Special Inspector must observe the Work for conformance with the DSD approved Plans and Specifications. Shop Drawings, Working Drawings, or both may be used only as an aid to inspection. Special Inspections must be performed on a continuous basis, meaning that the Special Inspector must be on site at all times observing the Work requiring Special Inspection.
  3. Periodic inspections, if any, must have prior approval by the DSD based on a separate written plan prepared by you and reviewed and approved by the Engineer.
  4. The Special Inspector must bring nonconforming items to your immediate attention and note all such items in the daily report. If any item is not resolved in a timely manner or is about to be incorporated in the Work, the Special Inspector must immediately notify the Engineer, notify the Engineer, and post a discrepancy notice.
  5. On request, each Special Inspector must complete and sign both the Special Inspection record and the daily report form for each daily inspection to remain at the Site with you for review by the Engineer.
  6. The Special Inspector or inspection agency must furnish weekly reports of tests and inspections directly to the Engineer and others as designated on the Plans, permits or in these specifications. These reports must include the following:



- a) Description of daily inspections and tests made with applicable locations;
  - b) Listing of all nonconforming items;
  - c) Report on how nonconforming items were resolved or unresolved as applicable; and
  - d) Itemized changes authorized by the Engineer if not included in nonconformance items.
7. The Special Inspector must submit a final signed report to the Engineer stating that Work requiring Special Inspection and testing were inspected, tested and reported, and to the best of Special Inspector's knowledge, is in conformance with the approved drawings and Contract Documents, approved revisions and the applicable workmanship provisions of the building codes whichever is in effect on the permitted Plans. Items not in conformance, unresolved items or any discrepancies in inspection coverage (i.e., missed inspections, periodic inspections when continuous was required, etc.) must be specifically itemized in this report.
8. Final inspection of the structure will not be scheduled until the final report for all Work items requiring Special Inspection have been reviewed and approved by the Engineer.

**4-1.3.6 Preapproved Materials.** To the City Supplement, ADD the following:

- 3. You shall submit in writing a list of all products to be incorporated in the Work that are on the AML.

**4-1.6 Trade Names or Equals.** ADD the following:

You must submit your list of proposed substitutions for "an equal" ("or equal") item(s) **no less than 15 Working Days prior to Bid due date** and on the City's Product Submittal Form available at:

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

**SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK**

**6-1.1.3 Construction Schedule.** To the City Supplement, ADD the following:

All work on Ingraham Street from Buena Vista Street/Jewell Street to West Mission Bay Drive, West Mission Bay Drive from Mission Boulevard to Sports Arena Boulevard, and Sports Arena Boulevard from West Mission Bay Drive to West Point Loma Boulevard should be completed by March 15, 2017.

**6-2.1 Moratoriums.** To the City Supplement, ADD the following:

Do not work in the areas where there is currently a moratorium issued by the City. The areas subject to moratorium are listed here:

**ADD:**

**7-3.2**

**Types of Insurance.**

**7-3.2.1**

**Commercial General Liability Insurance.**

1. Commercial General Liability Insurance must be written on the current version of the ISO Occurrence form CG 00 01 07 98 or an equivalent form providing coverage at least as broad.
2. The policy must cover liability arising from premises and operations, XCU (explosions, underground, and collapse), independent contractors, products/completed operations, personal injury and advertising injury, bodily injury, property damage, and liability assumed under an insured's contract (including the tort liability of another assumed in a business contract).
3. There must be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You must maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense must be outside the policy limits. Policy coverage must be in liability limits of not less than the following:

<u>General Annual Aggregate Limit</u>	<u>Limits of Liability</u>
Other than Products/Completed Operations	\$2,000,000
Products/Completed Operations Aggregate Limit	\$2,000,000
Personal Injury Limit	\$1,000,000
Each Occurrence	\$1,000,000

**7-3.2.2**

**Commercial Automobile Liability Insurance.**

1. You must provide a policy or policies of Commercial Automobile Liability Insurance written on the current version of the ISO form CA 00 01 12 90 or later version or equivalent form providing coverage at least as broad in the amount of \$1,000,000 combined single limit per accident, covering bodily injury and property damage for owned, non-owned, and hired automobiles ("Any Auto").
2. All costs of defense must be outside the limits of the policy.

**7-3.2.3**

**Contractors Pollution Liability Insurance.**

1. You must procure and maintain at your expense or require Subcontractor, as described below to procure and maintain, the Contractors Pollution Liability Insurance including contractual liability coverage to cover liability arising out of cleanup, removal, storage, or handling of hazardous or toxic chemicals, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than \$2,000,000 limit for bodily injury and property damage.

Summer Beach Area Moratorium should be in effect for all work on West Mission Bay Drive between Mission Blvd and the I-8 and; on Ingraham Street between Buena Vista Street and West Mission Bay Drive from Memorial Day to Labor Day

**6-7.1**

**General.** To the City Supplement, ADD the following:

5. For Water projects where shutdowns of 16 inch and larger pipes are required, there is a shutdown moratorium from May until October. Contractor shall plan and schedule work accordingly. No additional payment or working days will be granted for delays due to this moratorium..
6. 30 Working days for full depth asphalt final mill and resurfacing work required per SDG-107.

**SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR**

**ADD:  
7-3.1**

**Policies and Procedures.**

1. You must procure the insurance described below, at its sole cost and expense, to provide coverage against claims for loss including injuries to persons or damage to property, which may arise out of or in connection with the performance of the Work by you, your agents, representatives, officers, employees or Subcontractors.
2. Insurance coverage for property damage resulting from your operations is on a replacement cost valuation. The market value will not be accepted.
3. You must maintain this insurance for the duration of this contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this contract. Your liabilities under the Contract, e.g., your indemnity obligations, is not deemed limited to the insurance coverage required by this contract.
4. Payment for insurance is included in the various items of Work as bid by you, and except as specifically agreed to by the City in writing, you are not entitled to any additional payment. Do not begin any work under this contract until you have provided and the City has approved all required insurance.
5. Policies of insurance must provide that the City is entitled to 30 days (10 days for cancellation due to non-payment of premium) prior written notice of cancellation or non-renewal of the policy. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage or to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

2. All costs of defense must be outside the limits of the policy. Any such insurance provided by Subcontractor instead of you must be approved separately in writing by the City.
3. For approval of a substitution of Subcontractor's insurance, you must certify that all activities for which the Contractors Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance. The deductible must not exceed \$25,000 per claim. Contractual liability must include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There must be no endorsement or modification of the coverage limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. Occurrence based policies must be procured before the Work commences and must be maintained for the Contract Time. Claims Made policies must be procured before the Work commences, must be maintained for the Contract Time, and must include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies must continue to be maintained for 12 months after the completion of the Work without advancing the retroactive date.
4. Except as provided for under California law, the policy or policies must provide that the City is entitled to 30 days prior written notice (10 days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

#### **7-3.2.4**

#### **Contractors Hazardous Transporters Pollution Liability Insurance.**

1. You must provide at your expense or require Subcontractor to provide, as described below Contractors Hazardous Transporters Pollution Liability Insurance including contractual liability coverage to cover liability arising out of transportation of hazardous or toxic, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than \$2,000,000 limit per occurrence/aggregate for bodily injury and property damage.
2. All costs of defense must be outside the limits of the policy. The deductible must not exceed \$25,000 per claim. Any such insurance provided by a subcontractor instead of you must be approved separately in writing by the City.
3. For approval of the substitution of Subcontractor's insurance the Contractor shall certify that all activities for which Contractors Hazardous Transporters Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance.
4. Contractual liability must include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There must be no endorsement or modification of the coverage limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. Occurrence based policies must be procured before the Work commences and must be maintained for the duration of this contract. Claims Made policies must be procured before the Work commences, must be maintained for the duration of this contract, and must include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies must continue to be

maintained for 12 months after the completion of the Work under this contract without advancing the retroactive date.

5. Except as provided for under California law, the policy or policies must provide that the City is entitled to 30 days prior written notice (10 days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

#### **.7-3.2.5**

#### **Contractors Builders Risk Property Insurance..**

1. You must provide at its expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance must be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits must be 100% of this contract value of the Work plus 15% to cover administrative costs, design costs, and the costs of inspections and construction management.
2. Insured property must include material or portions of the Work located away from the Site but intended for use at the Site, and must cover material or portions of the Work in transit. The policy or policies must include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies must cover the cost of removing debris, including demolition.
3. The policy or policies must provide that all proceeds thereunder must be payable to the City as Trustee for the insured, and must name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. We as Trustee will collect, adjust, and receive all monies which may become due and payable under the policy or policies, may compromise any and all claims thereunder, and will apply the proceeds of such insurance to the repair, reconstruction, or replacement of the Work.
4. Any deductible applicable to the insurance must be identified in the policy or policies documents and responsibility for paying the part of any loss not covered because of the application of such deductibles must be apportioned among the parties except for the City as follows: if there is more than one claimant for a single occurrence, then each claimant must pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City must be entitled to 100% of its loss. The Contractor must pay the City any portion of that loss not covered because of a deductible, at the same time the proceeds of the insurance are paid to the City as trustee.
5. Any insured, other than the City, making claim to which a deductible applies must be responsible for 100% of the loss not insured because of the deductible. Except as provided for under California law, the policy or policies must provide that the City is entitled to 30 days prior written notice (10 days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

**7-3.2.6 Railroad Protective Liability Insurance.** Exclusions relating to performance of operations within the vicinity of any railroad, bridge, trestle, roadbed, tunnel, underpass, or cross must be deleted from all policies to which they may apply. Alternatively, the Contractor may provide separate Railroad Protective Liability insurance providing coverage, including endorsements, equivalent to that required for the CGL described herein.

**ADD:**

**7-3.3 Rating Requirements.** Except for the State Compensation Insurance Fund, all insurance required by this contract as described herein must be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the State, and that have been approved by the City.

**7-3.3.1 Non-Admitted Carriers.** The City will accept insurance provided by non-admitted, "surplus lines" carriers only if the carrier is authorized to do business in the State and is included on the List of Approved Surplus Lines Insurers (LASLI list).

All policies of insurance carried by non-admitted carriers must be subject to all of the requirements for policies of insurance provided by admitted carriers described herein.

**ADD:**

**7-3.4 Evidence of Insurance.** Furnish to the City documents e.g., certificates of insurance and endorsements evidencing the insurance required herein, and furnish renewal documentation prior to expiration of this insurance. Each required document must be signed by the insurer or a person authorized by the insurer to bind coverage on its behalf. We reserve the right to require complete, certified copies of all insurance policies required herein.

**ADD:**

**7-3.5 Policy Endorsements.**

**7-3.5.1 Commercial General Liability Insurance.**

**7-3.5.1.1 Additional Insured.**

- a) You must provide at your expense policy endorsement written on the current version of the ISO Occurrence form CG 20 10 11 85 or an equivalent form providing coverage at least as broad.
- b) To the fullest extent allowed by law e.g., California Insurance Code §11580.04, the policy must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured.
- c) The additional insured coverage for projects for which the Engineer's Estimate is \$1,000,000 or more must include liability arising out of: (a) Ongoing operations performed by you or on your behalf, (b) your products, (c) your work, e.g., your completed operations performed by you or on your behalf, or (d) premises owned, leased, controlled, or used by you.

- d) The additional insured coverage for projects for which the Engineer's Estimate is less than \$1,000,000 must include liability arising out of: (a) Ongoing operations performed by you or on your behalf, (b) your products, or (c) premises owned, leased, controlled, or used by you.

**7-3.5.1.2 Primary and Non-Contributory Coverage.** The policy must be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives. Further, it must provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.

**7-3.5.1.3 Project General Aggregate Limit.** The policy or policies must be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work must reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit must be in addition to the aggregate limit provided for the products-completed operations hazard.

**7-3.5.2 Commercial Automobile Liability Insurance.**

**7-3.5.2.1 Additional Insured.** Unless the policy or policies of Commercial Auto Liability Insurance are written on an ISO form CA 00 01 12 90 or a later version of this form or equivalent form providing coverage at least as broad, the policy must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured, with respect to liability arising out of automobiles owned, leased, hired or borrowed by you or on your behalf. This endorsement is limited to the obligations permitted by California Insurance Code §11580.04.

**7-3.5.3 Contractors Pollution Liability Insurance Endorsements.**

**7-3.5.3.1 Additional Insured.**

- a) The policy or policies must be endorsed to include as an Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of: (a) Ongoing operations performed by you or on your behalf, (b) your products, (c) your work, e.g., your completed operations performed by you or on your behalf, or (d) premises owned, leased, controlled, or used by you; except that in connection with, collateral to, or affecting any construction contract to which the provisions of subdivision (b) of § 2782 of the California Civil Code apply, this endorsement must not provide any duty of indemnity coverage for the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives in any case where an agreement to indemnify the City and its respective elected officials, officers, employees, agents, and representatives would be invalid under subdivision (b) of §2782 of the California Civil Code.

- b) In any case where a claim or loss encompasses the negligence of the Insured and the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives that is not covered because of California Insurance Code §11580.04, the insurer's obligation to the City and its respective elected officials, officers, employees, agents, and representatives must be limited to obligations permitted by California Insurance Code §11580.04.

**7-3.5.3.2 Primary and Non-Contributory Coverage.** The policy or policies must be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.

**7-3.5.3.3 Severability of Interest.** For Contractors Pollution Liability Insurance, the policy or policies must provide that your insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and must provide cross-liability coverage.

**7-3.5.4 Contractors Hazardous Transporters Pollution Liability Insurance Endorsements.**

**7-3.5.4.1 Additional Insured.**

- a) The policy or policies must be endorsed to include as an Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of: (a) Ongoing operations performed by you or on your behalf, (b) your products, (c) your work, e.g., your completed operations performed by you or on your behalf, or (d) premises owned, leased, controlled, or used by you; except that in connection with, collateral to, or affecting any construction contract to which the provisions of subdivision (b) of §2782 of the California Civil Code apply, this endorsement must not provide any duty of indemnity coverage for the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives in any case where an agreement to indemnify the City and its respective elected officials, officers, employees, agents, and representatives would be invalid under subdivision (b) of §2782 of the California Civil Code.
- b) In any case where a claim or loss encompasses the negligence of the Insured and the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives that is not covered because of California Insurance Code §11580.04, the insurer's obligation to the City and its respective elected officials, officers, employees, agents, and representatives must be limited to obligations permitted by California Insurance Code §11580.04.



- 7-3.5.4.2 Primary and Non-Contributory Coverage.** The policy or policies must be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.
- 7-3.5.4.3 Severability of Interest.** For Contractors Hazardous Transporters Pollution Liability Insurance, the policy or policies must provide that your insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and must provide cross-liability coverage.
- 7-3.5.5 Builders Risk Endorsements.**
- 7-3.5.5.1 Waiver of Subrogation.** The policy or policies must be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from work performed by the Named Insured for the City.
- 7-3.5.5.2 Builders Risk – Partial Utilization.** If the City desire to occupy or use a portion or portions of the Work prior to Acceptance in accordance with this contract, the City will notify you and you must immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies must not be cancelled or lapse on account of any such partial use or occupancy. You must obtain the endorsement prior to our occupation and use.
- 7-3.6 Deductibles and Self-Insured Retentions.** You must pay for all deductibles and self-insured retentions. You must disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided.
- 7-3.7 Reservation of Rights.** The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer but not required by this contract.
- 7-3.8 Notice of Changes to Insurance.** You must notify the City 30 days prior to any material change to the policies of insurance provided under this contract.
- 7-3.9 Excess Insurance.** Policies providing excess coverage must follow the form of the primary policy or policies e.g., all endorsements.
- 7-3.10 Architects and Engineers Professional Insurance (Errors and Omissions Insurance).**

For contracts with required engineering services (e.g., Design-Build, preparation of engineered Traffic Control Plans (TCP), etc. by the Contractor) for all of your employees or Subcontractors who provide professional engineering services under this contract, you must keep or must require its Subcontractor keep in full force and effect, Professional Liability coverage with a limit of **\$1,000,000** per claim and **\$2,000,000** annual aggregate.

You must ensure both that: (a) the policy retroactive date is on or before the date of commencement of the Project; and (b) the policy will be maintained in force for a period of 3 years after completion of the Project or termination of this contract whichever occurs last. You agree that for the time period specified above, there will be no changes or endorsements to the policy that affect the specified coverage.

If professional engineering services are to be provided solely by the Subcontractor, you must (a) certify this to the City in writing and (b) agree in writing to require the Subcontractor to procure Professional Liability coverage in accordance with the requirements set forth above.

**7-4 WORKERS' COMPENSATION INSURANCE.** DELETE in its entirety and SUBSTITUTE with the following:

**7-4.1 Workers' Compensation Insurance and Employers Liability Insurance.**

1. In accordance with the provisions of §3700 of the California Labor Code, you must provide at your expense Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with the requirements of this section.

2. Limits for this insurance must be not less than the following:

<u>Workers' Compensation</u>	<u>Statutory Employers Liability</u>
Bodily Injury by Accident	\$1,000,000 each accident
Bodily Injury by Disease	\$1,000,000 each employee
Bodily Injury by Disease	\$1,000,000 policy limit

3. By signing and returning the Contract you certify that you are aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code and you must comply with such provisions before commencing the Work as required by §1861 of the California Labor Code.

**7-4.1.1 Waiver of Subrogation.** The policy or policies must be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from work performed by the Named Insured for the City.

**7-8.6 Water Pollution Control.** ADD the following:

Based on a preliminary assessment by the City, the Contract is subject to WPCP for the linear pipeline portion and SWPPP Risk Level 2 for the PB Pipeline Reservoir Site.

**7-10.1.1 General.** To The City Supplement, DELETE Item 6 in its entirety and SUBSTITUTE with the following:

6. The term "Railroad" shall mean the San Diego Metropolitan Transit System (MTS) and North County Transit District (NCTD).

To The City Supplement, DELETE Item 14 in its entirety and SUBSTITUTE with the following:

14. Payment for traffic and access as specified in this subsection and the railroad liability insurance, permits, plan review, inspection, flagging and fees is included in an Allowance Bid item provided for MTS Right of Entry Permit.

To the City Supplement, ADD the following:

15. The Contractor must understand the Contractor's right to enter Railroad's right of way is subject to the absolute right of Railroad to cause the Contractor's work on Railroad's right of way to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's right of way, employees, and operations.
16. The Contractor shall obtain, at no additional cost to The City, a Joint Right of Entry Permit from the Railroad prior to entering or constructing on property owned by the Railroad. The Contractor shall abide by the terms of the Right of Entry Permit. The terms of the Right of Entry Permit will govern if there are any conflicts with these special provisions. Information on obtaining a Right of Entry Permit can be obtained at <http://www.sdmts.com/business/permits/asp> and <http://www.gonctd.com/ROW>

**7-10.2.2.3 Engineered Traffic Control Plans Provided by the Contractor.** To the City Supplement, ADD the following:

Engineered "D" size TCP are required for the following areas:

1. Pressure reducing station electrical conduit installation and improvements

**7-10.5.3 Steel Plate Covers.** Table 7-10.5.3(A), REVISE the plate thickness for 5'-3" trench width to read 1 3/4".

**7-15 INDEMNIFICATION AND HOLD HARMLESS AGREEMENT.** To the City Supplement, fourth paragraph, last sentence, DELETE in its entirety and SUBSTITUTE with the following:

Your duty to indemnify and hold harmless does not include any claims or liability arising from the established active or sole negligence, or willful misconduct of the City, its officers, or employees.

**7-16 COMMUNITY LIAISON.** To the City Supplement, DELETE in its entirety and

SUBSTITUTE with the following:

**ADD:  
7-16**

**COMMUNITY OUTREACH.**

**7-16.1**

**General.**

1. To ensure consistency with the City's community outreach plan for the project, the City will work with you to inform the public (which includes, but is not limited to, property owners, renters, homeowners, business owners, recreational users, and other community members and stakeholders) of construction impacts. Efforts by you to mitigate construction impacts by communicating with the public require close coordination and cooperation with the City.
2. You shall perform the community outreach activities required throughout the Contract Time. You shall assign a staff member who will perform the required community outreach services.
3. You shall closely coordinate the Work with the businesses, institutions, residents and property owners impacted by the Project.

Your example duties include notifying businesses, institutions, and residents of the commencement of construction activities not less than 5 days in advance, coordinating access for vehicular and pedestrian traffic to businesses, institutions, and residences impacted by the Project, reporting activities at all Project progress meetings scheduled by the Engineer, attending the Project Pre-construction Meeting, attending 2 community meetings, responding to community questions and complaints related to your activities, and documenting, in writing, as well as logging in all inquiries and complaints received into the City's Public Contact Log located on the City's SDShare site:

<http://sdshare/forums/ecp/PITS/pict/Lists/Public%20Contact%20Log/AllItems.aspx>.

4. You shall execute the Information Security Policy Acknowledgement Form - For Non-City Employees within 15 days of the award of the Contract if:
  - a) Your contact information is made available on any outreach materials or;
  - b) You will be the primary point of contact to resolve project related inquiries and complaints.
5. Electronic Communication.

All inquiries and complaints will be logged in to the City's SDShare site within 24 hours of receipt of inquiries and complaints.

Any updates or a resolution of inquiries, and complaints shall be documented in the City's SDShare site within 24 hours.

Copies of email communications shall be saved, individually, on to the City's SDShare site as an Outlook Message Format (\*.msg).

All graphics, photos, and other electronic files associated with the inquiries and or complaints shall be saved into the individual record.

**7-16.1.1 Quality Assurance.**

1. During the course of community outreach, you shall ensure that the character of all persons that conduct community outreach (distributing door hangers, attending community meetings, interacting with the public, etc.) on your behalf shall:
  - a. Have the ability to speak and comprehend English and/or Spanish, as appropriate for the community or public they are informing,
  - b. Possess and display easily verifiable and readable personal identification that identifies the person as your employee,
  - c. Have the interpersonal skills to effectively, professionally, and tactfully represent you, the project, and the City to the public.

**7-16.1.2 Submittals.**

1. You shall submit to the Resident Engineer, for review and approval, all drafts of letters, notices, postcards, door hangers, signs, mailing lists, proposed addresses for hand-delivery, and any other notices and letters that are to be mailed and or distributed to the public.
  - a. Prior to distributing or mailing, you shall submit final drafts of letters, notices, postcards, door hangers, signs, and any other notices and letters to the Resident Engineer for final review and approval. Submit a PDF copy of the approved door hangers to the Engineer.
  - b. After distributing or mailing, you shall submit verification of delivery and any copies of returned notices to the Resident Engineer. Submit a PDF copy of the approved letters and notices to the Engineer.
2. You shall use the City's SDSHare site to identify and summarize communications (via phone, in person, and email) with the public within 24 hours of receipt, even if your response to the individual is still incomplete. You shall upload to the City's SDSHare site copies of all written, electronic, and verbal communications and conversations with the public.

**7-16.1.3 Weekly Updates Recipients.** Submit a weekly correspondence with updates, traffic control issues and locations, lane closures, and any other pertinent information (with additional contact names given during award process) to the following recipients:

Wendy Gamboa, Senior Engineer, [wgamboa@sandiego.gov](mailto:wgamboa@sandiego.gov)

Jeff Soriano, Project Manager, [jsoriano@sandiego.gov](mailto:jsoriano@sandiego.gov)

Jing DeBeliso, Project Engineer, [jdebeliso@sandiego.gov](mailto:jdebeliso@sandiego.gov)

Resident Engineer, TBA, [XXX@sandiego.gov](mailto:XXX@sandiego.gov)

**7-16.2 Community Outreach Services.**

**7-16.2.1 Public Notice by Contractor.**

1. Post Project Identification Signs in accordance with section 7-10.6.2
2. Notify businesses, institutions, property owners, residents or any other impacted stakeholders, within a minimum 300 feet radius of the Project, of construction activities and utility service interruptions not less than 5 days in advance.
3. Furnish and distribute public notices in the form of door hangers using the City's format to all occupants and/or property owners along streets:
  - a. Where Work is to be performed at least 5 days before starting construction or survey activities or impacting the community as approved by the Resident Engineer.
  - b. Within 5 days of the completion of your construction activities where work was performed, you shall distribute public notices in the form of door hangers, which outlines the anticipated dates of Asphalt Resurfacing or Slurry Seal.
  - c. No less than 48 hours in advance and no more than 72 hours in advance of the scheduled resurfacing.
4. Leave the door hanger notices on or at the front door of each dwelling and apartment unit and at each tenant of commercial buildings abutting each of the street block segments. Where the front doors of apartment units are inaccessible, distribute the door hanger notices to the apartment manager or security officer.
5. Door Hanger Material: You shall use Blanks/USA brand, Item Number DHJ5B6WH, 1 ¼" Holes (removed), 2-up Jumbo Door Hanger in Bristol White, or approved equal.
6. Mailed Notice Material: You shall use Cougar by Domtar, Item Number 2834 or approved equal.
7. For all Work on private property, contact each owner and occupant individually a minimum of 15 days prior to the Work. If the Work has been delayed, re-notify owners and occupants of the new Work schedule, as directed by the Resident Engineer.
8. A sample of public notices is included in the Contract Appendix.

**7-16.2.2 Communications with the Public.**

1. Coordinate access for vehicular and pedestrian traffic to businesses, institutions and residences impacted by the Project.
2. You shall provide updates on construction impacts to the Resident Engineer. You shall notify the Resident Engineer in advance about time-sensitive

construction impacts and may be required to distribute construction impact notices to the public on short notice.

3. You shall incorporate community outreach activities related to construction impacts in the baseline schedule and update the Resident Engineer with each week's submittal of the Three-Week Look Ahead Schedule.
4. At the request of the Resident Engineer, you shall attend and participate in project briefings at community meetings.
5. You shall coordinate with the Resident Engineer on all responses and actions taken to address public inquiries and complaints within 24-hours that they are received.

**7-16.2.3 Communications with Media.**

1. The City may allow members of the media access to its construction site(s) on a case-by-case basis only.
2. Occasionally, members of the media may show up at construction sites, uninvited. Members of the media (including, but not limited to newspaper, magazine, radio, television, bloggers, and videographers) do not have the legal right to be in the construction site without the City's permission.
3. In the event media representatives arrive near or on the construction site(s), you shall keep them off the site(s), in a courteous and professional manner, until a Public Information Officer is available to meet them at an approved location.
4. You shall report all members of the media visits to the Resident Engineer as quickly as possible, so that the City's Public Information Officer can meet with the members of the media at the construction site(s).
5. If the City allows members of the media to access a construction site, you shall allow the City to escort the media representatives while they are on the construction site and shall ensure their safety.
6. You shall require media representatives to sign in and out of the Site Visitor Log and to use Personal Protective Equipment.
7. You have a right to speak to members of the media about your company and its role on the project. All other questions shall be referred to the City.

**7-16.3 Exclusive Community Liaison Services.** You shall retain an Exclusive Community Liaison for the Project whose sole responsibilities will be to implement 7-16.2, "Community Outreach Services" and as follows:

1. Develop a contact list of community, tenants, property owners, and agencies with a stake in the project.
2. Prepare and present of materials in coordination with the Resident Engineer.

3. Respond to community questions and complaints related to your activities.
4. Write, edit, update, or produce brochures, pamphlets and news releases.
5. Provide standard telephone inquiries and e-mail responses:
  - a) Respond to telephone calls and e-mails from the public.
  - b) Record calls and e-mails on the City's SDSHare site.
6. Provide a monthly summary report of all inquiries and complaints, including the name of the person, source of inquiry (via information line or email), phone number, address, date, and time of inquiry, who responded, and a summary of resolutions or pending resolutions to the Resident Engineer.
7. Report Exclusive Community Liaison activities at all progress meetings scheduled by the Resident Engineer.
8. Attendance at pre-construction, community and stakeholders meetings.

**7-16.3.1 Exclusive Community Liaison Work Plan.** The Work plan for the Exclusive Community Liaison shall address the items of Work specified in these specifications. Present your Exclusive Community Liaison and submit your exclusive community outreach plan (in writing) within 15 days of the Award of the Contract.

**7-16.4 Payment.** The Payment for the Community Outreach Service is included in the various Bid items. The payment for exclusive community liaison is in the bid item for "Exclusive Community Liaison Services."

**ADD:  
7-20**

**ELECTRONIC COMMUNICATION.** ADD the following:

Virtual Project Manager will be used on this contract.

#### **SECTION 9 - MEASUREMENT AND PAYMENT**

**ADD:  
9-2.1**

**Lump Sum Bid Items.** The following bid items are listed in the Technical Specifications and shall be paid for as a lump sum item as noted:

1. Cathodic Protection
2. 390/307 Zone Pressure Regulation Station Relocation

**9-3.2.5**

**Withholding of Payment.** To the City Supplement, item i), DELETE in its entirety and SUBSTITUTE with the following:

- i) Your failure to comply with 7-2.3, "PAYROLL RECORDS" and 2-16, "CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM."



**ADD:**  
9-3.7

**Compensation Adjustments for Price Index Fluctuations.** This Contract is not subject to the provisions of The WHITEBOOK for Compensation Adjustments for Price Index Fluctuations for the paving asphalt.

### SECTION 203 – BITUMINOUS MATERIALS

**203-15 RUBBER POLYMER MODIFIED SLURRY (RPMS).** To the City Supplement, CORRECT section numbering as follows:

OLD SECTION NUMBER	TITLE	NEW SECTION NUMBER
203-15	RUBBER POLYMER MODIFIED SLURRY (RPMS)	203-16
203-15.1	General	203-16.1
203-15.2	Materials	203-16.2
203-15.3	Composition and Grading	203-16.3
203-15.4	Mix Design	203-16.4

ADD the following:

RPMS shall be used on this contract.

### SECTION 206 – MISCELLANEOUS METAL ITEMS

**ADD:**  
206-1.4.4

**Adhesive Anchoring Systems.** Adhesive Anchor Bolts shall be “Hilti HVA Capsule Adhesive Anchoring System” or owner approved equivalent.

Adhesive Anchoring Systems shall be installed per the manufactures recommendations.

Adhesive Anchoring Systems shall be measured and paid per each anchoring system installed per plan and shall include all materials and tools necessary for installation per the manufactures recommendations.

**ADD:**  
206-1.6

**Threaded Rod.** Threaded rod in the size shown on the plans shall be ASTM F1554 Grade 55, or ASTM F1554 Grade 105 as shown on the plans.

The Threaded Rod shall be measured and paid for per pound and shall be included in the Bid item for Miscellaneous Metal (Structural Steel).

**ADD:**  
206-2.5

**Pipe Rollers.** Pipe Rollers in the size shown on the plans shall be Linn Brown and Associates (LB&A) or owner approved equivalent.

The Pipe Rollers shall be measured and paid per each pipe roller installed per plan and shall include all materials and tools necessary for installation per the manufacturers' recommendations.

## SECTION 207 – PIPE

### 207-9.2.1 **General.** ADD the following:

Ductile Iron Pipe (DIP) and fittings shall conform to Subsection 207-9 of the Standard Specifications unless specified otherwise in the drawings and these Special Provisions.

Flanged Ductile Iron Pipe shall be Special Class 53 in accordance with AWWA C115.

Minimum pipe class for other joint Ductile Iron Pipe shall be pressure Class 250.

The installation of Ductile Iron Pipe shall conform to AWWA C600. Pipe to be threaded shall be special Class 53 minimum.

### 207-9.2.2 **Pipe Joints.** ADD the following:

Ductile iron pipe joints shall be push-on or mechanical joint with rubber gasket rated for 250 psi operating pressure. When indicated on the drawings, joint restraint shall be accomplished by mechanical restraining rings with lugs that bear on the pipe exterior, or by use of a ductile iron boltless restrained joint system.

Where indicated on the drawings, flanged joints shall be used and shall conform to AWWA C115. For non-flanged joints, the joint design shall be as described in the preceding paragraph and shall be approved by the Agency prior to pipe fabrication. Shop drawings shall be submitted for approval as described in Part 1, Section 2-5.3.

All Ductile Iron Pipe joints shall be electrically bonded as called for on the plans.

### 207-9.2.3 **Fittings.** To the City Supplement, ADD the following:

8. Flange gaskets shall be 3.2mm (1/8") thick acrylic or aramid fibers bound with nitrile for all sizes of pipe. Gaskets shall be full-face type with pre-punched holes free of asbestos material. All insulating flange kits require full face gaskets.

### 207-9.2.4 **Lining and Coating.** DELETE in its entirety and SUBSTITUTE the following:

**Lining for Water Applications:** All Ductile Iron Pipe and fittings for water applications shall be cement mortar lined in accordance with AWWA C104, "Standard for Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water," as modified herein. All Ductile Iron Pipe and fittings shall have double the standard lining thickness with no minimum tolerance.

**Lining for Sewage Applications:** Fusion Bonded Epoxy: The coating material shall be a 100% powder epoxy applied in accordance with the ANSI/AWWA C213 – Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines, 12 mils minimum DFT. The surface preparation shall be white metal blast cleaning SSPC-SP5. The coating shall be applied using the fluidized bed process.

Field Repair of Fusion Bonded Epoxy: For field repairs, the use of a liquid epoxy will be permitted, applied in not less than three (3) coats to provide a DFT of 15 mils minimum.

The liquid epoxy shall be 100 percent solids epoxy, recommended by the powder epoxy manufacturer as compatible with the fusion bonded epoxy, and in compliance with AWWA C210. Use Scotchkote 134 or 206N, or recommended equal.

**Coating for Water Applications:** All buried ductile iron pipe, fittings, valves, flanges, appurtenances, nuts, and bolts shall be coated with thirty (30) mils minimum dry film thickness (MDFT) of an approved polyurethane coating system. In addition, all steel pipe and fittings indicated in these plans and specifications to be polyurethane coated, shall be coated in accordance with this section.

**Material:** The coating material shall be manufactured by a company experienced in the manufacturing and application of chemical coatings. The material shall consist of a polyisocyanate resin and polyol resin, which are mixed in a 1:1 ratio at the time of application. It shall be an ASTM-D16 Type V system.

**Solvent Cleaning:** Prior to abrasive blast, the entire area to receive the coating shall be inspected for oil, grease, rust, dust, or any other deleterious substances. Any areas where such deleterious substances are present shall be cleaned per NAPF 500-03-05 (ductile iron fittings).

**Abrasive Blasting:** After cleaning, all areas to receive the coating shall be abrasive blasted to a surface anchor pattern of 2.5 mils or greater per NAPF 500-03-04 (ductile iron pipe) or NAPF 500-03-05 (ductile iron fittings).

**Thickness:** The dry film thickness (DFT) of the coating shall be 30 mils (0.030 inch) nominal. Thickness determinations using a Type 1 magnetic thickness gage shall be conducted in accordance with Steel Structures Painting Council SSPC-PA-2 Specification.

**Joints:** In order to minimize potential dimensional and assembly problems, the coating thickness on sealing areas in the bell socket interior and on the spigot end of the pipe exterior shall be 8 mils (0.008 inch) nominal with a maximum of 10 mils (0.010 inch). Thicker coatings in these areas are acceptable if it is demonstrated that joint dimensions are within allowable tolerances after coating.

**Field Repair, and Touchup:** Field repairs and touchup shall be performed in accordance with the manufacturer's recommended repair and touchup procedures. All field cut ends shall be repaired and sealed prior to installation per the manufacturer's recommendations.

**Coating for Sewage Applications: Fusion Bonded Epoxy:** The coating material shall be a 100% powder epoxy applied in accordance with the ANSI/AWWA C213 – Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines, 12 mils minimum DFT. The surface preparation shall be white metal blast cleaning SSPC-SP5. The coating shall be applied using the fluidized bed process.

**Field Repair of Fusion Bonded Epoxy:** For field repairs, the use of a liquid epoxy will be permitted, applied in not less than three (3) coats to provide a DFT of 15 mils minimum. The liquid epoxy shall be 100 percent solids epoxy, recommended by the powder epoxy manufacturer as compatible with the fusion bonded epoxy, and in compliance with AWWA C210. Use Scotchkote 134 or 206N, or recommended equal.

**ADD:**

**207-9.2.4.1**

**Painting of Above Ground Dip Pipe, Fittings, Valves, and Appurtenances.** All exposed piping, valves, and appurtenances shall be painted in accordance with these specifications for materials and methods.

The finish paint color shall be blue. The contractor shall provide to the City of San Diego color samples from which the City will choose the finish paint color.

The primer coat shall be a different color from the finish coat to ensure proper and complete coverage.

Paint specification

Primer Coat - Dupont 25P, or equal, min. 2 mils dft

Finish Coat - Dupont 333 Imron, or equal, min. 2 mils dft

All coatings shall be applied according to manufacturer's instructions and recommendations. Use paint materials suitable for the intended use and recommended by their manufacturer for the intended service. Where new coatings are to be applied over existing coatings, the contractor shall paint a test patch to ensure proper adhesion and no detrimental effect on the existing coating.

All surfaces that exhibit dirt, grease, scale, rust formation, etc., must be cleaned by hand scraping, wire brushing, power tool scraping, sandblasting, or high pressure wash, followed by chemical wash with Ospho by Sinclair Paints, or equivalent.

Provide substrate surfaces that are prepared in accordance with the printed instructions and recommendations of the paint manufacturer whose product is applied.

**207-9.2.5**

**Inspection and Certification.** ADD the following:

All Ductile Iron Pipe and fittings coatings shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 film thickness rating.

**Holiday Test:** The coating of all pipe and fittings shall be tested for pinholes with a nondestructive 2,500 volt test. In accordance with the coating manufacturer's recommendation, holiday testing may be conducted any time after the coating has reached sufficient cure.

Each pipe joint and fitting shall be marked with the date of application of the coating system and with its numerical sequence of application on that date.

The pipe and fitting manufacturer must supply a certificate attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified, and that the material was applied as required by the specification.

The pipe and fitting manufacturer must supply a certificate attesting to the successful holiday testing of every pipe section and fitting. If any section or fitting does not pass the test, it shall be recoated and the holiday testing performed again.

**207-10.2.1 General.** ADD the following:

1. **ACCEPTABLE PIPE MATERIALS FOR THIS PROJECT. WELDED STEEL PIPE (WS) AWWA C200, SPIRAL-SEAM OR STRAIGHT-SEAM AND AWWA M-11 WITH FIELD WELDED JOINTS:**

The manufacturer shall furnish a sworn statement that the inspection and all specified tests have been made and the results thereof comply with the requirements of the specified AWWA standards. Drawings and design calculations of the pipe shall be submitted to the Engineer of Work, City Resident Engineer and Inspection Lab for approval. Pipe shall be of the type described below to the minimum size shown and minimum pressure rating as shown on the drawings. The size shown shall mean the clear inside dimension measured to the lining. The pipe, complete with lining and coating, shall be manufactured by one company in the business of designing and manufacturing pipe, complete with lining and coating, of the type specified. Pipe class shown on the plans is the pressure in psi measured by the distance between the pipe centerline and the operating hydraulic gradient.

Welded steel pipe, fittings and specials shall conform to AWWA C200, "Standard for Steel Water Pipe 6-inches and Larger," and shall be cement mortar lined in conformance with AWWA C205, "Standard for Cement Mortar Protective Lining and Coating for Steel Water Pipe, 4-inches and Larger - Shop Applied" and coated in conformance with AWWA C214, "Tape Coating Systems for the Exterior of Steel Water Pipelines" and AWWA C209, "Cold Applied Tape Coatings for Exterior of Special Sections, Connections and Fittings for Steel Water Pipelines."

Steel plates or sheets used in the manufacture of fabricated steel pipe shall comply with Table 1 in AWWA C200, with minimum yield point strength of 33,000 psi. Steel to be fully killed and made to a fine grain practice. Design stress shall not exceed 16,500 psi.

The minimum steel thickness shall be as follows:

For 30-inch diameter pipe, Class 175, the minimum steel thickness shall be 5/16-inch. The minimum specials and fittings steel thickness shall be 3/8-inch.

For 20-inch diameter pipe, Class 175, the minimum steel thickness shall be 1/4-inch. The minimum specials and fittings steel thickness shall be 5/16-inch. Where indicated on the drawings, pipe wall thickness for special sections shall be 3/8-inch.

**207-10.2.2 Design Criteria.** ADD the following:

Pipe and fitting wall thickness shall be selected that which meets the most severe requirements of inside pressure and outside loading considered separately. Design shall limit deflection under selected installation method in accordance with AWWA M-11.

Deflection shall be computed by using the modified Iowa formula developed by Spangler in accordance with AWWA M-11. The cement mortar overcoat specified for the dielectric tape coated steel pipe shall not be included in the calculations for pipe deflection. If pipe deflection exceeds that allowed by AWWA M-11, the pipe manufacturer shall increase steel cylinder wall thickness in order that the pipe deflection is less than or equal to the allowable deflection. For cement mortar lined and coated steel pipe manufactured in accordance with AWWA C200 and C205, the mortar coating may be included in the calculations for pipe deflection.

**207-10.2.3 Diameter.** DELETE in its entirety and SUBSTITUTE with the following:

Fabricated steel pipe shall be a minimum net instead diameter, after application of the interior protective lining, equal to the nominal diameter of the pipe shown on the Plans or in the Special Provisions, with a permissible tolerance of minus 3 mm (1/8 inch).

**207-10.2.4 Length.** Sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

Unless otherwise specified, fabricated steel pipe shall be manufactured in lengths to fit the pipeline alignment shown on the Plans, subject to a maximum pipe length of 40 feet (12m).

**207-10.2.5 Joints.** ADD the following:

All nonflanged pipe joints shall be field welded. All pipe shall have lap welded slip joints and shall be field welded on the inside. See detail on the plans. Field welds shall be used and shall be of a size equal to the thickness of the bell or cylinder, whichever is greater, and shall be built up in passes of not more than one-eighth inch (1/8") per pass. Field welding shall conform to AWWA C206, "Standard for Field Welding of Steel Water Pipe."

In order that the proper shop modifications may be made to the joints to be field welded, the shop fabrications shall indicate details of the typical field welded joint and the required coating and lining holdback.

Casing pipe sections shall be butt welded.

All closure and makeup joints shall be made with butt straps for field welding in accordance with the latest version of the applicable City of San Diego Standard Drawing. Butt straps shall be field welded on the outside of the pipe joint using a fillet weld. The fillet weld shall be of a size equal to the thickness of the cylinder or butt strap, whichever is greater, and shall be built up in passes of not more than one-eighth inch (1/8") per pass.

Handholes shall be provided in accordance with the plans and the latest version of the applicable City of San Diego Standard Drawing.

**207-10.2.7 Special Sections.** ADD the following:

Reinforcement and/or crotch plate design for wyes, tees, outlets and nozzles shall be designed in accordance with AWWA Manual M-11, "Steel Water Pipe - a Guide for Design and Installation." The Dished Heads required for this project shall be in

accordance with the detail on the plans and the approved shop drawings, the lining and coating holdbacks shall be shown on the pipe shop drawings and approved by the Engineer of Work. Reinforcement shall be designed for the working pressure. Pipe materials used in fittings shall be of the same material as the pipe with minimum steel plate thickness as indicated in Section 207-10.2.1 of these specifications.

The minimum radius of elbows shall be 2.5 times the pipe diameter and the maximum miter angle on each section of the elbow shall not exceed 11 1/4 degrees. Fittings shall be equal in pressure design strength and shall have the same lining and coating as the abutting pipe. Specials and fittings, unless otherwise shown on the plans, shall be made of segmentally welded sections from hydrostatically tested pipe, with ends to mate with the type of joint or coupling specified for the pipe.

Specials and fittings that cannot be mechanically lined and coated shall be factory lined and coated by hand-application using the same materials as are used for the pipe and in accordance with the applicable AWWA standards. Coating and lining applied in this manner shall provide protection equal to that specified for the pipe. Fittings may be fabricated from pipe that has been mechanically lined and/or coated. Areas of lining and coating that have been damaged by such fabrication shall be repaired by hand-applications in accordance with applicable AWWA standards.

**207-10.2.8 Welding.** ADD the following:

All welding procedures used to fabricate pipe shall be prequalified under the provisions of ANSI/AWS D1.1 or ASME SEC. IX. Welding procedures shall be required for, but not necessarily limited to, longitudinal and girth or spiral welds for pipe cylinders, spigot and bell ring attachments, reinforcing plates and ring flange welds, and plates for lug connections.

All welding shall be done by skilled welders, welding operators, and tackers who have had adequate experience in the methods and materials to be used. Welders shall be qualified under the provisions of ANSI/AWS D1.1 not more than 6 months prior to commencing work on the pipeline. Machines and electrodes similar to those used in the work shall be used in qualification tests. The manufacturer shall furnish all material and bear the expense of qualifying welders.

The Contractor shall furnish the Engineer with a certified laboratory report stating the results of required welding tests performed during pipe fabrication.

Field welding shall be performed by certified welders in accordance with AWWA C206.

**ADD:**

**207-10.2.8.1 Special Inspection and Testing of Field Welds.** All costs for special welding inspection and testing of field welds shall be the responsibility of the Contractor in accordance with Special Provisions, Part 1, Section 4-1.3.4.

**A. Qualification of Welders, Equipment And Procedures:**

Prior to the start of welding, the special inspector shall check welder qualifications and verify that procedure specifications to be used have been approved.

B. Inspection of Field Welds:

The special inspector shall visually examine 100% of all welds performed in the field.

Acceptance Standards for Visual Examination. The following indications are unacceptable:

1. Cracks - external surface;
2. Undercut on surface which is greater than 1/32-inch (1.0 mm) deep;
3. Lack of fusion on surface;
4. Incomplete penetration (applies only when opposite surface is readily accessible).

Any weld not conforming to the above acceptance standards shall be ground smooth and blended in to the satisfaction of the special inspector.

C. Nondestructive Testing of Field Welds:

Nondestructive testing of field welds shall be performed by the special inspector, as directed by the Resident Engineer, using testing and acceptance criteria as set forth in the ASME Boiler and Pressure Vessel Code, Section V, and as specified herein.

Nondestructive test methods and acceptance criteria shall be submitted to the Resident Engineer for review and approval thirty (30) working days prior to beginning any field welding operations and in accordance with Subsection 2-5.3 of Standard Specifications for Public Works Construction.

Nondestructive testing shall be performed as follows:

WELDED SLIP JOINTS:

Nondestructive testing shall be performed on a random sampling of all slip joint field welds provided that not less than twenty percent (20%) of such field welds are tested. The special inspector shall ensure that the work of each welder is tested in accordance with this section.

BUTT STRAPS AND NON-SLIP JOINTS:

Nondestructive testing shall be performed on one-hundred percent (100%) of all butt strap welds and other non-slip joint welds performed in the field.

Portions of welds not conforming to the applicable acceptance standards shall be completely removed in a manner, which will permit proper and complete repair by welding. All repair welds shall be re-tested by the special inspector.



**207-10.4.2 Cement-Mortar Lining and Coating.** ADD the following:

All cement to be used shall be type II low alkali Portland cement conforming to ASTM C150.

Both the cement mortar lined and tape wrapped pipe and the cement mortar lined and epoxy coated pipe shall have cement mortar lining thickness of 3/4 inch that shall be in accordance with AWWA C205. Lining tolerance shall be per AWWA C205: - 1/16"; + 3/16". The tape coating shall have cement mortar coating over the tape of 3/4 inch in accordance with AWWA C205.

Cement mortar lined and epoxy coated pipe shall have an epoxy coating of 16 mils dry film thickness minimum. Epoxy coating shall be in accordance with the following:

**Amine-Cured Epoxy:** High build, amine-cured epoxy resin shall have a solids content of at least 80% by volume, and shall be suitable for long-term immersion service in potable water. For potable water service, the coating material shall be listed by the NSF International as in compliance with NSF Standard 61 – Drinking Water System Components – Health Effects. The surface preparation shall be white metal blast cleaning SSPC-SP5.

Prime coat and finish coats (minimum 3 or more coats total, total DFT = 16 mils), Ameron 395, Tnemec 139, or equal. Color selection shall be by City upon receipt of color charts as part of the coating submittal.

The material to be used for cement mortar lining and coating of field welded pipe joints shall be as follows: for cement mortar lining - Jet Set Complete Repair, no substitutions; for cement mortar coating - the product used must comply with AWWA C205.

**ADD:**

**207-10.4.8**

**Tape Coated Steel Pipe.** Except as described below, the coating system for straight line pipe shall be in accordance with AWWA standard C214, "Tape Coating Systems for the Exterior of Steel Water Pipelines," the system shall consist of at least three layers consisting of the following:

1. Primer layer
2. Inner layer tape - corrosion protective tape (20 mils) with black exterior.
3. Outer layer tape - mechanical protective tape (30 mils) with grey exterior.
4. Outer layer tape - mechanical protective tape (30 mils) with white exterior.

The total thickness of the tape coating shall be at least 80 mils. The coated pipe shall be tested and inspected in accordance with AWWA C214. Certified reports of the testing and inspection shall be submitted to the Engineer. The Contractor and/or manufacturer shall submit a list of the tape coating materials to be used which indicates manufacturer, product numbers and manufacturer recommended thickness of material. For each material, technical data sheets shall be submitted which indicate technical and performance information per AWWA C214 and shall provide information that verifies that the material supplied conforms with the appropriate tables in AWWA C214.

Coating repair in the shop shall be in accordance with AWWA C214, and coating repair in the field shall be in accordance with AWWA C209.

The required cut back for welded pipe ends shall be such that the tape will not be damaged during the welding process. The minimum hold back should be three (3) inches for the tape and six (6) inches for the mortar. The cut back dimensions shall be shown on the pipe shop drawings.

All field welded joints shall be tape coated and cement mortar coated in accordance with AWWA C209 and AWWA C205. The total thickness of the field tape wrapping shall be at least 80 mils. The field applied tape wrapping shall have a minimum of 3 inches of overlap over the factory applied tape coating, and even if greater than 3 inches of overlap is obtained, the field applied tape wrapping shall extend from the cement mortar overcoat holdback on one side of the joint up to the cement mortar holdback on the other side of the joint. The inspector shall visually inspect that all joints are taped and cement mortar coated on the outside and hand pointed mortared at the joints on the inside of the pipe.

Fittings and specials which cannot be machine coated in accordance with AWWA C214, shall be coated in accordance with AWWA standard C209. The system shall consist of 3 layers consisting of the following:

1. Primer layer
2. Inner layer tape - corrosion protective tape (50 mils)
3. Outer layer tape - mechanical protective tape (30 mils)

The total thickness of the tape coating shall be at least 80 mils.

Coating repair for fittings and specials shall be in accordance with the procedure described above for straight line pipe.

Flanged fittings shall be factory coated in accordance with AWWA C214 and C209. The holdback from the flange shall be zero (0) inches for both the tape and mortar. All flanges shall come with the standard manufacturer's coating and this shall be shown on the shop drawings. The flange and connecting valve or appurtenance shall be wax coated in accordance with AWWA C217 "Cold Applied Petrolatum Tape and Petrolatum Wax Tape Coatings for the Exterior of Special Sections, Connections, and Fittings for Buried Steel Pipe." The field applied tape shall overlap the shop applied tape by at least three (3) inches. Field-applied mortar coating shall be applied after the flange connection and taping is complete. All tape dimensions, properties, and thickness shall be in accordance with AWWA C217.

All mainline outlets for appurtenances shall be factory lined and coated as specified for the main steel pipeline. The minimum hold back from the flange shall be zero (0) inches for both the tape and the mortar. The flange shall be factory primed and tape wrapped in the field.

All buried appurtenances, flanges, bolts, etc. shall also be coated with a wax tape coating system in accordance with AWWA C217.

**ADD:  
207-10.5**

**Affidavit Of Compliance.** Affidavit of compliance is required from the manufacturer that the pipe, specials, and fittings furnished under this contract comply with these special provisions, applicable standards and as specified in AWWA C200, C205, C214 and C217 and the following supplemental requirements:

1. Physical and chemical properties of all steel
2. Hydrostatic test reports
3. Results of production weld tests
4. Coating and lining tests
5. Technical data and information on the tape coating to be used.

All expenses incurred in making samples for certification of tests shall be borne by the Contractor and/or manufacturer.

**ADD:  
207-10.6**

**Shop Drawings.** Manufacturer shall submit copies to the Engineer of Work for approval prior to manufacture of any pipe and fittings for the following:

1. Detailed drawings.
2. Tabulated layout schedule.
3. Design calculations for pipe wall thickness. (Use E' value of 750 in accordance with City of San Diego, Standard Drawing SDS-100)
4. Field joint details.
5. Technical data and information on the tape coating to be used.
6. Required tests for tape coating to be used.

Shop drawings shall be in accordance with the requirements of AWWA C200, C205 and C214.

Data to be furnished by the Contractor shall be in accordance with all applicable provisions of Section 2-5.3, "Shop Drawings," of the standard specifications where not inconsistent with the plans and the express provisions of these specifications.

The drawings accompanying these specifications indicate only the general features of the work, and all proportioning and detailing for the pipeline, specials, and connections shall be done by the Contractor. The Contractor shall prepare, and submit for review and approval before starting fabrication, a tabulated layout schedule and detailed fabrication drawings.

The drawings shall include the configuration, essential dimensions, and materials to be used in fabricating the pipe, pipe specials, and fittings, and shall include details of standard pipe joints, and of typical field welded joints showing the lining and coating holdback. The minimum radius of any fabricated bend shall be at least 2.5 times the nominal pipe diameter.

The layout and marking schedule shall include the specific number of each pipe and fitting and the location of each pipe and the direction of each fitting in the completed line. In addition, the layout schedule shall include: the pipe station and top of pipe elevation at all changes in grade or horizontal alignment; the station and top of pipe elevation to which the bell end of each pipe will be laid; and all elements of curves and bends, both in horizontal and vertical alignment. Dimensional drawings of all valves, fittings and appurtenances shall be provided with the layout schedule.

Joint and pipe/fitting wall construction details which indicate the type and thickness of cylinder; the position, type, size, and area of wire or reinforcement if required; manufacturing tolerances; and all other pertinent information required for the manufacture of the product.

Fittings and specials details such as elbows, wyes, tees, outlets, connections, test bulkheads, and nozzles or other specials where shown on the drawings which indicate amount and position of all reinforcement. All fittings and specials shall be properly reinforced to withstand the internal pressure, both circumferential and longitudinal, and the external loading conditions as indicated in the contract documents. Material lists and steel reinforcement schedules which include and describe all materials to be utilized.

Joints below existing utilities shall be avoided.

The Contractor shall determine where to use cut-to-fit pieces and/or field weld on flanges. These shall be shown on the pipe shop drawings.

The pipe alignment and grade, the location of valves, fittings and appurtenances, as shown on the Contractor's layout schedule shall conform essentially with those shown on the contract plans. The Engineer, at his discretion, may approve minor changes made for economy or convenience in manufacture or construction. Unless otherwise ordered or permitted by the Engineer, construction shall conform to the approved layout schedule and fabrication drawings.

When approved by the Engineer, changes in alignment or grade may be accomplished by deflections at the joints between lengths of standard pipe, or by use of beveled pipe, or by a combination of the two.

Before preparing the schedule and fabrication drawings, the Contractor shall expose the existing main at points of connection and determine their precise locations and alignment relative to the alignment of the new pipe as shown on the drawings. The Contractor shall furnish the Agency with tracings or transparencies of the approved schedule and drawings, from which the Agency can obtain the required prints.

#### **SHOP DRAWING D-SHEETS**

Once the pipe shop drawings are approved and released for production, the pipe fabricator shall assemble all the approved and corrected shop drawings onto City of San Diego D-sheets and shall have a State of California registered engineer, who was responsible to oversee the preparation of the shop drawings, stamp and sign each D-sheet. The final D-sheets to be stamped and signed by the pipe fabricator's Registered Engineer shall be photo mylars or mylar plots from digital files. The preparation of the shop drawing mylars shall be coordinated with the Engineer to assure proper sheet

numbering and title block information. The Engineer shall be responsible for processing the shop drawing sheets through the City of San Diego as a Construction Change. The pipe fabricator shall be responsible for preparing and modifying the sheets to conform to City of San Diego requirements.

**ADD:**  
**207-10.7**

**Testing and Inspection.** All material used in the manufacture of the pipe shall be tested and inspected in accordance with the requirements of ANSI/AWWA C200, C205, AWWA C209, C214, and C217 as applicable. The manufacturer shall submit certified test reports to the Owner for review and/or approval. Acceptance of the testing and inspection shall be based on the certified test reports that are submitted. The Contractor and/or manufacturer shall perform said material tests at no additional cost to the Owner. The Engineer shall have the right to witness all testing conducted by the Contractor and/or manufacturer; provided, that the manufacturer's and/or Contractor's schedule is not delayed for the convenience of the Engineer. The Contractor and/or manufacturer shall contact the City Test Lab to confirm that all testing criteria conform to the City's requirements.

All pipe shall be subject to inspection at the place of manufacture in accordance with the provisions of ANSI/AWWA C200, C205, AWWA C209, C214, and C217 respectively, as supplemented by the requirements herein. The Engineer shall have the right to inspect the pipe during manufacture as long as the schedule is not delayed for said inspection. The Contractor shall provide a written notice of the manufacturing schedule to the Engineer and City, so the City can schedule their plant inspection.

**ADD:**  
**207-10.8**

**Gaskets, Bolts and Nuts.** Gaskets for flanged joints shall be full-face gaskets, cloth-inserted rubber, one-sixteenth inch (1/16") thick.

External bolts and nuts shall conform to AWWA standard C207. For buried service, they shall be corrosion resistant and galvanically compatible with the materials to be bolted. Bolts and nuts shall be alloy steel ASTM-A193, GRADE "B7" or equal, except the bolts and nuts for the access manholes shall be stainless steel ASTM-A193, GRADE "B8M".

**ADD:**  
**207-10.8.1**

**Flanges.** Steel ring, hubless flanges shall conform to AWWA C207 and shall be suitable for use with the connecting valve. Flanges shall be Class E.

**ADD:**  
**207-10.9**

**Field Painting.** Metal components which are furnished with shop-applied protective coating shall be carefully installed to avoid damage to the coatings. Any areas of such coatings which show damage after installation is complete shall be cleaned and recoated. The touch-up coating materials shall be identical to the shop-applied coating, or a suitable substitute therefore, recommended by the component manufacturer and approved by the Engineer.

Steel surfaces, other than stainless steel, which are not galvanized or shop-coated, shall be epoxy coated in accordance with AWWA C210. The minimum dry film thickness shall be 16 mils, and the epoxy shall meet NSF Standards for contact with potable water.

**ADD:**  
**207-10.10**

**Installation, Storage and Handling.** Bracing shall consist of at least three (3) sets of stulls for each standard length pipe. Stull struts and stull blocks shall be of such size, shape and material that the pipe is held round and its interior surface protected from damage under all loads encountered in handling, installing and backfilling. Bracing shall remain in place until after the pipe is laid in the trench, bedding and backfill compacted and pipe is firmly held in place.

Pipe shall be stored on sand ribbons during both curing operations and during yard storage.

When storage of the pipe at the manufacturer's yard shall exceed two calendar weeks after the completion of the pipe manufacturing and standard curing process, the manufacturer shall periodically wet the interior and exterior of the pipe to maintain sufficient moisture content in the cement mortar to avoid the development of mortar cracks greater than one-sixteenth of one inch. The end caps on the pipe shall be replaced after each addition of water in order to maintain the required seal for the interior mortar.

Until the pipe installation and backfilling are completed, all concrete surfaces of the pipe shall be sprinkled periodically to prevent excessive drying and thermal stressing.

At all times after application of the mortar coating or removal of the exterior forms, standard pipe lengths shall be handled only with belt slings of sufficient width to avoid damage to the exterior surface. Specials and fittings shall be handled by approved means, which avoid inflicting any damage. Chain slings shall not be used, and wire rope slings may be used only if encased in heavy-rubber hose.

During transportation, pipe shall be mounted on padded bolsters curved to fit the pipe. Heavy padding shall be used under the tie chains. The pipe ends shall be closed to prevent air circulation and drying of the pipe interior in transit and during storage until the pipe is laid.

The pipe shall be handled by use of 12" wide nylon slings, padded cradles, or other devices, acceptable to the Engineer, designed and constructed to prevent damage to the pipe coating/exterior. The use of chains, hooks, or other equipment which might injure the pipe coating/exterior will not be permitted. All other pipe handling equipment and methods shall be acceptable to the Engineer.

The Contractor shall be fully liable for the cost of replacement or repair of pipe, which is damaged.

Stockpiled pipe shall be supported on sand or earth berms. The pipe shall not be rolled and shall be secured to prevent accidental rolling.

The Contractor and/or manufacturer shall consult the Owner if any anticipated outdoor storage will be required prior to installation so that necessary precautions can be taken.

**ADD:**  
**207-10.11**

**Side Outlets.** Outlets shall be installed as shown on the plans for connections to the new pipe. The outlets shall remain uncovered until all joint assembly, field welding, lining, and coating is accomplished and hydrostatic testing and inspection is

completed. Outlets shall be backfilled with sand densified as provided in Subsection 306-1.3. The outlets shall then be covered and the finish pavement laid.

All pipe with side outlets shall be considered as a special section and requires the main steel pipeline to be a minimum wall thickness as defined in Section 207-10.2.1.

All side outlets for appurtenances shall be factory lined and coated as specified for the main steel pipeline. The minimum hold back from the flange shall be zero (0) inches for the tape and the mortar. The flange shall be factory primed and the tape wrapped in the field.

**207-17.2.3 Pipe Manufacturer.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

PVC products as manufactured or distributed by J-M Manufacturing Company shall not be used on the Contract for pressurized pipe **unless specified otherwise.**

**207-25.4 Pipe (SEWER).** To the City Supplement, ADD the following:

3. Polyvinyl chloride sewer force main pipe shall be in accordance with Sections 207-25.1 and 207-25.2. Where specifically identified on the drawings as fusible PVC, this force main piping shall be in accordance with Section 207-27 and shall have heat fused joints and shall be supplied with a Dimension Ratio of 18 and be rated for 235 psi.

**207-25.5 Pipe (WATER).** To the City Supplement, ADD the following:

Where specifically identified on the drawings as fusible PVC, this potable water piping shall be in accordance with Section 207-27 and shall have heat fused joints and shall be supplied with a Dimension Ratio of 18 and be rated for 235 psi. Pipe color shall be blue.

**207-26.4 Butterfly Valves.** To the City Supplement, Paragraph (2), DELETE the last sentence.

To the City Supplement, Paragraph (3) DELETE in its entirety and SUBSTITUTE with the following:

2. The operator shall be manual with a 2" (50 mm) square operating nut, and shall open the valve when turned counterclockwise.

**ADD:**

**207-26.6 Flexible Couplings.** To the City Supplement, ADD the following:

Flexible couplings shall be carbon steel and all parts shall be fusion epoxy coated with carbon steel hardware. The manufacturer of the flexible couplings shall be from the City of San Diego's approved materials list. All flexible couplings installed in buried applications shall be wax tape wrapped in accordance with AWWA C217.

## **SECTION 209 – STREET LIGHTING AND TRAFFIC SIGNAL MATERIALS**

**209-6.4 Induction Cobra Head Luminaire.** To the City Supplement, CORRECT certain section numbering as follows:

OLD SECTION NUMBER	TITLE	NEW SECTION NUMBER
209-6.4.7	Luminaire Identification	209-6.4.8
209-6.4.8	Photometric Documentation	209-6.4.9
209-6.4.9	Quality Assurance	209-6.4.10

## SECTION 212 - LANDSCAPE AND IRRIGATION MATERIALS

### ADD:

#### 212-3.2.2.3

**Trench Marker Tape.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

- a) Trench marker tape shall be 6" wide and consist of a minimum 5.0 mil, five-ply 100% virgin polyethylene which is acid, alkaline and corrosion resistant. Elongation properties and tensile strength of not less than 7,800 psi shall be in accordance with ASTM D882-80A. The trench marker tape for water lines shall have a minimum 20 gauge solid aluminum foil core, adhered to a 2.55 mil polyethylene backing.
- b) Tape color and legend shall be placed beneath the top protective layer subject to the following:
  1. Blue with "Caution Potable Water Line Buried Below" for Water mainlines and over pipe sleeves.
  2. Purple with "Caution Recycled/Reclaimed Water Line Buried Below" for recycled water irrigation mainlines.
  3. Red with "Caution Electric Line Buried Below" for electrical lines servicing the irrigation system, including, but not limited to, 110/220v power to irrigation controllers and pumps, communication cables and irrigation direct burial control wires to remote control valves.
  4. Green with "Caution Sewer Line Buried Below" for Sewer mainlines and over pipe sleeves.

### ADD:

#### 212-4

### BIORETENTION SOIL MEDIA (BSM).

#### 212-4.1

**General.** Bioretention Soil Media (BSM) is a formulated planting soil which consists of 70% to 80% washed sand and 20% to 30% compost on a volume basis, and shall be mixed at the plant site prior to delivery.

#### 212-4.1.1

**Sand for Bioretention Soil Media.** The sand shall conform to ASTM C33 and a sieve analysis shall be performed in accordance with ASTM C 136 to demonstrate compliance with the gradation limits shown in Table 212-4.1.1 (A). The sand shall be thoroughly washed to remove fines, dust, and deleterious materials prior to delivery.



**Table 212-4.1.1 (A) Sand Gradation Limits**

Sieve Size	Percent Passing
3/8 inch	100
No. 4	60 - 100
No.10	40 - 100
No. 40	15 - 50
No. 200	0 - 5

Note: Coefficient of Uniformity ( $C_u = D_{60}/D_{10}$ ) equal to or greater than 4

**212-4.1.2 Compost.** Compost shall be certified by the U.S. Composting Council's Seal of Testing Assurance Program or an approved equal. Compost shall comply with the following requirements:

1. Organic Material Content shall be 35% to 75% by dry weight.
2. Physical contaminants (manmade inert materials) shall not exceed 1% by dry weight
3. pH shall be between 6.0 and 8.0
4. Soluble Salt Concentration less than 10 dS/m (Method TMECC 4.10-A, USDA and U.S. Composting Council)
5. Maturity (seed emergence and seedling vigor): greater than 80% relative to positive control (Method TMECC 5.05-A, USDA and U.S. Composting Council)
6. Stability (Carbon Dioxide evolution rate): less than 8 mg CO<sub>2</sub>-C per g OM per day (Method TMECC 5.08-B, USDA and U.S. Composting Council)
7. Moisture: 40%-50% wet weight basis.
8. Select Pathogens: Pass US EPA Class A standard, 40 CFR Section 503.32(a).
9. Trace Metals: Pass US EPA Class A standard, 40 CFR Section 503.13, Tables 1 and 3.
10. Within gradation limits in Table 212-4.1.2 (ASTM D 422 sieve analysis or approved equivalent)

**Table 212-4.1.2 (A) Compost Gradation Limits**

<b>Sieve Size</b>	<b>Percent Passing (by weight)</b>
1 inch	99 to 100
½ inch	90 to 100
¼ inch	40 to 90
No. 200	2 to 10

**212-4.2**

**Agricultural Suitability.** The Contractor shall submit the source and location of BSM, a physical sample, and accompanying and current test results by a third party independent agronomic laboratory reflecting compliance with Contract Documents to the Engineer at least 30 Days prior to ordering materials.

No planting shall begin until test results confirm the agricultural suitability of the BSM. The Contractor shall submit a written request for approval which shall be accompanied by written analysis results from a written report of a testing agency registered by the State for agricultural soil evaluation which indicates compliance which states that the tested material proposed source complies with these specifications. Third party independent laboratory tests shall be paid for by the Contractor.

The BSM shall be suitable to sustain the growth of the plants specified and shall conform to the following requirements:

- a) pH range: 6.0-7.8
- b) Salinity less than 3.0 millimho/cm (electrical conductivity)
- c) Sodium adsorption ration (SAR) less than 3.0
- d) Chloride less than 150 ppm

The test results shall show the following information:

- a) Date of Testing
- b) Project Name
- c) The Contractor's Name
- d) Source of Materials and Supplier's Name
- e) Estimate of Quantity Needed
- f) pH
- g) EC

- h) Elements: phosphorus, potassium, iron, manganese, zinc, copper, boron, calcium, magnesium, sodium, sulfur, molybdenum, nickel, aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, mercury, selenium, silver, strontium, tin, and vanadium
- i) Soil adsorption ratio
- j) Carbon/nitrogen ratio
- k) Moisture content
- l) Organic Content
- m) An assessment of agricultural suitability based on test results
- n) Recommendations for adding amendments, chemical corrections, or both.

BSM which requires amending to comply with these specifications shall be uniformly blended prior to importation. Third party independent laboratory test results reflecting compliance with above requirements shall be provided to the Engineer prior to the delivery of the BSM.

**212-4.3 Delivery, Storage and Handling.** The Contractor shall not deliver or place soils in frozen, wet, or muddy conditions.

The Contractor shall protect soils and mixes from absorbing excess water and from erosion at all times. The Contractor shall not store materials unprotected from large rainfall events. The Contractor shall not allow excess water to enter site prior to compaction. If water is introduced into the material after grading, the Contractor shall allow material to drain or aerate to optimum compaction moisture content.

**212-4.4 Quality Control and Acceptance.** Close adherence to the material quality controls herein are necessary in order to assure sufficient permeability to infiltrate runoff at a minimum rate of 5 inches per hour during the life of the facility, and to support healthy vegetation. Amendments may be included to adjust agronomic properties. Acceptance of the material will be based on test results conducted no more than 120 days prior to delivery of the blended BSM to the project site and certified to be representative. For projects installing more than 100 cubic yards of BSM, batch-specific tests of components and blended mix are required and locations of material batches shall be provided to the Engineer.

## SECTION 300 – EARTHWORK

**300-1.1 General.** ADD the following:

All demolition debris, organic matter, trash or other deleterious debris shall be stockpiled and removed from the project site. Any loose and compressible filled and/or natural ground shall be removed. Any unstable, soft, swampy, or otherwise unsuitable areas shall be corrected by draining or removal, or both. Cleared and excavated areas should be checked and determined in the field by a representative of the Engineer during grading operation.

The firm competent ground which is determined to be satisfactory for the support of the filled ground shall then be plowed or scarified to a depth of at least 6 inches until the surface is free from ruts, hummocks, or other uneven features which would tend to prevent uniform compaction by the equipment to be used.

**300-1.4** **Payment.** To the City Supplement, paragraph (2), DELETE in its entirety and SUBSTITUTE with the following:

2. Payment for existing pavement removal and disposal of up to 12" thick, within the excavation e.g., trench limits, shall be included in the Bid item for installation of the mains or the Work item that requires pavement removal.

**ADD:**

**300-1.5** **Reservoir Demolition.** The contractor shall remove, handle, haul, and dispose all material from reservoir site as shown on the Demolition Plan including, but not limited to: labor, materials, equipment, tools, incidentals, clearing and grubbing, concrete floors and walls, timber roof structure with corrugated aluminum sheeting, asphalt concrete, portland cement concrete, and existing utilities.

**300-1.5.1** **Payment.** Payment to complete the demolition of the reservoir shall be included in the Lump Sum Bid item for Demolition of PB Reservoir

**300-4.4** **Benching.** First paragraph, DELETE and SUBSTITUTE with the following:

Where fills are to be placed on hillsides or slopes with gradients greater than 10 percent, horizontal benches shall be cut into firm undisturbed natural ground in order to provide both lateral and vertical stability. This is to provide a horizontal base so that each layer is placed and compacted on a horizontal plane. The initial bench at the toe of the fill shall be at least 10 feet in width and 2 feet in depth on firm undisturbed natural ground at the elevation of the toe stake placed by the surveyor. The Engineer shall determine the width and frequency of all succeeding benches which will vary with the soil conditions and the steepness of the slope.

**300-4.5** **Placing Materials for Fills.** Third and fourth paragraph, DELETE and SUBSTITUTE with the following:

The majority of the soil materials are considered suitable for use as compacted backfill materials provided that they are free of biodegradable materials, trash, rocks or hard lumps greater than 4 inches in maximum dimension, hazardous substance contamination, or other deleterious debris. However, rocks or hard lumps obtained from the Work excavations will be permitted in the backfill or fill with the following limitations:

- a) At least 70 percent (by weight) of its particles shall pass a U.S. Standard 3/4-inch sieve.
- b) Have less than 40 percent passing the standard #200 sieve
- c) Should not be greater than 6 inches

Prior to placement, all backfill materials should be moisture-conditioned, spread and placed in lifts (layers) not-to-exceed 6 inches in loose (uncompacted) thickness, and uniformly compacted to at least 90 percent relative compaction. During backfilling,

the soil moisture content should be maintained at or within 2 to 3 percent above the optimum moisture content of the backfill materials. It is recommended that the upper 24 inches directly beneath the existing finish grade and the base materials to be compacted to at least 95 percent relative compaction. The maximum dry density and optimum moisture content of the backfill materials should be determined in the laboratory in accordance with the ASTM D1557 testing procedures. Flooding or jetting shall not be used to densify the backfill.

**300-4.9 Measurement and Payment.** First sentence, DELETE and SUBSTITUTE with the following:

The Contract Unit Price for unclassified fill shall include full compensation for all grading, shaping, compacting or consolidating, or other work that is required under this subsection and shall be measured and paid for on a cubic yard basis per Bid Item Excavate and Fill (Unclassified).

### SECTION 302 – ROADWAY SURFACING

**302-3 PREPARATORY REPAIR WORK.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

**302-3 PREPARATORY REPAIR WORK.**

1. Prior to roadway resurfacing or the application of slurry, the Contractor shall complete all necessary preparation and repair work to the road segment e.g., tree trimming, weed spray, weed abatement, crack sealing, asphalt repair, hump removal, miscellaneous asphalt patching, removal of raised pavement markers, removal of pavement markings, etc. and as specified in the Special Provisions.
2. Preparatory work shall include, but not be limited to, tree trimming, weed spray, weed abatement, crack sealing, asphalt repair i.e., mill and pave, hump removal, miscellaneous asphalt patching, removal of raised pavement markers, removal of pavement markings, etc.
3. The Contractor shall repair areas of distressed asphalt concrete pavement by milling or removing damaged areas of pavement to a minimum depth of 2” for Residential streets, and a minimum depth of 3” for all others to expose firm and unyielding pavement. The Contractor shall prepare subgrade as needed and install a minimum of 2” for residential streets, and a minimum of 3” for all others, of compacted asphalt concrete pavement over compacted native material as directed by the Engineer.
4. If, in order to achieve the minimum specified depth, the base material is exposed, the material shall be compacted to 95% relative compaction to a depth 10” below the finished grade (dig out). Compaction tests shall be made to ensure compliance with the specifications. The Engineer will determine when and where the test will occur. The City will pay for the soils testing required by the Engineer, which meets the required compaction. The Contractor shall reimburse the City for the cost of retesting failing compaction tests. If additional base material is required, the Contractor shall use Class 2 Aggregate Base in accordance with 200-2.2, “Crushed Aggregate Base.”

5. Recycled base material shall conform to Crushed Miscellaneous Base Material in accordance with 200-2.4, "Crushed Miscellaneous Aggregate Base."
6. Prior to replacing asphalt, the area shall be cleaned by removing all loose and damaged material, moisture, dirt, and other foreign matter and shall be tack coated in accordance with 302-5.4 "Tack Coat."
7. The Contractor shall install new asphalt within the repair area or for patches in accordance with 302-5, "ASPHALT CONCRETE PAVEMENT." Asphalt concrete shall be C2-PG 64-10 in compliance with 400-4, "ASPHALT CONCRETE."
8. No preparatory asphalt work shall be done when the atmospheric temperature is below 50 °F or during unsuitable weather.
9. Following the asphalt placement, the Contractor shall roll the entire area of new asphalt in both directions at least twice. The finished patch shall be level and smooth in compliance with 302-5.6.2 "Density and Smoothness." After placement and compaction of the asphalt patch, the Contractor shall seal all finished edges with a 4" wide continuous band of SS-1H.
10. The minimum dimension for each individual repair shall be 4' x 4' and shall be subject to the following conditions:
  - a) If the base material is exposed to achieve the required minimum removal thickness, the base material shall be prepared conforming to 301-1, "SUBGRADE PREPARATION."
  - b) When additional base material is required, then the contractor shall use Class 2 Aggregate Base in accordance with 200-2.2, "Crushed Aggregate Base." Recycled base material shall conform to Crushed Miscellaneous Base Material in accordance with 200-2.4, "Crushed Miscellaneous Base."
  - c) The Contractor may use grinding as a method for removal of deteriorated pavement when the areas indicated for removal are large enough (a minimum of the machine drum width) and when approved by the Engineer.
  - d) For both scheduled and unscheduled base repairs, failed areas may be removed by milling or by excavation provided that the edges are cut cleanly with a saw. The areas shall be cleaned and tack coated in accordance with 302-5.4, "Tack Coat" before replacing the asphalt. The areas for scheduled repairs have been marked on the street.
11. Asphalt Patching.
  1. Asphalt patching shall consist of patching potholes, gutter-line erosion, and other low spots in the pavement that are deeper than ½" per 302-5.6.2, "Density and Smoothness." These areas are generally smaller and more isolated than those areas in need of mill and pave.

2. The areas requiring patching have been identified in the Contract Documents, marked on the streets, or as directed by the Engineer. The Contractor shall identify any new areas that may require patching prior to slurry work to ensure the smoothness and quality of the finished product.
3. The Contractor shall identify and repair any areas that may require patching, prior to the placement of slurry seal for smooth finished product.
4. Asphalt overlay shall not be applied over deteriorated pavement. Preparatory asphalt work shall be completed and approved by the Engineer before proceeding with asphalt overlay.
5. The Contractor shall remove distressed asphalt pavement either by saw cutting or milling, to expose firm and unyielding pavement; prepare subgrade (as needed); and install compacted asphalt pavement over compacted native material as directed by the Engineer.
6. Prior to replacing asphalt, the area shall be cleaned and tack coated per 302-5.4, "Tack Coat".
7. Following the asphalt placement, the Contractor shall roll the entire patch in both directions covering the patch at least twice.
8. After placement and compaction of the asphalt patch, the Contractor shall seal all finished edges with a 4" wide continuous band of SS-1H.
9. Base repairs shall not exceed 20% RAP in content.

**ADD:  
302-3.2**

**Payment.**

1. Payment for replacement of existing pavement when required shall be included in the unit bid price for Asphalt Pavement repair for the total area replaced and no additional payment shall be made regardless of the number of replacements completed. No payment shall be made for areas of over excavation or outside trench areas in utility works unless previously approved by the Engineer. No payment for pavement replacement will be made when the damage is due to the Contractor's failure to protect existing improvements. The Contractor shall reimburse the City for the cost of retesting all failing compaction tests.
2. The areas and quantities shown on the road segments and in appendices are given only for the Contractor's aid in planning the Work and preparing Bids. The Engineer will designate the limits to be removed and these designated areas shall be considered to take precedent over the area shown in an Appendix to the Contract Documents. The quantities shown in the appendices are based on a street assessment survey and may vary.

3. At the end of each day, the Contractor shall submit to the Engineer an itemized list of the asphalt pavement repair work completed. The list shall include the location of the work and the exact square footage of the repair.
4. Preparatory repair work and tack coating will be paid at the Contract unit price per ton for Asphalt Pavement Repair. No payment shall be made for areas of over excavation unless previously approved by the Engineer.
5. Milling shall be included in the Bid item for Asphalt Pavement Repair unless separate Bid item has been provided.
6. Payment for miscellaneous asphalt patching shall be included in the Contract unit price for slurry and no additional payment shall be made therefore.

**302-5.1.1 Damaged AC Pavement Replacement.** To the City Supplement, DELETE in its entirety.

**302-5.1.2 Measurement and Payment.** To the City Supplement, DELETE in its entirety.

**302-5.2.1 Measurement and Payment.** To the City Supplement, item c), ADD the following:

Imported Subgrade material shall be paid per bid item "Imported Backfill".

**302-5.9 Measurement and Payment.** To the City Supplement, DELETE in its entirety and replace with the following:

Payment for asphalt concrete, adjusting manhole covers and gate valves to grade, the required striping and pavement markers, including, but not limited to, the proposed continental crosswalk and parking stall striping, shall be included in the Bid item for asphalt concrete overlay and striping.

### **SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION**

**ADD:**

**303-1.7.5**

**Drill and Bond Dowels.** Dowels shall conform to the provisions for bar reinforcement in "Reinforcement" in the Greenbook. If reinforcement is encountered during drilling before the specified depth is attained, the Engineer shall be notified. Unless the Engineer approves coring through the reinforcement, the hole will be rejected and a new hole, in which reinforcement is not encountered, shall be drilled adjacent to the rejected hole to the depth shown on the plans.

The bonding materials shall be magnesium phosphate concrete, either single component (water activated) or dual component (with a prepackaged liquid activator),



as approved by the Engineer. Magnesium phosphate concrete shall conform to the following requirements:

Property	Test Method	Requirements
Compressive Strength		
at 3 hours, MPa	California Test 551	21 min.
at 24 hours, MPa	California Test 551	35 min.
Flexure Strength		
at 24 hours, MPa	California Test 551	3.5 min.
Bond Strength: at 24 hours		
SSD Concrete, MPa	California Test 551	2.1 min.
Dry Concrete, MPa	California Test 551	2.8 min.
Water Absorption, %	California Test 551	10 max.
Abrasion Resistance		
at 24 hours, grams	California Test 550	25 max.
Drying Shrinkage at 4 days, %	ASTM Designation: C 596	0.13 max.
Soluble Chlorides by weight, %	California Test 442	0.05 max.
Water Soluble Sulfates by weight, %	California Test 417	0.25 max.

Magnesium phosphate concrete shall be formulated for minimum initial set time of 15 minutes and minimum final set time of 25 minutes at 70° F. The materials, prior to use, shall be stored in a cool, dry environment.

Mix water used with water activated material shall conform to the provisions in Section 201-1.2.3, "Water."

The quantity of water for single component type or liquid activator (for dual component type) to be blended with the dry component, shall be within the limits recommended by the manufacturer and shall be the least amount required to produce a pourable batter.

Addition of retarders, when required and approved by the Engineer, shall be in conformance with the manufacturer's recommendations.

Before using concrete material that has not been previously approved, a minimum of 45 pounds shall be submitted to the Engineer for testing. The Contractor shall allow 45 days for the testing. Each shipment of concrete material that has been previously approved shall be accompanied by a Certificate of Compliance as provided in Section 4-1.5, "Certificates of Compliance."

Magnesium phosphate concrete shall not be mixed in containers or worked with tools containing zinc, cadmium, aluminum or copper metals.

The surface of any dowel coated with zinc or cadmium shall be coated with a colored lacquer before installation of the dowel. The lacquer shall be allowed to dry thoroughly before embedment of the dowels.

The holes shall be drilled by methods that will not shatter or damage the concrete adjacent to the hole. The diameter of the drilled hole shall be 1/2 inch larger than the nominal diameter of the dowels.

The drilled holes shall be clean and dry at the time of placing the bonding material and the steel dowels. Bonding material and dowel shall completely fill the drilled hole. The surface temperature shall be 40° F or above when the magnesium phosphate concrete is placed.

After bonding, dowels shall remain undisturbed for a minimum of 3 hours or until the magnesium phosphate concrete has reached a strength sufficient to support the dowels. Dowels that are improperly bonded, as determined by the Engineer, shall be removed. The holes shall be cleaned or new holes shall be drilled and the dowels replaced and securely bonded to the concrete. Removing, redrilling and replacing improperly bonded dowels shall be performed at the Contractor's expense.

**303-1.11 Payment.** To the City Supplement, ADD the following:

Dowels to be bonded into drilled holes will be paid for per pound as bar reinforcing steel (bridge).

Unless otherwise provided, drilling and bonding dowels will be measured and paid for by the linear foot determined by the number and the required depth of holes as shown on the plans or as ordered by the Engineer.

The contract price paid per linear foot for drill and bond dowel shall include full compensation for furnishing all labor, materials (except reinforcing steel dowels), tools, equipment, and incidentals, and for doing all the work involved in drilling the holes, and bonding the dowels, complete in place, as shown on the plans, as specified in the Greenbook and these special provisions, and as directed by the Engineer.

**303-5.10.2 Payment.** To the City Supplement, DELETE in its entirety and substitute with the following:

1. Payment for the curb ramps shall include DWT, demolition and disposal, forming relocating or raising to grade items in conflict, protecting and preserving existing survey monuments, restoring pavement, traffic control, and handrails as shown on plans.
2. Additional concrete sidewalk and curb quantities beyond the 15'-0" will be paid for in accordance with the Contract unit price for additional curb and additional sidewalk.
3. Payment for Traffic Signal Modification and Countdown Pedestrian Push Button Module will be included with the curb ramp payment as shown on the plans and no additional payment will be made.

**ADD:  
303-9**

**CORE CONCRETE.**

Coring concrete shall consist of coring holes through reinforced concrete bridge members as shown on the plans and in conformance with these special provisions.

For cored holes greater than 10 feet in length, the following shall apply:

Prior to coring, the Contractor shall submit, in conformance with the provisions in Section 2-5.3.2, "Working Drawings," of the Greenbook, the methods and equipment to be used in the coring operations.

The deviation in alignment of cored holes from that shown on the plans shall not be more than 1/2 inch per 10 feet of cored hole length with a maximum deviation of not more than 3 inches.

Immediately after coring, the concrete cores shall be identified by the Contractor with a description of the core locations and submitted to the Engineer for inspection.

The holes shall be cored by methods that will not shatter or damage the concrete adjacent to the holes.

Water for core drilling operations shall be from the local domestic water supply or shall not contain more than 1,000 parts per million of chlorides as Cl, nor more than 1,300 parts per million of sulfates as SO<sub>4</sub>, nor shall the water contain any impurities in a sufficient amount that would cause discoloration of the concrete or produce etching of the surface.

Water from core drilling operations shall not be permitted to fall on public traffic, to flow across shoulders or lanes occupied by public traffic, or to flow into gutters or other drainage facilities.

Do not allow demolished material to enter storm drain systems and receiving waters. Use authorized covers and platforms to collect debris. Use attachments on equipment to catch debris during small demolition activities.

Coring concrete will be measured by the linear foot for cored areas indicated on plans. The cored concrete will be measured along the centerline of the hole without deduction for expansion joint.

The contract price paid per linear foot for core concrete of the sizes listed in the bid documents shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in coring the holes, including control of water from core drilling and repairing any damaged reinforcement, as shown on the plans, as specified in these special provisions, and as directed by the Engineer.

## **SECTION 304 – METAL FABRICATION AND CONSTRUCTION**

**ADD:  
304-1.7.1**

**PTFE Bearings.**

PTFE Bearings in the size shown on the plans shall be PHD Manufacture, Type A Sliding Assembly with 10" Travel or owner approved Equivalent.

PTFE Bearing and assembly shall be paid for per each Bearing System per location.

**304-1.12.4 Payment.** ADD the following:

The contract unit price for Miscellaneous Metals (Structural Steel) shall include full compensation for welding as indicated on plans.

**SECTION 306 – UNDERGROUND CONDUIT CONSTRUCTION**

**306-1 OPEN TRENCH OPERATIONS.** To the City Supplement, CORRECT certain section numbering as follows:

<b>OLD SECTION NUMBER</b>	<b>TITLE</b>	<b>NEW SECTION NUMBER</b>
306-1.8	House Connection Sewer (Laterals) and Cleanouts	306-1.9
306-1.7.1	Payment	306-1.9.1
306-1.7.2	Sewer Lateral with Private Replumbing	306-1.9.2
306-1.7.2.1	Location	306-1.9.2.1
306-1.7.2.2	Permits	306-1.9.2.2
306-1.7.2.3	Submittals	306-1.9.2.3
306-1.7.2.4	Trenchless Construction	306-1.9.2.4
306-1.7.2.5	Payment	306-1.9.2.5
306-1.7.3.6	Private Pump Installation	306-1.9.2.6
306-1.7.3.7	Payment	306-1.9.2.7

**306-1.1.1 General.** ADD the following:

Build the Project in accordance with the water high lining phasing shown on the Plans and in phases as follows:

As shown on Construction Plan Sheets 38005-84-D to 38005-88-D

**ADD:**

**306-1.2.1.4 Payment.** Payment for Additional Bedding shall be made at the Contract Unit Price per cubic yard as shown on the Bid.

**306-1.4.5 Water Pressure Test.** To the City Supplement, Paragraph (2), DELETE in its entirety and SUBSTITUTE with the following:

1. Pressure testing of pipe and fittings at the lowest elevation shall be performed at 150% of the specified test pressure and no less than 100% of the specified test pressure at the highest elevation.

Specified test pressure for Class 235 pipe will be 150 psi  
Specified test pressure for Class 305 pipe will be 200 psi

2. For sewer force mains regardless of pipe material used, test pressure shall be 100 psi. Otherwise all Water Pressure Test requirements apply.

**306-1.6 Basis of Payment for Open Trench Installations.** To the City Supplement, paragraph (1), DELETE in its entirety and SUBSTITUTE with the following:

The contract unit price bid per linear foot for pipe and conduit in place shall be considered full compensation for all wyes, tees, bends, monolithic catch basin connections, flexible couplings, and specials shown on the Plans; the removal or restoration of interfering portions of existing sewers, storm drains, and existing improvements as shown on Plans; the closing or removing of abandoned conduit and structures; the excavations of the trench; the control of ground and surface waters; the preparation of subgrade; placing, joining and testing pipe; backfilling the trench; permanent resurfacing; disposal of excess excavation; temporary resurfacing when not a Bid item; removal and replacement of any affected landscaping; and all other work necessary to install the pipe or conduit, complete in place.

To the City Supplement, ADD the following:

Payment for imported backfill, as determined by the Engineer, to import material from a source outside the project limits shall be included in the Bid unit price for Imported Backfill. The price shall include the removal and disposal of unsuitable materials.

To the City Supplement, ADD the following:

9. Payment for double ball flex joints at bridges shall be included in the lump sum Bid item for Six (6) Double Ball Flex Joints at Bridges.
10. Payment for sewer force main installation within existing water main (carrier pipe) including spaces and all appurtenances shall be included in the unit price bid per linear foot for sewer forcemain.
11. Payment for the steel casing to be installed via open trench shall be paid for by the bid item entitled, "30-inch Steel Casing". Material should be in accordance with section 306-33 Jacked Steel Casing.

**306-1.8.3 Polyurethane Lining.** To the City Supplement, item 5, DELETE in its entirety.

**306-14.1 Payment.** To the City Supplement, ADD the following:

The bid item for water services shall include cost associated with rotating water meters, where required, and the larger pipe and appurtenances that extend from main line that water services tie into.

**ADD:  
306-23**

**MTS/SDA&E EXCAVATION SUPPORT SYSTEMS REQUIREMENTS.**

**306-23.1**

**General.** This Section specifies procedures, performance criteria and requirements for providing safe and stable excavations throughout construction. Provide temporary sheeting, shoring and bracing systems as required by the Work. Meet all codes, regulations, and requirements of agencies having jurisdiction over this Work. Obtain all required Federal OSHA, Cal/ OSHA and local jurisdiction permits.

Work under this Section, shall include but shall not be limited to:

- A. Design of the temporary support systems
- B. Construction of temporary sheeting, shoring, and bracing systems
- C. Employing acceptable side slope layback methods for excavations
- D. Maintenance of bracing systems and removal
- E. All associated design Work

**306-23.2**

**Submittals. General Excavation Support Procedure:** Submit an outline of intended excavation support systems and associated installation and removal procedures as required for the Work. This submittal is for the Engineer's general information and in no way relieves the Contractor of complete responsibility for the successful performance of his intended excavation methods.

**Sheeting and/or Shoring Drawings:** Required for sheeting, shoring and other excavation support systems, and conforming to the following requirements:

1. Drawings shall be prepared, signed and sealed by a Professional Engineer licensed to practice in the State of California.
2. Include plan views indicating the extents of all proposed shoring relative to the nearest track centerline.
3. Include cross-sections of all proposed shoring.
4. Include cross-sections cut perpendicular to the track; indicate the track location relative to the support system and use equal horizontal and vertical scales.
5. Vertical dimensions shall be relative to top of rail and horizontal elevations shall be relative to the nearest track centerline.
6. Drawings shall also indicate details of all structural members, connection details, and embedment depths.
7. Indicate construction access locations.

**Design Calculations:** Required for sheeting, shoring and other excavation support systems; prepared, signed, and sealed by a Professional Engineer licensed to practice in the State of California.

**306-23.3**

**Design Criteria.** Design the excavation support in accordance with AASHTO and the American Railway Engineering and Maintenance-of-Way Association (AREMA – AREMA.org) requirements, to support all loads including: earth pressures, AASHTO HS20 traffic loading, AREMA Cooper E-80 Railroad Loading, utility loads, loads from adjacent structures, ground water pressure, and equipment and construction loads. No increases in allowable stresses or reductions of safety factors shall be allowed.

The excavation support shall allow safe and expeditious construction of the permanent structure without movement or settlement of adjacent buildings, structures, utilities, or track work.

Excavations and shoring systems shall be such that AREMA Cooper E-80 Loading can be accommodated at all times during the shoring construction. Shoring construction shall be performed without affecting railroad operations unless otherwise approved in advance by the Engineer.

Temporary sheeting and shoring for support of adjacent tracks during construction shall not be closer than 8'-6" from the nearest track centerline (refer to CPUC G026-D and 118).

Excavation and Shoring requirements within the Sheet Piling Zone: The Sheet Piling

Zone shall be defined as the area between the following boundaries:

1. A vertical line offset 8'-6" from the nearest track centerline
2. A 1:1 projection beginning at a point located 8'-6" from the nearest track centerline and 2 feet below top of rail of the nearest track. Said 1:1 projection shall slope down and away from the nearest track.

Un-shored excavations within the Sheet Piling Zone shall not be allowed. Shoring within the Sheet Piling Zone shall be of a type where the shoring is installed in place prior to any excavation being performed, and where the excavation can be made with no possibility of disturbance or loss of soil material retained between the shoring and the track. Common shoring types fulfilling this requirement are interlocking-edge sheet piling, tongue and groove edge precast concrete sheet piling, which are driven or vibrated in position prior to starting any excavation. Unless otherwise indicated in the Project Specific Specifications, on the plans, or as approved by the Engineer, shoring within the Sheet Piling Zone shall be abandoned in place, except for the top 2 feet, which shall be removed, and backfilled in accordance with these specifications. Shoring types using lagging elements, which are placed as excavation proceeds, are not permitted within the Sheet Piling Zone. Shoring within the Sheet Piling Zone shall be designed for AREMA Cooper E-80 Loading.

Excavation and Shoring requirements within the Shoring Zone: The Shoring Zone shall be defined as the area between the following boundaries:

1. A 1:1 projection beginning at a point located 8'-6" from the nearest track centerline and 2 feet below top of rail of the nearest track. Said 1:1 projection shall slope down and away from the nearest track.

2. A 1.5:1 projection beginning at a point located 11'-0" from the nearest track centerline and 2 feet below top of rail of the nearest track. Said 1.5:1 projection shall slope down and away from the nearest track.

Un-shored excavations within the Shoring Zone shall not be allowed. Shoring types using lagging elements, which are placed, as excavation proceeds are allowable within the Shoring Zone. Shoring within the Shoring Zone shall be designed for AREMA Cooper E-80 Loading.

Excavation and Shoring requirements within the Excavation Zone: The Excavation Zone shall be defined as the area that is located beyond (i.e. in a direction away from the nearest track) the following boundary:

1. A 1.5:1 projection beginning at a point located 11'-0" from the nearest track centerline and 2 feet below top of rail of the nearest track. Said 1.5:1 projection shall slope down and away from the nearest track.

Sloping cuts are allowed within the Excavation Zone. Excavations and shoring within the Excavation Zone are not required to be designed for railroad live loading.

Provide handrails in accordance with Cal-OSHA and CPUC General Order 26-D.

Tiebacks or any other excavation support mechanisms that are installed under the track structure shall be at least 24 inches clear below top of rail.

**ADD:  
306-24**

#### **GEOTECHNICAL INSTRUMENTATION FOR GROUND MOVEMENT.**

**306-24.1**

**General.** Geotechnical Instrumentation for Ground Movement is used to measure and or detect ground movement and then change the process so as to minimize and or eliminate ground movement as the project advances. If the ground movement exceeds certain limits the project may be required to stop so as to not damage a sensitive feature or to place the general public at risk to injury.

All submittals for work within the railroad right-of-way is subject to railroad review, comment, and permit requirements.

All work completed within the railroad right-of-way is subject to railroad review, inspection, and permit requirements.

**306-24.2**

#### **Contractor's Qualifications and Submittals.**

1. Geotechnical submittals shall be coordinated with all relevant submittals, assembled and submitted as a single, comprehensive submittal.
2. The Contractor shall submit an experienced and qualified California licensed geotechnical engineer (GE) or California licensed engineer (PE) to install, take readings, and perform analysis. Provide an experience list demonstrating similar projects with similar requirements.



3. The Contractor shall submit an experienced and licensed California Land surveyor to survey and take required geotechnical survey readings. Provide an experience list demonstrating similar projects with similar requirements.
4. Experience record - For each project listed for experience include: project name, project location, month and year work completed, project owner, project owner's contact, project owner's contact information, instruments installed and read, length, soil type, tunneling method, and if work was completed for a general contractor (GC) GC's name, GC's contact, and GC's contact information for each project.
5. Work within the railroad right-of-way shall comply with American Railway Engineering and Maintenance-of-Way Association (AREMA) requirements as determined by the appropriate railroad agency. All of the following requirements are subject to AREMA requirements and review by the appropriate railroad agency. The AREMA based reviews are in addition to the City and their requirements and comments govern. Provide the following pre-construction submittals for each instrument type:
  - A. Planned location, planned depth, unique identifier, permit reference, installation information, and removal including dates.
  - B. Baseline reading form with space for cumulative readings. Show anticipated schedule and actual schedule.
  - C. Daily observation record.
  - D. Draft or sample report demonstrating analysis and interpretation of readings.
  - E. Preprinted instrument product information demonstrating instrument meets requirements. Also include installation, reading, handling, and disposal requirements.
  - F. Contingency plans for the following potential conditions and action levels as defined in Section 306.8 of these specifications:
    - a) Monitoring or observation demonstrates ground movement requiring notice.
    - b) Monitoring or observation demonstrates ground movement requiring action.
    - c) Monitoring or observation demonstrates ground movement requiring stoppage.
6. Provide the following construction submittals for each instrument type:
  - A. Baseline reading form with cumulative readings no later than the next working day with interpretations within 2 working days.

- B. Daily observation record no later than the next working day.
  - C. Written notices are to be provided on the same day as the incident.
7. Provide the following post-construction submittals for each instrument type:
- A. Complete record of readings and observations and summary of movement.

**306-24.3 Ground Observation.** The Contractor shall walk the tunnel alignment at least three times per shift and note any visible signs of ground movement. Observations may include new cracks, opening cracks, fluids on the surface, rat holes, and any other notable or suspect feature. Record and photograph observations including a scale and markings demonstrating repeatability of measurement and location. Provide immediate written notice and comment on potential for damage.

**306-24.4 Surface Monitoring Points (SMP).** The Contractor shall monitor the ground surface elevation using survey methods and note any visible signs of ground movement. Use the following within 20 feet of each shaft and regularly spaced, not to exceed 50 feet separation, over the tunnel centerline and as accepted by the Engineer:

1. Type A – Is used to detect ground movement originating deeper than 8 feet below existing grade. Instrument is designed to penetrate through surface features that would bridge settlement.
2. Type B - Is used to detect ground movement originating deeper than 4 feet and shallower than Type A below existing grade. Instrument is designed to penetrate through surface features that would bridge settlement.
3. Type C - Is used to detect near surface ground movement. Instrument is not designed to penetrate through surface features that would bridge settlement. Type C may also be used to mark ground observation locations and rail elevation locations.
4. SMP array – Three Type A and Type B instruments used to measure ground movement and the settlement trough. An array is used when the tunnel has more than 20 feet of cover. One Type A instrument is located over the tunnel centerline and depending on the soil type and depth of tunnel cover, one Type A or B instrument is offset perpendicular to the alignment or parallel to the flow of traffic on both sides of the tunnel. The bottom of the offset instrument is to be located within the settlement cone and therefore the amount of offset is based upon soil type and depth of tunnel cover and is location specific.

**306-24.5 Rail Elevations, Buildings, and Retaining Walls.** The Contractor shall monitor rail elevations and building and retaining wall elevations and vertical nature using survey methods at least three times per shift and note any visible signs of ground movement. Monitor all rails, buildings, and retaining walls overlying the tunnel and within the right-of-way easement. The monitoring shall be at the start, midpoint, and end of each work shift. Observations may include new cracks, opening cracks, fluids on the surface, rat holes, and any other notable or suspect feature. Record and photograph observations.

**306-24.6 Quality Control.**

1. All instruments are to be installed and baselined before any other excavation commences. The only exception is potholing to locate utilities.
2. Grout – any grout used to install geotechnical instrumentation shall be of approximately the same strength as the ground encountered during installation of each instrument so as to not improve the ground. Grout strength can be estimated based upon the anticipated ground conditions as defined in 306-31.
3. Baseline measurements are those measurements taken upon initial installation of the point and with at least two readings taken and demonstrating to a reasonable certainty the commonality and reproducibility of the data.
  - a) Two readings shall be taken using two completely separate equipment set-ups.
  - b) Each set-up shall be on separate work days.
  - c) If the readings are inconsistent then a second set of two readings as described above are to be completed by a second surveyor before review by Engineer.
4. Coordinate with other related specifications including:
  - b) 306-31 Horizontal Auger Boring
  - c) 306-32 Shafts and Pits
  - d) 306-33 Jacked Steel Casing
  - e) 306-34 Contact Grouting
  - e) 306-35 Insertion of Carrier Pipe in Casing

**306-24.7 Action Levels and Measurement Frequency.** All ground movement is based upon the net movement from the original baseline measurement. Measurements are those taken where the tunnel has been excavated and those within 50 feet of the face, point at which excavation takes place.

1. Ground movement within acceptable limits – Take measurements at the start of every other work day commencing on the first day of excavation.
2. Ground movement requiring written notice - Take measurements at the start of every work day commencing on the first day of written notice. Contractor shall submit revised work plan stating how the work plan is changed to prevent attaining the next action level. Submit documentation implementing revised work plan with intended measureable results.

3. Ground movement requiring action - Take measurements at the start of every work day and every 4 work hours commencing on the first day of written notice. Contractor shall submit revised work plan stating how the work plan is changed to prevent attaining the next action level. Contractor is required to address changing HAB supervisor/foreman and HAB operator. Submit documentation implementing revised work plan with intended measureable results.
4. Ground movement requiring stoppage – Stop excavation and provide written notice. Work will not resume until acceptable corrective action is completed. Take measurements at the start of every work day and every 4 work hours commencing on the first day of written notice. Frequency of measurements shall not be decreased until after 10 consecutive days of readings demonstrating ground movement has essentially stopped. All 10 days of readings being  $\pm 0.01$  feet of the same measurement or statistically proven to be accurate and without further movement.
5. Drive completed – Take measurements at the start of every work week commencing the week following completion of excavation. After four weeks of readings being  $\pm 0.01$  feet of the same measurement or statistically proven to be accurate and without movement, the taking of measurements can stop.

**306-24.8 Action Levels.** Plus (+) is heave and minus (-) is settlement.

1. Ground movement requiring written notice – attainment of +50% or -50% of maximum allowable
2. Ground movement requiring action – attainment of +75% or -75% of maximum allowable
3. Ground movement requiring stoppage – attainment of +90% or -90% of maximum allowable.

**306-24.9 Maximum Allowable by Owner.**

1. Railroad, Buildings, and Retaining Walls – 0.25 inches elevation and 0.10 degrees change in vertical nature.
2. City of San Diego – 0.5 inches.

**306-24.10 Restoration.** Contractor shall remove instruments and restore damaged surface, structures, and improvements to previous condition unless otherwise specified. Contractor shall remove debris, materials, equipment, and legally dispose of all waste.

**306-24.11 Measurement.** Instruments, installation, removal, and disposal shall be included within the appropriate Lump Sum Trenchless Construction – (by location) Bid Item.

**306-24.12 Payment.** Instruments, readings, reporting and all other related costs including all work appurtenant to constructing and installing a complete and operational pipeline within the limits shown on the Plans and as specified herein, is incidental to and included in the Lump Sum Trenchless Construction – (by location) Bid Item.

**ADD:  
306-25**

**HORIZONTAL AUGER BORING.**

**306-25.1**

**General.** Horizontal auger boring (HAB), also known as auger boring and bore and jack, and is referred to as horizontal auger boring (HAB) herein. HAB is typically a two-pass tunnel construction method where a horizontal auger boring machine is set in a pit to the design line and grade to excavate a tunnel of a predetermined diameter and length along a predetermined path. A steel casing which provides the initial ground support is set on the auger boring rails and advanced by the auger boring machine while lubrication is injected between the casing and the ground. The auger, internal to the steel casing, is simultaneously rotated and jacked forward to excavate the tunnel and remove the spoils. Upon completion of the tunnel a carrier pipe is inserted into the tunnel, second pass, and set to the design line and grade. Before starting excavation, the Contractor shall, in accordance with 2-5.3, submit Working Drawings of jacking pit bracing, casing, carrier pipe, and auger head and submit a detail operational plan based upon the anticipated ground conditions as defined below. The method is further described in ASCE Manual of Practice 106. When specified or as approved by the Engineer, HAB shall be subject to the following specification.

The anticipated ground conditions for the horizontal auger boring, shafts, and related work are as disclosed in the project geotechnical report, "*Final Report of Geotechnical Investigation, Pacific Beach Pipeline, City of San Diego*" prepared by Allied Geotechnical Engineers, Inc. and dated March 9, 2015 and as modified herein. The Contractor is to assume the ground water levels change over time and following rain events and to allow for these changes the groundwater is to be presumed to be 2 feet higher in elevation than shown on the bore logs.

All submittals for work within the railroad right-of-way are subject to American Railway Engineering and Maintenance-of-Way Association (AREMA) requirements, railroad review, comment, and permit requirements.

All work completed within the railroad right-of-way is subject to AREMA requirements, railroad review, inspection, and permit requirements.

**306-25.2**

**Contractor's Qualifications and Submittals.**

1. HAB submittals shall be coordinated with all relevant submittals, assembled and submitted as a single, comprehensive submittal.
2. The Contractor performing the Work shall be a licensed contractor in the State of California and holder of current annual underground certifications/permits/licenses and experienced in HAB operations.
3. Work within the railroad right-of-way shall comply with AREMA requirements as determined by the appropriate railroad agency. All of the following requirements are subject to AREMA requirements and review by the appropriate railroad agency. The AREMA based reviews are in addition to the City and AREMA requirements and comments govern. The Contractor shall submit the following items for the Engineer's acceptance prior to ordering casing pipe materials and the start of the Work:

- A. List of past HAB projects successfully completed by each: (1) the contractor performing the work, (2) the person supervising the work, and (3) the HAB operator. List at least 10 drives of at least 300 feet each in each of the last 5 years.
- B. Preprinted HAB machine specifications or a letter from the HAB machine manufacturer demonstrating that the selected machine is capable of progressing through the anticipated ground conditions and is suitable for the size and scope of the Work.
- C. List of at least 15 tunnel projects over the last 5 years including references and contact information where the contractor's CA land surveyor has performed similar line and grade transfers for tunneling, tunnel line and grade surveys, closed loop tunnel surveys confirming tunnel installation accuracy, and prepared AutoCAD as-built drawings demonstrating the carrier pipe can be installed in accordance with these specifications.
- D. Experience record - For each project listed for experience include: project name, project location, month and year work completed, project owner, project owner's contact, project owner's contact information, casing size, length, soil type, tunneling method, and if work was completed for a general contractor (GC) GC's name, GC's contact, and GC's contact information for each project.
- E. Construction procedure for casing pipe installation including:
  - a) Launching and receiving shafts and pits proposed dimensions, locations, method of excavation, shoring, bracing and ventilation. Shafts and pits shall be of the smallest size practical for construction.
  - b) Continual application of lubrication.
  - c) Method to prevent loss of lubrication at the point of entrance and or through shaft or pit wall.
  - d) Equipment technical data and operating procedures.
- F. Detailed calculations and work plans for each crossing signed by the shaft designer to acknowledge their review. Including:
  - a) Jacking force calculations for each drive as specified in Section 306-32.
  - b) Scale drawing(s) showing configuration of auger head, tooling, leading edge of casing, and operation position of auger head in relation to the leading edge of casing based upon anticipated ground conditions. Provide reasoning for any cutter projecting beyond casing leading edge and beyond inside edge of casing inside diameter. Restraint showing how the auger will not be allowed to be advanced in front of the casing.

- c) Schedule demonstrating that the tunneling work across the railroad right-of-way will be completed in the same work week as it commences. No HAB will commence in a work week of less than 5 work days and no later than Tuesday. Contractor will work every day until tunnel is across railroad right-of-way.
  - d) Address and comply with all AREMA requirements.
- G. Contingency plans for acceptance for the following potential conditions:
- a) Loss of ground or heaving.
  - b) Encountering an unforeseen obstruction or inability to advance.
  - c) Method of adjusting auger boring head if ground encountered is different than anticipated ground conditions.
  - d) Jacking forces projected at completion, based upon current forces, exceed casing maximum allowable or HAB design capabilities.
  - e) Loss of, and return to, design line and grade.
- H. Layout and profile of the auger boring equipment in the launch pit including line and grade control points, ventilation system, entry/egress system, rail anchorage system, sump pump, and method preventing lubrication from entering shaft for each location.
- I. Layout of HAB equipment and above ground equipment at each shaft location and denoting crane swing and restrictions.
- J. Lubrication formulation shall use potable water and NSF 060 fluids and additives. NSF 060 acceptance shall be based upon the fluid remaining in the ground. No hydrocarbon based fluids and additives shall be used.
- K. Calculations of theoretical annular space volumes for each location, and lubrication volumes, pump rates, and pressures required to completely fill the theoretical annular space.
- L. Lubrication mixing system details. Information about the lubrication to be used, including product information, material specifications, and handling procedures; material safety data sheet and special precautions required; methods of mixing and application; and disposal plan. Circulating pump capacity as measured by volume, density, and psi shall exceed maximum anticipated requirements by 20%.
- M. For AREMA permitted crossings lubrication or any other liquid shall not be injected inside the casing. If injection within the casing is not used clearly state "Not used."
- N. Method of spoil removal, disposal method, and legal disposal location.

- O. Electrical system, lighting system, and onsite power generation.
  - P. Guidance and steering method for ensuring HAB is within design line and grade tolerances as the tunnel is excavated. Method may include pulling augers and surveying inside of casing.
  - Q. Upon the completion submit written notices as required and in accordance with the AREMA requirements.
4. The Contractor shall submit daily production reports for the ENGINEER's review within 1 working day following collection of data.
  5. Submit as-built drawings to a scale not less than the contractor drawings and of sufficient scale demonstrating the carrier pipe was installed to the specified tolerances.

**306-25.3 HAB System Equipment.** The HAB equipment shall consist of a power unit, auger boring head, rails, a lubrication system, and a guidance or location system.

**306-25.3.1 Power Unit.** A power delivery system of a diesel engine and transmission drives a hydraulic power pack used to provide forward thrust and rotational control to the auger. The system includes a throttle control, forward and reverse gears for auger rotation, hydraulic power pack for thrust, and hydraulic controls for thrust and retraction. The front of the auger rotation unit provides for the removal of the spoils from the casing to windrow along the guide rails and the load transfer surface used to engage the casing. The power unit and rails shall be anchored to withstand the pulling, pushing and rotating forces required to complete the project. The power unit shall be free of leaks. The power unit shall have operational gauges for monitoring engine performance, thrust and auger torque. Provide conversion factors.

**306-25.3.2 Auger Boring Head.** Auger boring head shall include a system of tools used to excavate the anticipated ground and shall be of an appropriate design for the ground being excavated. Include lubrication system. Include guidance or location system.

1. The guidance or location system shall be capable of meeting the tolerances specified herein.
2. The guidance or location system shall provide the vertical and horizontal position of the auger head with ranges in line and grade compatible with the carrier pipe line and grade design requirements specified herein.
3. Maximum allowable annular overcut for AREMA permitted crossings is 0.50 inches.

**306-25.3.3 Rails.** The rails shall be firmly anchored to resist jacking forces without undue movement and to provide guidance to install the casing to design line and grade. The guide rails shall not be in contact with the shoring unless the shoring is designed to resist the thrust and retraction load.

**306-25.3.4 Casing Installation Tolerances.** The casing shall be installed so that the carrier pipe is installed within the design tolerances of +/- 1.0 inch to design grade, +/- 2.0 inches



to design line, and no reverse grades or ponding. The carrier pipe shall have at least 2.0 inches of separation between the outer most projection of the carrier pipe and the inner most projection of the casing pipe. The carrier pipe shall be laid in a relatively straight line minimizing angular deflection.

**306-25.4**

**Quality.**

1. Daily production records headers are to include project name, general contractor, representative, HAB contractor, representative, date, time, location, anticipated jacking distance, design line and grade, and casing size. For each casing pipe include: operator, jacking location before commencing, line and grade before commencing, HAB start and end time, casing welding start and end time, maximum jacking force and torque encountered, , jacking location upon completion, line and grade upon completion,, any adjustments to line and grade, observations of settlement, and any operating issues, delay time, and cause of delay.
2. The Contractor shall operate the HAB so as to minimize ground movement as specified in 306-30 Geotechnical Instrumentation for Ground Movement.
3. Contractor shall attempt to inject lubrication at a flow rate and pressure that completely fills the theoretical annular space.
4. Coordinate with other related specifications including:
  - a) 306-30 Geotechnical Instrumentation
  - c) 306-32 Shafts and Pits
  - d) 306-33 Jacked Steel Casing
  - e) 306-34 Contact Grouting
  - e) 306-35 Insertion of Carrier Pipe in Casing

**306-25.5**

**Restoration.** Contractor shall restore surface, structures, and improvements to previous condition unless otherwise specified. Contractor shall remove all construction debris, materials, equipment, and legally dispose of all waste.

**306-25.6**

**Measurement.** HAB will be measured per the unit completed, Lump Sum.

**306-25.7**

**Payment.** HAB will be paid per the item completed, Lump Sum for Trenchless Construction – (by location) Bid Item, including all work appurtenant to constructing the tunnel and installing a complete and operational pipeline within the limits shown on the Plans and as specified herein except those items specifically priced elsewhere such as but not limited to the surface restoration, traffic control, and water pollution control.

**ADD:  
306-26**

**SHAFTS AND PITS.**

**306-26.1**

**General.** Shafts are site specifically designed and constructed excavations, typically used as temporary works for the construction of permanent works. Shafts require a site specific design signed and sealed by a locally licensed professional engineer (PE). A shaft is typically characterized by the length and/or width being less than the depth. A shaft may also be required if water-tight and/or in-the-wet construction methods are required.

Pits are generic excavations typically supported using a pre-engineered support system or using laid back sidewalls and the depth being less than or equal to 20 feet. Pits rely upon dewatering systems to remove groundwater.

Shafts and pits are to be dewatered to at least 2.0 feet below the excavation and remain free of water for the duration of construction unless specifically designed and constructed using water-tight and/or in-the-wet construction methods. Sump pumps are required in all constructed shafts and pits for the removal of incidental construction water, incidental leakage, and rainfall which are to be minimized through other controls. Sump pumping is not a normal means of dewatering or lowering the groundwater level.

Water-tight is defined as the in-flow of water from all sources limited to 5 gallons per minute except during shaft or pit wall penetration which will then be limited to 10 gallons per minute. Water in-flow during shaft or pit wall penetration is measured commencing at modification of shoring and ending when the first jacking pipe passes through the interior shaft or pit wall plane. When specified or as approved by the Engineer, shafts and pits are subject to the following requirements.

All submittals for work within the railroad right-of-way are subject to American Railway Engineering and Maintenance-of-Way Association (AREMA) requirements, railroad review, comment, and permit requirements.

All work completed within the railroad right-of-way is subject to AREMA requirements, railroad review, inspection, and permit requirements.

**306-26.2**

**Shaft and Pit Contractor's Qualifications and Submittals.**

1. Shaft and Pit submittals shall be coordinated with all relevant submittals, assembled and submitted as a single, comprehensive submittal.
2. The Contractor shall be experienced in the design and construction of shafts and pits.

3. Work within the railroad right-of-way shall comply with AREMA requirements as determined by the appropriate railroad agency. All of the following requirements are subject to AREMA requirements and review by the appropriate railroad agency. The AREMA based reviews are in addition to the City and their requirements and comments govern. The Contractor shall submit the following items for the Engineer's acceptance prior to ordering pipe materials and the start of the Work:
- A. List of past shaft or pit projects successfully completed by the personnel leading the work, superintendent/foreman and shaft or pit excavation equipment operator if specialized equipment is used, including at least 10 shafts or pits in each of the last 5 years for a total of 50 shafts and pits.
  - B. If specialized shaft or pit excavation equipment is used then preprinted machine specifications or a letter from the equipment manufacturer demonstrating that the selected machine(s) is capable of progressing through the anticipated ground conditions as defined in 306-31 and is suitable for the maximum size and scope of the Project.
  - C. List of past shaft or pit projects successfully designed by the engineer leading the work, a California PE, including at least 10 shafts or pits in each of the last 5 years for a total of 50 shafts and pits
  - D. Experience record - For each project listed for experience include: project name, project location, month and year work completed, project owner, project owner's contact, project owner's contact information, casing size, length, soil type, tunneling method, and if work was completed for a general contractor (GC) GC's name, GC's contact, and GC's contact information for each project.
  - E. Construction procedure for each step of the shaft or pit sequence commencing with clearing of utilities through restoration.
  - F. Contingency plans for approval for the following potential conditions:
    - a) Encountering unanticipated ground types including boulders, unanticipated ground behavior, unanticipated groundwater, and unanticipated man-made structures.
    - b) Ground loss of more than 1 cubic yard from shaft or pit wall penetration or retrieval.
    - c) Shaft or pit wall deflects more than 80% of design.
  - G. If manufactured shoring is used provide shoring manufacturer's written recommendations for transporting, handling, storage, installing, and repair of shoring. If manufactured shoring is used provide written shoring manufacturer's specifications and drawings denoting physical properties, dimensions, and manufacturing and inspecting requirements.

- H. Calculations indicating that the shoring method or process used does not exceed the allowable tensile and compression limits of the shoring and the shoring can withstand the final in place loading.
  - I. Layout of excavation equipment and above ground equipment at each shaft or pit location.
  - J. Method of spoil removal, spoil disposal, disposal location, and required disposal permits.
  - K. Electrical system, lighting system, and onsite power generation.
  - L. Review and sign the HAB work plan and calculations acknowledging the work does not negatively impact and is compatible with the shaft design
4. Ventilation system based upon contractor's construction method, manpower, and CalOSHA requirements.

**306-26.3 Shafts and Pits Location and Size.**

- 1. The shafts and pits shall be located such that their total number shall be minimized and the length of replacement pipe installed in a single reach maximized. Locations of appurtenances, angle points, and valves shall be used for shafts and pits when feasible.
- 2. Excavation shall be within the easements or right-of-way lines to the lines and grades designated on the drawings. The Contractor shall size and locate shafts and pits so they minimize interferences with vehicular and pedestrian traffic and subsurface structures. If the traffic plans cannot accommodate the location or size of the proposed shaft or pit, the Contractor shall be responsible for the changes or new plans required in accordance with 7-10, "PUBLIC CONVENIENCE AND SAFETY."
- 3. Entry and exit areas shall be protected (e.g., chain link fencing or plating) to prevent unauthorized persons and vehicular traffic from accidentally entering the shafts and pits.

**306-26.4 Shaft and Pit Site Location Preparation.** The Site as indicated on Plans shall be graded or filled to provide a level working area. No alterations beyond what is required for operations shall be made. The Contractor shall confine all activities to designated Work areas.

**306-26.5 Ground Monitoring.** The Contractor shall comply with Section 306-30 of these specifications.

**306-26.6 Quality Control.**

- 1. The Contractor shall design and construct shoring so as to minimize ground movement as specified in 306-30 Geotechnical Instrumentation for Ground Movement.

2. Coordinate with other related specifications including:
  - a) 306-30 Geotechnical Instrumentation
  - b) 306-31 Horizontal Auger Boring
  - d) 306-33 Jacked Steel Casing
  - e) 306-34 Contact Grouting
  - d) 306-35 Insertion of Carrier Pipe in Casing

**306-26.7 Restoration.** Contractor shall restore surface, structures, and improvements to previous condition unless otherwise specified. Contractor shall remove all construction debris, materials, equipment, and legally dispose of all waste.

**306-26.8 Measurement.** Shafts and pits shall be included within the appropriate Lump Sum Trenchless Construction – (by location) Bid Item.

**306-26.9 Payment.** Payment for shafts and pits, including all work appurtenant to constructing the shafts and pits and installing a complete and operational pipeline within the limits shown on the Plans and as specified herein, is incidental to and included in the Lump Sum Trenchless Construction – (by location) Bid Item.

**ADD:**

**306-27 JACKED STEEL CASING.**

**306-27.1 General.** Jacked steel casing serves as the initial ground support during excavation, transfers the forward thrust from the jacking system to the face, contains the spoils for internal transportation of the spoils, and serves as a protective casing for the installed carrier pipe. The lubrication and guidance system conduits are typically attached to the outside of the steel casing avoiding being damaged by the auger.

All submittals for work completed within the railroad right-of-way is subject to railroad review, comment, and permit requirements.

All work completed within the railroad right-of-way is subject to railroad review, inspection, and permit requirements.

**306-27.2 Contractor's Qualifications and Submittals.**

1. Jacked Casing Pipe submittals shall be coordinated with all relevant submittals, assembled and submitted as a single, comprehensive submittal
2. The Contractor shall be experienced in using the horizontal auger boring (HAB) method for the installation of steel casings between 24-and 48-inches outside diameter (OD).
3. 2Work within the railroad right-of-way shall comply with American Railway Engineering and Maintenance-of-Way Association (AREMA) requirements as determined by the appropriate railroad agency. All of the following requirements are subject to AREMA requirements and review by the

appropriate railroad agency. The AREMA based reviews are in addition to the City and their requirements and comments govern. The Contractor shall submit the following items for the Engineer's acceptance prior to ordering casing pipe materials and the start of the Work:

1. List of past HAB projects where steel casing was successfully installed including at least 10 drives of at least 300 feet in each of the last 5 years.
2. Experience record - For each project listed for experience include: project name, project location, month and year work completed, project owner, project owner's contact, project owner's contact information, casing size, length, soil type, tunneling method, and if work was completed for a general contractor (GC) GC's name, GC's contact, and GC's contact information for each project.
3. Certification from the casing pipe manufacturer that the casing is new, has square ends, straight and true as specified herein, and of the specified materials and welding.
4. Field welder shall be certified as specified herein.
5. List of past tunnel projects where the contractor's CA PE has performed similar calculations for jacking force and maximum allowable jacking load on the installed casing. The personnel leading the work shall have completed at least 5 similar calculations in each of the last 5 years.
6. Jacking force calculations prepared by a CA PE experienced in jacking force calculations showing the casing pipe exceeds the maximum anticipated jacking forces, as measured by the worst case, by at least 25%. Calculations prepared by a CA PE experienced in preparing maximum allowable jacking load showing the casing exceeds maximum anticipated jacking forces, as measured by the worst case, by at least 25% with a minimum factor of safety of 2.0 unless otherwise determined by the PE. Provide source of equations and factors used in performing calculations that are acceptable to Engineer. Calculations demonstrating the casing is of sufficient design for AREMA E-80 loading.
7. Construction procedure for casing pipe installation from lifting casing to setting it on rails to commencing with the jacking operation including casing alignment and verification of true mated joints.
8. Contingency plans for approval for the following potential conditions:
  - a) Joint is not properly welded.
  - b) Lubrication and/or guidance features are not properly secured.
  - c) Field weld fails during jacking.
  - d) Pipe is welded with directional bias.

9. Casing pipe manufacturer's written recommendations for shipping, handling, storage, lifting, welding, and repair of pipe.
  10. Detailed dimensioned drawing showing leading edge treatments for steel casing.
  11. Dimensioned drawing showing any and all modifications to the steel casing pipe.
  12. Dimensioned drawing showing placement of the carrier pipe to design line and grade within the steel casing pipe as specified in section 306-31.
4. The Contractor shall submit daily production reports for the Engineer's review within 1 working day following end of shift.

### 306-27.3

#### Quality.

1. Steel casing pipe – Shall comply with AREMA requirements and E-80 design load. Steel casing shall be ASTM A-36, ASTM A515, grade 60 or ASTM A572, grade 42.
2. Pipe roundness shall not vary more than  $\pm 1\%$  from the specified diameter. Pipe outside circumference shall not vary more than  $\pm 1\%$  from the nominal circumference based on the specified diameter, or  $\pm 3/4$ -inch maximum. Pipe wall thickness of the steel pipe sections shall not vary more than 5% under the nominal wall thickness specified. Maximum pipe straightness deviation in any 10-foot length shall be 1/8-inch. The maximum straightness deviation in fabricated sections up to 40 feet shall be 3/8-inch.
3. Casing thickness shall be a minimum of 0.5 inches.
4. Welders shall be qualified under the provisions of ANSI/AWS D1.1 by an independent local, approved testing agency not more than 6 months prior to commencing work on the casing.
5. Coordinate with other related specifications including:
  - a) 306-30 Geotechnical Instrumentation
  - b) 306-31 Horizontal Auger Boring
  - c) 306-32 Shafts and Pits
  - f) 306-35 Insertion of Carrier Pipe in Casing

### 306-27.4

**Inspection.** Immediately prior to placing the casing pipe into the casing pipe string, the Contractor shall inspect the casing pipe and ensure the casing pipe is as specified with square ends has been properly prepared for welding or is using new Permalok™ interlocking mechanical joints.

### 306-27.5

**Payment Measurement.** Steel casing pipe shall be included within the appropriate Lump Sum Trenchless Construction – (by location) Bid Item..

**306-27.6**      **Payment.** Steel casing pipe including all work appurtenant to the construction of a complete and operational pipeline within the limits shown on the Plans and as specified herein, is incidental to and included in the Lump Sum Trenchless Construction – (by location) Bid Item.

**ADD:  
306-28**

**CONTACT GROUTING.**

**306-28.1**      **General.** Contact Grouting is a method used to minimize systemic settlement by injecting a neat cement grout between the jacked casing and the native ground and is referred to herein as annular space. Contact grouting is placed after the jacked steel casing is completed and before the carrier pipe is inserted into the steel casing. The grouting is to be completed before the steel casing is surveyed to determine the placement of the carrier pipe within the casing.

Perform or attempt to perform contact grouting on: (1) all steel casings 36-inches in outside diameter (OD) and larger and having a theoretical annular space of 0.75 inches or larger or (2) if ground movement has reached the response values specified in Section 306-30 of these specifications or (3) if over excavation is believed to have occurred based upon excavated volumes or (4) if a permit, easement, or third party requires contact grouting or (5) if noted as required on the drawings.

**306-28.2**      **Contractor's Qualifications and Submittals.**

1.      Contact grouting submittals shall be coordinated with all relevant submittals, assembled and submitted as a single, comprehensive submittal.
2.      The Contractor shall be experienced in the mixing and placement of contact grout. The Contractor's Engineer shall be a Professional Engineer registered in the State of California.
3.      Submitted calculations shall be signed and sealed by a Professional Civil Engineer registered in the State of California. Calculations shall clearly identify all parameters used, state all assumptions made in the calculations, and identify all sources of information.
4.      All shop drawings shall be legible with dimensions accurately shown and clearly marked in English.
5.      The Contractor shall submit the following items for the Engineer's acceptance prior to the start of the Work:
  - A.      List of past tunnel projects where steel casing pipe was successfully contacted grouted by the personnel leading the work, including at least 10 drives of at least 200 feet each in each of the last 5 years. Each project listed to include project name, project owner, project owner's contact, project owner's contact information, jacking pipe size, length, soil type, tunneling method, and if work was completed for a general contractor (GC) GC's name, GC's contact, and GC's contact information for each project.



- B. List of past tunnel projects where the contractor's Engineer has performed similar anticipated injection pressure calculations and estimated grout volume calculations. The personnel leading the work shall have completed at least 5 similar calculations in each of the last 5 years, and current reference for each project.
- C. Preprinted grout mixing and pumping equipment specifications demonstrating that the selected machine(s) is capable of providing contact grout for the project based upon the worst case scenario.
- D. Grout mix (water-cement) ratios shall be expressed in cubic feet of water per cubic foot of cement (94 pound bag). The water-cement ratio by volume shall be varied as needed to fill the voids outside the jacking pipe. The range of water-cement ratios shall be between 1:1 and 2:1 by volume. Provide MSDS for each product.
  - a) Cement shall be Type II or Type V Portland cement conforming to ASTM C150. Type II cement shall meet Table 4 false set requirements of ASTM C150.
  - b) Bentonite shall be a commercially processed powdered bentonite, Wyoming type; NSF/ANSI Standard 060 compliant
  - c) Potable water.
  - d) Fluidizers, or fluidifiers, shall hold the solid constituents of the grout in colloidal suspension, be compatible with the cement and water used in the grouting work, and comply with the requirements of ASTM C937.
  - e) Admixtures shall be accepted by the Engineer. If commercially available and acceptable to the product manufacturer all polymers, and additives, other than soda ash, shall be NSF/ANSI Standard 060 compliant.
  - f) Provide Engineer with the cumulative test results within 2 working days of testing.
- E. Grout mix strength tests. Prepare samples using the design mix for testing and modify mix so as to attain desired results which is the field mix. Take field mix samples and test.
  - a) Prepare and test samples for 24-hour, 7-day, and 28-day compressive strength tests according to ASTM C39 for cylinders or ASTM C109 for cubes, except as otherwise specified herein.
  - b) Take grout for the cylinders or cubes from the nozzle of the grout injection line. Provide at least one set of four (4) samples for each 100 cubic feet of grout injected, but not less than one set for each batch in accordance with ASTM C31

- c) Provide Engineer with the cumulative test results within 2 working days of testing.
- F. Procedure for contact grout mixing and injection including:
- a) Location and installation of grout ports.
  - b) Mix formulation and measurement to ensure cured material requirements are met.
  - c) Anticipated injection pressures and volumes.
  - d) Close and weld each grout port.
  - e) Disposal of excess grout. Injection of waste materials into the annular space is strictly prohibited.
  - f) Inspect casing for roundness and repair any buckling.
  - g) Clean-up of casing following grouting and repair.
- G. Contingency plans for approval for the following potential conditions:
- a) Observing fluid on the surface or flowing in other undesirable locations.
  - b) Fluid does not take through injection valve assembly.
  - c) Buckling of casing.
- H. Initial certification within the last 1 month demonstrating gauges are accurate as specified. Gauges are to be recertified every 6 months thereafter.
- I. Calculations prepared by Contractor's Engineer experienced in contract grouting calculations. Include anticipated injection pressure calculations and estimated grout volume calculations.
- J. Coordinate with other related specifications including:
- a) 306-30 Geotechnical Instrumentation
  - b) 306-31 Horizontal Auger Boring
  - c) 306-32 Shafts and Pits
  - d) 306-33 Jacked Steel Casing
  - e) 306-35 Insertion of Carrier Pipe in Casing
- K. Sample Grouting Log that is acceptable to Engineer including grouting location, estimated pressure, actual pressure, volume, and grout mix pumped, time of pumping, mixer person and person at grout port. Note any problems or unusual observations on logs.

6. The Contractor shall submit Grouting Log for the Engineer's review within 1 working day following the collection of data. Sign each form.

**306-28.3**

**Contact Grouting System.** Contact grouting system consists of a mixer, pump, hoses, and injection nozzle and gauges. Complete contact grout from downstream to upstream end and connect to each port. Recirculate grout through hoses for at least 2 minutes before attempting to grout.

- A. Grouting in any single port shall be considered complete when less than 1.0 cubic foot of grout, of the accepted mix and consistency, is pumped in 5 minutes under the submitted maximum injection pressure or the grout flows through the next grout port, or shaft or pit at the same rate as the rate of pumping.

**306-28.3.1**

**Mixing and Pumping Equipment.** The mixing equipment shall be capable of removing lumped or congealed product before entering the mixer, providing a thoroughly mixed free flowing fluid, and delivering the fluid at a steady state pressure with a variable volume. The fluid shall be mixed at all times until either used or the material is wasted. Flush the entire grout system and dispose of the waste materials.

**306-28.3.2**

**Hosing and Valving.**

- A. Hosing shall provide a re-circulation loop between the mixer and the injection valve which is located within 2 feet of the injection port.
- B. The injection valve shall include a pressure gauge and volumetric gauge at the point of injection.
- C. The pressure gauge shall be accurate to within 1 psi at the estimated injection pressure.
- D. The volumetric gauge shall be accurate to within 0.1 cubic foot at the estimated injection pressure.

**306-28.3.3**

**Contact Grout Mix.**

- A. Grout mix 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 manufacturer. The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods. No hazardous additives may be used.
- B. Grout shall consist of Portland cement, not more than 2 percent bentonite by weight of cement, fluidizer as necessary, and water in the proportions specified herein or acceptable to the Engineer. Sand is an allowed additive to the grout mix in instances of very high grout takes, more than 1 cubic yard, as accepted by the Engineer, but in no case shall the grout mix contain less than six sacks of cement per cubic yard of grout. The addition of water or fluidizer is permitted when sand is added to the grout mix.
- C. Provide grout with a minimum unconfined compressive strength (UCS) of 100 pounds per square inch (psi) in 24 hours, 300 psi in 7 days, and 500 psi in 28 days.

D. Dispose of grout not injected after 90 minutes of mixing.

**306-28.4 Ground Monitoring.** The Contractor shall monitor for ground movement associated with the Work and shall maintain no ground settlement or heave.

**306-28.5 Inspection.** The Contractor shall, with Engineer present and within reasonable proximity to the Contractor, tap the casing with a hammer to ensure filling of the annular space. If any void is detected and based upon further soundings is determined to either connect with an existing port or estimated to exceed 3 square feet make a reasonable attempt to tap the casing, install a one-way valve, and inject additional contact grout so as to fill the void. Upon completion of grouting, install and weld a pipe plug into the tapped hole. Weld and reduce water inflow to less than 1.0 gallon per minute over the entire drive

**306-28.6 Restoration.** Contractor shall restore surface, structures, and improvements to previous condition unless otherwise specified. Contractor shall remove all construction debris, materials, equipment, and dispose of all waste.

**306-28.7 Cleaning.** The Contractor shall scrap, brush, and wash the inside of the casing pipe so as to remove excess grout and deleterious materials.

**306-28.8 Measurement.** Contact grouting shall be included within the appropriate Lump Sum Trenchless Construction – (by location) Bid Item.

**306-28.9 Payment.** Payment for contact grouting, including all work appurtenant to constructing the tunnel and installing a complete and operational pipeline within the limits shown on the Plans and as specified herein, incidental to and is included in the Lump Sum Trenchless Construction – (by location) Bid Item.

**ADD:**

**306-29 INSERTION OF CARRIER PIPE IN CASING.**

**306-29.1 General.** Installation of a carrier pipe in a casing is completed after a casing is installed, cleaned, and surveyed. The survey is used to determine the final placement of the carrier pipe within the casing to meet the design requirements.

All submittals for work completed within the railroad right-of-way is subject to railroad review, comment, and permit requirements.

All work completed within the railroad right-of-way is subject to railroad review, inspection, and permit requirements.

**306-29.2 Contractor's Qualifications and Submittals.**

1. Insertion of Carrier Pipe submittals shall be coordinated with all relevant submittals, assembled and submitted as a single, comprehensive submittal.
2. The Contractor shall be experienced in the work described herein.

3. Work within the railroad right-of-way shall comply with American Railway Engineering and Maintenance-of-Way Association (AREMA) requirements as determined by the appropriate railroad agency. All of the following requirements are subject to AREMA requirements and review by the appropriate railroad agency. The AREMA based reviews are in addition to the City and their requirements and comments govern. The Contractor shall submit the following items for the Engineer's acceptance prior to ordering casing and carrier pipe materials and the start of the Work:
  - A. List of past projects successfully completed by the personnel leading the work, including at least 15 reaches of similar work of at least 300 feet each in each of the last 5 years, and current reference for each project.
  - B. Experience record - For each project listed for experience include: project name, project location, month and year work completed, project owner, project owner's contact, project owner's contact information, casing size, length, soil type, tunneling method, and if work was completed for a general contractor (GC) GC's name, GC's contact, and GC's contact information for each project.
  - C. Preprinted or a signed and sealed letter from each the (1) pipe manufacturer's PE, (2) end seal manufacturer's PE, and (3) casing spacer manufacturer's PE detailing the installation and the manufacturer's special handling and installation requirements for a complete and operational pipeline as specified herein. The casing spacer manufacturer's PE is to also demonstrate that the casing spacers will not fail under the installation loads with a minimum factor of safety of 2.0 or that recommended by the casing spacer manufacturer. Casing spacer and pipe manufacturer are to specifically address minimum and maximum spacing of the selected casing spacer.
  - D. Drawings, assembly instructions, calculations, and other materials demonstrating that the casing spacers are designed as specified herein.
  - E. Written assembly instructions demonstrating the correct procedures and spacing so as to not damage the carrier pipe.
  - F. Drawings, assembly instructions, and other materials demonstrating the correct installation procedures and handling so as to not damage the carrier pipe and end seal.
  - G. Contingency plans for acceptance for the following potential conditions:
    - a) Survey does not confirm an acceptable carrier pipe alignment.
    - b) Carrier pipe is damaged beyond acceptable tolerances during installation.
4. The Contractor shall submit the as-built drawings confirming the casing pipe alignment and that the carrier pipe can be installed to design line and grade as specified in 306-31 or prepare an alternative design for the Engineer's acceptance prior to placing the carrier pipe. Drawings shall be acceptable to the Engineer and at a scale not less than 1-inch to 40 feet horizontally and 1-inch to 10 feet vertically.

5. The Contractor shall submit the following items for the Engineer's acceptance upon completion of the installation and before placing the pipeline in service:
  - A. Contractor to inspect and provide documentation of post construction condition of other subsurface features. Take date and time stamped pictures to document post-construction condition.
  - B. Contractor to inspect and provide documentation of completed pipeline.

**306-29.3 End Seal Design.** Each end seal shall be designed to withstand installation and construction loads per the contractor's design and install the carrier pipe to the tolerances specified in section 306-31. The end seals shall be made of synthetic rubber, conical shape, pull-on or wrap-around style with Type 304 stainless steel bands. End seals are designed to prevent inflow of backfill and groundwater.

**306-29.4 Casing Spacers.** The casing spacers shall be designed to provide cathodic isolation of the carrier pipe from the casing pipe, support the fully operational carrier pipe, designed so as to not point load the carrier pipe, withstand the installation forces, and install the carrier pipe within the design tolerances as specified in section 306-31. The casing spacer shall be symmetrical about the vertical axis in its design using an even number of legs and risers and use wear resistant materials for the runners which are surfaces that are designed to come in contact with the casing and use a design that allows the runner to move across uneven surfaces such as weld beads. Legs support the weight and installation loads and risers restrain flotation. Wood skids are not permitted.

**306-29.5 Video Inspection and Cleaning.** Prior to pipeline CCTV inspection, the Contractor shall perform cleaning in accordance with 500-1.1.4, "Cleaning and Preliminary Inspection". The Contractor shall inspect the installed carrier pipe immediately upon completion and before placing the pipeline in service in accordance with 500-1.1.5, "Video Inspection."

**306-29.6 Quality Control.**

1. Pipeline constructed and not meeting the requirements of the Contract Documents shall be redesigned by the contractor's PE and meet the requirements.
2. As-built carrier pipeline shall always be within the confined right of way. As-built grade shall always intersect the tie-in, provide a properly functioning pipeline, and be free of reverse grade and ponding of free standing water. The carrier pipe shall be laid in a relatively straight line minimizing each joint's angular deflection.
3. The Contractor shall not install the carrier pipe, if upon inspection completed immediately before installation, gouges or excessive surface damage of more than 20% of the maximum allowable gouge as allowed by the manufacturer's design is detected. Contractor shall remove defective pipe and reassemble the pipe string.

4. Contractor shall cut, remove, and inspect 5 feet of carrier pipe after passing through casing. If upon inspection, carrier pipe is gouged or has excessive surface damage of more than 80% of the maximum allowed by the manufacturer's design. Contractor shall remove carrier pipe, clean casing, reassemble the pipe string removing damaged sections as specified herein, and reinstall carrier pipe as specified herein.
5. The carrier pipe shall be installed as specified in section 306-31.
6. Coordinate with other related specifications including:
  - a) 306-30 Geotechnical Instrumentation
  - b) 306-31 Horizontal Auger Boring
  - c) 306-32 Shafts and Pits
  - d) 306-33 Jacked Steel Casing
  - e) 306-34 Contact Grouting

**306-29.7 Clean-up.** Contractor shall inspect other subsurface features and ensure that the feature is free of grout. Contractor shall remove all construction debris, materials, equipment, and dispose of all waste.

**306-29.8 Measurement.** Carrier pipe for trenchless work shall be included within the appropriate Lump Sum Trenchless Construction – (by location) Bid Item.

**306-29.9 Payment.** Carrier pipe installation including all work appurtenant to constructing the tunnel and installing a complete and operational pipeline within the limits shown on the Plans and as specified herein, incidental to and is included in the Lump Sum Trenchless Construction – (by location) Bid Item..

## **SECTION 500 – PIPELINE**

**500-1.1.1 General.** To the City Supplement, (1) (a), ADD the following:

The felt and resin system shall be selected from those listed in the City's approved material list.

**500-1.1.2.1 Initial Submittals.** To the City Supplement, ADD the following:

Within 5 Working Days after the Bid opening date, the three apparent low bidders shall submit the following:

- Contractor's Experience; past project documentation
- Manufacturer Certification
- Authorize Installer Certificates

**500-1.1.5 Video Inspection.** To the City Supplement, after the last paragraph, ADD the following:

During the pre-installation video the contractor must identify all existing protruding laterals with the existing main and trim them flush to the main prior to rehabilitation. The cost of trimming the existing laterals will be included in the pipe rehabilitation bid item.

**500-1.1.9 Measurement and Payment.** Third Paragraph, DELETE in its entirety.

**500-1.2.4 Sewer Bypassing and Dewatering.** DELETE in its entirety and SUBSTITUTE with the following:

When required by the Contract Documents, the Contractor shall bypass the sewer flow around the Work and dewater the Site in conformance with 704, "SEWAGE SPILL PREVENTION" and 705-2.1, "General."

**500-1.6 Service Laterals.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

**ADD:**

**500-1.6 Service Lateral Rehabilitation.**

**500-1.6.1 General.**

a) The rehabilitation shall be accomplished using a fabric or fiberglass tube of particular length and a thermoset resin with physical and chemical properties appropriate for the application without excavation and disturbing surface improvements. The tube is vacuum impregnated with the resin. Access to an upstream end of the service lateral is made by excavation in the public right of way. Installation of the resin-impregnated tube into the service lateral may be performed either by Type A inversion in accordance with ASTM F1216 or by Type B pull-in in accordance with ASTM F 1743, and may be performed from either the mainline or the excavated end of the lateral.

b) The cured-in-place liner shall extend the entire length of the lateral from the access point to the mainline. The liner shall be extended sufficiently to create a water tight seal at the main and the liner interface. Once the tube or resin composite is cured, the installation equipment shall be removed and the protruding end in the collector shall be cut using a robotic cutting device. A sewer cleanout in accordance with the Standard Drawing SDS-102 "Sewer Lateral Cleanout (In Driveway, Paved Alley, Sidewalk, or Other Area Subject to Traffic)" or SDS-103 "Sewer Lateral Cleanout Outside Traveled Way" shall be installed at the access point and properly backfilled.

A lateral rehabilitation including the installation of lateral cleanout and backfill process should be completed within 15 Working Days.

c) The liner shall be extended sufficiently to create a water tight seal at the main and the liner interface.



- d) If there is a SLC in place, then the cured-in-place lateral liner shall have a minimum overlap of 2" over the previously installed SLC sewer main lateral connection.

**500-1.6.2 Material.**

- a) The tube shall consist of one or more layers of flexible needled felt, or an equivalent material. Where the tube is fabricated from non woven felt, the longitudinal and circumferential joints are made up by seal bonding. The tube shall be capable of conforming to bends, off-set joints, bells, and disfigured pipe sections. The resin and catalyst system as designed for the specific application shall meet the chemical resistance requirements of 210-2.3.3, "Chemical Resistance Test (Pickle Jar Test)."
- b) The composite of the materials above shall, upon installation inside the host pipe, shall exceed the minimum test standards specified in Table 500-1.4.2 (A).
- c) The thickness of the lateral lining shall be not less than 0.12 inches (3 mm) and not more than 0.18 inches (4.5 mm) for laterals up to and including 8" in diameter. The thickness of the lateral lining shall be in accordance with Table 500-1.1.1.1[A] for laterals larger than 8" in diameter.

**500-1.6.3 Installation Procedures (ASTM F1216-98 and ASTM F1743).**

- a) The Property Owner of the lateral being reconstructed shall be informed, and the flow stopped, for the period of reconstruction work.
- b) The Contractor shall excavate an access pit at the appropriate upstream point on the service lateral in accordance with the reconstruction length determined by the Engineer.
- c) The Contractor shall always clean and color video the lateral line immediately prior to reconstruction and determine the structural condition of the pipeline. Roots, debris, and protruding service connections shall be removed prior to reconstruction.
- d) The tube shall be inspected for torn or frayed sections. The tube in good condition shall then be vacuum impregnated with the thermoset resin.

No open pans or uncontrolled open-air pouring of resin shall be allowed during tube saturation. Resin shall be contained within the inflation bladder during vacuum impregnation and insertion. The Contractor shall ensure that no public property is exposed to contamination by liquid resin compounds or components.

- e) The saturated tube along with the inflation bladder shall be inserted into the installation equipment and the end closed. The entire installation equipment shall be placed in the pipe access pit and aligned with the exposed end of the pipe.

- f) The resin and tube shall be completely protected during the placement. The resin shall not be contaminated or diluted by exposure to dirt, debris, or water during the placement.
- g) The tube shall be installed from the installation equipment by controlled air, water or steam pressure as in accordance with manufacturer instructions. The installation shall be stopped when the tube extends the entire length of the lateral section to be lined. The tube is held tightly in place against the wall of the host pipe by the pressure until the cure is complete.
- h) When the curing process is complete, the pressure is released and the inflation bladder reverted back into the installation equipment and removed from the access point.
- i) No barriers, coatings, or any material other than the cured tube or resin composite specifically designed for desirable physical and chemical resistance properties shall be left in the host pipe. Any materials used in the installation other than the cured tube or resin composite shall be removed.
- j) Any cured tube or resin composite pipe left protruding from the service connection shall be trimmed back using a hydraulic-powered robotic cutting device specifically designed for cutting cured-in-place pipe made from these materials.
- k) A second color video inspection shall be performed to verify the proper cure of the material, the proper trim of service connection, and the integrity of the seamless pipe.
- l) The bypass pumping system shall be removed and the sewer flows restored to normal flow conditions. The service lateral pipes shall be coupled together. The excavation shall be properly backfilled. The property owner of the service connection shall be informed when the Work is complete.

**500-1.6.4**      **Deviations.** If pre-installation inspection reveals conditions in the service lateral to be substantially different than those used in the design of wall thickness, tube construction, tube length, or resin system; then the Contractor shall correct the situation as approved by the Engineer.

**500-1.6.5**      **Acceptance.** Upon completion, the Contractor shall deliver the video records and written reports to the Engineer. The Engineer shall review the documentation and the Site to determine if the Work is complete and the work may be accepted.

**500-1.6.6**      **Payment.**

- a) Payment for the Sewer Lateral Lining covered under 500-1.6, "Service Laterals Rehabilitation" shall be made per each lateral.
- b) The payment for the installation of a sewer cleanout at the access point and televising of the service laterals shall be included in the following Bid items:

Service Lateral Lining with Cleanout up to 7 Feet in Depth
Service Lateral Lining with Cleanout Greater than 7 Feet in Depth

- c) Payment for in-situ point repairs shall be included in the bid price for in-situ point repairs and paid for in accordance with 500-1.1.9, "Measurement and Payment" and 500-1.2.7, "Payment."

**500-1.7.10 Payment.** To the City Supplement, DELETE in its entirety.

**500-1.10.7 Payment.** To the City Supplement, DELETE in its entirety.

**500-1.13.10 Payment.** To the City Supplement, DELETE in its entirety.

**500-4 SERVICE LATERAL CONNECTION SEALING.** DELETE in its entirety and SUBSTITUTE with the following:

**500-4 SERVICE LATERAL CONNECTION (SLC) SEALING.**

**500-4.1 General.**

1. SLC is the interface of the house sewer lateral with the main sewer. SLC to rehabilitated sanitary sewer lines shall be sealed, normally without excavation, by the installation of a resin-impregnated, flexible, felt tube or fiberglass tube installed into the existing service lateral. The tube shall form a "tee" section with a full lap inside the main pipe and shall extend continuously from the sewer main into the lateral for a minimum of 4". SLC may be a combination of "tees" or "wyes" of varying angle. The resin shall be cured to form the tube into a hard impermeable pipe-within-a-pipe. When cured, the SLC shall seal the connection of the lateral to the mainline in a continuous tight-fitting, watertight pipe-within-a-pipe to eliminate any visible leakage between the lateral and mainline and shall provide a leak-proof seal designed for a minimum 50-year life to prevent root intrusion, infiltration, and exfiltration between a liner and a host pipe.
2. Prior to cleaning and pre-rehab video inspection, the Contractor shall submit a detailed operational plan for the proposed cleaning of all roots inside the pipe and around the service connection for the Engineer's approval. After cleaning, the Contractor shall proceed with lining of the pipe and reinstating all live service connections. The service connection openings shall conform to the shape and the size of the inside diameter of the existing service connection. Contractor shall use a wire brush or other methods and equipment as recommended by other lining system providers, or other approved means and methods to provide a smooth opening for connecting the lateral to the newly lined pipeline.
3. The Contractor shall trim all protruding laterals which interfere with the lining installation, as flush with the pipe interior as practicable.

**500-4.2 Reference Specification.** This specification references ASTM test methods which are made a part hereof by such reference and shall be the latest edition and revision thereof and shall meet the chemical resistance requirements of section 210-2.3.3, "Chemical Resistance Test (Pickle Jar Test)."

**500-4.3 General Corrosion Requirements.**

- a) The finished SLC product shall be fabricated from materials which when cured shall be chemically resistant to withstand internal exposure to domestic sewage and shall meet the chemical resistance requirements of 210-2.3.3, "Chemical Resistance Test (Pickle Jar Test)" and Table 210-2.4.1 (A).
- b) The SLC product shall be compatible with the lining system materials utilized in the main sewer line.

**500-4.4 SLC Materials.**

- a) A flexible, felt tube shall be fabricated to neatly fit the internal circumference of the conduit specified by the City. Allowance shall be made for circumferential stretching during insertion.
- b) The SLC connection shall extend minimum 4" from the mainline into the lateral.
- c) The Contractor shall furnish a specially designed, unsaturated polyester or vinyl ester resin, and catalyst system compatible with the SLC process that provides cured physical strengths specified herein.

**500-4.5 Physical Properties.**

- a) The cured SLC shall conform to the minimum structural standards as listed in Table 500-1.4.2 (A).
- b) No cured-in-place pipe rehabilitation technology shall be allowed that requires bonding to the existing pipe for any part of its structural strength.
- c) Design methods are to be derived for various loading parameters and modes of failure. Equations shall be modified to include deformation in the shape of an oval as a design parameter. The design method shall be submitted to the Engineer for approval prior to the Pre-construction Meeting.

**500-4.6 Installation Preparation.**

- a) The Contractor shall remove internal debris out of the sewer line.
- b) Inspection of pipelines shall be performed by experienced personnel trained in locating breaks and obstacles by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the SLC into the pipelines, and it shall be noted so that these conditions can be corrected. A color video and suitable log shall be kept for later reference by the City.

- c) The Contractor, when required, shall provide for the flow of sewage around the section or sections of mainline pipe where the service lateral designated for SLC is located. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow without service interruption. The bypass systems shall be approved in advance by the City.
- d) The service lateral shall be inactive during the time of installation.
- e) The Contractor shall clear the line of obstructions that prevent the insertion of the SLC material. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the Contractor shall make an external point repair excavation to uncover and remove the obstruction. The Contractor shall inform the Engineer prior to the commencement of the Work.
- f) The mainline pipe opening shall be prepared to accept the SLC and the mainline rehabilitated pipe shall be maximized to obtain the best possible connection.
- g) The transition from the mainline pipe to the service lateral shall be smooth and continuous to provide adequate support for the SLC during installation and cure.

#### 500-4.7

#### **SLC Installation.**

- a) The resin impregnated tube shall be loaded inside a pressure apparatus. The pressure apparatus, attached to a robotic device, shall be positioned in the mainline pipe at the service connection. The robotic device, together with a television camera, shall be used to align the SLC repair with the service connection opening. Air pressure, supplied to the pressure apparatus through an air hose, shall be used to invert the resin impregnated SLC into the lateral pipe. The inversion pressure shall be adjusted to fully invert the SLC into the lateral pipe and hold the tube tight to the pipe wall. Care shall be taken during the curing process not to over-stress the tube.
- b) The pressure apparatus shall include a bladder which shall inflate in the mainline pipe, effectively seating the SLC repair against the service connection.
- c) After inversion or pull in is completed, recommended pressure is maintained on the impregnated tube for the duration of the curing process. Curing method shall be compatible with the resin selected. An ultraviolet (UV) light cured, heat cured or ambient cured resin system is typically used.
- d) The initial cure shall be deemed to be completed when the SLC has been exposed to the UV light, heat source or held in place for the time period specified by the manufacturer.

- e) The Contractor shall cool the hardened SLC before relieving the pressure in the pressure apparatus. Cool-down may be accomplished by the introduction of cool air into the pressure apparatus. Care shall be taken to maintain proper pressure throughout the cure and cool-down period.
- f) The finished SLC shall be free of dry spots, lifts and delamination. The lateral SLC shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes. Frayed ends of the SLC repair shall be removed prior to acceptance.
- g) During the warranty period, any defects which shall affect the integrity of strength of the SLC shall be repaired at the Contractor's expense in a manner mutually agreed upon by the manufacturer, City, and the Contractor.
- h) After the Work is completed, the Contractor shall provide the City with a video disc showing the completed work including the restored conditions.

**500-4.8 Clean-Up.** Upon acceptance of the installation work, the Contractor shall reinstate the Site affected by its operations.

**500-4.9 Payment.** Payment for SLC sealing systems shall be made at the Contract Unit Price or lump sum price in the Bid for each SLC. The Contract Unit Price or lump sum price in the Bid shall include the installation of the SLC sealing system, surface preparation and repairs, preparation and tape submittal of all pre- and post-construction CCTV inspection, bypassing if required, and testing, unless otherwise specified in the Special Provisions.

## **SECTION 700 – EXTENDED REVEGETATION, MAINTENANCE, AND MONITORING**

**700-1.3 Protection of Biological Resources.** To the City Supplement, ADD the following:

- 5. Pursuant to compliance with the MBTA and CA FGC Section 3503 et seq. at the Reservoir site, tree and shrub removal prior to grading should be completed prior to or after the Cooper's hawks breeding season, February 1 through September 15 (i.e., only September 16 and January 31). If contractor elects to perform clearing or grading during the bird-breeding season, pre-construction nest surveys should be conducted by the contractor, at no additional cost to
- 6. The City, within the impact area for all birds, and up to 300 feet away for Cooper's hawks prior to the onset of activity. Work may proceed if no bird nests are observed within the impact area and no Cooper's hawk nests are detected within 300 feet. If a Cooper's hawk nest is found within the impact area or within 300 feet of the property boundary, construction would need to be suspended until the young have fledged, unless it can be demonstrated by an experienced ornithologist that the hawks would not be affected by the activity.

**700-1.5 Working in Unpaved Areas.** To the City Supplement, ADD the following:

3. Contractor shall replace-in-kind or to the approval of the City Parks & Recreation Department all landscaping within Mission Bay Park impacted by construction. Coordinate with Parks & Recreation Department maintenance staff prior to any clearing, grubbing, or excavations in unpaved areas within Mission Bay Park.

**ADD:**

**700-1.5.1 Payment.** Payment for working in unpaved areas shall be made per section 700-2.15 "Re-Vegetation and Erosion Control".

**700-2.15 Payment.** To the City Supplement, Item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. Revegetation and Erosion Control: Payment to complete planting, revegetation, irrigation installation, temporary water meter, all associated water fees, erosion control and maintenance during the 120 day PEP for the landscape, irrigation and erosion control of the reservoir site and within Mission Bay Park shall be included in the lump sum Bid item for Revegetation and Erosion Control.

### **SECTION 703 – ENCOUNTERING OR RELEASING HAZARDOUS SUBSTANCES**

**ADD:**

**703-1.1 AGREEMENTS WITH POTENTIAL CONTAMINATING PARTIES.** To the City Supplement, ADD the following:

The City is in the process of negotiating with some potential responsible parties to assist with cleanup of contaminated soil and/or water in the event contamination is discovered during construction in specific areas. These draft agreements can be found in Appendix Q, R and S. The Contractor shall be responsible for working with these parties in the manner identified in the executed agreements. The locations referenced in these agreements are not inclusive of all contaminated sites that may be encountered along the project alignment. The Contractor is responsible to meet all the requirements of Section 703 "Encountering or Releasing Hazardous Substances."

**703-2 COMMUNITY HEALTH AND SAFETY PLAN.**

**703-2.1 General.** To the City Supplement, after the last paragraph, ADD the following:

The Contractor shall be responsible to search the following site <http://geotracker.swrcb.ca.gov> and examine all the geotracker maps and listing of contaminated sites in the area of the project, and get an idea of the types of the contaminants that might be encountered. Additional information on contaminated sites is also available at the County of San Diego, Department of Environmental Health.

**PAYMENT.** To the City Supplement, Item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. Payment for waste management shall be included in the applicable Bid items as follows:
  - a) Preparation of Hazardous Waste Management Plan and Reporting (LS).
  - b) Preparation of the community health and safety plan (LS).
  - c) Monitoring of Soils Containing RCRA/Non-RCRA Hazardous Waste, and Petroleum Contaminated Soil (HR).
  - d) Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazardous Waste (TON).
  - e) Loading, Transportation, and Disposal of soils containing RCRA Hazardous Waste (TON).
  - f) Testing, Sampling, Site Storage and Handling of Petroleum Contaminated Soil (TON).
  - g) Loading, Transportation, and Disposal of Petroleum Contaminated Soil (TON).
  - h) Testing, Sampling Site Storage and Handling of Soils Containing Non-RCRA Hazardous Waste (TON).
  - i) Loading, Transportation, and Disposal of Soils Containing Non-RCRA Hazardous Waste (TON).
  - j) Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Containerized RCRA Hazardous Waste (55 Gal DRUMS).
  - k) Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Containerized Non-RCRA Hazardous Waste (55 Gal DRUMS).
  - l) Testing, Sampling, Site Storage, Handling, Transportation and Recycling/Disposal of Universal Waste (EACH).
  - m) Testing, Sampling, Site Storage, Handling, Transportation and Recycling/Disposal of Regulated Waste (TON).



## SECTION 705 – WATER DISCHARGES

- 705-2.6.1 **General. Paragraph (3), CORRECT reference to Section 803 to read “Section 703.”**
- 705-2.6.3 **Community Health and Safety Plan.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:
- 705-2.6.3 **Community Health and Safety Plan.** See 703-2, “Community Health and Safety Plan.”

## SECTION 707 – RESOURCE DISCOVERIES

### **ADD:**

707-1.1

**Environmental Document.** The City of San Diego Environmental Analysis Section (EAS) of the Development Services Department has prepared a **Mitigated Negative Declaration (MND) No. 373451 and Notice of Determination for Pacific Beach Pipeline South**, as referenced in the Contract Appendix. You must comply with all requirements of the **MND** as set forth in the Contract Appendix A.

Compliance with the City’s environmental document is included in the various Bid items, unless a bid item has been provided.

## **END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)**

## TECHNICAL SPECIFICATIONS

## TECHNICAL SPECIFICATIONS

Section 13110 Galvanic Anode Cathodic Protection  
Section 13300 Instrumentation and Control  
Section 13370 Control Panels  
Section 13374 Control Panel Instrumentation  
Section 13390 Communications  
Section 13430 Pressure Transmitter  
Section 16010 Basic Electrical Requirements  
Section 16110 Raceways  
Section 16120 Wires and Cables  
Section 16190 Supporting Devices  
Section 16195 Electrical Identification  
Section 16421 Utility Service Entrance  
Section 16450 Grounding  
Section 16950 Electrical Tests

SECTION 13110  
GALVANIC ANODE CATHODIC PROTECTION

**PART 1 -- GENERAL**

**1.1 WORK OF THIS SECTION**

- A. Furnish all labor, materials, tools and incidentals to install a galvanic anode cathodic protection system for the Pacific Beach Pipeline dielectrically coated steel pipelines and dielectrically coated ductile iron pipelines. Cathodic protection installation, inspection, and testing are required for a complete and workable system.
- B. The CONTRACTOR shall retain a qualified CORROSION ENGINEER to direct the construction of facilities specified herein. The CORROSION ENGINEER shall test and certify that the corrosion control facilities for this project are constructed properly and as specified, and are fully functional.

**0.1 DEFINITIONS**

- A. CONTRACTOR: The licensed prime installer selected by the OWNER to install the pipeline.
- B. OWNER: The City of San Diego.
- C. CORROSION ENGINEER: A qualified CORROSION ENGINEER retained by the CONTRACTOR who is either a Registered Professional CORROSION ENGINEER or NACE-International Certified CATHODIC PROTECTION SPECIALIST.
- D. ENGINEER: The City of San Diego's Resident ENGINEER or designated representative.
- E. CITY'S CORROSION ENGINEER: The ENGINEER'S appointed representative from the City's Corrosion Section.

**1.3 CONTRACTOR QUALIFICATIONS**

- A. All work must be conducted by qualified, experienced personnel working under continuous, competent supervision. Qualified CONTRACTORS must demonstrate at least five years of experience with Cathodic Protection installations. Cathodic protection installation and testing shall be done under the direct supervision of a CORROSION ENGINEER. The CONTRACTOR doing the electrical installations shall have proper valid State of California licenses.

**1.4 REFERENCE SPECIFICATIONS, CODES AND STANDARDS**

- A. American Society for Testing and Materials (ASTM):
  - C94 Ready-Mixed Concrete
  - D-2220 Polyvinylchloride Insulation for Wire and Cable
  - D-1248 Polyethylene Plastics Molding and Extrusion Materials
  - B3 Soft or Annealed Copper Wire
  - B8 Concentric-Lay Stranded Copper Conductors
- B. Federal Specifications (FS)
  - Military Specification (Mil. Spec):
    - MIL-C-18480B Coating Compound, Bituminous, Solvent, Coal Tar Base

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- C. Underwriter's Laboratories, Inc. (UL) Publications:
  - 83-80 Thermoplastic-Insulated Wires
  - 486-76 Wire Connectors and Soldering Lugs for Use with Copper Conductors
  
- D. National Association of Corrosion ENGINEERs (NACE):
  - SP0169 Recommended Practice, Control of External Corrosion on Underground or Submerged Metallic Piping Systems
  
  - SP0286 Electrical Isolation of Cathodically Protected Pipelines

1.5 CONTRACTOR SUBMITTALS

The CONTRACTOR shall furnish the following documents to the ENGINEER and the catalog cuts shall be accepted prior to installation:

- A. CATALOG CUTS (5 COPIES):
  - 1. High potential magnesium anode
  - 2. At-grade, traffic-rated concrete test box with cast iron lid
  - 3. Shunts
  - 4. Wire and cable
  - 5. Exothermic weld kits
  - 6. Weld caps
  - 7. Weld coating
  - 8. Plastic warning tape
  - 9. Flange Isolation kits
  - 10. Wax tape coating system
  
- B. AS-BUILT DRAWINGS

The CONTRACTOR shall maintain As-Built drawings showing exact locations of anodes, insulators, test stations, and wire trenching runs. Location changes from the design shall be clearly marked in red on a blue line copy of the design drawings. The As-Built drawings shall be submitted to the ENGINEER at the end of the project. The project is not considered complete until As-Built drawings are submitted.

**PART 2 -- PRODUCTS**

2.1 GENERAL

Materials and equipment shall be new and the standard product of manufacturers regularly engaged in the manufacturing of such products. All materials and equipment shall bear evidence of safe operation approval from a nationally recognized testing laboratory.

2.2 HIGH POTENTIAL MAGNESIUM ANODES

- A. CAPACITY. High potential magnesium anodes shall have a theoretical energy content of 1000 ampere-hours per pound and have a minimum useful output of 500 ampere-hours

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GALVANIC ANODE CATHODIC PROTECTION

per pound.

B. CHEMICAL COMPOSITION (HIGH POTENTIAL MAGNESIUM) ASTM B843

aluminum	0.01 percent
manganese	0.5 to 1.30 percent
zinc	-
copper	0.02 percent
nickel	0.001 percent
iron	0.03 percent
silicon	0.05 percent
calcium	-
other metallic	0.05 percent
others, total	0.30
others, total	0.30 percent
magnesium	remainder

C. OPEN CIRCUIT POTENTIAL. The open circuit potential of all anodes, buried in the soil, shall be between 1.55 and 1.75 volts dc versus a copper-copper sulfate reference electrode.

E. INGOT SIZE AND WEIGHT. Anodes shall be 17-pound pre-packaged, high potential ingots with a trapezoidal cross section. Ingot length shall be 25.25 inches long. The total packaged weight shall be 45 lbs.

F. ANODE CONSTRUCTION. Anodes shall be cast magnesium with a galvanized steel core rod recessed on one end to provide access to the rod for connection of the lead wire. Silver braze the lead wire to the rod and make the connection mechanically secure. Insulate the connection to a 600 volt rating by filling the recess with epoxy and covering any exposed bare steel core or wire with heat shrinkable tubing. The insulating tubing shall extend over the lead wire insulation by not less than 1/2 inch. The anode lead wire shall be stranded copper and shall be connected directly to the anode steel core as described above. There shall be NO wire splices between the anode steel core and the tag end at the test station.

G. ANODE PRE-PACKAGED BACKFILL MATERIAL. The anodes shall be completely encased and centered within a permeable cloth bag in a special low resistivity backfill mix with the following composition:

Gypsum	75%
Powdered bentonite	20%
Anhydrous sodium sulfate	5%

H. Backfill grains shall be such that 100 percent is capable of passing through a screen of 100 mesh. Backfill shall be firmly packed around the anode such that the ingot is approximately in the center of the backfill. The resistivity of the backfill shall be no greater than 50 ohm-cm when tested wet in a soil box. Total prepackaged weight shall be approximately 45 pounds.

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2.3 AT-GRADE TEST STATIONS

A. At-Grade (Flush) Mounted:

1. Test Box: Concrete box of dimensions as shown on the Drawings. Use pre-cast concrete San Diego Pre-cast Model 1BSD\K with cast iron lid. The cast iron lid shall be 9-1/2 inch diameter with the letters "City of San Diego Corrosion Test Station".
2. Identification Tags: All test leads shall be identified with an Avery Label, self-adhesive covered with polyolefin clear heat shrink tubing. The label shall include: Name of Facility – size – pipe material; Type of insulation; Station number. Brass tags may be used in lieu of the Avery Label with approval from the ENGINEER.

0.4 SHUNTS

- A. Holloway Type RS, 0.01 ohm, 6 ampere capacity.

0.5 WIRES

- A. General: Conform to applicable requirements of NEMA WC 5 and WC 7. All wires shall be single conductor, unless otherwise specified. All wires shall be single conductor, stranded copper wire with 600-volt HMWPE insulation, unless otherwise specified.
- B. Mechanical Joint (Non-Welded Pipe Joint) Bond: Two No. 4 AWG HMWPE.
- C. Pipeline Test Leads: Two No. 8 AWG HMWPE.
- D. Anode Wires: No. 12 AWG THWN with white insulation.

0.6 CONCRETE

- D. Reinforcing steel: ASTM A 615, Grade 60 deformed bars and welded wire fabric.
- E. Welded Wire Fabric: ASTM A 497.
- F. Formwork: Plywood, earth cuts may be used.
- G. Concrete Design for Minimum Compressive Strength at 28 Days.

0.7 ANCILLARY MATERIALS

- A. Electrical Tape: Linerless rubber high-voltage splicing tape and vinyl electrical tape suitable for moist and wet environments. Use Scotch 130C and Scotch 88 as manufactured by 3M Products.
- B. Wire Connectors: One-piece, tin-plated crimp-on lug connector as manufactured by Burndy Co., Thomas and Betts.
- C. Insulating Resin: At CONTRACTOR'S option, bitumastic coating (Koppers 50 or approved equal) may be used if allowed to dry completely before covering.

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0.8 MARKING TAPE

- A. Inert polyethylene, impervious to known alkalis, acids, chemical reagents, and solvents likely to be encountered in soil.
- B. Thickness: Minimum 4-mils.
- C. Width: 6-inches.
- D. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.
- E. Color: Red with black lettering as follows: "CAUTION CATHODIC PROTECTION CABLES BURIED BELOW."

0.9 EXOTHERMIC WELDS

- A. General: Wire sleeves, welders, and weld cartridges according to the weld manufacturer's recommendations for each wire size and pipe or fitting size and material. Welding materials and equipment shall be the product of a single manufacturer. Interchanging materials of different manufacturers will not be accepted.
- B. Weld Caps: Exothermic welds shall be sealed with a pre-fabricated plastic cap filled with formable mastic compound on a base of elastomeric tape. Use Royston Handy Cap or approved equivalent. Primer for weld caps shall be Royston Roybond Primer 747 or approved equivalent.
- C. Weld Coating: Exothermic welds and weld caps shall be coated with a cold-applied, fast-drying mastic consisting of bituminous resin and solvents per MIL-C-18480B. Use Koppers Bitumastic 50 or 505, 3M Scotch Clad, or approved equal.

0.10 INSULATING JOINTS

- A. Flange Isolation Kits:
  - 1. Gaskets: ANSI B-16.21, Type E, NEMA G10 glass with o-ring seal for operation between 20-deg. F and 150-deg. F. Gaskets shall be suitable for the temperature and pressure rating of the piping system in which they are installed.
  - 2. Insulating Sleeves: 1/32-inch thick tube, full length, G10 glass material per NEMA LI-1 for operation between 20-deg. F and 150-deg. F. For installation at threaded valve flanges, half-length sleeves shall be used.
  - 3. Insulating Washers: 1/8-inch thick, full length, G10 glass per NEMA LI-1 for operation between 20-deg. F and 150-deg. F.
  - 4. Steel Washers: 1/8-inch cadmium plated steel placed between the nut and insulating washer.
  - 5. All buried insulating flanges shall be wax taped coated per AWWA C217.



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0.2 EXTERNAL COATING FOR BURIED SURFACES

- A. All buried pipe sections, specials, and fitting surfaces that are not tape wrapped or epoxy coated shall be wrapped with a petrolatum wax tape coating per AWWA C217 with plastic outer wrap. No bare metallic surfaces shall be buried, backfilled, or in contact with the soil.
  - 1. Primer: All surfaces shall be prime coated with a blend of petrolatum, plasticizer, inert fillers, and corrosion inhibitors having a paste-like consistency.
  - 2. Wax Tape: Covering material shall be a synthetic felt tape, saturated with a blend of petrolatum, plasticizers, and corrosion inhibitors that is formable over irregular surfaces.
  - 3. Plastic Outer Wrap: The primed and wax taped surface shall be covered with a plastic outer wrap consisting of three layers of 50-gauge (10-mil) polyvinylidene chloride or PVC, high cling membrane wound together.

**PART 3 -- EXECUTION**

3.1 GENERAL

- A. STANDARD. Work not specifically described herein shall conform to NACE SP0169, NACE SP0572, and the Standard Specifications for Public Works Construction 2012 (Greenbook).
- B. CONTRACTOR QUALIFICATIONS. All work shall be performed by qualified, experienced personnel working under continuous, competent supervision. Qualified CONTRACTORS must demonstrate at least five years of experience with cathodic protection installations.
- C. TEST RESULTS. The CONTRACTOR shall submit a CORROSION ENGINEER'S report including all test data, conclusions, repairs, and cathodic protection system performance.
- D. NOTIFICATION FOR TESTING. The CONTRACTOR shall notify the ENGINEER at least seven days in advance of the anodes, insulators, and test station installations. The ENGINEER or the OWNER'S representative shall, at their discretion, witness the installation of all anodes and cathodic protection facilities. Testing shall be as described in this specification section.

3.2 MAGNESIUM ANODES

- A. INSPECTION. All lead wires shall be inspected to ensure that the lead wire is securely connected to the anode core and that no damage has occurred to the lead wire. Lead wire failures shall require replacement of the complete anode and lead wire.
- B. PRE-PACKAGED ANODE INSPECTION. Each anode shall be inspected to ensure that the backfill material completely surrounds the anode and that the cloth bag containing the anode and backfill material is intact. If the prepackaged anodes are supplied in a waterproof container or covering, that container or covering shall be removed before installation. The CONTRACTOR shall notify the ENGINEER at least seven (7) days in

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advance of installing the anodes.

- C. LOCATION. Anodes are to be installed in augured holes as shown in the drawings. Anode positions can be adjusted slightly to avoid interference with existing structures. Alternate anode positions must be approved by the ENGINEER.
- D. HANDLING. Care shall be taken to ensure that the anode is never lifted, supported, transported, or handled by the lead wire. All anodes shall be lowered into the hole using a sling or a rope.
- E. ANODE HOLE SIZE AND DEPTH. Anodes shall be placed vertically at the bottom of a 12 feet deep augured hole, 12 inches in diameter (minimum).
- F. SOAKING REQUIREMENTS, PRE-PACKAGED ANODES. Once the prepackaged anodes are in the hole, water shall be poured into the hole so that the anodes are completely covered with water. Allow the anodes to soak for a minimum of 30 minutes before any soil backfill is added.
- G. SOIL BACKFILL. After the pre-packaged anodes are soaked, the hole is backfilled with stone-free, native soil. No voids shall exist around the anode bags and the anode lead wire shall not be damaged. The backfill shall be tamped and compacted in 18 inch lifts above the anode taking care not to damage the anode lead wire.

### 3.3 AT-GRADE TEST STATIONS

- A. LOCATION. At-grade corrosion monitoring test boxes shall be located behind the curb or sidewalk and NOT in traffic lanes or gutters. All test box locations shall be approved by the ENGINEER.
- B. TEST BOX BOTTOM. Test boxes shall be set in native soil.
- C. TEST LEAD ATTACHMENT. Test leads shall be attached to the pipe using the exothermic weld process. An 18-inch length of slack wire shall be coiled at each weld and inside each test box.
- D. CONCRETE PAD. A 24-inch square by 4-inch thick reinforced concrete pad is required around each at-grade test station. Test boxes and concrete pad shall be flush with the top of the median curb.

### 3.4 WIRE AND CABLE

- A. TEST LEAD TRENCH. Horizontal test or anode lead runs shall be placed in a 36-inch trench.
- B. WIRE HANDLING. Wire leads shall not be stretched or kinked. Care shall be taken when installing wire and backfilling. If wire insulation is damaged during installation, it shall be rejected and replaced completely at the CONTRACTOR's expense. All rejected wire shall be removed from the job site at the close of each workday.
- C. PLASTIC WARNING TAPE. Plastic warning tape shall be installed in all wire trenches

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and 12 inches below finished grade.

- D. SPLICING. Wire splices are not permitted.

3.5 WIRE-TO-PIPE CONNECTIONS

- A. All connections of copper wires to the pipe shall be made by the exothermic weld method.
- B. WELD CHARGE SIZE. It is the CONTRACTOR'S responsibility to ensure that the manufacturer's recommended weld charge size is used.
- C. PREPARATION OF WIRE. Do not deform cable. Remove only enough insulation from the cable to allow for the exothermic weld.
- D. PREPARATION OF METAL. Remove all coating, dirt, grime and grease from the metal structure by wire brushing. Clean the structure to a bright, shiny surface free of all serious pits and flaws by using a file. The surface area of the structure must be absolutely dry.
- E. WIRE POSITION. The wire is to be held at a 30-degree angle to the surface when welding. Only one wire shall be attached with each weld.
- F. TESTING OF ALL COMPLETED WELDS. After the weld has cooled, the weld shall be tested by striking the weld with a 2-lb hammer while pulling firmly on the wire. All unsound welds shall be cleaned, re-welded, and re-tested. All weld slag shall be removed.
- G. COATING OF WELDS. The area to be coated shall be clean and completely dry. Apply a primer specifically intended for use with an elastomeric weld cap. Apply the weld cap and a bituminous mastic coating material to all exposed areas around the cap in accordance with the manufacturer's recommendations. The coating shall overlap the structure coating by a minimum of 3 inches.
- H. COATING REPAIRS. Coatings shall be repaired in the field per the coating manufacturer's recommendations. All coating repairs must be approved by the ENGINEER.

3.6 BOND WIRES

- A. NON-WELDED JOINT BOND WIRES. Two No. 4 HMWPE bond wires are required across each non-insulating, in-line valve; a third No. 4 HMWPE bond wire is required from the valve to one outside flange as shown in the drawings. The bond wires shall be attached using the exothermic weld process. Bond wires shall have some slack wire at each weld to allow for creep when backfilling.

3.7 FLANGE ISOLATION KITS

- A. General: Flange isolation kits shall be pre-assembled and installed as recommended by the manufacturer, and per NACE SP0286. Moisture, soil, and other foreign matter must be fully

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removed and prevented from contacting any portion of mating surfaces. If foreign matter contacts any portion of these surfaces, then the entire flange shall be disassembled, cleaned, and dried before reassembly.

- B. Installation: Align and install insulating joints according to the manufacturer's recommendations to avoid damaging insulating materials. The manufacturer's bolt tightening sequence and torque specifications shall be followed.
- C. Paint Pigments: No electrically conductive pigments or paints shall be used either internally or externally on the bolts, washers, or flanges.
- D. Inspection: All buried insulating flanges shall be inspected, tested, and approved by the ENGINEER as described in Part 4 of this specification and prior to the application of wax tape coating.

0.8 EXTERNAL COATING

- A. All insulating flanges shall be covered with a 3-layer wax tape coating system per AWWA C217 with plastic outer wrap. Additionally, all in-line valves, flanges couplings, and adapters that are not coated with a bonded dielectric coating shall be wax tape coated per AWWA C217 with plastic outer wrap.
- B. Primer: Surfaces must be cleaned of all dirt, grime, and dust by using a wire brush and clean cloth. The surface shall be dry. Apply the primer by hand or brush. A thin coating of primer shall be applied to all surfaces and worked into all crevices. The primer shall be applied generously around bolts, nuts, and threads, and shall fully cover all exposed areas. The primer should overlap the pipe coating by a minimum of 3-inches.
- C. Petrolatum Saturated Tape: The wax tape can be applied immediately after the primer. Short lengths of tape shall be cut and carefully molded around each individual bolt, nut, and stud end. For long bolts (such as in couplings), short lengths of tape shall be cut and circumferentially wrapped around each individual bolt. After the bolts are covered, the tape shall be circumferentially wrapped around the flange with sufficient tension to provide continuous adhesion without stretching the tape. The tape shall be formed, by hand, into all voids and spaces. There shall be no voids or gaps under the tape. The tape shall be applied with a 1-inch minimum overlap.
- D. Outer Covering: A plastic outer cover shall be applied over the petrolatum-saturated tape. The plastic shall be a minimum of 50-gauge (10-mils) and shall have two layers applied.

**PART 4 -- TESTING AND INSPECTION**

- A. The CONTRACTOR'S CORROSION ENGINEER shall submit his proposed test procedures to the ENGINEER at least five (5) days in advance of the time that the cathodic protection system testing is scheduled. The ENGINEER or the OWNER'S representative shall witness all testing at their discretion. All test data shall be submitted to the ENGINEER within seven (7) days of the completion of the testing. All testing shall be conducted under the supervision of a qualified CORROSION ENGINEER who is retained by the CONTRACTOR. All deficiencies found to be due to faulty materials or workmanship shall be repaired or replaced by the CONTRACTOR and at his/her expense.

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4.1 TEST LEADS

- A. It is the CONTRACTOR's responsibility to test all test leads.
- B. TEST METHOD. All completed wire connection welds shall be tested by striking the weld with a 2-lb hammer while pulling firmly on the wire. Welds failing this test shall be re-welded and re-tested. Wire welds shall be spot tested by the ENGINEER. After backfilling the pipe, all test lead pairs shall be tested using a standard ohmmeter.
- C. ACCEPTANCE. The resistance between each pair of test leads shall not exceed 150% of the total wire resistance as determined from published wire data.

4.2 ANODE INSTALLATIONS

- A. The CONTRACTOR shall ensure that the anode pre-packed backfill or sack is not damaged and that the anode lead wire is properly attached. The CONTRACTOR'S CORROSION ENGINEER shall inspect each anode bag and anode lead wire for integrity before the anode is installed in the anode hole. Additionally, the CORROSION ENGINEER shall verify anode hole depths. The ENGINEER or the OWNER'S Representative shall inspect and test the anode installations at their discrepancy.
- B. TEST METHOD. A visual inspection of anode lead wires, anode pre-packed backfill, and anode hole depths (using tape measure). Obtain open-circuit anode potentials using a high impedance volt meter and copper/copper sulfate reference electrode.
- C. ACCEPTANCE. All anode leads are properly attached (with no splices), anode hole depths verified, and open-circuit anode potentials are in compliance with this specification. Damaged test leads and damaged pre-packed anode backfill bags shall be rejected and removed from the project site.

4.3 TEST LEAD TRENCHING

- A. The ENGINEER, at his or her discretion, shall inspect wire trenches and backfill material and methods.
- B. TEST METHOD. The depth, trench bottom, padding, and backfill material shall be visually inspected prior to backfilling.
- C. ACCEPTANCE. Conformance with specifications.

4.4 PIPELINE CONTINUITY THROUGH IN-LINE APPURTENANCES AND PIPE JOINTS

- A. The CONTRACTOR'S CORROSION ENGINEER shall measure the linear resistance of sections of pipe in which in-line valves, non-welded pipe joints, or other flanged mechanical joints have been installed. All testing shall be done by the CORROSION ENGINEER in the presence of the ENGINEER.
- B. TEST METHOD. Resistance shall be measured by the linear resistance method. A direct current shall be impressed from one end of the test section to the other (test

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station to test station). A voltage drop is measured for several different current levels. The measured resistance (R) is calculated using the equation  $R=dV/I$ , where dV is the voltage drop between the test span and I is the corresponding current. The resistance shall be measured for at least three (3) different current levels.

- C. ACCEPTANCE. Acceptance is a comparison between the measured resistance (from the field test data) and the theoretical resistance. The theoretical resistance must consider the pipe (length and wall thickness) and the resistance of the bond wires. The measured resistance shall not exceed the theoretical resistance by more than 130% to determine electrical continuity. The CONTRACTOR'S CORROSION ENGINEER shall submit, within seven (7) days of the completion of the testing, and in a report format, to the ENGINEER, all calculations of the theoretical resistance and measured pipe resistance for each section tested.

#### 4.5 CATHODIC PROTECTION PERFORMANCE

- A. The cathodic protection system shall be activated and tested by the CONTRACTOR'S CORROSION ENGINEER in the presence of the ENGINEER.
- B. TEST METHOD. The installed cathodic protection system testing shall include: native (static) pipe-to-soil potentials, open-circuit anode potentials, activated pipe-to-soil potentials, test lead to test lead resistance measurements, and anode current output measurements.
- C. ACCEPTANCE. Shall be based on achieving the -850 mV polarized potential criterion as outlined in NACE SP0169. All data shall be submitted, in a typed 8-1/2 X 11 inch report to the ENGINEER for acceptance before the project is considered complete.

#### 4.6 FLANGE ISOLATION KITS

- A. Responsibility: Insulating flanges shall be inspected and tested by the CONTRACTOR'S CORROSION ENGINEER and in the presence of the ENGINEER, prior to backfilling.
- B. Test Method: The assembled flange shall be tested using a Gas Electronics Model 601 Insulation Checker specifically design for testing insulating flanges. The testing shall be done by a qualified CORROSION ENGINEER accepted by the ENGINEER. NACE SP0286 may also be used to determine the effectiveness and acceptance of the flange isolation kit.
- C. Acceptance: The installation of the insulating flange kit shall be considered complete when the testing device indicates no shorts or partial shorts are present. The CONTRACTOR shall provide assistance in finding any and all shorts or shorted bolts. All disassembly and reassembly necessary for acceptance shall be done at the CONTRACTOR'S expense.

#### 4.7 COMPLIANCE WITH SPECIFICATIONS.

- A. Deficiencies or omissions in materials or workmanship found by these tests shall be rectified at the CONTRACTOR'S expense. Deficiencies shall include but are not limited to: broken leads, improper or unclear trenches, lack of 18-inch or slack wire in test boxes;

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improperly mounted test boxes; improper anode installations (including soaking), and other deficiencies associated with the workmanship, installation, and non-functioning equipment.

**PART 5 – MEASUREMENT AND PAYMENT**

5.1 CATHODIC PROTECTION, BID ITEM NO. 56:

- A. No measurement shall be made for this item.
- B. CATHODIC PROTECTION will be paid at the Contract lump sum amount for CATHODIC PROTECTION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, and incidentals and for doing work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 13110 – Galvanic Anode Cathodic Protection, and no additional compensation will be allowed.
- C. Payment shall be based on a percent complete basis for this item.

\*\*END OF SECTION\*\*

## SECTION 13300

### INSTRUMENTATION AND CONTROL

#### PART 1 -- GENERAL

##### 1.01 WORK OF THIS SECTION

- A. The CONTRACTOR shall provide all Instrumentation and Control systems (I&C) complete and operable, in accordance with the Contract Documents. The requirements of this Section apply to all components of the I&C unless indicated otherwise.
- B. The City shall configure the radio and provide PLC program development.
- C. Responsibilities
  - 1. The CONTRACTOR, through the use of a qualified Instrumentation Subcontractor or vendor and qualified electrical and mechanical installers, shall be responsible to the OWNER for the implementation of the I&C and the integration of the I&C with other required instrumentation and control devices.
  - 2. Due to the complexities associated with the interfacing of numerous control system devices, the Instrumentation Subcontractor or vendor shall be responsible to the CONTRACTOR for the integration of the I&C with existing devices and devices provided under other Sections and provide a completely- integrated control system free of signal incompatibilities.
  - 3. As a minimum, the Instrumentation Subcontractor or vendor shall perform the following work:
    - a. Implementation of the I&C:
      - (1) Prepare shop drawing submittals
      - (2) Design, develop, and electronically draft loop drawings and control panel designs
      - (3) Prepare the test plan, the training plan, and the spare parts submittals
      - (4) Procure hardware
      - (5) Fabricate panels
      - (6) Perform factory tests on panels
      - (7) Perform bench calibration and verify calibration after installation
      - (8) Oversee and certify installation



- (9) Oversee, document, and certify loop testing
  - (10) Oversee, document, and certify system commissioning
  - (11) Conduct the performance test
  - (12) Prepare operations and maintenance information
  - (13) Conduct training classes
  - (14) Prepare record drawings
  - (15) Prepare calibration sheets
  - (16) Certify the installation of the I&C
- b. Integration of the I&C with instrumentation and control devices being provided under other Sections:
- (1) Develop all requisite loop drawings and record loop drawings associated with equipment provided under other Divisions and OWNER-furnished and existing equipment.
  - (2) Resolve signal, power, or functional incompatibilities between the I&C and interfacing devices.
4. Instrumentation Subcontractor or vendor responsibilities in addition to the items identified above shall be at the discretion of the CONTRACTOR. Additional requirements in this Section and Division 13 that are stated to be the CONTRACTOR's responsibility may be performed by the Instrumentation Subcontractor or vendor.

D. Certification of Intent:

1. Fifteen days after Notice of Apparent Low Bidder, the CONTRACTOR shall submit a certification from the selected Instrumentation Subcontractor or vendor. The certification shall be typed on letterhead paper of the Instrumentation Subcontractor or vendor firm. The certification shall be signed by an authorized representative of the Instrumentation Subcontractor or vendor. The certification shall include the following statements:
- a. (Company name) "hereby certifies intent to assume and execute full responsibility to the CONTRACTOR to perform all tasks defined under Subsection 13300-1.1C.3 in full compliance with the requirements of the Contract Documents."
  - b. "It is certified that the quotation to the CONTRACTOR includes full and complete compliance with the requirements of the Contract Documents without exception."

E. Documentation of Instrumentation Subcontractor Qualifications:

1. List of at least two instrumentation and control system projects successfully completed, of size and scope similar to that described herein, in which the applicant performed system engineering, system fabrication and installation, documentation (including schematic, wiring and panel assembly drawings), field testing, calibration and start-up, operator instruction and maintenance training. Each of the references cited must be accompanied by a written confirmation of the accuracy of the data by a managerial member of the control system operational staff.
2. In addition, list the following information for each project above:
  - a. Name of plant, OWNER, contact name, and telephone number. All phone numbers and contacts shall be verified by the applicant before submission.
  - b. Name of manufacturer(s) for the majority of instrumentation provided.
  - c. Type of equipment furnished (i.e., transmitters, recorders, indicators, etc.)
  - d. Manufacturer and model number of DCS, SCADA, or PLC to which the analog system interfaced.
  - e. Date of completion or acceptance.
3. Furnish the name of the individual person who will be responsible for office engineering and management of this project, and the individual who will be responsible for field testing, calibration, start-up, and operator training for this project. Include references of recent projects of these individual persons.
4. Submit specific documentation which verifies that Instrumentation Subcontractor employs the minimum of individuals who have been formally trained in the application of the:
  - a. Indicated operating systems.
  - b. Indicated software packages.
  - c. Indicated graphical user interface software packages.
5. Document that the applicant's company has been actively involved in the instrumentation systems business (under the same corporate name) and has been or is using a panel fabricator that has been UL508A certified for 3 years or more.

## **1.02 RELATED SECTIONS**

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
  1. Section 16010 Basic Electrical Materials and Methods
  2. Division 13

## **1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS**

- A. The Work of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego Municipal code:
  - 1. National Electrical Code (NEC)
  - 2. Uniform Building Code (UBC)
- B. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
  - 1. ANSI/SA S 5.1                      Instrumentation Symbols and Identification
  - 2. ISA-S20                              Specification Forms for Process Measurement and Control Instruments

**1.04 CONTRACTOR SUBMITTALS**

- A. General: Submittals shall be furnished in accordance with the following:
  - 1. Coordinate the instrumentation Work so that the complete instrumentation and control system will be provided and will be supported by accurate shop drawings and record drawings.
  - 2. Symbology and Nomenclature: In these Contract Documents, all systems, all meters, all instruments, and all other elements are represented schematically, and are designated by symbology as derived from Instrument Society of America Standard ANSI/ISA S5.1 - Instrumentation Symbols and Identification. The nomenclature and numbers designated herein and on the Drawings shall be employed exclusively throughout shop drawings, and similar materials. No other symbols, designations, or nomenclature unique to the manufacturer's standard methods shall replace those prescribed above, used herein, or on the Drawings.
- B. Instrument Submittal:
  - 1. Provide a complete index that lists each device by tag number, type and manufacturer. Provide a data sheet for each different type of instrument with the list of tag names. Provide a technical brochure for each data sheet.
- C. Shop Drawings:
  - 1. General:
    - a. Shop drawings shall include the letter head or title block of the Instrumentation Subcontractor. The title block shall include, as a minimum, the Instrumentation Subcontractor's registered business name and address, project name, drawing name, revision level, and personnel responsible for the content of the drawing.
    - b. Organization of the shop drawing submittals shall be compatible with eventual submittals for later inclusion in the operations and maintenance information. Submittals that are improperly organized or incomplete for a given loop will be rejected.

- c. Shop drawing information shall be bound in standard size, 3 ring, loose leaf, vinyl plastic, hard cover binders suitable for bookshelf storage. Binder ring size shall not exceed 3 inches.
  - d. Interfaces between instruments, motor starters, control valves, variable speed drives, flow meters, chemical feeders and other equipment related to the I&C shall be included in the shop drawing submittal.
2. Project-Wide Loop Drawing Submittal: Furnish a Project-wide Loop Drawing Submittal (PLDS) that completely defines and documents the contents of each monitoring, alarming, interlock, and control loop associated with equipment provided under the instrumentation sections, equipment provided under sections in other Divisions, existing, and OWNER-furnished equipment that is to be incorporated into the I&C. The PLDS shall be a singular complete bound package electronically drafted in INTERGRAPH MICROSTATION format, submitted within 120 days after contract award, and shall include the following:
- a. A complete index in the front of each bound volume. The loop drawings shall be indexed by systems or process areas. All loops shall be tagged in a manner consistent with the Contract Documents. Loop drawings shall be submitted for every analog and discrete monitoring and control loop.
  - b. Drawings showing definitive diagrams for every instrumentation loop system. These diagrams shall show and identify each component of each loop or system using legend and symbols from ANSI/ISA S5.4 - Instrument Loop Drawings, and as defined by the most recent revision in ISA. Each system or loop diagram shall be drawn on a separate drawing sheet. Loop drawings shall be developed for loops in equipment vendor supplied packages, equipment provided under the instrumentation sections, and OWNER furnished equipment. The loop drawings shall also show all software modules and linkages. In addition to the expanded ISA S5.4 requirements the loop diagrams shall also show the following details:
    - (1) Functional name of each loop.
    - (2) Reference name, drawing, and loop diagram numbers for any signal continuing off the loop diagram sheet.
    - (3) MCC panel, circuit, and breaker numbers for all power feeds to the loops and instrumentation.
    - (4) Designation, and if appropriate, terminal assignments associated with every manhole, pullbox, junction box, conduit, and panel through which the loop circuits pass.
    - (5) Vendor panel, instrument panel, conduit, junction boxes, equipment and PLC I/O terminations, termination identification wire numbers and colors, power circuits, and ground identifications.

- c. **Itemized instrument summary.** The instrument summary shall list all of the key attributes of each instrument provided under this Contract. As a minimum, attributes shall include:

- (1) Tag number
- (2) Manufacturer
- (3) Model number
- (4) Service
- (5) Area location
- (6) Calibrated range
- (7) Loop drawing number
- (8) Associated LCP, PLC, PCM, or RCP

3. **Test Procedure Submittals:**

- a. Submit the proposed procedures to be followed during tests of the I&C and its components.
- b. **Preliminary Submittal:** Outlines of the specific proposed tests and examples of proposed forms and checklists.
- c. **Detailed Submittal:** After approval of the Preliminary Submittal, the CONTRACTOR shall submit the proposed detailed test procedures, forms, and checklists. This submittal shall include a statement of test objectives with the test procedures.
- d. Certify in writing that for each loop or system checked out, and all discrepancies have been corrected.

4. **Calibration Sheets:** Each instrument calibration sheet shall provide the following information and a space for sign-off on individual items and on the completed unit:

- a. Project name
- b. Loop number
- c. Tag number
- d. Manufacturer
- e. Model number
- f. Serial number
- g. Calibration range

- h. Calibration data: Input, output, and error at 10, 50 and 90% of span
  - i. Switch setting, contact action, and deadband for discrete elements
  - j. Space for comments
  - k. Space for sign-off by Instrumentation Supplier and date
  - l. Test equipment used and associated serial numbers
5. Training Submittals: The CONTRACTOR shall submit a training plan that includes:
- a. Schedule of training courses including dates, durations, and locations of each class.
  - b. Resumes of the instructors who will actually implement the plan.

D. Operations and Maintenance Information:

- 1. General: Operations and maintenance information shall be based upon the approved shop drawing submittals as modified for conditions encountered in the field during the Work.
- 2. Operations and maintenance information submitted shall be organized as follows for each process:
  - a. Section A - Loop Drawings
  - b. Section B - Instrument Summary
  - c. Section C - Instrument Data Sheets
  - d. Section D - Sizing Calculations
  - e. Section E - Instrument Installation Details
  - f. Section F - Test Results
- 3. CONTRACTOR-certified results from Calibration Loop Testing, Precommissioning, and Performance Testing shall be included in Section H of the operations and maintenance information.

E. Record Drawings:

- 1. Keep current a set of complete loop and schematic diagrams which shall include all field and panel wiring, piping and tubing runs, routing, mounting details, point-to-point diagrams with cable, wire, tube and termination numbers. These drawings shall include all instruments and instrument elements. One set of record drawings electronically formatted in INTERGRAPH MICROSTATION format and 2 hard copies shall be submitted after completion of all Precommissioning tasks but

before Performance Testing. All such drawings shall be submitted for review before acceptance of the completed Work.

#### **1.05 FACTORY TESTING**

- A. Arrange for the Manufacturers of the equipment and fabricators of panels and cabinets supplied under this Section to allow the ENGINEER to inspect and witness the testing of the equipment at the site of fabrication. Equipment shall include the cabinets, special control systems, flow measuring devices, and other pertinent systems and devices. A minimum of 10 working days notification shall be provided to the ENGINEER before testing. No shipments shall be made without the ENGINEER's approval.

#### **1.06 PERIOD FOR CORRECTION OF DEFECTS**

- A. Correct all defects in the I&C upon notification from the OWNER within one year from the date of Substantial Completion. Corrections shall be completed within 5 days after notification.

#### **1.07 SYSTEM DESCRIPTION**

- A. All instruments shall return automatically and immediately to accurate measurement upon restoration of power after a power failure, except where specifically noted.
- B. Provide and install two-wire transmitters in local panels or enclosures with receiver/indicator/retransmitter as required.
- C. Provide instrument transmitters which produce isolated 4-20 mAdc analog signals. Follow ISA-S50.1.
- D. For instruments which produce a pulse signal, use dc pulse frequency signals whose repetition rate is directly proportional to the process variable over a 10:1 range. Use 24 Vdc power source.
- E. Provide instruments with conformably coated printed circuit boards to prevent damage by dust, moisture, fungus, and airborne contaminants.
- F. Provide instruments complete with mounting hardware, floor stands, wall brackets, or instrument racks.
- G. Use linear, direct reading indicators unless otherwise specified.

#### **1.08 QUALITY ASSURANCE**

- A. Provide instrumentation of rugged construction designed for the site conditions. Provide only new, standard, first-grade materials.
- B. Provide material and equipment in accordance with applicable codes and standards, except as modified by the specifications.
- C. Use single source manufacturer for each instrument type. Use the same manufacturer for different instrument types whenever possible.

- D. Coordinate instrumentation to assure proper interface and system integration. Provide signal processing equipment, to include, but not be limited to, process sensing and measurement, transducers, signal converters, conditioners, transmitters, receivers, and power supplies. Coordinate the various subcontractors, equipment suppliers, and manufacturers.

## **1.09 WARRANTY**

- A. Warranty the instrumentation, materials, workmanship, and installation to be free from defects for a period of one year from the date of final acceptance of the equipment.
- B. Furnish and install replacement parts during the warranty period for any defective component at no additional cost. Replace spare parts consumed during the warranty period with new equipment at no additional cost, immediately after use, to restore the spare parts inventory.

## **PART 2 -- PRODUCTS**

### **2.01 GENERAL**

- A. Code and Regulatory Compliance: All I&C Work shall conform to or exceed the applicable requirements of the National Electrical Code. Conflicts between the requirements of the Contract Documents and any codes or referenced standards or specifications shall be resolved with the more stringent requirement having precedence.
- B. Current Technology: All meters, instruments, and other components shall be the most recent field-proven models marketed by their manufacturers at the time of submittal of the shop drawings unless otherwise required to match existing equipment.
- C. Hardware Commonality: All instruments that use a common measurement principle (for example, d/p cells, pressure transmitters, level transmitters that monitor hydrostatic head) shall be furnished by a single Manufacturer. All panel mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be from a single Manufacturer.
- D. Loop Accuracy: The accuracy of each instrumentation system or loop shall be determined as a probable maximum error; this shall be the square-root of the sum of the squares of certified "accuracies" of the designated components in each system, expressed as a percentage of the actual span or value of the measured variable. Each individual instrument shall have a minimum accuracy of  $\pm 0.5\%$  of full scale and a minimum repeatability of  $\pm 0.25\%$  of full scale unless otherwise indicated. Instruments that do not conform to or improve upon these criteria are not acceptable.
- E. Instrument and Loop Power: Power requirements and input/output connections for all components shall be verified. Power for transmitted signals shall, in general, originate in and be supplied by the control panel devices. The use of "2-wire" transmitters is preferred, and use of "4-wire" transmitters shall be minimized. Individual loop or redundant power supplies shall be provided as required by the Manufacturer's instrument load characteristics to ensure sufficient power to each loop component. All power supplies shall be mounted within control panels or in the field at the point of application.



- F. Loop Isolators and Convertors: Signal isolators shall be provided as required to ensure adjacent component impedance match where feedback paths may be generated, or to maintain loop integrity during the removal of a loop component. Dropping precision wire-wound resistors shall be installed at all field side terminations in the control panels to ensure loop integrity. Signal conditioners and converters shall be provided where required to resolve any signal level incompatibilities or provide required functions.
- G. Environmental Suitability: All indoor and outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices 20% within the minimums and maximums of their rated environmental operating ranges. Provide all power wiring for these devices. Enclosures suitable for the environment shall be furnished. All instrumentation in hazardous areas shall be suitable for use in the particular hazardous or classified location in which it is to be installed.
- H. Signal Levels: Analog measurements and control signals shall be as indicated herein, and unless otherwise indicated, shall vary in direct linear proportion to the measured variable. Electrical signals outside control panels shall be 4 to 20 mA DC except as indicated. Signals within enclosures may be 1 to 5 VDC. All electric signals shall be electrically or optically isolated from other signals. All pneumatic signals shall be 3 to 15 psig with 3 psig equal to 0% and 15 psig equal to 100%.
- I. Control Panel Power Supplies: All power supplies shall have an excess rated capacity of 40%. The failure of a power supply shall be repeated to the SCADA System.

## **2.02 OPERATING CONDITIONS**

- A. The I&C shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:
  1. Environment - Coastal
  2. Temperature Range - 32 through 104 degrees F
  3. Thermal Shock - 1 degree F per minute, maximum
  4. Relative Humidity - 20 through 90%, non-condensing

## **2.03 SPARE PARTS AND SPECIAL TOOLS**

- A. Spare Parts: Furnish the spare parts selected by the ENGINEER from the priced list of spare parts in the Instrument Submittal and Control Panel Engineering Submittal in conformance with Section 13370 - Control Panels.
- B. Special Tools: Furnish a priced list of all special tools required to calibrate and maintain all of the instrumentation provided under the Contract Documents. After approval, furnish all listed tools.
- C. Timing of Submittals: All special tools and spare parts shall be submitted before startup starts, and shall be suitably wrapped and identified.

## 2.06 LIMIT SWITCH

- A. Each intrusion alarm limit switch shall transmit a signal when the monitored door or hatch is not in the closed position.
- B. Each limit switch shall be SPDT, rated for 5 amps. Conduit entrance and terminals shall be epoxy sealed. Limit switch mounting and actuator shall be determined by the Contractor to provide a reliable, positive, and accurate indication of entrance. The switch shall be normally open (actuated closed when the door or hatch is closed). Switch shall be mounted for minimum obstruction of access. Limit switches shall be Type "C" by Square D Class 9007, Allen Bradley 802T, or equal.

Tag No.	Size	Trip Set Point	NEMA Rating
ZS-100	N/A	N/A	4
ZS-101	N/A	N/A	4
ZS-102	N/A	N/A	4

## 2.06 COPPER TUBING AND CONNECTORS

- A. Copper tubing shall be ASTM B88 or 75, type K or L, Annealed temper (soft copper).
- B. Connectors shall be compression fitted and made of cast copper alloy, brass, or stainless steel. Cast copper alloy fittings shall comply with ASME/ANSI B16.26 specifications.
- C. Thread compounds and lubricants shall be used according to the manufacturer's recommendations. Teflon tape shall not be used.
- D. Copper tubing and connectors shall be Swagelock, Hoke or equal.
- E. Copper tubing supports shall be two hole mounted, made of 304 stainless steel, and have SBR rubber inserts. Use Mc Master-Carr catalog number 8981T25 or equal. Single hole rubber cushioned loop straps are not acceptable.

## PART 3 -- EXECUTION

### 3.01 PRODUCT HANDLING

- A. Shipping Precautions: After completion of shop assembly, factory test, and approval, all equipment, cabinets, panels, and consoles shall be packed in protective crates and enclosed in heavy duty polyethylene envelopes or secured sheeting to provide complete protection from damage, dust, and moisture. Dehumidifiers shall be placed inside the polyethylene coverings. The equipment shall then be skid-mounted for final transport. Lifting rings shall be provided for moving without removing protective covering. Boxed weight shall be shown on shipping tags together with instructions for unloading, transporting, storing, and handling at the job site.

- B. **Special Instructions:** Special instructions for proper field handling, storage, and installation required by the Manufacturer shall be securely attached to each piece of equipment before packaging and shipment.
- C. **Tagging:** Each component shall be tagged to identify its location, instrument tag number, and function in the system. A permanent stainless steel or other non-corrosive material tag firmly attached and permanently and indelibly marked with the instrument tag number, as given in the tabulation, shall be provided on each piece of equipment in the I&C. Identification shall be prominently displayed on the outside of the package.
- D. **Storage:** Equipment shall not be stored outdoors. Equipment shall be stored in dry permanent shelters, including in-line equipment, and shall be adequately protected against mechanical injury. If any apparatus has been damaged, such damage shall be repaired by the CONTRACTOR at no additional cost to the OWNER. If any apparatus has been subject to possible injury by water, it shall be thoroughly dried out and put through tests as directed by the ENGINEER. Such tests shall be at no additional cost to the OWNER, and if the equipment fails the tests, it shall be replaced at no additional cost to the OWNER.

### **3.02 MANUFACTURER'S SERVICES**

- A. Manufacturer's services shall be furnished for the following equipment:
  - 1. All flow meters in new or potable water streams that relate to process control, mass balance calculations, and billing of customers.
  - 2. All process analyzers
  - 3. All hazardous gas detection equipment
  - 4. Instruments that require specialized knowledge, such as vibration detectors.
- B. Furnish the following Manufacturer's services for the instrumentation listed above:
  - 1. Perform bench calibration
  - 2. Oversee installation
  - 3. Verify installation of installed instrument
  - 4. Certify installation and reconfirm Manufacturer's accuracy statement
  - 5. Oversee loop testing, prepare loop validation sheets, and certify loop testing
  - 6. Oversee precommissioning, prepare precommissioning validation sheets, and certify precommissioning
  - 7. Train the OWNER's personnel

### **3.03 INSTALLATION**

- A. General:

1. All instrumentation, including instrumentation furnished under other Divisions, shall be installed under Division 13 and the manufacturers' instructions.
  2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. All equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the OWNER exercises the right to require changes in location of equipment that do not impact material quantities or cause material rework, make such changes without additional cost to the OWNER.
- B. Conduit, Cables, and Field Wiring
1. All conduit shall be provided under Division 16.
  2. All 4-20 mA signal circuits, process equipment control wiring, signal wiring to field instruments, SCADA and PLC input and output wiring and other field wiring and cables shall be provided under Division 16.
  3. All SCADA and PLC equipment cables, data highway communication networks shall be provided under Division 13.
  4. All terminations and wire identification at I&C equipment furnished under this or any other Division shall be provided under Division 13.
- C. Instrumentation Tie-Downs: All instruments, control panels, and equipment shall be anchored by methods that comply with seismic requirements that apply to the site.
- D. Ancillary Devices: The Contract Documents show all necessary conduit and instruments required to make a complete instrumentation system. The CONTRACTOR shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements at no additional cost to the OWNER. All such additions and all such changes, including the proposed method of installation, shall be submitted to the ENGINEER for approval before commencing the Work. Such changes shall not be a basis of claims for extra work or delay.
- E. Installation Criteria and Validation: All field-mounted components and assemblies shall be installed and connected according to the requirements below:
1. Installation personnel have been instructed on installation requirements of the Contract Documents.
  2. Technical assistance is available to installation personnel at least by telephone.
  3. Installation personnel have at least one copy of the approved shop drawings and data.
  4. All power and signal wires shall be terminated with crimped type lugs.

5. All connectors shall be, as a minimum, water tight.
6. All wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.
7. All wire and cable shall be arranged in a neat manner and securely supported in cable groups and connected from terminal to terminal without splices unless specifically approved by the ENGINEER. All wiring shall be protected from sharp edges and corners.
8. All mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.
9. Verify the correctness of each installation, including polarity of electric power and signal connections, and making sure all process connections are free of leaks. Certify in writing that for each loop or system checked out, all discrepancies have been corrected.
10. The OWNER will not be responsible for any additional cost of rework attributable to actions of the CONTRACTOR or the Instrumentation Subcontractor.

#### **3.04 LOOP TESTING**

- A. General: Individual instrument loop diagrams per ISA Standard S5.4 - Instrument Loop Diagrams, expanded format, shall be submitted to the ENGINEER for review before the loop tests. The CONTRACTOR shall notify the ENGINEER of scheduled tests a minimum of 30 days before the estimated completion date of installation and wiring of the I&C. After the ENGINEER's review of the submitted loop diagrams for correctness and compliance with the specifications, loop testing shall proceed. The loop check shall be witnessed by the ENGINEER.
- B. Instrument and Instrument Component Validation: Each instrument shall be field tested, inspected, and adjusted to its indicated performance requirement in accordance its Manufacturer's specifications and instructions. Any instrument that fails to meet any Contract requirement, or, in the absence of a Contract requirement, any published manufacturer performance specification for functional and operational parameters, shall be repaired or replaced, at the discretion of the ENGINEER at no additional cost to the OWNER.
- C. Loop Validation: Controllers and electronic function modules shall be field tested and exercised to demonstrate correct operation. All control loops shall be checked under simulated operating conditions by impressing input signals at the primary control elements and observing appropriate responses of the respective control and monitoring elements, final control elements, and the graphic displays associated with the SCADA and PLC. Actual signals shall be used wherever available. Following any necessary corrections, the loops shall be retested. Specified accuracy tolerances for each analog network are defined as the root-mean-square-summation of individual component accuracy requirements. Individual component accuracy requirements shall be as indicated by Contract requirements or by published manufacturer accuracy specifications, whenever Contract accuracy requirements are not indicated. Each analog network shall be tested by applying simulated analog or discrete inputs to the first

element of an analog network. For networks that incorporate analog elements, simulated sensor inputs corresponding to 20, 40, 60, 80 and 100% of span shall be applied, and the resulting element outputs monitored to verify compliance to calculated root-mean-square-summation accuracy tolerance requirements. Continuously variable analog inputs shall be applied to verify the proper operation and setting of discrete devices. Provisional settings shall be made on controllers and alarms during analog loop tests. All analog loop test data shall be recorded on tests that include calculated root-mean-square-summation system accuracy tolerance requirements for each output.

D. Loop Validation Sheets: Prepare loop confirmation sheets for each loop covering each active instrumentation and control device except simple hand switches and lights. Loop confirmation sheets shall form the basis for operational tests and documentation. Each loop confirmation sheet shall cite the following information and shall provide spaces for sign-off on individual items and on the complete loop by the Instrumentation Supplier:

1. Project name
2. Loop number
3. Tag number, description, manufacturer and model number for each element
4. Installation bulletin number
5. Specification sheet number
6. Loop description number
7. Adjustment check
8. Space for comments
9. Space for loop sign-off by Instrumentation Supplier and date
10. Space for ENGINEER witness signature and date

E. Loop Certifications: When installation tests have been successfully completed for all individual instruments and all separate analog control networks, a certified copy of all test forms signed by the ENGINEER or the ENGINEER representative as a witness, with test data entered, shall be submitted to the ENGINEER together with a clear and unequivocal statement that all instrumentation has been successfully calibrated, inspected, and tested.

### **3.05 PRECOMMISSIONING**

A. General: Precommissioning shall start after acceptance of all wire test, calibration tests and loop tests, and all inspections have demonstrated that the instrumentation and control system complies with all Contract requirements. Precommissioning shall demonstrate proper operation of all systems with process equipment operating over full operating ranges under conditions as closely resembling actual operating conditions as possible.

- B. Precommissioning Procedures and Documentation: All precommissioning and test activities shall follow detailed test procedures and check lists accepted by the Resident Engineer. All test data shall be acquired using equipment as required and shall be recorded on test forms accepted by the ENGINEER, that include calculated tolerance limits for each step. Completion of all system precommissioning and test activities shall be documented by a certified report, including all test forms with test data entered, delivered to the ENGINEER with a clear and unequivocal statement that all system precommissioning and test requirements have been satisfied.
- C. Operational Validation: Where feasible, system precommissioning activities shall include the use of water to establish service conditions that simulate, to the greatest extent possible, normal final control element operating conditions in terms of applied process loads, operating ranges, and environmental conditions. Final control elements, control panels, and ancillary equipment shall be tested under start-up and steady-state operating conditions to verify that proper and stable control is achieved using local field mounted control circuits. All hardwired and software control circuit interlocks and alarms shall be operational. The control of final control elements and ancillary equipment shall be tested using both manual and automatic (where provided) control circuits. The stable steady-state operation of final control elements running under the control of field mounted automatic analog controllers or software based controllers shall be assured by adjusting the controllers as required to eliminate oscillatory final control element operation. The transient stability of final control elements operating under the control of field mounted, and software based automatic analog controllers shall be verified by applying control signal disturbances, monitoring the amplitude and decay rate of control parameter oscillations (if any) and making necessary controller adjustments as required to eliminate excessive oscillatory amplitudes and decay rates.
- D. Loop Tuning: All electronic control stations incorporating proportional, integral or differential control circuits shall be optimally tuned, experimentally, by applying control signal disturbances and adjusting the gain, reset, or rate settings as required to achieve a proper response. Measured final control element variable position/speed set point settings shall be compared to measured final control element position/speed values at 20, 40, 60, 80 and 100% of span and the results checked against indicated accuracy tolerances.
- E. Precommissioning Validation Sheets: Precommissioning shall be documented on one of two types of test forms as follows:
1. For functions that can be demonstrated on a loop-by-loop basis, the form shall include:
    - a. Project name
    - b. Loop number
    - c. Loop description
    - d. Tag number, description, manufacturer and data sheet number for each component.
    - e. Space for sign-off and date by both the Instrumentation Subcontractor and ENGINEER.

2. For functions that cannot be demonstrated on a loop-by-loop basis, the test form shall be a listing of the specific tests to be conducted. With each test description the following information shall be included:
    - a. Specification page and paragraph of function demonstrated
    - b. Description of function
    - c. Space for sign-off and date by both the Instrumentation Subcontractor and ENGINEER.
- F. Precommissioning Certification: Submit an instrumentation and control system precommissioning completion report that shall state that all Contract requirements have been met and shall include a listing of all instrumentation and control system maintenance and repair activities conducted during the precommissioning testing. Acceptance of the instrumentation and control system precommissioning testing must be provided in writing by the ENGINEER before the performance testing may begin. Final acceptance of the control system shall be based upon plant completion as stated in the General Conditions.

#### **3.04 ONSITE SUPERVISION**

- A. Furnish the services of an on-site service engineer to supervise and coordinate installation, adjustment, testing, and start-up of the I&C. The ENGINEER will be present during the total period required to affect a complete operating system. A qualified team of the Instrumentation Subcontractor personnel shall be on site for 8 hours to check all equipment, perform the tests indicated in this Section, and furnish startup services.

#### **3.05 PERFORMANCE TEST**

- A. The entire I&C shall operate for 7 days without failure.
- B. Furnish all necessary support staff as required to operate the system and to satisfy the repair or replacement requirements.
- C. If any component fails during the performance test, it shall be repaired or replaced and the I&C shall be restarted on another 7-day period.

#### **3.06 TRAINING**

- A. General: Train the OWNER's personnel on the maintenance, calibration and repair of all instruments provided under this Contract.
- B. Instructions: The training shall be performed by qualified representatives of the equipment manufacturers and shall be specific to each piece of equipment.
- C. Duration: Each training class shall be a minimum of 8 hours in duration and shall cover, as a minimum, operational theory, maintenance, troubleshooting/repair, and calibration of instruments.



- D. Schedule: Training shall be performed during the precommissioning phase of the project. The training sessions shall be scheduled a minimum of 3 weeks in advance of when the courses are to be initiated. The ENGINEER will review the course outline for suitability and provide comments that shall be incorporated.
- E. Agenda: The training shall include operation and maintenance procedures, trouble shooting with necessary test equipment, and changing set points, and calibration for that specific piece of equipment.
- F. Documentation: Within 10 days after the completion of each session the CONTRACTOR shall submit the following:
  - 1. List of all OWNER personnel who attended the session.
  - 2. Evaluation of OWNER personnel via written testing or equivalent evaluation.
  - 3. Copy of the training materials used including all notes, diagrams, and comments.

### **3.07 ACCEPTANCE**

- A. For the purpose of this Section, the following conditions shall be fulfilled before the Work is considered substantially complete:
  - 1. All submittals have been completed and approved.
  - 2. The I&C has been calibrated, loop tested and precommissioned.
  - 3. The OWNER training has been performed.
  - 4. All required spare parts and expendable supplies and test equipment have been delivered to the ENGINEER.
  - 5. The performance test has been successfully completed.
  - 6. All punch-list items have been corrected.
  - 7. All record drawings in both hard copy and electronic format have been submitted.
  - 8. Revisions to the operations and maintenance manuals information that may have resulted from the field tests have been made and reviewed.
  - 9. All debris associated with installation of instrumentation has been removed.
  - 10. All probes, elements, sample lines, transmitters, tubing, and enclosures have been cleaned and are in like-new condition.

## **PART 4 – MEASUREMENT AND PAYMENT**

### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.

- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 13300 – Instrumentation and Control, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**



layout, power circuits, signal and safety grounding circuits, fuses, circuit breakers, signal circuits, internally mounted instrumentation and SCADA system components, face plate mounted instrumentation components, internal panel arrangements, and external panel arrangements. All panel drawings shall be "B" size, and all data sheets and manufacturer specification sheets shall be "A" size. The submittal shall be in conformance with NEMA Standard ICS-1-1.01, shall be submitted as a singular complete bound volume or multi-volume package within 120 calendar days after Notice to Proceed and shall have the following content:

1. A complete index shall appear in the front of each bound volume. Panels shall be indexed by system or process area, and drawings and data associated with a panel shall be grouped together. All panel tagging and nameplate nomenclature shall be consistent with the requirements of the Contract Documents.
2. Scale construction drawings which define and quantify the type and gauge of steel to be used for panel fabrication, the ASTM A36 grade proposed for structural shapes and straps, panel door locks and hinge mechanisms, type of bolts and bolt locations for section joining and anchoring, details and proposed locations on the use of "Unistrut" members, stiffener materials and locations, electrical terminal box and outlet locations, electrical access locations, print pocket locations, writing board locations and lifting lug material and locations.
3. Scale physical arrangement drawings which define and quantify the physical groupings comprising control panel sections, auxiliary panels, subpanels, and racks. Cutout locations with nameplate identifications shall be indicated.
4. Front of panel layouts for all control panels.
5. Schematic/elementary diagrams depicting all control devices and circuits and their functions.
6. Wiring/connection diagrams locating and identifying electrical devices, terminals and interconnecting wiring. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all electrical and control devices.
7. Interconnection diagrams locating and identifying all external connections between the control panel/control panel devices and associated equipment. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all panel ingress and egress points.
8. Completed ISA-S20 data sheets for all instrumentation devices associated with each control panel, supplemented with manufacturer specification sheets which verify conformance to the requirements of the Contract Documents.
9. A bill of material which enumerates all devices associated with the control panel.
10. A priced listing of analog spare parts in conformance with Section 13300 - Instrumentation and Control.

#### **1.05 SPARE PARTS AND SPECIAL TOOLS**

- A. Control panel spare parts selected by the ENGINEER and special tools shall be provided in accordance with Section 13300 - Instrumentation and Control.
- B. All spare parts and special tools shall be submitted before startup commences, suitably wrapped and identified.

#### **1.06 CERTIFICATION**

- A. Each control panel shall bear the UL label. The UL label shall apply to the specific equipment supplied with the enclosure, and the installation and wiring of the equipment within and on the enclosure. If required for UL labeling, provide ground fault interrupters, isolation transformers, fuses, and any other necessary equipment, even though such equipment is not indicated on the Drawings. The fabricator shall be an approved UL listed manufacturer.
- B. The shop that builds the controller must be a UL 508A listed panel shop/fabricator/builder (certified & authorized by UL) that has been certified for minimum of 3 years. This shop will then install a UL sticker of approval on the assembled controller. Otherwise UL or a UL listed third party is needed to inspect, evaluate the work, issue an evaluation report and install the UL approval sticker.

### **PART 2 -- PRODUCTS**

#### **2.01 GENERAL**

- A. Environmental Suitability: All outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices no less than 20% below the maximum rated environmental operating level, and at least 20% above the minimum rated environmental operating level. The CONTRACTOR shall provide all power wiring for these devices. Enclosures suitable for the environment shall be furnished.
- B. The control panel controls shall be as shown on the drawings. Control conductors shall be provided in accordance with the indicated requirements.
- C. Each source of foreign voltage shall be isolated by providing disconnecting or pull-apart terminal blocks or a disconnect operable from the control panel front. Each control panel shall be provided with identified terminal strips for the connection of all external conductors. Provide sufficient terminal blocks to connect 25% additional conductors for future use. Discrete outputs from the control panel shall be provided by electrically isolated contacts rated for 5 A at 120 VAC. Analog inputs and outputs shall be an isolated 4-20 mA, 2-wire signals with power supply.
- D. All control panel mounted devices shall be mounted a minimum of 3 feet above finished floor elevation.
- E. Painting: The interior of the control panel, back-panel, and side-panel(s) shall have a white finish coat.

## 2.02 CONTROL PANELS

### A. Remote Control Panel RCP:

1. Fabricate panel, install instruments, plumb and wire in the factory.
2. Furnish termination panels, if required. Include terminal blocks; interface hardware, wiring, and cabling necessary for a complete system.
3. Use panel fabrication techniques that allow for removal and maintenance of all equipment after installation.
4. Provide equipment-mounting racks of standard construction and dimensions. Provide front access doors only unless specified otherwise. Provide space for internal wiring and for the connection of external wiring.
5. Do not locate any equipment within bottom two inches of panel.
6. All equipment located within the panel shall be rigidly secured.
7. All outdoor panels shall be provided with breather/drain plugs.
8. Provide a hasp on all enclosure covers (doors) for Owner furnished locks. The Owner will supply padlocks.
9. Enclosures shall be 316 stainless steel. Provide single door NEMA type 4X with back panels.
10. Provide structural reinforcements within enclosures to insure a plane surface, to limit vibration and to provide rigidity during shipment, installation and operation without distortion or damage to the panel or to any instrument.
11. Grind and sand exterior welds to a smooth finish free of burrs. Make surfaces free of ridges, nuts, bolt heads and similar protrusions.
12. Internally, supply the enclosures with a structural steel framework or bracing for equipment support and enclosure bracing. Where two or more enclosures are shown mounted immediately adjacent to one another, bolt them securely together with their front faces parallel.
13. Provide each enclosure with full gaskets on covers.

### B. Electrical Requirements:

1. Conduit, wireways, switches, wire, and electrical fittings shall be provided for all 115 V circuits to instruments and other electrical devices as required for a complete and operable installation.
2. Conduit, wireways, junction boxes, and fittings shall be provided for all signal wire, thermocouple, or resistance thermometer lead wire. Conduit or wireway runs shall include those required between temperature sensors and temperature transmitters and between the thermocouple wireway or junction box to instruments.

3. Each terminal connection shall have a plastic plate with a terminal and instrument tag number. All wiring shall be identified with stamped tubular wire and markers.
4. Panels shall be provided with switched 100-W fluorescent back-of-panel lights. One light shall be provided for every 4 feet of panel width and shall be mounted inside and in the top of the back-of-panel area.
5. The RCP shall be provided with a 15-A, 120-V, service outlet circuit within the back-of-panel area. The circuit shall be provided with 3-wire, 120-V, 15-A, duplex receptacles one for every 4 feet of panel width (one minimum per panel), spaced evenly along the back-of-panel area.
6. Wall mounted or pedestal mounted panels shall be so sized as to adequately dissipate heat generated by equipment mounted in or on the panel.
7. The RCP shall be provided with a thermostatically controlled heater that maintains inside temperature above 40 degrees F.
8. A door switch controlled fluorescent light shall be provided within the RCP.
9. Wiring methods and materials for all panels shall be in accordance with the NEC requirements for General Purpose (no open wiring) unless otherwise indicated.
10. Signal and Control Circuit Wiring:
  - a. Wire type and sizes: Conductor shall be flexible stranded copper machine tool wire UL listed Type MTW, and shall be rated 600 V. Wires for instrument signal circuits and alarm input circuits shall be No. 14 AWG. All other wires, including shielded cables, shall be No. 16 AWG, minimum.
  - b. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings. These numbers shall be marked on all conductors at every terminal using white numbered wire markers which shall be plastic-coated cloth, Brady Type B-500 or equal or shall be permanently marked by heat-shrink plastic.
  - c. Flexible conduit is not acceptable except when specifically approved by the ENGINEER in writing.
  - d. Conduit fittings shall be Crouse-Hinds cast fittings or equal.
  - e. Splicing of wires in conduits is discouraged. If permitted, splicing shall be approved by the ENGINEER and splices shall be soldered or pressure type crimped.
  - f. For case grounding, panels shall be provided with a 1/4-inch by 1-inch copper ground bus complete with solderless connector for one No. 4 AWG bare stranded copper cable. The copper cable shall be connected to a system ground loop.

11. DIN Rail Mounted Terminal Blocks:

- a. Provide factory assembled terminal blocks on a mounting channel and bolt the channel to the inside of the panel. Space terminal block strips no closer than 6 inches center to center.
- b. Provide screw type 600 V terminals with pressure plate to accept wire size #12 AWG and smaller. Do not use miniature terminal blocks.
- c. Provide a continuous marking strip with the terminals. Provide a separate terminal for terminating each shield wire.
- d. Reserve one side of each terminal strip for field incoming conductors. Do not make common connections and jumpers required for internal wiring on the field side of the terminal. Terminate no more than two wires at any one terminal.
- e. Provide a minimum of 25 percent spare terminals.
- f. The terminal block shall terminate wires without additional preparation such as tinning of wire ends, special connectors, etc.
- g. The insulation shall have wire entry funnels to facilitate insertion of wires.
- h. The insulating housing shall prevent stray strands from shorting out adjacent terminal blocks.
- i. The terminations shall be gastight to prevent corrosion due to corrosive atmosphere.
- j. Terminal screws shall be captive in the metal body or via the insulation housing.
- k. Once tightened terminal screws shall be useable with accessories such as center or insertion bridges; test sockets; separating plates, end covers, etc.
- l. Provide fusible terminal blocks with fuses and blown fuse indicators for each signal loop.
- m. Manufacturer: Phoenix Contact or equal.

12. DIN Rail Mounted Circuit Breakers:

- a. Circuit breakers shall be 115 VAC, single pole as manufactured by Allen Bradley Series 1492-GH; no equals.

13. Relay Sockets:

- a. Sockets for control relays shall be rated 5 amperes. Terminal screws shall be on the "Pressure Screw" type. Sockets shall be mounted via DIN rail and related hardware. Sockets shall be as manufactured by Allen Bradley Series 700-HN101; or approved equal.



14. Control Relay:
  - a. Magnetically held relays shall have one spare contact. Control relays shall have contacts rated for 10-ampere inductive load, 125 volts, with coil voltage, number of poles, and pole arrangement as indicated on the plans. Relays shall be of the indicating type. Provide Allen Bradley Series 700-HA; or approved equal.
15. Selector Switches and Indicating Lights:
  - a. Selector switches and indicating lights shall be supplied by one manufacturer and be of the same series or model type.
  - b. Type: Heavy duty, oil tight.
  - c. Selector switch contacts shall be rated for AC or DC current with devices simultaneously operated by the switch contacts but not less than 10 Amps resistive at 120 VAC/VDC continuous.
  - d. Indicating lights shall be rated for 120 VAC. Lamps shall be high visibility LED type, long life (20,000 hours minimum). Indicating lights shall be push-to-test.
16. Electrical Locations:
  - a. Terminal boxes for incoming and outgoing signal leads shall be located at the top or bottom of the panel as indicated or as otherwise required.
17. Power Supply Wiring:
  - a. Unless otherwise indicated, all instruments, alarm systems, and motor controls shall operate on 24 VDC.
  - b. At a location near the top of the panel (or bottom), the panel fabricator shall provide terminal box connections for the main power supply entry.
  - c. Instruments located on the same panel section and serving the same process unit may be connected to a common branch circuit from the power supply. The number of circuits depends on the circuit load as indicated. Different panel sections or different process units shall not use common branch circuits. When instruments are not equipped with integral fuses, fuses shall be provided as required for the protection of individual instruments against fault currents. Fuses shall be mounted on the back of the panel in a fuse holder, and each fuse shall be identified by a service name tag.
  - d. Each potentiometer type instrument, electronic transducer, controller, or analyzer shall have an individual disconnect switch. Disconnect switches shall have metal or plastic tags indicating instrument tag numbers. Individual plug and cord set power supply connections may be used without switches when indicated.

18. Alarm Wiring:

- a. The panel vendor shall provide all alarms including lights, audible signal units, test and acknowledge switches, and remote logic units as indicated. Interconnecting wiring to panel mounted initiating devices shall also be wired by the panel vendor. The wiring from external initiating devices shall be provided by the installation contractor. Where plug and cord sets are provided for component interconnection, the panel vendor shall harness and support the cables in neat and orderly fashion. Where separate wire is required, panel vendor shall install No. 16 AWG with THWN or THHN insulation between all components.

19.a Signal Wiring:

b. Signal Wire - Non Computer Use:

(1) Signal wire shall be twisted pair or triads in conduit or troughs. Cable shall be constructed of No. 16 AWG copper signal wires with THWN or THHN insulation.

(2) Color code for instrument signal wiring shall be as follows:

Positive (+): Black  
Negative (-): White

(3) Multiconductor cables where indicated shall consist of No. 16 AWG copper signal wires twisted in pairs, with 90-C, 600-V fault insulation. A copper drain wire shall be provided for the bundle with a wrap of aluminum polyester shield. The overall bundle jacket shall be PVC.

b. Multi-conductor cables, wireways and conduit shall be sized to allow for 10% spare signal wire.

C. Labor and Workmanship: All panels shall be fabricated, piped and wired by fully qualified workmen who are properly trained, experienced, and supervised.

## **PART 3 -- EXECUTION**

### **3.01 INSTALLATION**

B. Preparation and Shipping:

1. Crate panels for shipment using a heavy framework and skids. The panel sections shall be cushioned to protect the finish of the instruments and panel during shipment. All instruments which are shipped with the panel shall further have suitable shipping stops and cushioning material installed to protect parts which could be damaged due to mechanical shock. Each separate panel unit shall be provided with removable lifting lugs to facilitate handling.
2. All shipments shall be by air ride van, unless otherwise indicated.

3. All control panel testing and inspection shall be performed before shipping.
- C. Control panels shall be installed in accordance with Section 13300 - Instrumentation and Control.

### **3.02 CONTROL PANEL SIGNAL AND CONTROL CIRCUIT WIRING**

- A. Wiring Installation: All wires shall run in plastic wireways except for the following:
  1. Field wiring.
  2. Wiring between mating blocks in adjacent sections.
  3. Wiring to panel-mounted components.
- B. Wiring to Rear Terminals: Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.
- C. Shop drawings shall show conformance to the above wiring installation requirements.
- D. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings. These numbers shall be marked on all conductors at every terminal using white numbered wire markers which shall be plastic-coated cloth, or permanently marked heat-shrink plastic.
- E. Wires shall be fitted with a crimp type spade lug of the proper size at screw terminals except in the cases of termination fittings designed for compression or solder type termination. There shall be at least 2" of unencumbered wire extending from any point of attachment within the panel. Wire numbers shall be located within 1" of the point of attachment and shall be applied such that the number can be read from the front of the panel without rotating the wire. No more than two wires shall be located at any point of termination, including terminal blocks (terminal blocks specified are designed to accept two points of termination at each side).
- F. Wires shall be routed through Panduit brand wireway of the size shown on the drawings. Routing shall separate 24 Vdc paths from 120 Vac paths as far as possible. Wireway shall be secured to the removable back panel by multiple pan head screws of the proper size at intervals of one at every other mounting hole station provided by Panduit. The mounting hole station shall be completely utilized at the extreme ends of each wireway segment. Within wireway, wire bundles shall be loosely bound with individual plastic tie wraps at intervals of approximately two feet.
- G. External to wireway, wire shall be bundled neatly and secured with plastic tie wraps at intervals of approximately 8". Wire splicing within the Instrument Panel is not acceptable.
  1. Wiring color code shall be as shown in this subsection
    - a. Blue: 24vdc +
    - b. Brown: 24vdc -

- c. White: 120vac common
  - d. Black: 120vac power
  - e. Red: 120vac control power
  - f. Green: ground
  - g. Violet: 12vdc +
  - h. Yellow: 12vdc -
  - i. Belden black (+)
  - j. Belden clear (-)
- H. Panels shall be fitted with a duplex electrical outlet as shown on the drawings. Illumination at the panel interior shall be by fluorescent lamps operated by a door switch integral to the lamp assembly (Hoffman LF120V15). Provide a door switch wired to the terminal blocks, as shown on the drawings, to indicate when the RCP door is open.
- I. Legend plates shall be laminated plastic or phenolic, black over white engraved by removing black material to reveal white letters. Lettering shall be sharp and clear, 3/16" nominal height. Engraving which is not uniform either letter to letter or within each character will not be accepted. Tags identifying interior components shall be affixed to the cabinet back panel.
1. The following interior components shall be labeled with phenolic tags:
    - a. Low voltage relay
    - b. Control relays
    - c. Modicon PLC
    - d. Microwave Data Systems Radio package
    - e. AC line surge arrestor
    - f. DC power supply transformer
    - g. DC power supply
    - h. Each terminal strip

### **3.03 CALIBRATION, TESTING, AND INSTRUCTION**

- A. General: Calibration, testing, and instruction shall be performed in accordance with Section 13300 - Instrumentation and Control.
- B. Inspection and Approval:

1. The panel fabricator shall conduct the following tests before shipment:
  - a. All alarm circuits rung out to determine their operability.
  - b. All electrical circuits checked for continuity and where applicable, operability.
  - c. All nameplates checked for correct spelling and size of letters.
  - d. Any other test required to place the panel in an operating condition.
2. The CONTRACTOR shall furnish all necessary testing devices and sufficient manpower to perform the tests required by the ENGINEER.
3. If the above tests have not been performed before shipment, the CONTRACTOR shall be liable for back charges by the ENGINEER for the extra time required for inspections.
4. Each control panel shall be tested in the field for functional operation after the connection of external conductors, and before equipment startup.

#### **PART 4 – MEASUREMENT AND PAYMENT**

##### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 13370 – Control Panels, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

## SECTION 13374

### CONTROL PANEL INSTRUMENTATION

#### PART 1 -- GENERAL

##### 1.01 WORK OF THIS SECTION

- A. The CONTRACTOR shall provide all control panel instrumentation, complete and operable, in accordance with the Contract Documents.
- B. The City shall provide PLC program development.

##### 1.02 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, also apply to the extent required for proper performance of this Work:
  - 1. Section 13300 Instrumentation and Control
  - 2. Section 13370 Control Panels

##### 1.03 CONTRACTOR SUBMITTALS

- A. Shop drawings, information, and data sheets shall be submitted in conformance with the requirements of Section 13300 - Instrumentation and Control and Section 13370 - Control Panels.

#### PART 2 -- PRODUCTS

##### 2.01 GENERAL

- A. The PLC system shall operate in ambient conditions of 32 to 140°F temperature and 5 to 95 percent relative humidity without the need for purging or air conditioning
- B. PLC system shall be designed with high noise immunity to prevent occurrence of false logic signals resulting from switching transients, relay, and circuit breaker noise or conducted and radiated radio frequency interference.
- C. The controller shall be grounded to the panel ground bus with a separate ground conductor sized per the manufacturers grounding requirements.

##### 2.02 PROGRAMMABLE LOGIC CONTROLLERS

- A. The microcontroller system and subsystem components shall be Modicon Momentum M1 Series, No "Or Equal".
- B. Construction: The microcontroller shall be of solid-state design. All CPU operating logic shall be contained within an integral control chassis. Microcontroller terminal base units shall allow for the easy removal and replacement of the controller. The controller shall

be capable of operating in a hostile industrial environment without fans, air conditioning, or electrical filtering (up to 60 degrees C and 95 percent humidity).

- C. The PLC shall be a Modicon Momentum of the latest design/manufacture, consisting of the following individual components:
1. Modicon Momentum, M1 Processor Adaptor; Part No. 171CCC96030C.
  2. Modicon Momentum, Modbus (RS232/485) Option Adaptor, with TOD Clock & Battery Backup; Part No. 172XXXXXX.
  3. Modicon Momentum, Interbus Communications Adapter; Part No. 170INT11000C.
  4. Modicon Momentum, 8 Channel 4-20mA Differential Analog Input I/O Base; Part #170AAI03000C.
  5. Modicon Momentum, 24 VDC 16 point Discrete Input and 24 VDC 16 point Discrete Output I/O Base; Part #170ADM35010C.
  6. Modicon Momentum, Interbus Cable; Part #170MCI00700.
  7. Modicon Momentum, Terminal Block; Part #170XTS00100.

### **PART 3 -- EXECUTION**

#### **3.01 GENERAL**

- A. Seven Day Acceptance Test: After start-up has been completed, the System shall undergo a 7-day acceptance test. The System shall run continuously for 7 consecutive days. During this period, all System functions shall be exercised. Any System interruption and accompanying component, subsystem, or program failure shall be logged for the cause, time of occurrence and duration of each failure. A failure shall cause termination of the 7-day acceptance test. When the cause of a failure has been corrected, a new 7-day acceptance test shall be started.
- B. Each time the CONTRACTOR's technician is required to respond to a System malfunction, a report shall be prepared which includes details on the nature of the complaint or malfunction and the resulting repair action required and taken.

### **PART 4 – MEASUREMENT AND PAYMENT**

#### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the

plan, as shown on the drawings and as specified in Section 13374 – Control Panel Instrumentation, and no additional compensation will be allowed.

- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**



**SECTION 13390**  
**COMMUNICATIONS**

**PART 1 -- GENERAL**

**1.01 WORK OF THIS SECTION**

- A. The Work of this Section includes providing a complete and operational communication system between the remote project facilities and the existing Water Operations Control Systems Center. The system shall include interface hardware, modules, radio, communication bridges, and application software necessary for a communication network.
- B. The Work, equipment, and services required by this Section shall be provided and furnished by the Communication System Contractor.

**1.02 RELATED SECTIONS**

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
  - 1. Section 13300 Instrumentation and Control
  - 2. Section 13370 Control Panels
  - 3. Section 13374 Control Panel Instrumentation
  - 4. Section 16010 Basic Electrical Materials and Methods

**1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS**

- A. The Work of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego:
  - 1. Uniform Fire Code
  - 2. National Electrical Code
- B. Except as otherwise indicated, the current editions of the following standards apply to the Work of this Section:

1. ISA RP 55.1	Hardware Testing of Digital Process Computers
2. NEMA ICS-6	Enclosures for Industrial Controls and Systems
3. MIL Q STD 9858A	Quality Program Requirements
4. MIL STD 2170	Reliability Prediction of Electronic Equipment
5. IEEE 802.2	Reliability Prediction of Electronic Equipment
6. SAMA PMC-32	Logical Link Control
7. SAMA PMX-32.1	Process Instrumentation Reliability Terminology

**1.04 CONTRACTOR SUBMITTALS**

- A. Shop drawings of all products listed in Part 2 shall be submitted.

## **1.05 ENVIRONMENTAL CONDITIONS**

- A. The communication systems shall be designed and constructed for operation under the following environmental conditions:
  - 1. Equipment outdoors, coastal environment:
    - a. Temperature range: 32 through 104 degrees F
    - b. Thermal shock: two degree F per minute maximum
    - c. Relative humidity: 20 through 90%

## **1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Delivery of Materials: Products shall be delivered in original, unbroken packages, containers, or bundles bearing the name of the manufacturer.
- B. Storage: Products shall be carefully stored in a manner recommended by the manufacturer in an area that is protected from the elements.

## **PART 2 -- PRODUCTS**

### **2.01 GENERAL**

- B. Where there is more than one item of similar equipment being furnished under this Section, all equipment of the same type shall be the product of a single manufacturer.
- C. All components shall be the most recent field proven models marketed by their manufacturers at the time of submittal of the shop drawings unless otherwise indicated.
- D. All instrumentation shall be suitable for operation in the ambient conditions at the equipment installation locations. Heating, cooling, and dehumidifying devices shall be incorporated with the outdoor instrumentation in order to maintain it within its rated environmental operating ranges. The Communication System Contractor shall provide all power wiring for these devices.
- E. The Communication System Contractor shall coordinate the installation of the communication system with all applicable utility companies and regulatory agencies having jurisdiction to secure approvals and permits which are required.

### **2.02 RADIO TELEMETRY**

- A. Licensing and Surveying:
  - 1. The OWNER has FCC licensing for the sites included in this project. The license allows the OWNER to operate 928-952 MHZ frequencies for multiple address systems (MAS). The equipment provided shall be suitable for use on the assigned frequencies.
  - 2. In locations where there is no microwave path to one of the five MAS radio repeaters, a 902-928 MHZ microwave spread spectrum radio shall be provided to

transmit to a remote SCADA location having a path to a repeater. Existing radios may be used to provide multiple paths.

3. The sites included in this Contract have been surveyed and are included in the radio feasibility study performed by the OWNER. The results of this survey indicate reliable radio communications can be implemented between the central station and remote sites. The report is available to the Communication System Contractor from the ENGINEER.
  4. Before installation of the radio equipment, the Communication System Contractor shall verify that the radio paths are still reliable based on the present terrain and structure conditions. Any structures or other objects that may obstruct the radio paths or cause transmission or path fade margin problems shall be brought to the ENGINEER's attention immediately.
- B. Transmission: RF transmitters shall be directly frequency modulated by a built-in digital modem from the digital data stream furnished by the central computer system. RF receivers shall provide a digital data stream to the central computer system. Each assembly shall be capable of transmitting and receiving data at a rate of 9600 baud over a 928-952 MHz FCC assigned channel.
- C. Fixed Frequency Radio: The fixed frequency radio in the RCP shall be capable of processing data for transmission via an antenna system. The contractor shall install the fixed frequency radio inside the RCP Cabinet. The radio equipment and accessories shall be mounted on a single panel supplied by the manufacturer. General Electric Digital Energy MDS model SD09MD-CES-NNSNN shall be furnished
1. General:
    - a. Frequency Range: 928-960MHz
    - b. Channel Bandwidth: Configurable for 25KHz or 12.5KHz
    - c. Operating Mode: Half Duplex
  2. The City shall be responsible for configuring each data radio to interface with the PLC controller or SCADA system as required.
- D. Yagi Antenna System
1. The Yagi antenna shall be a Scala TY-900. Antenna system shall be provided complete and functional for the intended use. System shall include antennas, mounting masts and hardware, grounding rods and accessories, and coaxial cables with connectors. Antenna height shall be based on the radio survey and shall not exceed FCC limitations.
  2. Antenna mounting components and hardware shall be hot-dip galvanized steel, stainless steel, or aluminum. Aluminum antennas or mounting components shall be anodized. Lightning suppressors shall be provided on antenna coaxial feed lines.
  3. Antennas and antenna poles shall be mounted as indicated.
  4. Antenna connections and openings shall be sealed and weatherproofed.

5. Antenna shall be suitable for use on the assigned radio frequency and shall have the gain required for reliable communications. The antennas for all remote sites shall be heavy duty YAGI type meeting the following requirements:

Frequency range	-	890 to 960 MHZ
Forward gain	-	12 Db
Front-to-back ratio	-	>20 Db
VSWR	-	<1.5 to 1.0 maximum
Polarization	-	Horizontal or Vertical
Impedance	-	50 ohms
Horizontal beamwidth	-	48 degrees (half power point)
Input power	-	100 W Maximum
Wind rating	-	150 mph survival (no ice)
Lighting protection	-	Direct ground
Input connector	-	N female

6. Antenna feed lines shall be 1/4-inch low loss coax for remote sites. Feed lines shall be routed to radio transceivers through conduit or inside the antenna mast. Provide Andrew Superflex FSJ1-50A. Coax connectors shall be 1/4-inch male N, Andrew F1PNM-H (QTY 2). Crimp style male N connector shall be Amphenol RFX (QTY 2). Jumper coax shall be RG58U 50 ohm dual shield solid center conductor.
7. Transmission lines and the antenna system shall be grounded as indicated on the drawings.
8. The lightning arrester is a Polyphaser IS-B50LN-C2.

### **2.03 NAMEPLATES, TOOLS AND SPARE PARTS**

- A. Tools: The Work includes all tools required to repair, calibrate, program, and maintain the equipment.
- B. Test Equipment: It is intended that the diagnostic software furnished with the system shall be able to troubleshoot communications to the circuit board level and that local repairs will be limited to board replacement. Any special diagnostic tester required to perform troubleshooting to this level shall be furnished. A portable calibrator for the radio system shall be furnished.

## **PART 3 -- EXECUTION**

### **3.01 INSTALLATION**

- A. General: The Communication System Contractor shall employ installers who are skilled and experienced in the installation and connection of all the elements, accessories and assemblies of communication systems.
- B. Access: All equipment shall be provided as indicated, or, if not indicated, so that it will be readily accessible for operation and maintenance. The ENGINEER reserves the right to require minor changes in equipment location before roughing in without any additional cost to the OWNER.

- C. Review: The Communication System Contractor shall review the existing site conditions and examine all shop drawings for equipment in order to determine exact routing and final terminations for all wiring and cables. Exact routing shall be shown on the Record Drawings.
- D. Installation and Connection: The Communication System Contractor shall install and connect all field-mounted components and assemblies and as recommended by the manufacturer and as indicated.
- E. Conduits: In building interior locations, conduits shall be surface mounted on walls or ceilings wherever possible and parallel to building lines. Conduit shall not be routed on floors unless indicated otherwise. In exterior locations, conduit shall be routed below grade. Existing concrete or asphalt slabs shall be sawcut, conduit installed, and the cut repaired to original condition. Exposed conduit and raceway shall be installed perpendicular or parallel to building lines.
- F. Final Checks: Final check of the communication systems shall be performed as an integral part of the system specified in Section 13300 - Instrumentation and Control.

**3.02 FIELD TESTING**

- A. RF Equipment Testing: The following measurements shall be made, recorded and compared to normal reading on each RF assembly prior to system testing to ensure that all equipment meets published specifications:
  - 1. Operating voltages
  - 2. Transmitter frequency
  - 3. Transmitter output power (at output of duplexer)
  - 4. Transmitter deviation
  - 5. Receiver local oscillator frequency
  - 6. Receiver sensitivity (10 to -6 BER)
- B. Testing: All systems furnished under this Contract shall be exercised through operational tests in the presence of the ENGINEER in order to demonstrate compliance with requirements. The testing of the communication system shall be performed in accordance with and as an integral part of the testing of the instrumentation and control specified in Section 13300 - Instrumentation and Control.

**PART 4 – MEASUREMENT AND PAYMENT**

**4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of

disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 13390 – Communications, and no additional compensation will be allowed.

- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

**SECTION 13430**

**PRESSURE TRANSMITTER**

**PART 1-- GENERAL**

**1.1 SUMMARY**

- A. This section describes the requirements of two-wire type pressure transmitters.
- B. Related sections include:
  - I. Section 13300 – Instrumentation and Control

**1.2 SUBMITTALS**

- A. Provide catalog data for all products listed in Part 2.

**1.3 PERFORMANCE REQUIREMENTS**

- A. Provide instruments that are capable of meeting the following performance requirements when installed in accordance with the manufacturer's recommendations:
  - I. Accuracy: +/- 0.10 percent of calibrated range.
  - 2. Repeatability: +/-0.05 percent of calibrated range.
  - 3. Drift: Less than +/-0.5 percent of span for a six month period.
  - 4. Temperature Effect: Less than +1-0.05 percent per one degree F. of span from -30 to 150 degrees
  - 5. Rangeability: 40 to 1
  - 6. Configurations: Gage Pressure

**PART 2-- PRODUCTS**

**2.1 PRESSURE TRANSMITTER**

- A. Provide the following unless otherwise noted on the instrument schedule:

1	Mounting:	Provide stainless steel mounting hardware.
2	Power Supply:	12-45 Vdc
3	Output:	4-20 mAdc into 1500 ohms load. Linear output for gage pressure and square root output function for differential pressure.
4	Zero Suppression or Range Elevation:	150 percent of calibrated span

5	Range:	9-360 psi
6	Maximum Static Pressure:	2,300 psig
7	Humidity	10 to 100 percent Relative Humidity.
8	Sensing Element:	Diaphragm type
9	Vent/Drain position:	Upper. One for each sensing cavity.
10	Material:	Sensing element components to be 316 stainless steel. NEMA 4X electronic enclosure
11	Process Connection:	0.5 inch 14 NPT
12	Electrical Connector:	0.5 inch 14 NPT.
13	Identification plate:	316 SST plate with site mnemonic, tag and loop numbers. Use SST wire to fasten plate to instrument for easy viewing.
14	Indicator:	4-1/2 alphanumeric LCD.
15	Design:	Provide microprocessor-based electronic design with HART protocol digital communication.
16	Manufacturer:	SMAR model LD301 or equal.

B. Provide gage pressure transmitters for pipeline:

Tag No.	Description
PIT-100	MOV-307-1 Upstream Pressure
PIT-101	MOV-307-1 Downstream Pressure
PIT-110	MOV-307-2 Upstream Pressure
PIT-111	MOV-307-2 Downstream Pressure

## 2.2 ACCESSORIES

A. Provide 2-valve manifold and pipe mount bracket for each transmitter.

## PART 3-- EXECUTION

### 3.1 INSTALLATION

- A. Install the transmitter in an orientation where the sensing diaphragms are in a vertical plane.
- B. Allow sufficient clearance overhead for cover removal and around the transmitter to provide an access for necessary adjustments.
- C. Where transmitters are located below the pressure tap slope horizontal lines (tubing) a minimum of one inch per foot downward from the pressure taps.
- D. Where transmitters are located above the pressure tap slope horizontal lines a minimum of one inch per foot upward from the pressure tap.
- E. Pressure lines from the tap location to the transmitter shall not have changes in elevation that trap air in the line.



- F. Assemble screwed fittings with Teflon paste or compatible metallic paste on the external threads. Teflon tape shall not be used.
- G. Local output indicators to be easily accessed for viewing and service by operations personnel.

#### **PART 4 – MEASUREMENT AND PAYMENT**

##### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 13430 – Pressure Transmitter, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

## SECTION 16010

### BASIC ELECTRICAL REQUIREMENTS

#### PART 1 -- GENERAL

##### 1.01 SUMMARY

- A. This section summarizes general requirements of electrical work specified in Division 16.

##### 1.02 DESCRIPTION OF WORK

- A. The Contractor shall furnish labor, materials, equipment and services to store, transport, install, calibrate, and make operational electrical systems and equipment supplied under this contract. Include wiring, conduits, fittings, physical support systems, incidentals, and connections to link the individual components into an integrated system. Typical materials that may be incidentals are terminal lugs not furnished with vendor-supplied equipment, compression connectors for cables, splices, junction and terminal boxes.
- B. The Contractor shall install, wire, and connect all equipment and items furnished by owner and under other divisions that require electrical connections unless otherwise indicated or specified. Include all field connections and terminations to all panels, control equipment and devices, instruments, and to all vendor-furnished packaged equipment. Products furnished by owner and under other divisions include:
  - 1. PLC programming is furnished by the Owner.
- C. The Contractor shall include all concrete work required for encasement, installation, or construction of the Work specified in Division 16. Furnish 3000-psi concrete; the following shall apply:
  - 1. Consolidation of encasement concrete around duct banks shall be by hand pudding, and no mechanical vibration shall be permitted.
  - 2. A workability admixture shall be used in encasement concrete, which shall be a hydroxylated carboxylic acid type in liquid form. Admixtures containing calcium chloride shall not be used.
  - 3. Concrete for encasement of conduit or duct banks shall contain an integral red-oxide coloring pigment in the proportion of 8 pounds per cubic yard of concrete.
- D. The Contractor shall test all electrical connections and circuits for proper installation and operation.
- E. The Contractor shall coordinate PRS work with San Diego Gas & Electric (SDG&E).

### **1.03 PERMITS**

- A. The Contractor shall procure and pay for permits and certificates required by local and state ordinances and fire underwriter's certificate of inspection.

### **1.04 SUBMITTALS**

- A. The contractor shall furnish within 30 days, a complete list of all materials, equipment, apparatus, and fixtures proposed for use. The list shall include type, sizes, names of manufacturers, catalog numbers, and such other information required to identify the items.
- B. The Contractor shall include the following information in the submittals for this division:
  - 1. Manufacturer, detailed items description, drawings, catalog literature and data edited to indicate specific items, such as conduit, fittings, supports, wire, cable, junction boxes, and pull boxes being provided.
  - 2. All equipment shall be submitted in a common submittal. All installation details shall be submitted in a common submittal.
  - 3. Installation detail drawings. Include typical details for raceway hangers and supports.
  - 4. Complete material lists for the Work of this division. Such lists shall state the manufacturer and brand name of each item or class of material. Include shop drawings for all grounding work not specifically indicated.
  - 5. Shop drawings are required for materials and equipment listed in other sections. Shop drawings shall provide sufficient information to evaluate the suitability of the proposed material or equipment for the intended use, and for compliance with these Specifications. The following shall be included:
    - a. Front, side, rear elevations and top views with dimensional data.
    - b. Location of conduit entrances and access plates.
    - c. Component data.
    - d. Connection diagrams, terminal numbers, wire numbers, internal wiring diagrams, conductor size, and cable numbers.
    - e. Method of anchoring, seismic requirement; weight.
    - f. Types of materials and finish.
    - g. Nameplates.
    - h. Temperature limitations, as applicable.
    - i. Voltage requirement, as applicable.

- j. Front and rear access requirements.
- 6. Nameplate schedules.
- C. Maintenance manuals of sufficient detail to enable a qualified technician to perform maintenance and repair.
- D. Record Drawings: In addition to the record drawings as part of the record drawings requirements, the Contractor shall show depths and routing of all underground duct banks.

#### **1.05 QUALITY ASSURANCE**

- A. The drawings diagrammatically indicate the desired location and arrangement of outlets, conduit runs, equipment, and other items. The Contractor shall determine the exact locations in the field based on the physical size and arrangement of equipment, finished elevations, and other obstructions. Locations shown on the drawings, however, shall be adhered to as closely as possible.
- B. All conduit and equipment shall be installed in a manner to avoid all obstructions and to preserve headroom and keep openings and passageways clear. Where the drawings do not indicate exact locations, such locations shall be obtained from the Resident Engineer. Where equipment is installed without instruction and must be moved, it shall be moved without additional cost to the City.
- C. All materials and equipment shall be installed in accordance with printed recommendations of the manufacturer, which have been reviewed by the Resident Engineer. Workmen skilled in this type of work shall accomplish the installation and installation shall be coordinated in the field with other trades so that interference's are avoided.
- D. All Work, including installation, connection, calibration, testing, adjustment, and paint touchup, shall be accomplished by qualified, experienced personnel working under continuous, competent supervision. The completed installation shall display competent work, reflecting adherence to prevailing industrial standards and methods.
- E. The Contractor shall furnish adequate means for and shall fully protect all finished parts of the materials and equipment against damage from any cause during the progress of the Work and until acceptable by the Resident Engineer.
- F. All materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint. All moving parts shall be kept clean and dry.
- G. The Contractor shall replace or have refinished by the manufacturer, all damaged materials or equipment, including faceplates of panels and switchboard sections, at no cost to the City.
- H. The Contractor shall perform all tests required by the Resident Engineer or other authorities having jurisdictions. All such tests shall be performed in the presence of the Resident Engineer. The Contractor shall furnish all necessary testing equipment and pay all costs of tests, including all replacement parts and labor necessary due to

damage resulting from damaged equipment or from test and correction of faulty installation. The following testing shall be accomplished:

1. Testing for the ground resistance value specified in Section 16450 – GROUNDING.
  2. Insulation resistance tests specified in Section 16120 – WIRES AND CABLES.
  3. Operational testing of all equipment furnished and/or connected in other sections of Division 16, including furnishing of support labor for testing.
- I. Any test failure shall be corrected in accordance with the industry practices and in a manner satisfactory to the Resident Engineer.
- J. The Contractor shall perform all work in accordance with all applicable provisions of the following:
1. All applicable requirements of the rules and regulations of the local bodies having jurisdiction. In addition, the Work of this division shall comply with the requirements of the current edition of the Standard Specifications for Public Works Construction (SSPWC) Subsection 209-1, together with the latest adopted editions of the Regional and City of San Diego Supplement Amendments.
  2. NFPA-70 “The National Electrical Code”, latest edition.
  3. ANSI C-2 “The National Electrical Safety Code”, latest edition.
  4. NECA “National Electrical Contractors Association” guidelines.
  5. All applicable requirements of the Federal Communication Commission and the Federal Aviation Authority.
  6. Government Standards:

FS W-C-596E/GEN(1)	Connector, Plug, Receptacle and Cable Outlet, Electrical Power
FS W-S-896E/GEN(1)	Switches, Toggle (Toggle and Lode), Flush Mounted (ac)
FS WW-C-581D, E	Conduit, Metal, Rigid, And Intermediate; And Coupling, Elbow, and Nipple, Electrical Conduit: Steel, Zinc Coated

Commercial Standards:

ANSI C80.1	Zinc Coated, Rigid Steel Conduit, Specification for
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ANSI C80.4	Fittings for Rigid Metal Conduit and Electrical Metallic Tubing, Specifications for
ANSI/UL 467	Grounding and Bonding Equipment, Safety Standard for
ASTM B3	Soft or Annealed Copper Wire
ASTM B8	Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, and Soft
ASTM B33	Specification for Tinned Soft or Annealed Cooper Wire for Electrical Purposes
ASTM D1784	cell classification PVC 1223-A, B, or C
ICEA S-61-402	Thermoplastic - Insulated Wire and Cable
ICEA S-66-524, NEMA WC7	Cross-Linked, Thermosetting, Polyethylene Wire and Cable
ICEA S-68-516, NEMA WC8	Ethylene Propylene Rubber Insulated Wire and Cable
NEMA 250	Enclosures for Electrical Equipment (1,000 volts maximum
UL 6	Rigid Metal Electrical Conduit
UL 44	Rubber - Insulated Wire and Cable
UL 514	Electrical Outlet Boxes and Fittings

- K. Construction and installation of all electrical equipment and materials shall comply with all applicable provisions of the OSHA Safety and Health Standards (29CFR1910 and 29CFR 1926, as applicable), State Building Standards, and applicable local codes and regulations.
- L. Unless otherwise specified, the Contractor shall use new materials of current production which conform to standards established by Underwriter's Laboratories, Inc., and are so marked or labeled, together with manufacturer's brand or trademark. Equipment and material which are not covered by UL standards will be accepted provided such material is listed, labeled, certified, or otherwise determine to meet safety requirements of an independent nationally recognized testing laboratory acceptable to the local code-

enforcement agency having jurisdiction. Equipment of a class which no independent nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, will be considered if inspected or tested in accordance with national industrial standards such as NEMA or ANSI. Submit certified test reports and shop drawings as evidence of compliance.

- M. The Contractor shall use one manufacturer for like items and associated equipment. Components of an assembled unit need not be products of the same manufacturer.
- N. The Contractor shall not interfere with continuous operation of the Owner's equipment, unless otherwise approved by the Owner or Engineer.
- O. The Contractor shall inspect the intended storage space at the site. Provide conditioning as required to protect the equipment. Provide a written report on the adequacy of storage.
- P. The Contractor shall protect all stored and installed materials and equipment from physical damage, adverse weather conditions, moisture, and corrosion until final acceptance. Replace or repair any damaged equipment to the satisfaction of the Engineer.

#### **1.06 CLEANUP**

- A. **Cleaning of Materials and Equipment:** All parts of the materials and equipment shall be thoroughly cleaned. Exposed parts shall be thoroughly clean of cement, plaster, and other materials. All oil and grease spots shall be removed with a nonflammable cleaning solvent. Such surfaces shall be carefully wiped and all cracks and corners scraped out. Paint touchup shall be applied to all scratches on panels and cabinets. Electrical cabinets or enclosures shall be vacuum cleaned before final acceptance.
- B. **Cleaning of the Site:** During the progress of the Work, the Contractor shall clean the premises and leave the premises and all portions of the site free of debris.

#### **1.07 DEMOLITION AND RELATED SITES WORK**

- A. **Installation of New Equipment in Existing Structures:**
  - 1. Installation of certain new equipment and devices is required in existing structures. For this phase of the Work, the Contractor shall remove existing equipment or devices, install new equipment as indicated, remove existing conductors from existing raceways, and pull new conductors in existing raceways, reconnect existing conductors or furnish and install new conduit and wires.
  - 2. The Contractor shall visit the sites before bidding and carefully examine existing installations so that its proposal will reflect all the Work necessary to provide a complete installation so that the resulting installation will function as required. Include in the bid price all costs of labor and materials necessary to complete installations.
- B. **Installation of Temporary Equipment:**

1. To facilitate continuous operation of existing equipment, temporary equipment shall be provided where indicated. The Contractor shall submit installation and connection details for review and acceptance. Temporary installations shall be provided at no additional cost to the City.
2. All cables, conduits, and fittings used in temporary connections shall not be reused to install permanent connections. Salvaged items shall be returned to the City.

C. Plant Monitoring Power and Control Shutdowns:

1. Existing operations shall be continued during this demolition process. The Contractor shall carefully examine all Work to be done in, on, or adjacent to existing equipment. Work shall be scheduled, subject to the City's approval, to minimize required shutdown time of sites. The Contractor shall submit a written request, including sequence and duration of activities to be performed during shutdown.
2. The Contractor shall perform all switching and safety tagging required for shutdowns or to isolate existing equipment. In no case shall the Contractor begin any Work in, on, or adjacent to existing equipment without written authorization of the Resident Engineer.

E. Modifications to Existing Electrical Facilities:

1. The Contractor shall provide all modifications or alterations to existing electrical facilities required to successfully install and integrate the new electrical equipment. All modifications to existing equipment, panels, or cabinets shall be made in a professional manner with all coatings repaired to match existing. Modifications to existing electrical facilities required for a complete and operating system shall be made at no additional cost to the City. Extreme caution shall be exercised in digging trenches in order not to damage existing underground utilities. Cost of repairs of damages caused during construction shall be the Contractor's responsibility.
2. The Contractor shall verify all available existing circuit breakers in lighting panels for their intended use as required by the drawings. At no additional cost to the City, the Contractor shall verify the available space in substation switchboards to integrate new power circuit breakers.

**PART 2 – PRODUCTS (Not Used)**

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. The Contractor shall verify equipment locations and delivery routes prior to installation to ensure the equipment will fit in the available space. The drawings do not indicate exact scale or dimension.



- B. Existing raceways that contain space to run wiring may be used where indicated on the drawings. Do not damage existing equipment or wiring. Do not interrupt control or monitoring signals or power. The Contractor shall obtain prior approval from the Engineer or Resident Engineer before pulling wires.

### **3.02 INSTALLATION**

- A. The Contractor shall provide temporary installations adjacent to existing equipment where noted.
- B. After modifying existing equipment, the Contractor shall dismantle temporary installations and restore to original condition.
- C. Perform work neatly. The Contractor shall keep sites clean of accumulation of cartons, trash and debris. Remove trash and debris daily. Vacuum clean cabinets, panels and enclosures installed or modified.
- D. The Contractor shall route and locate equipment items so as not to obstruct access to equipment, personnel walkways, or expose it to potential mechanical damage.
- E. Install items straight and plumb. The Contractor shall exercise care so that like items are mounted the same position, heights and general location. Securely anchor and fasten items.
- F. The Contractor shall locate and install electrical devices to afford maximum safety to personnel making adjustments, manual operations, or replacement of these devices. Locate items to permit them being reached without the use of ladders or without climbing or crawling over or under obstacles such as motors, pumps, piping, and ductwork.
- G. The Contractor shall use bushings for entrances to existing panels, cabinets, or enclosures through drilling and knock-outs.
- H. The Contractor shall tag wires with foreign voltages to indicate source of power.

### **3.03 GENERAL**

- A. The Contractor shall install electrical equipment and material of the size, type, and general routing as shown on the drawings.
- B. The Contractor shall install metallic raceway, fittings, boxes, and cabinets free from direct contact with reinforcing steel.
- C. The Contractor shall provide fasteners, anchor bolts, anchorage items and supports as required for rigid alignment and sized according to size and weight of equipment and thickness of supporting surfaces.
- D. Where aluminum is placed in contact with dissimilar metal or concrete, the Contractor shall separate contact surfaces with gasket, non-absorptive tape, or coating to prevent corrosion.

- E. The Contractor shall make metallic conduit, raceways, and cable trays electrically and mechanically continuous and ground as required. Conduits shall be continuous between outlets, boxes, cabinets, and panels, and shall enter and be secured to each box.
- F. A ground conductor shall be provided in each raceway run.
- G. Not more than one 3-phase circuit or feeder shall be installed in a conduit run.

### **3.04 TESTING**

- A. The Contractor shall perform field-testing to demonstrate correct installation and operation of equipment.
- B. Upon completion of work, the Contractor shall test the electrical system for shorts and grounds and proper phasing. The Engineer will observe the testing.

### **3.05 CLEANING**

- A. Touch up paint surfaces marred during installation. The Contractor shall submit color samples prior to painting. Remove foreign paint from exterior and touch up scratches with same paint as original. Sand, prime, and repaint rusted areas.
- B. Clean and lubricate relay contacts, pushbutton and other control devices installed or modified. Lubricate with CRC 2-26 or other lubricant or cleaning agent specifically designed for this purpose.
- C. At completion of work in any area, the Contractor shall remove all debris and unused materials and equipment and leave all areas broom clean. Where work in carpeted areas results in visible soiling of carpets, clean the affected carpets and restore them to the original condition.

### **3.06 PROTECTION**

- A. The Contractor shall maintain site security.
  - 1. Verify that all cabinets, doors, and gates that were opened during the day are locked when leaving.
  - 2. Do not leave unlocked cabinets unattended.

## **PART 4 – MEASUREMENT AND PAYMENT**

### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching

of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16010 – Basic Electrical Requirements, and no additional compensation will be allowed.

- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

## SECTION 16110

### RACEWAYS

#### PART 1 -- GENERAL

##### 1.01 SUMMARY

- A. The section describes the requirements for raceways including the following:
  - 1. Conduit
  - 2. Fittings
  - 3. Miscellaneous Specialty Fittings
  - 4. Raceway Supports
  - 5. Underground Ducts and Manholes
  - 6. Outlet, Junction, and Pull Boxes
  - 7. Wiring Devices
  - 8. Terminal Cabinets
  - 9. Sealants
- B. Reference is made to the following related sections:
  - 1. Conduit identification per Section 16195 - Electrical Identification.
  - 2. Conduit support per Section 16190 - Supporting Devices

##### 1.02 SUBMITTALS

- A. See Section 16010 for general submittal requirements for Division 16.

##### 1.03 SYSTEM DESCRIPTION

- A. Size conduit in accordance with the National Electrical Code, but galvanized rigid steel (GRS) conduit shall be no smaller than 3/4 inch and schedule 40 PVC conduit shall be no smaller than 1 inch. Use larger sizes if shown.
- B. Use fittings of the same material and match the raceway.
- C. PVC coated galvanized rigid steel conduit (GRS) shall be used in all exposed and/or above grade locations and within underground vault structures and for all signal wiring. Schedule 40 PVC shall be used for direct buried or concrete encased underground locations for power and control wiring, concrete encased. 24 Vdc discrete and analog signals may occupy the same conduit.

## **PART 2 -- PRODUCTS**

### **2.01 CONDUIT**

- A. General: Raceway shall be manufactured in accordance with UL and ANSI standards and shall bear UL label as applicable.
- B. Galvanized Rigid Steel (GRS) Conduit:
  - 1. Rigid steel conduits and fittings shall be full weight, mild steel, hot-dip galvanized and zinc bichromate coated inside and outside after galvanizing.
  - 2. Each piece of conduit shall be straight, free from blisters and other defects, cut square and taper reamed. Furnish in 10 foot lengths minimum, threaded at each end. Provide couplings at one end and a protective sleeve for the other end.
  - 3. Rigid steel conduit shall be manufactured in accordance with UL Standard No. 6 and ANSI C80.1.
  - 4. Rigid steel conduit shall be manufactured by Triangle PWC, Republic Steel, or equal.
- C. Rigid Nonmetallic Conduit: Rigid nonmetallic conduit shall be Schedule 40 PVC.
  - 1. Nonmetallic conduits and fittings shall be UL listed, sunlight-resistant, and rated for use with 90 degrees C conductors.
  - 2. Use expansion joints as recommended by the manufacturer.
  - 3. Nonmetallic conduits and fittings shall be manufactured by Carlon, Condux, or equal.
- D. Flexible Metallic Conduit: Liquid-tight flexible metallic conduit shall have an extruded PVC covering over the flexible steel conduit. Conduit shall be approved for grounding. For conduit sizes 3/4 inch through 1-1/4 inches, flexible conduits shall have continuous built-in copper ground conductor. Flexible conduit shall be American Brass, Anaconda, Electroflex, or equal. Explosion-proof flexible conduits shall be used for Class I, Div. 1, Group C&D areas.
- E. PVC coated GRS shall be 40 mil coating. Robroy, OCAL, or approved equal.

### **2.02 FITTINGS**

- A. General: Fittings shall comply with the same requirements as the conduit with which they will be used. Fittings having a volume less than 100 cubic inches for use with rigid steel conduit, shall be cast or malleable nonferrous metal. Such fittings larger than one inch shall be "mogul size." Fittings shall be of the gland ring compression type. Use threaded connectors for all rigid metal conduits. Covers of fittings, unless in "dry" locations, shall be closed with gaskets. Surface-mounted cast fittings, housing wiring devices in outdoor and damp locations, shall have mounting lugs.

- B. Insulated Bushings: Insulated bushings shall be molded plastic or malleable iron with insulating ring, similar to O-Z Type A and B, equivalent types by Thomas & Betts, Steel City, Appleton, O-Z/Gedney, or equal.
- C. Insulated Grounding Bushings: Insulated grounding bushings shall be malleable iron with insulating ring and with ground
- D. Erickson Couplings: Erickson couplings shall be used at all points of union between ends of rigid steel conduits which cannot be coupled. Running threads and threadless couplings shall not be used. Couplings shall be 3-piece type such as Appleton Type EC, equivalent types such as manufactured by T & B, Steel City, O-Z/Gedney, or equal.
- E. Liquid-Tight Fittings: Liquid-tight fittings shall be similar to Appleton Type ST, equivalent types such as manufactured by Crouse-Hinds, T & B, O-Z/Gedney, or equal.
- F. Hubs: Hubs for threaded attachment of steel conduit to sheet metal enclosures, where required, shall be similar to Appleton Type HUB, equivalent types such as manufactured by T & B, Myers Scrutite, or equal.
- G. Transition Fittings: Transition fittings to mate steel to PVC conduit, and PVC access fitting, shall be as furnished or recommended by the manufacturer of the PVC conduit.
- H. Sealed Fittings: Sealing fittings are required in conduit runs entering corrosive areas and elsewhere as shown. Sealing fittings shall be Appleton Type EYS, O-Z Type FSK, or equal. Sealing compound shall not be poured in place until electrical installation has been otherwise accepted.
- I. Expansion Fittings: Expansion fittings shall be installed wherever a raceway crosses a structural expansion joint. Such fittings shall be expansion and deflection type and shall accommodate lateral and transverse movement. Fittings shall be O-Z/Gedney Type "DX," Crouse Hinds "XD," or equal. These fittings are required in metallic and nonmetallic raceway installations. When the installation is in a nonmetallic run, a 3-foot length of rigid conduit shall be used to connect the nonmetallic conduit to the fitting.

## **2.03 MISCELLANEOUS SPECIALTY FITTINGS**

- A. Provide conduit thru-wall seals where conduits pass through exterior concrete or masonry walls below grade. The seals shall consist of a hot dip galvanized steel sealing gland assembly capable of providing a seal around the conduit to withstand 50 feet of water head without leakage. The shell of the seal shall have at least two cast collars at a right angle to the sleeve that is embedded in the concrete. For new structures, provide O-Z/Gedney type WSK, or equal. For cored hole applications in existing structures, provide O-Z/Gedney type CSM, or equal.

## **2.04 RACEWAY SUPPORTS**

- 1. See section 16190 for raceway support.

## 2.05 UNDERGROUND DUCTS AND MANHOLES

A. General: Where an underground distribution system is required, it shall be comprised of multiple runs of single bore nonmetallic ducts, concrete encased, with steel reinforcing bars, with underground manholes and pullboxes. They shall be rigid Schedule 40 PVC for concrete encasement.

1. Manholes and pullboxes shall be of precast concrete. Concrete construction shall be designed for traffic loading.

Covers shall be traffic type, except as shown otherwise. Manholes and pullbox covers designated as "HV" covers shall be identified as "High Voltage Electric," "P" shall be identified as "Secondary Electric," "C" as "Control" and "S" as "Signal." All covers shall be watertight after installation.

Manholes and pullboxes shall be equipped with pulling-in irons opposite and below each ductway entrance.

Manholes shall have concrete covers with 30-inch diameter lids. All covers and lids shall be bolted to cast-in-place frames with corrosion resistant hardware. Frames shall be factory-primed; covers shall be cast-iron and shall have pick holes.

2. Manholes and pullboxes shall have cable supports so that each cable is supported at 3-foot intervals within the manhole or pullbox. Cable supports and racks shall be fastened with galvanized bolts and shall be fabricated of fiberglass or galvanized steel. Porcelain insulators for cable racks shall be provided.
3. Manholes and pullboxes shall be Brooks, Quikset, U.S. Precast, or equal. Cast-iron covers shall be by U.S. Foundry, or equal.

## 2.06 OUTLET, JUNCTION, AND PULL BOXES

A. General: Outlet, switch, pull and junction boxes for flush-mounting in general purpose locations shall be one-piece, galvanized, pressed steel. Ceiling boxes for flush-mounting in concrete shall be galvanized, pressed steel.

B. Corrosive Locations: The entire project site shall be considered a corrosive location. Control station, pull and junction boxes, including covers, for installation in corrosive locations shall meet the NEMA 4X requirements and shall be stainless steel and shall be furnished with mounting lugs.

## 2.07 TERMINAL CABINETS

A. Provide terminal cabinets as suitable for flush or surface mounting, dry or wet locations, as indicated on the Drawings. Cabinets shall meet the following additional requirements:

1. Continuous piano hinged door(s) and back panel to mount terminal blocks:
  1. Cabinet boxes shall be constructed of 316 Stainless Steel.

3. Cabinet trims constructed of sheet steel in accordance with UL standards. Trims for surface mounted panels shall be provided with factory applied prime and finish coats of paint. Trims for flush mounted cabinets shall be provided with factory applied prime coat of paint suitable for field application of finish paint, except as otherwise noted.
4. Non-metallic or aluminum backboards.
5. 18 inches in width, 24 inches in height, and 4 inches in depth unless shown otherwise on the Drawings.
6. Provide a minimum of 12 terminals in each cabinet. Provide 25% spare terminals. Terminals shall be Marathon No. 1600, Buchanan No. 218, or equal.

## **2.08 SEALANTS**

- A. Provide non-hardening, UL approved type for wall penetrations and underground ductbank seals.
- B. Provide hard setting, UL approved type for hazardous location seal fittings.

## **PART 3 – EXECUTION**

### **3.01 GENERAL**

- A. Raceways shall be installed as indicated, however, conduit routings shown are diagrammatic. The Contractor shall check location of equipment connections before installing raceways and locate and arrange raceways accordingly. Raceway systems shall be electrically and mechanically complete before conductors are installed. Bends and offsets shall be smooth and symmetrical, and shall be accomplished with tools designed for the purpose intended. Factory elbows shall be used for all 3/4-inch conduit. Bends in larger sizes of metallic conduit shall be accomplished by field bending or by the use of factory elbows. All installations shall be in accordance with the latest edition of the NEC.
- B. Raceways shall be installed in accordance with the following schedule:
  1. Low Voltage Raceway (control, power, data and communications):
    - a. Rigid Schedule 40 PVC shall be used for concrete encased duct in earth.
    - b. PVC coated GRS conduit and fittings shall be used in vaults and all exposed, above ground locations.
  2. Analog Signal Raceways:
    - a. Galvanized rigid steel conduits shall be used for concrete encased duct on earth.



- b. PVC coated galvanized rigid steel conduits shall be used on exposed installations in general purpose areas.
  - c. PVC coated galvanized rigid steel shall be used on exposed installations in outdoor areas.
- C. Exposed Raceways:
- 1. Conduits shall be rigidly supported with clamps, hangers, and Unistrut channels.
  - 2. Intervals between supports shall be in accordance with the National Electric Code.
- D. Conduit Terminations: Empty conduit terminations not in manholes or pullboxes shall be plugged. Exposed raceway shall be installed perpendicular or parallel to buildings except where otherwise indicated. Conduit shall be terminated with flush couplings at exposed concrete surfaces. Conduit stubbed up for floor-standing equipment shall be placed in accordance with approved shop drawings. Metallic raceways installed below-grade or in outdoor locations and in concrete shall be made up with a conductive waterproof compound applied to threaded joints. Compound shall be Zinc Clads Primer Coatings No. B69A45, HTL-4 by Crouse-Hinds, Kopr Shield by Thomas & Betts, or equal.
- E. Install metallic raceway, fittings, boxes, and cabinets free from direct contact with reinforcing steel.
- F. Provide fasteners, anchor bolts, anchorage items and supports as required for rigid alignment and sized according to size and weight of equipment and thickness of supporting surfaces.
- G. Make metallic conduit, raceways, and cable trays electrically and mechanically continuous and ground as required. Conduits shall be continuous between outlets, boxes, cabinets, and panels, and shall enter and be secured to each box.
- H. Provide ground conductor in each raceway run.

### 3.02 CONDUIT INSTALLATION

- A. Conduit may be cast integral with horizontal and vertical concrete slabs, providing one-inch clearance is maintained between conduit surface and concrete surface. If said clearance cannot be maintained, the conduit shall be installed exposed below elevated slabs; provided, that in the case of slabs on grade, conduit shall be installed below the slab. Maximum size of conduit that can be cast in slab shall be 1-1/2 inches.
- B. Nonmetallic conduit may be cast integral with horizontal slabs with placement criteria stated above. Non-metallic conduit may be run beneath structures or slabs on grade, without concrete encasement. In these instances conduit shall be placed at least 12 inches below the bottom of the structure or slab. Nonmetallic conduit may be buried 24 inches minimum below grade, with a 3-inch concrete cover, in open areas or where otherwise not protected by concrete slab or structures. Top of concrete cover shall be colored red. Nonmetallic conduit shall be permitted only as required by the Specifications and in concealed locations as described above.

- C. Where a run of concealed PVC conduit becomes exposed, a transition to rigid steel conduit is required. Such transition shall be accomplished by means of a factory elbow or a minimum 3-foot length of PVC coated rigid steel conduit, either terminating at the exposed concrete surface with a flush coupling. Piercing of concrete walls by nonmetallic runs shall be accomplished by means of a short steel nipple terminating with flush couplings.
- D. Flexible conduit shall be used at dry locations for the connection of equipment such as motors, transformers, instruments, valves, or pressure switches subject to vibration or movement during normal operation or servicing. Flexible conduit may be used in lengths required for the connection of recessed lighting fixtures; otherwise the maximum length of flexible conduit shall be 18 inches.
- E. In other than dry locations, connections shall be made using flexible liquid-tight conduit. Equipment subject to vibration or movement which is normally provided with wiring leads, such as solenoid valves, shall be installed with a cast junction box for the make-up of connections. Flexible conduits shall be as manufactured by American Brass, Cablec, Electroflex, or equal.
- F. Galvanized Rigid Steel Conduit (GRS): Treat field cut threads with a liquid galvanized solution or a conductive rust inhibitor that will maintain ground continuity before installing locknuts, bushings, or other fittings. Where required use UL approve conduit unions. Do not use split couplings or running threads in lieu of unions.
- G. Flexible Metallic Conduit (liquid tight): Use only for terminations to vibrating or moving equipment such as motors or transformers. Connectors shall be liquid tight, stainless steel, or bronze with insulated throats.
- H. Rigid nonmetallic conduit: All exposed bends shall use rigid steel conduit. All risers shall use rigid steel conduit. Do not use PVC conduit for routing of analog or communication signal circuits.
- I. Earth Buried Conduits
  - 1. For conduits buried in earth provide minimum 30 inches of cover and minimum of one foot clearance between other utility crossings and parallel runs. Maintain a grade of at least four inches per 100 feet either from one manhole or pull box to the next or from a high point between them. Drain conduits away from building, if not possible provide watertight seal at building.
  - 2. Provide detectable warning tape approximately 18 inches above and directly over centerline of buried conduit.
- J. Conduit Damage Correction
 

Repair cuts, nicks, and abrasions or replace damaged conduit as directed.
- K. Conduit Penetrations
  - 1. Seal all raceways entering structures at the first box or outlet with oakum or suitable plastic expandable compound to prevent the entrance into the structure of gases, liquids, or rodents.

2. Dry pack with nonshrink grout around raceways that penetrate concrete walls, floors, or ceilings aboveground, or use one of the methods indicated for underground penetrations.
3. Where an underground conduit enters a structure through a concrete roof or a membrane waterproofed wall or floor, provide an acceptable, malleable iron, watertight, entrance sealing device. When there is no raceway concrete encasement, provide such device having a gland type sealing assembly at each end with pressure bushings that may be tightened at any time. When there is raceway concrete encasement indicated, provide such a device with a gland type sealing assembly on the accessible side. Securely anchor all such devices into the masonry construction with one or more integral flanges. Secure membrane waterproofing to such devices in a permanently watertight manner.
4. Where an underground raceway without concrete encasement enters a structure through a nonwaterproofed wall or floor, install a sleeve made of Schedule 40 galvanized pipe. Fill the space between the conduit and sleeve with a suitable plastic expandable compound, or an oakum and lead joint, on each side of the wall or floor in such a manner as to prevent entrance of moisture. A watertight entrance sealing device may be used in lieu of the sleeve.
5. Make concealed penetrations for conduits not more than 1/4 inch larger than the diameter of the conduit. Make penetrations through walls, ceiling, and floors other than concrete for exposed conduits not more than 1/4 inch larger than the diameter of the conduit. Fill void around conduit with caulking compound and finish surface same as wall, ceiling, or floor.
6. Where a conduit enters through a concrete non-waterproofed wall, floor, or ceiling, provide a galvanized steel sleeve, Schedule 80, and fill the space between the conduit and sleeve with plastic expandable compound or an oakum and lead joint. If the sleeve is not placed with the concrete, drill hole not less than 1/2-inch or more than one inch larger than sleeve, center sleeve, and grout sleeve total depth of penetrated concrete with non-shrink grout, polyurethane, or silicone sealant.
7. Where conduits penetrate walls, install junction box on other side of penetration. Separate 120 Vac boxes from low, dc voltage circuits.

### **3.03 UNDERGROUND DUCTS AND MANHOLES INSTALLATION**

- A. Duct Bank Installation: The underground concrete encased duct bank shall be installed in accordance with the criteria below:
  1. Duct shall be assembled using high impact nonmetallic spacers and saddles to provide conduits with vertical and horizontal separation. Plastic spacers shall be set every 5 feet.
  2. The duct shall be laid on a grade line of at least 4 inches per 100 feet, sloping towards pullboxes or manholes. Duct shall be installed and pullbox and manhole depths adjusted so that the top of the concrete envelope is a minimum of 24 inches below grade.

3. Changes in direction of the duct envelope by more than 10 degrees horizontally or vertically shall be accomplished using bends with a minimum radius 24 times the duct diameter.
  4. Couplings shall be staggered at least 6 inches vertically. Bottom of trench shall be of select backfill or sand. The duct array shall be anchored every 4 feet to prevent movement during placement of the concrete envelope.
  5. Each bore of the completed duct bank shall be cleaned by drawing through it a standard flexible mandrel one foot long and 1/4-inch smaller than the nominal size of the duct through which the mandrel will be drawn. After passing of the mandrel, draw a wire brush and swab through.
  6. A raceway, in the duct envelope, which does not require conductors, shall have a 1/8-inch polypropylene pull cord installed throughout the entire length of the raceway.
- B. Duct Entrances: Duct entrances shall be grouted smooth; duct for primary and secondary cables shall be terminated with flush end bells. Sections of pre-fabricated manholes and pullboxes shall be assembled with waterproof mastic and shall be set on a bed of gravel as recommended by the manufacturer or as required by field conditions.
  - C. Duct Bank Markers: Duct bank markers shall be installed every 200 feet along run of duct bank, at changes in horizontal direction of duct bank, and at ends of duct bank. Concrete markers, 6 by 6 inches square and one foot long, shall be set 2 inches above finish grade. The letter "D" and arrow set in the concrete shall be facing in the direction of the duct alignment.
  - D. Watertight Penetrations: Duct bank penetration through walls of manholes or pullboxes, and on building walls below grade shall be watertight.
  - E. Trench Backfill: Trenches containing duct banks shall be filled with select backfill with no large rocks which could damage the duct.
  - F. Concrete Encased Duct Banks: Concrete encased duct bank shall terminate at building foundations. When duct enters the building on a concrete slab on grade, duct shall not be encased, but shall transition to rigid steel PVC-coated conduits on all stub-ups.

### **3.04 TERMINAL CABINETS INSTALLATION**

- A. Provide terminal cabinets where shown on the Drawings and in accessible locations with working space in front of and around the installation.
- B. Cabinets shall be set plumb at an elevation that will cause the maximum circuit breaker height to be less than 66 inches above grade. Top edge of trim of adjacent panels shall be at the same height. Panels which are indicated as flush mounted shall be set so cabinet is flushed and serves as a "ground" for plaster application.
- C. All factory wire connections shall be made at shipping splits, and all field wiring and grounding connections shall be made after the assemblies are anchored.
- D. Identify each circuit and conductor.

- E. Provide terminals and connectors to match the cable being terminated.

### **3.05 OUTLET, JUNCTION, AND PULL BOXES INSTALLATION**

- A. For boxes mounted on steel, concrete, and masonry surfaces provide minimum ¼-inch spacer to hold box away from surface.
- B. Sizing: Pull and junction boxes shall be sized in accordance with the requirements of the NEC.
- C. Outlet Boxes: Outlet boxes shall be used as junction boxes wherever possible. Where separate pullboxes are required, they shall have screw covers.
- D. Requirements: Pullboxes shall be installed when conduit run contains more than three 90-degree bends and runs exceed 200 feet.
- E. Opening in terminal panels, outlet and junction boxes shall be by means of welded bosses, standard knockouts, or shall be sawed, drilled, or punched with tools specially made for the purpose. The use of a cutting torch is prohibited. Unused openings shall be plugged per the NEC.
- F. Remove debris including dust, dirt, wire clippings and insulation from interior of boxes. Replace damaged boxes or boxes with open circuit holes.
- G. Where boxes are shown on each side of a common wall do not mount back-to-back but offset horizontally minimum of six inches.
- H. For wet or damp indoor or outdoor locations use boxes of rust and corrosion resistant NEMA 4X, with at least 5 1/2 full threads for each (bossed) conduit opening. Boxes to be suitable for flush or surface mounting as required with drilled external, cast mounting extensions (bossed to provide at least 1/8" between back of box and mounting surface for drainage). Box covers shall be hinged or cap screw retained as required, of the same material as the box and provided with stainless steel (rust proof) hardware. Indoor location may use boxes constructed of stainless steel or non-metallic. Outdoor boxes shall be stainless steel.
- I. For underground locations use boxes constructed of reinforced concrete cast-in-place or pre-fabricated as shown on the Drawings.

## **PART 4 – MEASUREMENT AND PAYMENT**

### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing

irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16110 – Raceways, and no additional compensation will be allowed.

C. Payment shall be made upon completion and acceptance of pressure reducing station.

D.

**END OF SECTION**

**SECTION 16120**  
**WIRES AND CABLES**

**PART 1 -- GENERAL**

**1.01 SUMMARY**

- A. This section describes requirements for power, control, and instrumentation wiring including the following:
1. 600 volt and below power cable.
  2. 600 volt and below control cable.
  3. Shielded signal instrument cable.
  4. Wire terminations, splices, and Connectors.
- B. Reference is made to the following related sections:
1. Conductor identification per Section 16195 - Electrical Identification.
  2. Installation in raceways per Section 16110 - Raceways.

**1.02 SUBMITTAL**

- A. In addition to the general submittal requirement in section 16010, include the following in the submittal for this section:
1. Twelve-inch length of wire and cable with tag from coils or reel from which samples are taken. The sample shall show manufacturer, coil or reel number from which sample was taken, insulation type and ratings, conductor AWG, and voltage class of cable.
  2. Cable test procedures and methods.
  3. Cable test results and certification.

**1.03 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver wire and cable in unbroken package or reels that bear the manufacturer name, the dates of manufacture, wire size, and wire type.

**PART 2 -- PRODUCTS**

**2.01 GENERAL**

- A. All conductors, including ground conductors, shall be copper. Insulation shall bear UL label and the manufacturer's trademark, type, voltage, and temperature rating, and conductor size. Wire and cable shall be the products of American, Rome Cable, Okonite, Houston Wire and Cable, or equal.

- B. Provide lightning and transient surge protection on each end of the radio coax cable.

## 2.02 MATERIALS

- A. **Single Conductor Power Cable.** Single conductor power cable shall be 12 AWG minimum. Conductors shall be copper, stranded, 600-volt, THHN/THWN -insulation, and shall be UL listed.
- B. **Single conductor Control Cable.** Single conductor control cable shall be 14 AWG minimum. Conductors shall be copper, stranded, with 600-volt, THHN/THWN insulation, and shall be UL listed.
- C. **Multiconductor Control Cable.** Multiconductor control cable shall be 14 AWG- with copper conductors 600 volt, THHN/THWN insulation, and overall PVC jacket applied over tape wrapped cable core. Cable shall be rated type TC and shall be UL listed. Cable shall be rated 90 C dry, 75 C wet. Conductors shall be identified per ICEA S-61-402 Appendix K, Method 1 or Method 3. White or green conductors shall not be provided.
- D. **Single Shielded Pair or Triad.** Conductors shall be 16 AWG minimum. Cable shall have 300 volt insulation. Wires shall have uniform twists with a minimum of 6 twists per foot. Each pair or triad shall be provided with a continuous foil or metalized plastic shield providing 100 percent coverage. Each pair or triad shall contain a tinned copper drain wire in continuous contact with the shield. Each pair shall have a black and white wire, each triad shall have a black, white, and red wire. Insulated conductors shall meet the requirements of UL 62 for type TFN. Assembly jacket shall meet the requirements of UL 1277. Cable shall meet the vertical flame test requirements of UL 1277 and shall be rated type TC and shall be UL listed.
- E. **Multiconductor shielded pair or triad.** Conductors shall be 18 AWG minimum. Wires shall have uniform twists with a minimum of 6 twists per foot. Each pair or triad and cable assembly shall be provided with a continuous foil or metalized plastic shield providing 100 percent coverage and total shield isolation from all other pair or triad shields. Each pair shall have a black and white wire, each triad shall have a black, white, and red wire. Each pair or triad shall contain a tinned copper drain wire in continuous contact with the shield. Insulated conductors shall meet the requirements of UL 62 for type TFN. Assembly jacket shall meet the requirements of UL 1277. Cable shall meet the vertical flame test requirements of UL 1277 and shall be rated type TC and shall be UL listed.
- F. **Ground Cable.** All ground cable shall be in conformance with specification section 16450-Grounding. Ground cables shall be bare or green insulated, copper, 12 AWG minimum. Insulated cable shall meet the requirements for Single Conductor Power Cable above.
- G. The same manufacturer shall manufacture each type of cable listed above, multiple manufacturers for the same type of cable shall not be allowed.

## 2.03 COLOR CODING

- A. Provide color coding throughout the entire network for service, feeder, branch, control, and low energy signal circuit conductors. Color coding of conductors 10 AWG and



smaller shall have factory impregnated color throughout its entire length. Conductors No. 8 AWG and larger gauge may be marked with color coding tape a minimum of 0.004 inch in thickness. Color shall be green for grounding conductors, and white or gray for neutrals. The color of conductors for different voltage systems shall be as follows:

SYSTEM	PHASE A	PHASE B	PHASE C	NEUTRAL	GROUND
120/240 one phase	black	red	---	white	green
208/120 three phase	black	red	blue	white	green
480/277 three phase	brown	orange	yellow	gray	green
Control and low energy	red	---	---	white	green

## 2.04 WIRE CONNECTIONS AND CONNECTING DEVICES

### A. Electrical Terminal and Splice Connectors

1. The splicing of conductors is not permitted. Provide continuous conductor runs.
2. For terminating conductors from #22 through #10 AWG use compression type connectors with barrels and locking spade type terminals. Conductor entry and crimp area shall be insulated with PVC insulation. Performance, construction, and materials shall be in conformance with UL standards for wire connectors and rated for 600 volts and 105 degrees Celsius. Connectors shall be manufactured from high conductivity copper and entirely tin-plated. Terminal barrels shall be brazed seam or seamless construction serrated on the inside surface and have a chamfered funnel entry to prevent strand fold-back.
3. For terminating conductors #8 AWG and larger use high pressure compression type or set screw type lugs. Lugs shall be manufactured from high conductivity copper and entirely tin plated with a current carrying capacity equal to the conductors for which they are rated and must also meet UL requirements. All lugs above 4/0 AWG shall be 2 hole lugs with NEMA spacing, rated for operation through 35 kV, and be of closed end construction to exclude moisture migration into the cable conductor.
4. Use solderless/re-usable lugs only when furnished with equipment such as control panels, furnished by others, where specification of compression type lugs is beyond the Contractor's control. Lugs must be manufactured to NEMA standards, with standard number and spacing of holes and set screws. Coat wires with electrical joint compound, T & B Kopr-Shield, Penn-Union Coal-Aid, or equal before being bolted into the connector.

## PART 3 -- EXECUTION

### 3.01 GENERAL

- A. Run all wires and cables in raceways unless otherwise noted.
- B. Conductors shall not be pulled into raceway until:
  - 1. Raceway system is complete and has been inspected and accepted by the Engineer.
  - 2. Plastering and concrete have been completed in affected areas.
  - 3. Raceway system has been freed of moisture and debris.
- C. Wire in panels, cabinets, and gutters shall be neatly grouped using nylon tie straps and shall be fanned out to terminate.
- D. For multiconductor or manufactures supplied cable not installed in raceways, terminate cable sheaths in watertight connectors designed for the specific cable and application.
- E. Conductors of No. 1 size and smaller shall be hand pulled. Pull conductors without exceeding manufacturer's recommendation for maximum pulling tension. Protect conductor insulation jacket at all times from kinks, scrapes, punctures, and other damage. Replace damaged conductors. Use lubricating compound to reduce pulling force. Use lubricating compound that is UL listed and compatible with the conductor-insulated jacket and with the raceway. The use of petroleum or grease based lubricants is prohibited.
- F. Support conductors in vertical risers with woven grips to prevent loading on conductor connectors.
- G. In conduits entering buildings or from areas where temperature change may cause condensation or moisture, seal between conductors and conduit after conductors are in place.
- H. When using color-coding tape apply with overlapping turns for a minimum length of two inches starting two inches back from the termination point.
- I. Provide full-length ground conductor in all conduits.
- J. Leave a minimum of six inches of free conductor at each connected outlet and a minimum of nine inches at unconnected outlets.

### 3.02 APPLICATION AND USE OF DIFFERENT CABLE TYPES

- A. **Single Conductor Power Cable.** Single conductor power cable shall be used for all ac power feeders and branch circuits.
- B. **Single Conductor Control Cable.** Single conductor or multiconductor control cable can be used interchangeably for all discrete control signals.
- C. **Multiconductor Control Cable.** Single conductor or multiconductor control cable can be used interchangeably for all discrete control signals.

- D. **Single Shielded Pair or Triad.** Single shielded pair or triad conductors or multiconductor shielded cables can be used interchangeably on analog signal lines of less than 24 volts.
- E. **Multiconductor shielded pair or triad.** Single shielded pair or triad conductors or multiconductor shielded cables can be used interchangeably on analog signal lines of less than 24 volts.
- F. **Ground Cable.** Use ground cable for all equipment ground and earth ground connections.

### 3.03 **SPLICING AND TERMINATION**

- A. Make all splices in pull or junction boxes or other approved enclosure. Do not pull splices into conduit. Keep splices to a minimum and in no case more frequent than 300 feet. Insulate all splices to protect conductors from entry of moisture and or contaminants and to provide insulation levels equal to the conductor insulation.
- B. Make all wire and cable terminations in UL approved lugs for the application.
- C. Connect circuit conductors of the same color to the same phase throughout the installation.
- D. Insulate connections/splices with a smooth even contour with a conformable 7 mil thick vinyl plastic insulating tape which can be applied under all weather conditions and is designed to perform in a continuous temperate environment up to 105 degrees Celsius. Use tape with resistance to abrasion, moisture, alkali's, acids, corrosion, and varying weather conditions (including sunlight) equal to Scotch 33+. Apply tape in conformance with manufacturer's recommendations and in addition, in successive half-lapped layers with sufficient tension to reduce its width to 5/8 of its original width. Do not stretch the last inch of wrap.
- E. First wrap connections or splices with irregular shapes or sharp edges protruding with 30 mil rubber tape to smooth the contour of the joint before being insulated with 33+ insulating tape specified in the previous paragraph.
  - 1. Apply the rubber tape in successive, half-lapped wound layers, highly elongated to eliminate voids, and in accordance with other manufacturer's recommendations on installation.
  - 2. Use rubber tape which is high voltage (69 kV) corona-resistant based on self-fusing ethylene propylene rubber and capable of operation at 130 degrees Celsius under emergency conditions. The tape must be capable of being applied in either the stretched or unstretched condition without any loss in either physical or electrical properties. The tape must not split, crack, slip, or flag when exposed to various environments. The tape must be compatible with all synthetic cable insulation. The tape must have a dissipation factor of less than 5 percent at 130 degrees Celsius, be non-vulcanizing, and have a shelf life of at least 5 years. The rubber tape shall be equal to Scotch 23 or 130C electrical splicing tape.
- F. Make splices made in wet or damp locations or below grade watertight with special kits made for the application and compatible with types of cables employed.

- G. Make connections to lugs and bus bars, with corrosion resistant stainless steel bolts having non-magnetic properties with matching nuts, and a Belleville spring washer (stainless steel) to maintain connection integrity. Torque connections to the specified limits. Prior to bolting up the connection, brush electrical joint compound on the contact faces of the electrical joint.

### **3.04 SEPARATION OF CONDUCTORS**

- A. Ensure that analog signals in one cable or conduit are of the same magnitude. The following are the different signal magnitudes:
  - 1. 0 to 100 mV
  - 2. 101 mV to 5 V
  - 3. 6 V to 75 V
- B. Run 24 Vdc discrete and analog signals in separate conduits from 115 Vac discrete signals and wiring.
- C. Neatly arrange wiring with terminations located directly opposite terminals. Leave wire loops not less than 6 inches long in each outlet box. Tape frayed terminals and exposed wires.

### **3.05 SPARE WIRES**

- A. Notify the Engineer of any instance in which the spare conductor quantity cannot be installed. Tape off all spare conductors in the originating field junction boxes. Terminate and label in terminal boxes. Include all spare wires in conduit and wire schedules.

### **3.06 TESTING**

- A. Cable assembly and testing shall comply with applicable requirement ICEA Publication No. S-68-516 and other relevant ICEA publications. Field tests shall be performed by a certified test organization acceptable to the cable manufacturer.
- B. All wiring shall be tested for continuity, polarity, undesirable ground, and origination. Test wiring for continuity using an ohmmeter. Replace any conductor or cable where the measured resistance exceeds the calculated resistance based on conductor size and length by more than 5 % unless otherwise directed by the engineer.
- C. Before terminating conductors test all conductors between phases and phase to ground for grounds and leakage between individual conductors using a megger capable of producing voltages of at least 500 volts for 300 volt insulation levels and 1000 volts for 600 volt insulation levels. If any conductor tested indicates resistance between conductors or between the conductor and ground of less than 10 megohms, replace the failed wire or cable unless otherwise directed by the engineer.
- D. Cables failing in the test will be replaced with new cable or repaired. Such kind of repair methods shall be as recommended by the cable manufacturer and shall be performed by persons qualified by the industry.

- E. Submit test results to the Engineer and certify all conductors have passed the required tests. Correct problems noted during these tests.

#### **PART 4 – MEASUREMENT AND PAYMENT**

##### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16120 – Wires and Cables, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

**SECTION 16190**  
**SUPPORTING DEVICES**

**PART 1 -- GENERAL**

**1.01 SUMMARY**

- A. This section describes the requirements of supporting devices for equipment, antennas, conduit, and cables.
- B. A registered Civil Engineer in the State of California is required to prepare calculation that show equipment anchorage and support structure requirements will comply with the UBC (latest edition), City Seismic requirements, and wind loading requirements for antenna masts.

**1.02 SUBMITTALS**

- A. Include the following information for each site in the submittal for this section:
  - 1. Detail drawings of parts and assembly.
  - 2. Descriptive data sheets, literature, bulletins, and related data annotated as necessary to describe the antenna tower or pole and related equipment to be furnished.
  - 3. Wind Zone information.
  - 4. Specific arrangement, dimension drawings, erection and assembly drawings for the antenna tower or pole supplied. This shall include all engineering drawings and calculations for the antenna tower or pole, pier foundation, anchor bolts, etc., as prepared by a registered Professional Engineer.

**1.03 SITE CONDITIONS**

- A. Determine to your own satisfaction the location and nature of all surface and subsurface obstacles and the soils and water conditions which will be encountered during the construction.

**PART 2 -- PRODUCTS**

**2.01 MATERIALS**

- A. Do not use expansive screw anchors, shields, or other fastening items containing lead or other material that might loosen or melt under fire conditions. Do not use power-actuated fasteners and devices.
- B. Equipment or enclosure support devices.

1. Mounting brackets and support channels shall be stainless steel, unless otherwise specified on the drawings. Fasteners used to mount equipment outdoors shall be stainless steel and designed for use with the support channels.
2. Provide supporting devices manufactured by Unistrut, Bee-Line, Kindorf, or equal.

**C. Raceway Supports**

1. Except as noted herein, supports and hangers shall be stainless steel.
2. Fasteners shall be expansion bolts or inserts for concrete, toggle bolts for hollow masonry or frame construction and preset inserts for pre-stressed concrete.
3. For conduits supported on surface, provide straps with holes for one or two fasteners and shaped to fit conduit size.
4. At structural steel members support raceway with hot dip galvanized beam clamps. Drilling or welding may be used only where indicated on the Drawings.

**PART 3 -- EXECUTION**

**3.01 GENERAL**

- A. Install fastenings and supports as required for each type of equipment, cables and conduits, and to manufacturer's installation recommendations.
- B. Provide surface mounted supports for 2 or more conduits on channels at a maximum of 3 foot intervals. Provide metal brackets, frames, hangers, clamps and related types of support structures as required to support conduit and cable runs. Do not use wire lashing or perforated strap to support or secure raceways or cables.
- C. Provide adequate support for raceways, conduit and cables dropped vertically to equipment where there is no wall support.
- D. Do not use supports of equipment installed for other trades for conduit or cable support except with permission of the Resident Engineer.
- E. Install inert spacers for aluminum support brackets or channels directly in contact with concrete to reduce chemical reaction between support and concrete.

**3.02 REMOTE CONTROL PANEL AND ANTENNA MAST**

- A. The Contractor shall be responsible for the following installation work:
  1. Mounting of Transmitter Panel and Flow Transmitter Panel.
  2. At the base, connect to a 3/4 inch diameter, 10 foot, copper ground rod.
- B. Provide concrete foundation as required indicated on drawings and certified by a California registered Professional Engineer.

### **3.03 RACEWAY SUPPORTS**

- A. Support raceway at intervals and at locations as required by the NEC. Do not use perforated straps or plumbers tape for conduit supports. Independently support raceways from the structure.
- B. Install exposed raceways on walls below grade or in damp, wet, or corrosive locations with standoff brackets providing a minimum of 1/4 inch air space between the raceway and the mounting surface.
- C. Where raceway may be affected by dissimilar movements of the supporting structures or medium, provide flexible or expansion devices.

### **PART 4 – MEASUREMENT AND PAYMENT**

#### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16190 – Supporting Devices, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**



## SECTION 16195

### ELECTRICAL IDENTIFICATION

#### PART 1 -- GENERAL

##### 1.01 SUMMARY

- A. This section describes the requirements for equipment identification tags.
- B. Identify and label each raceway, piece of equipment, and conductor.
- C. Develop a schedule for labels showing the legend of each as shown on the Drawings. In the absence of specific data on the Drawings, develop legends from the nature of the service or system. Arrange the schedule to produce a legible comprehensive identification system.

##### 1.02 SUBMITTALS

- A. Submit label schedule.

#### PART 2 -- PRODUCTS

##### 2.01 EQUIPMENT IDENTIFICATION

- A. Use Micarta black letters on a white background unless otherwise specified for a specific application. Electrical enclosure nameplates shall be a minimum of 1 inch high by 3 inches wide with 0.125 inch letters. Engrave nameplates as shown on the Drawings or as approved on the submittal.
- B. Nameplates shall be fastened securely by fasteners of stainless steel, screwed into inserts or tapped holes as required.
- C. Provide labels manufactured by the Brady Identification Systems Division, Safety Sign Company, Westline Products Company, or equal.

##### 2.02 RACEWAY IDENTIFICATION

- A. Provide labels manufactured by Brady Identification Systems Division, Safety Sign Company, Westline Products Company, or equal.
- B. Identification tape for protection of buried electrical installation shall be a 6-inch wide red polyethylene tape imprinted "Caution – Electric Utilities Below".

##### 2.03 CONDUCTOR IDENTIFICATION

- A. Provide wire markers that are clip sleeve or sleeve type, made of PVC, nylon, or delrin, white in color, with black letters impressed in the material. On wire too large for the standard sleeve sizes, provide sleeve type markers inserted on a cable tie and the tie then installed around the wire.

- B. Acceptable wire markers are Tyton Corporation Tygrup and Ty-Clip, Brady Clip-Sleeve, Panduit and Omnigrip, or equal.

### **PART 3 -- EXECUTION**

#### **3.01 GENERAL**

- A. Furnish and install nameplates on all field mounted devices, equipment and instruments supplied whether mounted inside an enclosure or field mounted. Securely fasten nameplates to each device or to a conduit clamp located near the device with 16 gage stainless steel wire or nylon self-locking straps.
- B. Indicate the device's name (i.e., BRM4201PI or ELLC300QA) based on the input/output point listing.

#### **3.02 RACEWAY IDENTIFICATION**

- A. Identify exposed raceways and raceways concealed above removable ceilings at each end within 12 inches of point to termination.
- B. Provide factory manufactured identifying labels with colored paper, machine printed with an identifying legend laminated between two sheets of vinylite plastic formed to completely encircle the raceway. Match the sizes of the labels with the raceway on which they are to be applied. Install labels in accordance with manufacturer's instructions.
- C. For legends to be used in the labels, indicate the system voltage and what it serves or type of service. The legend shall appear in a minimum of one inch high white letters on a black background for raceways 2-1/2 inch and smaller diameter and two inch high letters for raceways larger than 2-1/2 inch diameter.
- D. Install identification tape directly above buried raceway; Install tape 8 inches below grade and parallel with raceway to be protected.

#### **3.03 EQUIPMENT IDENTIFICATION**

- A. All panels and devices powered from an external source shall be provided with a nameplate which indicates the power source and circuit number for the panel or device.
- B. Label feeder units in panelboards, switchboards, disconnects, and motor control centers to identify the enclosure or piece of equipment and to indicate the motor device, outlet, or circuit controlled or monitored. Attach nameplates to inside surfaces with adhesive and to the outside surface with round head, self-tapping stainless steel screws. Nameplates shall be two-color laminated plastic not less than 1/16 inch thick, machine engraved to show white letters not less than 1/4 inch high on a black background.
- C. Type branch circuits in lighting panelboards on a card suitable for the card frame furnished with the panel. The card shall bear the panel designation listed on the Drawings where this information is given, as well as indicate what each circuit controls.

### **3.04 CONDUCTOR IDENTIFICATION**

- A. Identify power conductors terminating in panelboards, cabinets, motor control centers, and special service outlets at each end and in intervening junction and pull boxes. Where feeder conductors pass through a common box, tag the feeder to indicate the electrical characteristics, circuit number and panelboard designation. Locate labels near the conductor ends for terminals and on exposed portions of conductor within pull and junction boxes.
- B. Identify control wiring and instrument power and signal wiring at each end of each wire by a number conforming with the following:
  - 1. Base wire numbers on the instrument or equipment name shown on the Drawings, the I/O list, or stated in the Specifications. If cables are multi-conductor, number the individual wires. Where it is impractical to maintain the same wire numbers throughout, install a terminal block at the junction of the different numbered wires. On each side of the terminal block identify each associated wire number with a label either typed or written in with permanent ink.
  - 2. Tag wires at both ends with the same notation.
- C. All conduction identification numbers shall show on shop drawings.

### **PART 4 – MEASUREMENT AND PAYMENT**

#### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16195 – Electrical Identification, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

## SECTION 16421

### UTILITY SERVICE ENTRANCE

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Arrangement with Utility Companies for permanent electric service.
- B. Underground service entrance.
- C. Metering equipment.

##### 1.02 RELATED SECTIONS

- A. Section 16110 - Raceways.
- B. Section 16450 - Grounding.

##### 1.03 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

##### 1.04 SYSTEM DESCRIPTION

- A. System Characteristics: 208 volts, single phase, three-wire, 60 Hertz.

##### 1.05 SUBMITTALS

- A. Submit under provisions of the General Requirements.

##### 1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with Utility Company written requirements.
- B. Maintain one copy of each document on site.

##### 1.07 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

##### 1.08 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on Utility Company drawings.

## **PART 2 PRODUCTS**

### **2.01 GENERAL**

- A. Locate meter pedestal such that the pull section access meets the requirements of SDG&E.

### **2.02 MANUFACTURERS**

- A. Milbank.
- B. Meyers.
- C. Tesco Controls, Inc
- D. Substitutions: Approved equals.

### **2.03 METER PEDESTAL**

- A. Ratings: NEMA 3R enclosure, ratings as indicated. Provide main overcurrent device as indicated.
- B. The meter pedestal shall have a meter socket with test blocks that meet the requirements of the serving utility (San Diego Gas and Electric Company). The service cabinet shall bear a UL 508 industrial control panel label for service entrance equipment.
- C. Provide power distribution circuit breakers as shown on the drawings.
- D. Cabinet shall be fabricated from 12 gauge hot dipped galvanized steel and shall be all welded construction. All fasteners, hinges, latches and hardware shall be of stainless steel and hinges shall be continuous piano style. Enclosure shall be vandal-resistant. There shall be no exposed, nuts, bolts, screws, rivets, or other fasteners on the exterior. Cabinet door shall have 2,000lb. Stress rated stainless steel hasp welded to cabinet and door.
- D. All bussing shall be U.L. approved copper THHN cable bussing fully rated 100 or 200 amps, as indicated.
- E. Provide pad mount base for concrete foundation.
- F. Enclosure shall have a powder coat finish in accordance with ASTM B-117. Color shall be manufacturer's standard.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that service equipment is ready to be connected and energized.

### **3.02 PREPARATION**

- A. Make arrangements with Utility Companies to obtain new permanent electric service.
- B. Coordinate location of Utility Companies facilities to ensure proper access is available.

**3.03 INSTALLATION**

- A. Install service entrance conduits from Utility Companies indicated point of connection to meter pedestal per Utility Companies drawings.

**PART 4 – MEASUREMENT AND PAYMENT**

**4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16421 – Utility Service Entrance, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

## SECTION 16450

### GROUNDING

#### PART 1 -- GENERAL

##### 1.01 SUMMARY

- A. This section describes the requirements for grounding.

##### 1.02 SUBMITTALS

- A. Manufacturer's Catalog Information for all products listed in Part 2.
- B. Testing results.

#### PART 2 -- PRODUCTS

##### 2.01 GROUND CONNECTIONS:

- A. Water system piping clamps: Cast bronze clamps with stainless steel screws.
- B. Cable lugs: Shall be wrought copper with high pressure crimp sleeve for the conductor.
- C. Ground rod connections: Exothermic weld or high pressure crimp type.
- D. Exothermic welds: UL approved and or listed systems with mold, weld cartridges, and weld powder specifically approved for the particular application.
- E. Terminal lugs for shielded instrument cable: Crimp type sized to meet the specific shield requirements.

#### PART 3 -- EXECUTION

##### 3.01 GENERAL

- A. Install the grounding electrode system with all required components in accordance with NEC Article 250.
- B. Provide and install at least one ground rod at each instrument or panel rack. The length of rods forming an individual ground array shall be equal in length and shall be of the quantity required to obtain a ground resistance of less than 5 ohms.
- C. Unless otherwise specified, ground all non-current carrying metallic parts of electrical equipment, support structures, raceway systems, and the neutral of all wiring systems in accordance with the NEC and other applicable codes and with the manufacturer's recommendations.

- D. All grounds and ground systems shall be bonded together.
- E. Grounding system may be bonded to buried metal piping not less than 2-inch diameter or provide grounding rod driven a minimum of nine feet in the ground. The ground clamp connection to the metal pipe shall be not more than one foot inside the building. Ground conductor for connection to ground rod shall be stranded copper and connected by the exothermic welding process. Earth buried ground conductors shall not be insulated. File or sand surfaces before connecting ground to ensure good metal to metal contact.
- F. Bond the grounding conductors to metallic enclosures at each end and to all intermediate metallic enclosures. Where equipment contains a ground bus, extend and connect grounding conductors to that bus. Run ground conductors inside conduits enclosing the power conductors.
- G. Make connections of grounding conductors to circuits 20 amps or above by a solderless terminal and a 5/16 minimum bolt tapped to the motor frame or equipment housing. Ground connections to smaller equipment may be made by fastening the terminal to a connection box. Connect junction boxes to the equipment grounding system with grounding clips mounted directly on the box or with 3/8-inch machine screws. Remove all paint, dirt, or other surface coverings at grounding conductor connection points so that good metal to metal contact is made.

### **3.02 PANEL AND ENCLOSURE GROUNDING**

- A. Bond panels and enclosures to building grounds.
- B. Provide new ground rod where ground cable routed with conduit is not bonded to earth ground within 50 feet. Bond equipment-grounding conductors to earth ground through the panel.

### **3.03 INSTRUMENT SIGNAL SHIELD GROUNDS**

- A. Ground instrument signal shields at one location only.
- B. Termination of each shield drain wire shall be on its own terminal screw. All of the terminal screws in one rack or panel shall be jumpered with No. 16 solid tinned bare copper wire; connection to ground shall be accomplished with a No. 12 green insulated conductor to the main ground bus
- C. As a general rule, ground shields at local or area control panels nearest the instrument. If no panel is nearby, ground shields at the instrument power source. If a signal passes through several panels, ground at the panel with the most loops.
- D. At the ungrounded end, trim back and insulate shield.
- E. If a signal passes through a junction box or barrier strip, maintain shield continuity.

### **3.05 TESTING**



- A. All tests shall be performed in the presence of the Resident Engineer.
- B. Perform a thorough visual and mechanical inspection to ensure all items are in place and connected with all termination made in an approved manner.

**PART 4 – MEASUREMENT AND PAYMENT**

**4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16450 – Grounding, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

**SECTION 16950**  
**ELECTRICAL TESTS**

**PART 1 -- GENERAL**

**1.01 WORK OF THIS SECTION**

- A. The CONTRACTOR shall test, commission and demonstrate that the electrical work satisfies the criteria of these Specifications and functions as required by the Contract Documents.

**1.02 GENERAL**

- A. The Work of this Section includes furnishing the labor, equipment and power required to support the testing in other Divisions of these Specifications. This scope may require the CONTRACTOR to activate circuits, shutdown circuits, run equipment, make electrical measurements, replace blown fuses, and install temporary jumpers.

**1.03 RELATED SECTIONS**

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

1. Section 16010 - Basic Electrical Requirements

**1.04 CODES**

- A. The Work of this Section shall comply with the current editions of the National Electrical Code as adopted by the City of San Diego.

**1.05 STANDARDS**

- A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:

1. NETA National Electrical Testing Association
2. ICEA Insulated Cable Engineers Association

**1.06 TESTING**

- A. The following test requirements are intended to supplement test and acceptance criteria that may be stated elsewhere.

1. Test ground interrupter (GFI) receptacles and circuit breakers for proper operation by methods sanctioned by the receptacle manufacturer.
2. A functional test and check of all electrical components is required prior to performing subsystem testing and commissioning. Compartments and equipment shall be cleaned as required by other provisions of these Specifications before commencement of functional testing. Functional testing shall comprise:

- a. Visual and physical check of cables and connections associated with all new and modified equipment.
- 3. Complete ground testing of all grounding electrodes prior to operating the equipment. Use a three-point ground test.)
- B. Subsystem testing shall occur after the proper operation of alarm and status contacts has been demonstrated or otherwise accepted by the Resident Engineer and after process control devices have been adjusted as accurately as possible. It is intended that the CONTRACTOR will adjust limit switches and level switches to their operating points prior to testing.
- C. Provide ground resistance tests in the presence of the Resident Engineer and submit results. Use a ground resistance meggar "Earth" tester with a maximum of 0-50 scale. Use the full of potential method or the three terminal method as described by Bidle or Neta.
- D. General: Carry out tests for individual items of materials and equipment indicated in other Sections.

#### **1.07 COMMISSIONING**

- A. Commissioning shall not be attempted until all subsystems have been found to operate satisfactorily; commissioning shall only be attempted as a function of normal plant operation in which plant process flows and levels are routine and equipment operates automatically in response to flow and level parameters or computer command, as applicable. Simulation of process parameters will be considered only upon receipt of a written request.

#### **PART 2 -- PRODUCTS (Not Used)**

#### **PART 3 -- EXECUTION (Not Used)**

#### **PART 4 -- MEASUREMENT AND PAYMENT**

#### **4.01 390/307 ZONE PRESSURE REGULATION STATION RELOCATION, BID ITEM NO. 57:**

- A. No measurement shall be made for this item.
- B. 390/307 ZONE PRESSURE REGULATION STATION RELOCATION will be paid at the Contract lump sum amount for 390/307 ZONE PRESSURE REGULATION RELOCATION, which amount will include full compensation for furnishing all labor, materials, equipment, tools, import/export to balance site, soil compaction, mulching of disturbed areas, relocation and rerouting of existing irrigation system as needed, incidentals and for doing the work including preparation and implementation of the plan, as shown on the drawings and as specified in Section 16950 – Electrical Tests, and no additional compensation will be allowed.
- C. Payment shall be made upon completion and acceptance of pressure reducing station.

**END OF SECTION**

**SUPPLEMENTARY SPECIAL PROVISIONS**

**APPENDICES**

**APPENDIX A**  
**MITIGATED NEGATIVE DECLARATION NO. 373451 AND NOTICE OF DETERMINATION**

PACIFIC BEACH PIPELINE PROJECT  
MITIGATED NEGATIVE DECLARATION NO. 373451  
AND  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

ADOPTED ON June 17, 2015

WHEREAS, on May 30, 2014, The City of San Diego Public Works Department submitted an application to the Development Services Department for a Public Project Assessment for the Pacific Beach Pipeline Project (Project); and

WHEREAS, the matter was considered without a public hearing by the Deputy Director of the Development Services Department as designated by the City Manager of the City of San Diego on June 18, 2015; and

WHEREAS, the Deputy Director of the Development Services Department as designated by the City Manager considered the issues discussed in Mitigated Negative Declaration No. 373451 (Declaration) prepared for this Project; NOW THEREFORE,

BE IT RESOLVED, by the Deputy Director for the Development Services Department as designated by the City Manager that it is certified that the Declaration has been completed in compliance with the California Environmental Quality Act of 1970 (CEQA) (Public Resources Code Section 21000 et seq.), as amended, and the State CEQA Guidelines thereto (California Code of Regulations, Title 14, Chapter 3, Section 15000 et seq.), that the Declaration reflects the independent judgment of the City of San Diego as Lead Agency and that the information contained in said Declaration, together with any comments received during the public review process, has been reviewed and considered by the Director of the Department of Development Services as designated by the City Manager in connection with the approval of the Project.

BE IT FURTHER RESOLVED, that the Deputy Director of the Department of Development Services finds on the basis of the entire record that project revisions now mitigate potentially significant effects on the environment previously identified in the Initial Study, that

there is no substantial evidence that the Project will have a significant effect on the environment, and, therefore, that said Declaration is hereby adopted.

BE IT FURTHER RESOLVED, that pursuant to CEQA Section 21081.6, the Deputy Director of the Department of Development Services as designated by the City Manager hereby adopts the Mitigation Monitoring and Reporting Program, or alterations to implement the changes to the Project in order to mitigate or avoid significant effects on the environment, which is attached hereto as Exhibit A.

BE IT FURTHER RESOLVED, that the Declaration and other documents constituting the record of proceedings upon which the approval is based are available to the public at the office of the Development Services Department, 1222 First Avenue, San Diego, CA 92101.

BE IT FURTHER RESOLVED, that Development Services Staff is directed to file a Notice of Determination with the Clerk of the Board of the Supervisors for the County of San Diego regarding the project.

APPROVED: Kerry Santoro, Deputy Director, Development Services Department

By: 

Date: June 17, 2015

ATTACHMENT: Exhibit A: Mitigation Monitoring and Reporting Program

## EXHIBIT A

### MITIGATION MONITORING AND REPORTING PROGRAM PACIFIC BEACH PIPELINE PROJECT PROJECT NO. 373451

This Mitigation Monitoring and Reporting Program is designed to ensure compliance with Public Resources Code Section 21081.6 during implementation of mitigation measures. This program identifies at a minimum: the department responsible for the monitoring, what is to be monitored, how the monitoring shall be accomplished, the monitoring and reporting schedule, and completion requirements. A record of the Mitigation Monitoring and Reporting Program will be maintained at the offices of the Development Services Department, 1222 First Avenue, Fifth Floor, San Diego, CA, 92101.

MITIGATION, MONITORING AND REPORTING PROGRAM: To ensure that site development would avoid significant environmental impacts, a Mitigation, Monitoring, and Reporting Program (MMRP) is required. Compliance with the mitigation measures shall be the responsibility of the applicant. The mitigation measures are described below.

#### A. GENERAL REQUIREMENTS – PART I Plan Check Phase (prior to permit issuance)

1. Prior to the issuance of a Notice To Proceed (NTP) for a subdivision, or any construction permits, such as Demolition, Grading or Building, or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD), (plans, specification, details, etc.) to ensure the MMRP requirements are incorporated into the design.
2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply ONLY to the construction phases of this project are included VERBATIM, under the heading, "**ENVIRONMENTAL/MITIGATION REQUIREMENTS.**"
3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:  
<http://www.sandiego.gov/development-services/industry/standtemp.shtml>
4. The **TITLE INDEX SHEET** must also show on which pages the "Environmental/Mitigation Requirements" notes are provided.
5. **SURETY AND COST RECOVERY** – The Development Services Director or City Manager may require appropriate surety instruments or bonds from private Permit Holders to ensure the long term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.



**B. GENERAL REQUIREMENTS – PART II**

**Post Plan Check (After permit issuance/Prior to start of construction)**

- 1. PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.** The PERMIT HOLDER/OWNER is responsible to arrange and perform this meeting by contacting the CITY RESIDENT ENGINEER (RE) of the Field Engineering Division and City staff from MITIGATION MONITORING COORDINATION (MMC). Attendees must also include the Permit holder's Representative(s), Job Site Superintendent and the following consultants:

*Qualified Paleontologist*  
*Qualified Archaeologist*  
*Qualified Native American Monitor*

**Note: Failure of all responsible Permit Holder's representatives and consultants to attend shall require an additional meeting with all parties present.**

**CONTACT INFORMATION:**

- a) The PRIMARY POINT OF CONTACT is the RE at the **Field Engineering Division – 858-627-3200**
  - b) For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call RE and MMC at 858-627-3360
- 2. MMRP COMPLIANCE:** This Project, Project Tracking System (PTS) 373451, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD's Environmental Designee (MMC) and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc)

**Note: Permit Holder's Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.**

- 3. OTHER AGENCY REQUIREMENTS:** Evidence of compliance with all other agency requirements or permits shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency.

*Not Applicable*

4. **MONITORING EXHIBITS:** All consultants are required to submit, to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas including the **LIMIT OF WORK**, scope of that discipline's work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

**NOTE: Surety and Cost Recovery –** When deemed necessary by the Development Services Director or City Manager, additional surety instruments or bonds from the private Permit Holder may be required to ensure the long term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.

5. **OTHER SUBMITTALS AND INSPECTIONS:** The Permit Holder/Owner's representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

**Document Submittal/Inspection Checklist**

<u>Issue Area</u>	<u>Document submittal</u>	<u>Assoc Inspection/Approvals/ Notes</u>
General	Consultant Qualification Letters	Prior to Pre-construction Meeting
General	Consultant Const. Monitoring Exhibits	Prior to or at the Pre-Construction
Meeting Archaeology	Archaeology Reports	Archaeology Site Observation
Paleontology	Paleontology Reports	Paleontology Site Observation
Final MMRP		Final MMRP Inspections

**C. SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS**

**ARCHAEOLOGICAL RESOURCES**

**I. Prior to Permit Issuance or Bid Opening/Bid Award**

**A. Entitlements Plan Check**

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

**B. Letters of Qualification have been submitted to ADD**

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.
3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

## II. Prior to Start of Construction

### A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.

### B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.
  - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)  
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.
3. Identify Areas to be Monitored
  - a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate

- construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.
- b. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).
  - c. MMC shall notify the PI that the AME has been approved.
4. When Monitoring Will Occur
    - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
    - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.
  5. Approval of AME and Construction Schedule
 

After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

### III. During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
  1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**
  2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.
  3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.
  4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSV). The CSV's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.
- B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
  - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
  - b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. **Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**
    - (1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
  - c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
    - (1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
    - (2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting
  - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
  - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
  - c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
  - d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

#### **IV. Discovery of Human Remains**

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

##### **A. Notification**

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

##### **B. Isolate discovery site**

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

##### **C. If Human Remains ARE determined to be Native American**

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
  2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
  3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
  4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
  5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
    - a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
    - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
    - c. To protect these sites, the landowner shall do one or more of the following:
      - (1) Record the site with the NAHC;
      - (2) Record an open space or conservation easement; or
      - (3) Record a document with the County.
    - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.
- D. If Human Remains are **NOT** Native American
1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
  2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
  3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

**V. Night and/or Weekend Work**

- A. If night and/or weekend work is included in the contract
  1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.
  - a. No Discoveries
 

In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.
  - b. Discoveries
 

All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.
  - c. Potentially Significant Discoveries
 

If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.
  - d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
  1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
  2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

## VI. Post Construction

- A. Submittal of Draft Monitoring Report
  1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**
    - a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
    - b. Recording Sites with State of California Department of Parks and Recreation
 

The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.



2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
  3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
  4. MMC shall provide written verification to the PI of the approved report.
  5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Artifacts
1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued.
  2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.
- C. Curation of artifacts: Accession Agreement and Acceptance Verification
1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
  2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
  3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
  4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
  5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
  2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

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## **PALEONTOLOGICAL RESOURCES**

- I. **Prior to Permit Issuance or Bid Opening/Bid Award**
  - A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Paleontological Monitoring have been noted on the appropriate construction documents.
- B. Letters of Qualification have been submitted to ADD
  1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.
  2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the paleontological monitoring of the project.
  3. Prior to the start of work, the applicant shall obtain approval from MMC for any personnel changes associated with the monitoring program.

## **II. Prior to Start of Construction**

- A. Verification of Records Search
  1. The PI shall provide verification to MMC that a site specific records search has been completed. Verification includes, but is not limited to a copy of a confirmation letter from San Diego Natural History Museum, other institution or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
  2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
- B. PI Shall Attend Precon Meetings
  1. Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified paleontologist shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Paleontological Monitoring program with the Construction Manager and/or Grading Contractor.
    - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
  2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)
 

The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the paleontological monitoring program.
  3. Identify Areas to be Monitored
    - a. Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate construction documents (reduced to 11x17) to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits. Monitoring shall begin at depths below 10 feet from existing grade or

as determined by the PI in consultation with MMC. The determination shall be based on site specific records search data which supports monitoring at depths less than ten feet.

- b. The PME shall be based on the results of a site specific records search as well as information regarding existing known soil conditions (native or formation).
  - c. MMC shall notify the PI that the PME has been approved.
4. When Monitoring Will Occur
- a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
  - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.
5. Approval of PME and Construction Schedule
- After approval of the PME by MMC, the PI shall submit to MMC written authorization of the PME and Construction Schedule from the CM.

### III. During Construction

#### A. Monitor Shall be Present During Grading/Excavation/Trenching

1. The monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the PME that could result in impacts to formations with high and/or moderate resource sensitivity. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the PME.**
2. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.
3. The monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

#### B. Discovery Notification Process

1. In the event of a discovery, the Paleontological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

C. Determination of Significance

1. The PI shall evaluate the significance of the resource.
  - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.
  - b. If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval of the program from MMC, MC and/or RE. PRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.
    - (1). Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
  - c. If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a non-significant discovery has been made. The Paleontologist shall continue to monitor the area without notification to MMC unless a significant resource is encountered.
  - d. The PI shall submit a letter to MMC indicating that fossil resources will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.
    - (1). Note: For Pipeline Trenching Projects Only. If the fossil discovery is limited in size, both in length and depth; the information value is limited and there are no unique fossil features associated with the discovery area, then the discovery should be considered not significant.
    - (2). Note, for Pipeline Trenching Projects Only: If significance cannot be determined, the Final Monitoring Report and Site Record shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching Projects

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance.

1. Procedures for documentation, curation and reporting
  - a. One hundred percent of the fossil resources within the trench alignment and width shall be documented in-situ photographically, drawn in plan view (trench and profiles of side walls), recovered from the trench and photographed after cleaning, then analyzed and curated consistent with Society of Invertebrate Paleontology Standards. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact and so documented.

- b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
- c. The PI shall be responsible for recording (on the appropriate forms for the San Diego Natural History Museum) the resource(s) encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines. The forms shall be submitted to the San Diego Natural History Museum and included in the Final Monitoring Report.
- d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

**IV. Night and/or Weekend Work**

- A. If night and/or weekend work is included in the contract
  - 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
  - 2. The following procedures shall be followed.
    - a. No Discoveries  
In the event that no discoveries were encountered during night and/or weekend work, The PI shall record the information on the CSVR and submit to MMC via the RE via fax by 8AM on the next business day.
    - b. Discoveries  
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction.
    - c. Potentially Significant Discoveries  
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction shall be followed.
    - d. The PI shall immediately contact the RE and MMC, or by 8AM on the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
  - 1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
  - 2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

**V. Post Construction**

- A. Preparation and Submittal of Draft Monitoring Report
  - 1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Paleontological Guidelines which describes the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring.
    - a. For significant paleontological resources encountered during monitoring, the Paleontological Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
    - b. Recording Sites with the San Diego Natural History Museum

The PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
  3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
  4. MMC shall provide written verification to the PI of the approved report.
  5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Fossil Remains
1. The PI shall be responsible for ensuring that all fossil remains collected are cleaned and catalogued.
- C. Curation of artifacts: Deed of Gift and Acceptance Verification
1. The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this project are permanently curated with an appropriate institution.
  2. The PI shall submit the Deed of Gift and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
  3. The RE or BI, as appropriate shall obtain signature on the Deed of Gift and shall return to PI with copy submitted to MMC.
  4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit two copies of the Final Monitoring Report to MMC (even if negative), within 90 days after notification from MMC of the approved report.
  2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

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NOTICE OF DETERMINATION

TO:  Recorder/County Clerk  
P.O. Box 1750, MS A33  
1600 Pacific Hwy, Room 260  
San Diego, CA 92101-2422

FROM: City of San Diego  
Development Services Department  
1222 First Avenue, MS 501  
San Diego, CA 92101

FILED  
Ernest J. Dronenburg, Jr., Recorder County Clerk

Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

150109

JUL 21 2015

BY E. Alvarado  
DEPUTY

Project/WBS Number: 373451 / S-12015.02.06

State Clearinghouse Number: N/A

Project Title: Pacific Beach Pipeline

Project Applicant: City of San Diego, Engineering and Capital Projects, Right-of-Way Design Division, 525 B Street, Suite 750, San Diego, CA 92101 - Contact: Jeff Soriano, Ph: (619) 533-3141

Project Location: The following streets and adjoining alleyways would be affected by the project: Anna Avenue, Bandini Street, California Street, Channel Way, Coutts Street, Dana Landing Road, Duke Street, East Drive, Fordham Street, Frontage Road, Gleason Road, Hancock Street, Ingraham Street, Kemper Street, Kettner Street, Kurtz Street, Midway Drive, Ollie Street, Perez Cove Way, Quivira Road, Quivira Way, Sea World Drive, Sports Arena Boulevard, Venus Street, West Mission Bay Drive, West Point Loma Boulevard, Witherby Street, the North Ingraham Street Bridge, South Ingraham Street Bridge and West Mission Bay Drive Bridge, and includes the demolition of the abandoned Pacific Beach Reservoir, located between Los Altos Road and Windsor Drive. The project site is located within urbanized portions of the Pacific Beach, Mission Bay Park, Midway/Pacific Highway, Peninsula and Linda Vista Community Planning Areas.

Project Description: The project is for the replacement and abandonment of approximately 42,794 linear feet (8.10 miles) of existing 8-inch, 12-inch 16-inch, 20-inch, and 24-inch water mains and appurtenances constructed of cast iron (CI), asbestos cement (AC), polyvinyl chloride (PVC) and other existing material, installed as early as 1951. Associated water services and fire hydrants will be replaced. The project also includes the replacement and abandonment of 14,986 linear feet (2.83 miles) of 8-inch, 12-inch, and 14-inch existing sewer mains constructed of concrete pipe (CP), vitrified clay (VC), and other material, installed as early as the 1950's. Associated sewer laterals and manholes will also be replaced. Construction methods would include open trenching with replace-in-place, replace in new parallel trenches, tunneling, rehabilitation via lining methods and abandonment within existing City of San Diego public right-of-way and City of San Diego water and sewer easements, and pipe replacement on the existing North Ingraham Street, South Ingraham Street, and West Mission Bay Drive bridges.

The project would also include the demolition of the abandoned Pacific Beach Reservoir, located between Los Altos Road and Windsor Drive, backfilling and re-grading the reservoir excavation, and re-vegetation of the site with native or drought tolerant vegetation. The West Mission Bay Drive and Sports Arena Boulevard Pressure Reducing Stations would also be relocated.

This is to advise that the City of San Diego Development Services Department Director's Environmental Designee on June 17, 2015 approved the above described project and made the following determinations:

1. The project in its approved form \_\_\_ will,  will not, have a significant effect on the environment.
2. \_\_\_ An Environmental Impact Report was prepared for this project and certified pursuant to the provisions of CEQA.  
 A Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.  
\_\_\_ An addendum to the Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

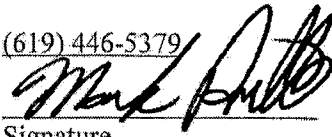
3. Mitigation measures  were, \_\_\_ were not, made a condition of the approval of the project.

It is hereby certified that the final environmental report, including comments and responses, is available to the general public at the office of the Entitlements Division, Fifth Floor, City Operations Building, 1222 First Avenue, San Diego, CA 92101. Record of approval may be examined at the address above.

Analyst: Mark Brunette

Telephone: (619) 446-5379

Filed by:

  
Signature

Senior Planner  
Title

Reference: California Public Resources Code, Sections 21108 and 21152.

FILED IN THE OFFICE OF THE COUNTY CLERK

San Diego County on JUL 21 2015  
Posted JUL 21 2015 Removed \_\_\_\_\_  
Returned to agency on E. Alvarado  
Deputy \_\_\_\_\_



State of California—Natural Resources Agency  
 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
**2015 ENVIRONMENTAL FILING FEE CASH RECEIPT**

RECEIPT# SD2015 0644
STATE CLEARING HOUSE # (if applicable) ----

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY CITY OF SAN DIEGO DEVELOPMENT SERVICES DEPARTMENT	DATE 07/21/2015
COUNTY/STATE AGENCY OF FILING SAN DIEGO	DOCUMENT NUMBER *20150109*
PROJECT TITLE PACIFIC BEACH PIPELINE	

PROJECT APPLICANT NAME CITY OF SAN DIEGO ENGINEERING AND CAPITAL PROJECTS RIGHT-OF-WAY DESIGN DIVISION	PHONE NUMBER 619-533-3141
PROJECT APPLICANT ADDRESS 525 B STREET SUITE 750	CITY SAN DIEGO
	STATE CA
	ZIP CODE 92101

PROJECT APPLICANT (Check appropriate box):

Local Public Agency    
  School District    
  Other Special District    
  State Agency    
  Private Entity

CHECK APPLICABLE FEES:

150109

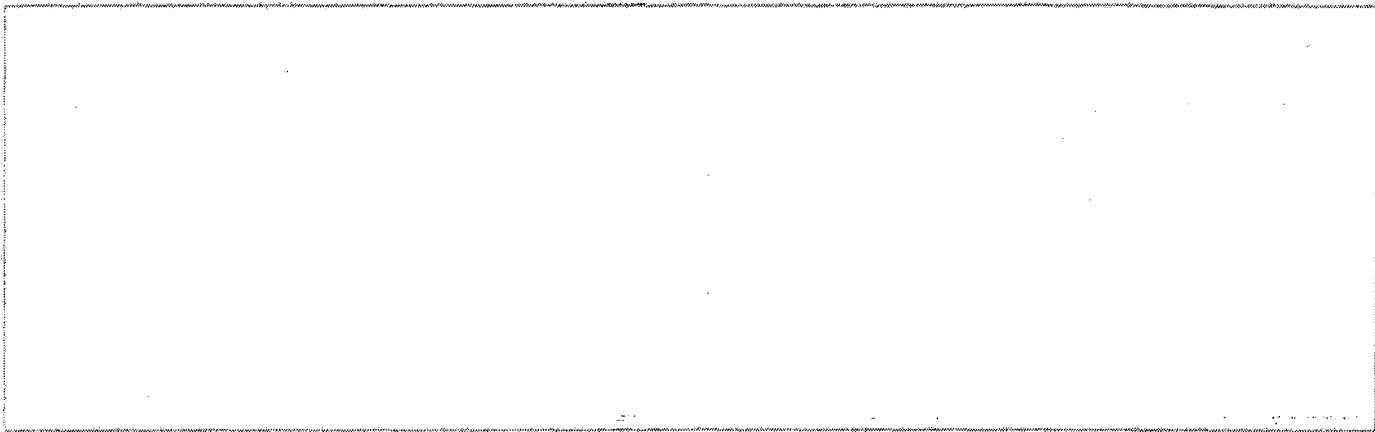
- Environmental Impact Report (EIR) \$3,069.75 \$ \_\_\_\_\_
- Negative Declaration (ND)(MND) \$2,210.00 \$ 2,210.00
- Application Fee Water Diversion (State Water Resources Control Board Only) \$850.00 \$ \_\_\_\_\_
- Projects Subject to Certified Regulatory Programs (CRP) \$1,043.75 \$ \_\_\_\_\_
- County Administrative Fee \$50.00 \$ 50.00
- Project that is exempt from fees
  - Notice of Exemption
  - CDFW No Effect Determination (Form Attached)
- Other \_\_\_\_\_ \$ \_\_\_\_\_

PAYMENT METHOD:

- Cash    
  Credit    
  Check    
  Other CHK: 1436708

TOTAL RECEIVED \$ 2,260.00

SIGNATURE <b>X</b> E. Alvarado	TITLE Deputy
-----------------------------------	-----------------





**Ernest J. Dronenburg, Jr.**  
**COUNTY OF SAN DIEGO**  
**ASSESSOR/RECORDER/COUNTY CLERK**



**ASSESSOR'S OFFICE**

1600 Pacific Highway, Suite 103  
 San Diego, CA 92101-2480  
 Tel. (619) 236-3771 \* Fax (619) 557-4056

[www.sdarecc.com](http://www.sdarecc.com)

**RECORDER/COUNTY CLERK'S OFFICE**

1600 Pacific Highway, Suite 260  
 P.O. Box 121750 \* San Diego, CA 92112-1750  
 Tel. (619) 237-0502 \* Fax (619) 557-4155

Transaction #: 345290320150721  
 Deputy: EALVARAD  
 Location: COUNTY ADMINISTRATION BUILDING  
 21-Jul-2015 10:00

**FEES:**

50.00	Qty of 1 Fish and Game Filing Fee for Ref# SD2015 0644
2,210.00	Qty of 1 Fish & Game Neg Dec (1800) for Ref# SD2015 0109
<hr/>	
2,260.00	TOTAL DUE

**PAYMENTS:**

2,260.00	Check
<hr/>	
2,260.00	TENDERED

**SERVICES AVAILABLE AT  
OFFICE LOCATIONS**

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- \* Records and Certified Copies:  
  Birth/ Marriage/ Death/ Real Estate
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- \* Marriage Licenses and Ceremonies
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- \* Property Ownership
- \* Property Records
- \* Property Values
- \* Document Recordings

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[www.sdarecc.com](http://www.sdarecc.com)**

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- \* Fictitious Business Names Index (DBAs)
- \* Property Sales
- \* On-Line Purchases  
  Assessor Parcel Maps  
  Property Characteristics  
  Recorded Documents

**APPENDIX B**  
**FIRE HYDRANT METER PROGRAM**

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 1 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

1. **PURPOSE**

1.1 To establish a Departmental policy and procedure for issuance, proper usage and charges for fire hydrant meters.

2. **AUTHORITY**

- 2.1 All authorities and references shall be current versions and revisions.
- 2.2 San Diego Municipal Code (NC) Chapter VI, Article 7, Sections 67.14 and 67.15
- 2.3 Code of Federal Regulations, Safe Drinking Water Act of 1986
- 2.4 California Code of Regulations, Titles 17 and 22
- 2.5 California State Penal Code, Section 498B.0
- 2.6 State of California Water Code, Section 110, 500-6, and 520-23
- 2.7 Water Department Director

**Reference**

- 2.8 State of California Guidance Manual for Cross Connection Programs
- 2.9 American Water Works Association Manual M-14, Recommended Practice for Backflow Prevention
- 2.10 American Water Works Association Standards for Water Meters
- 2.11 U.S.C. Foundation for Cross Connection Control and Hydraulic Research Manual

3. **DEFINITIONS**

3.1 **Fire Hydrant Meter:** A portable water meter which is connected to a fire hydrant for the purpose of temporary use. (These meters are sometimes referred to as Construction Meters.)

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 2 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.

3.3 **Backflow Preventor:** A Reduced Pressure Principal Assembly connected to the outlet side of a Fire Hydrant Meter.

#### 4. POLICY

4.1 The Water Department shall collect a deposit from every customer requiring a fire hydrant meter and appurtenances prior to providing the meter and appurtenances (see Section 7.1 regarding the Fees and Deposit Schedule). The deposit is refundable upon the termination of use and return of equipment and appurtenances in good working condition.

4.2 Fire hydrant meters will have a 2 ½" swivel connection between the meter and fire hydrant. The meter shall not be connected to the 4" port on the hydrant. All Fire Hydrant Meters issued shall have a Reduced Pressure Principle Assembly (RP) as part of the installation. Spanner wrenches are the only tool allowed to turn on water at the fire hydrant.

4.3 The use of private hydrant meters on City hydrants is prohibited, with exceptions as noted below. All private fire hydrant meters are to be phased out of the City of San Diego. All customers who wish to continue to use their own fire hydrant meters must adhere to the following conditions:

a. Meters shall meet all City specifications and American Water Works Association (AWWA) standards.

b. Customers currently using private fire hydrant meters in the City of San Diego water system will be allowed to continue using the meter under the following conditions:

1. The customer must submit a current certificate of accuracy and calibration results for private meters and private backflows annually to the City of San Diego, Water Department, Meter Shop.

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 3 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

2. The meter must be properly identifiable with a clearly labeled serial number on the body of the fire hydrant meter. The serial number shall be plainly stamped on the register lid and the main casing. Serial numbers shall be visible from the top of the meter casing and the numbers shall be stamped on the top of the inlet casing flange.
3. All meters shall be locked to the fire hydrant by the Water Department, Meter Section (see Section 4.7).
4. All meters shall be read by the Water Department, Meter Section (see Section 4.7).
5. All meters shall be relocated by the Water Department, Meter Section (see Section 4.7).
6. These meters shall be tested on the anniversary of the original test date and proof of testing will be submitted to the Water Department, Meter Shop, on a yearly basis. If not tested, the meter will not be allowed for use in the City of San Diego.
7. All private fire hydrant meters shall have backflow devices attached when installed.
8. The customer must maintain and repair their own private meters and private backflows.
9. The customer must provide current test and calibration results to the Water Department, Meter Shop after any repairs.
10. When private meters are damaged beyond repair, these private meters will be replaced by City owned fire hydrant meters.

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11. When a private meter malfunctions, the customer will be notified and the meter will be removed by the City and returned to the customer for repairs. Testing and calibration results shall be given to the City prior to any re-installation.
  12. The register shall be hermetically sealed straight reading and shall be readable from the inlet side. Registration shall be in hundred cubic feet.
  13. The outlet shall have a 2 ½ “National Standards Tested (NST) fire hydrant male coupling.
  14. Private fire hydrant meters shall not be transferable from one contracting company to another (i.e. if a company goes out of business or is bought out by another company).
- 4.4 All fire hydrant meters and appurtenances shall be installed, relocated and removed by the City of San Diego, Water Department. All City owned fire hydrant meters and appurtenances shall be maintained by the City of San Diego, Water Department, Meter Services.
- 4.5 If any fire hydrant meter is used in violation of this Department Instruction, the violation will be reported to the Code Compliance Section for investigation and appropriate action. Any customer using a fire hydrant meter in violation of the requirements set forth above is subject to fines or penalties pursuant to the Municipal Code, Section 67.15 and Section 67.37.
- 4.6 **Conditions and Processes for Issuance of a Fire Hydrant Meter**
- Process for Issuance
- a. Fire hydrant meters shall only be used for the following purposes:
    1. Temporary irrigation purposes not to exceed one year.

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2. Construction and maintenance related activities (see Tab 2).
- b. No customer inside or outside the boundaries of the City of San Diego Water Department shall resell any portion of the water delivered through a fire hydrant by the City of San Diego Water Department.
  - c. The City of San Diego allows for the issuance of a temporary fire hydrant meter for a period not to exceed 12 months (365 days). An extension can only be granted in writing from the Water Department Director for up to 90 additional days. A written request for an extension by the consumer must be submitted at least 30 days prior to the 12 month period ending. No extension shall be granted to any customer with a delinquent account with the Water Department. No further extensions shall be granted.
  - d. Any customer requesting the issuance of a fire hydrant meter shall file an application with the Meter Section. The customer must complete a "Fire Hydrant Meter Application" (Tab 1) which includes the name of the company, the party responsible for payment, Social Security number and/or California ID, requested location of the meter (a detailed map signifying an exact location), local contact person, local phone number, a contractor's license (or a business license), description of specific water use, duration of use at the site and full name and address of the person responsible for payment.
  - e. At the time of the application the customer will pay their fees according to the schedule set forth in the Rate Book of Fees and Charges, located in the City Clerk's Office. All fees must be paid by check, money order or cashiers check, made payable to the City Treasurer. Cash will not be accepted.
  - f. No fire hydrant meters shall be furnished or relocated for any customer with a delinquent account with the Water Department.
  - g. After the fees have been paid and an account has been created, the



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meter shall be installed within 48 hours (by the second business day). For an additional fee, at overtime rates, meters can be installed within 24 hours (within one business day).

#### 4.7 Relocation of Existing Fire Hydrant Meters

- a. The customer shall call the Fire Hydrant Meter Hotline (herein referred to as "Hotline"), a minimum of 24 hours in advance, to request the relocation of a meter. A fee will be charged to the existing account, which must be current before a work order is generated for the meter's relocation.
- b. The customer will supply in writing the address where the meter is to be relocated (map page, cross street, etc). The customer must update the original Fire Hydrant Meter Application with any changes as it applies to the new location.
- c. Fire hydrant meters shall be read on a monthly basis. While fire hydrant meters and backflow devices are in service, commodity, base fee and damage charges, if applicable, will be billed to the customer on a monthly basis. If the account becomes delinquent, the meter will be removed.

#### 4.8 Disconnection of Fire Hydrant Meter

- a. After ten (10) months a "Notice of Discontinuation of Service" (Tab 3) will be issued to the site and the address of record to notify the customer of the date of discontinuance of service. An extension can only be granted in writing from the Water Department Director for up to 90 additional days (as stated in Section 4.6C) and a copy of the extension shall be forwarded to the Meter Shop Supervisor. If an extension has not been approved, the meter will be removed after twelve (12) months of use.
- b. Upon completion of the project the customer will notify the Meter Services office via the Hotline to request the removal of the fire hydrant meter and appurtenances. A work order will be generated

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for removal of the meter.

- c. Meter Section staff will remove the meter and backflow prevention assembly and return it to the Meter Shop. Once returned to the Meter Shop the meter and backflow will be tested for accuracy and functionality.
- d. Meter Section Staff will contact and notify Customer Services of the final read and any charges resulting from damages to the meter and backflow or its appurtenance. These charges will be added on the customer's final bill and will be sent to the address of record. Any customer who has an outstanding balance will not receive additional meters.
- e. Outstanding balances due may be deducted from deposits and any balances refunded to the customer. Any outstanding balances will be turned over to the City Treasurer for collection. Outstanding balances may also be transferred to any other existing accounts.

5. **EXCEPTIONS**

- 5.1 Any request for exceptions to this policy shall be presented, in writing, to the Customer Support Deputy Director, or his/her designee for consideration.

6. **MOBILE METER**

- 6.1 Mobile meters will be allowed on a case by case basis. All mobile meters will be protected by an approved backflow assembly and the minimum requirement will be a Reduced Pressure Principal Assembly. The two types of Mobile Meters are vehicle mounted and floating meters. Each style of meters has separate guidelines that shall be followed for the customer to retain service and are described below:
  - a) **Vehicle Mounted Meters:** Customer applies for and receives a City owned Fire Hydrant Meter from the Meter Shop. The customer mounts the meter on the vehicle and brings it to the Meter Shop for

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inspection. After installation is approved by the Meter Shop the vehicle and meter shall be brought to the Meter Shop on a monthly basis for meter reading and on a quarterly basis for testing of the backflow assembly. Meters mounted at the owner's expense shall have the one year contract expiration waived and shall have meter or backflow changed if either fails.

b) **Floating Meters:** Floating Meters are meters that are not mounted to a vehicle. **(Note: All floating meters shall have an approved backflow assembly attached.)** The customer shall submit an application and a letter explaining the need for a floating meter to the Meter Shop. The Fire Hydrant Meter Administrator, after a thorough review of the needs of the customer, (i.e. number of jobsites per day, City contract work, lack of mounting area on work vehicle, etc.), may issue a floating meter. At the time of issue, it will be necessary for the customer to complete and sign the "Floating Fire Hydrant Meter Agreement" which states the following:

- 1) The meter will be brought to the Meter Shop at 2797 Caminito Chollas, San Diego on the third week of each month for the monthly read by Meter Shop personnel.
- 2) Every other month the meter will be read and the backflow will be tested. This date will be determined by the start date of the agreement.

If any of the conditions stated above are not met the Meter Shop has the right to cancel the contract for floating meter use and close the account associated with the meter. The Meter Shop will also exercise the right to refuse the issuance of another floating meter to the company in question.

Any Fire Hydrant Meter using reclaimed water shall not be allowed use again with any potable water supply. The customer shall incur the cost of replacing the meter and backflow device in this instance.

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7. **FEE AND DEPOSIT SCHEDULES**

7.1 **Fees and Deposit Schedules:** The fees and deposits, as listed in the Rate Book of Fees and Charges, on file with the Office of the City Clerk, are based on actual reimbursement of costs of services performed, equipment and materials. These deposits and fees will be amended, as needed, based on actual costs. Deposits, will be refunded at the end of the use of the fire hydrant meter, upon return of equipment in good working condition and all outstanding balances on account are paid. Deposits can also be used to cover outstanding balances.

All fees for equipment, installation, testing, relocation and other costs related to this program are subject to change without prior notification. The Mayor and Council will be notified of any future changes.

8. **UNAUTHORIZED USE OF WATER FROM A HYDRANT**

8.1 Use of water from any fire hydrant without a properly issued and installed fire hydrant meter is theft of City property. Customers who use water for unauthorized purposes or without a City of San Diego issued meter will be prosecuted.

8.2 If any unauthorized connection, disconnection or relocation of a fire hydrant meter, or other connection device is made by anyone other than authorized Water Department personnel, the person making the connection will be prosecuted for a violation of San Diego Municipal Code, Section 67.15. In the case of a second offense, the customer's fire hydrant meter shall be confiscated and/or the deposit will be forfeited.

8.3 Unauthorized water use shall be billed to the responsible party. Water use charges shall be based on meter readings, or estimates when meter readings are not available.

8.4 In case of unauthorized water use, the customer shall be billed for all applicable charges as if proper authorization for the water use had been obtained, including but not limited to bi-monthly service charges, installation charges and removal charges.

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8.5 If damage occurs to Water Department property (i.e. fire hydrant meter, backflow, various appurtenances), the cost of repairs or replacements will be charged to the customer of record (applicant).

**Larry Gardner  
Water Department Director**

- Tabs: 1. Fire Hydrant Meter Application  
2. Construction & Maintenance Related Activities With No Return To Sewer  
3. Notice of Discontinuation of Service

**APPENDIX**

**Administering Division:** Customer Support Division

**Subject Index:** Construction Meters  
Fire Hydrant  
Fire Hydrant Meter Program  
Meters, Floating or Vehicle Mounted  
Mobile Meter  
Program, Fire Hydrant Meter

**Distribution:** DI Manual Holders



# Application for Fire (EXHIBIT A) Hydrant Meter

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

## Meter Information

Application Date	Requested Install Date:
------------------	-------------------------

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) <u>Zip:</u>	<u>I.B.</u>	<u>G.B. (CITY USE)</u>
Specific Use of Water:		
Any Return to Sewer or Storm Drain, if so, explain:		
Estimated Duration of Meter Use: <input type="text"/>	<input type="checkbox"/>	Check Box If Reclaimed Water

## Company Information

Company Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ( )
*Business license#		*Contractor license#	
A Copy of the Contractor's license OR Business License is required at the time of meter issuance.			
Name and Title of Billing Agent: <small>(PERSON IN ACCOUNTS PAYABLE)</small>			Phone: ( )
Site Contact Name and Title:			Phone: ( )
Responsible Party Name:			Title:
Cal ID#			Phone: ( )
Signature:		Date:	
Guarantees Payment of all Charges Resulting from the use of this Meter. Insures that employees of this Organization understand the proper use of Fire Hydrant Meter			

<b>Fire Hydrant Meter Removal Request</b>	Requested Removal Date:
Provide Current Meter Location if Different from Above:	
Signature:	Title: Date:
Phone: ( )	Pager: ( )

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter
Contract Acct #:	Deposit Amount: <b>\$ 936.00</b> Fees Amount: <b>\$ 62.00</b>
Meter Serial #	Meter Size: <b>05</b> Meter Make and Style: <b>6-7</b>
Backflow #	Backflow Size: Make and Style:
Name:	Signature: Date:

WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER

Auto Detailing  
Backfilling  
Combination Cleaners (Vactors)  
Compaction  
Concrete Cutters  
Construction Trailers  
Cross Connection Testing  
Dust Control  
Flushing Water Mains  
Hydro Blasting  
Hydro Seeing  
Irrigation (for establishing irrigation only; not continuing irrigation)  
Mixing Concrete  
Mobile Car Washing  
Special Events  
Street Sweeping  
Water Tanks  
Water Trucks  
Window Washing

**Note:**

1. If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charges.

Date

Name of Responsible Party  
Company Name and Address  
Account Number: \_\_\_\_\_

Subject: Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

The authorization for use of Fire Hydrant Meter # \_\_\_\_\_, located at (*Meter Location Address*) ends in 60 days and will be removed on or after (*Date Authorization Expires*). Extension requests for an additional 90 days must be submitted in writing for consideration 30 days prior to the discontinuation date. If you require an extension, please contact the Water Department, or mail your request for an extension to:

City of San Diego  
Water Department  
Attention: Meter Services  
2797 Caminito Chollas  
San Diego, CA 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant Hotline at (619) \_\_\_\_\_ - \_\_\_\_\_.

Sincerely,

Water Department



**APPENDIX C**

**MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE**

## Materials Typically Accepted by Certificate of Compliance

1. Soil amendment
2. Fiber mulch
3. PVC or PE pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (Special Condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland Cement
29. PCC admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

**APPENDIX D**  
**SAMPLE CITY INVOICE**













**APPENDIX E**  
**LOCATION MAPS**

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (OVERALL- MAP 1)

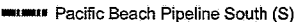

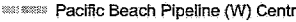

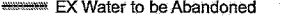


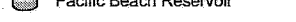
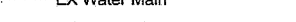



**Legend**

-  Pacific Beach Pipeline South (S)
-  Pacific Beach Pipeline South (W)
-  Pacific Beach Pipeline (W) Central
-  Pacific Beach Pipeline (S) Central
-  EX Water to be Abandoned
-  EX PRS
-  NEW PRS
-  Pacific Beach Reservoir
-  EX Water Main
-  EX Sewer Main

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 2)













- Legend**
-  Pacific Beach Pipeline South (S)
  -  Pacific Beach Pipeline South (W)
  -  Pacific Beach Pipeline (W) Central
  -  Pacific Beach Pipeline (S) Central
  -  EX Water to be Abandoned
  -  EX PRS
  -  NEW PRS
  -  Pacific Beach Reservoir
  -  EX Water Main
  -  EX Sewer Main

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 3)

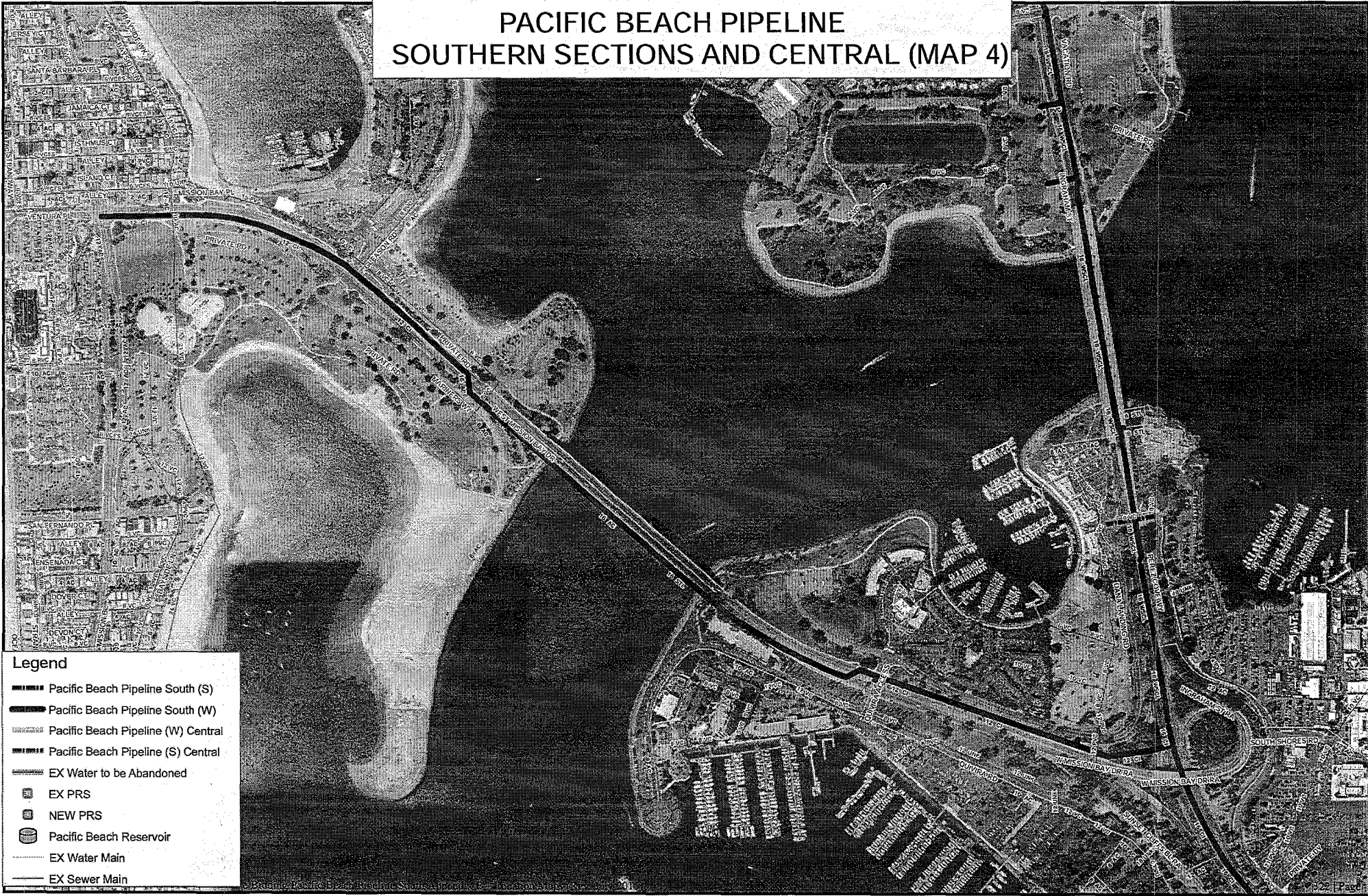


**Legend**

-  Pacific Beach Pipeline South (S)
-  Pacific Beach Pipeline South (W)
-  Pacific Beach Pipeline (W) Central
-  Pacific Beach Pipeline (S) Central
-  EX Water to be Abandoned
-  EX PRS
-  NEW PRS
-  Pacific Beach Reservoir
-  EX Water Main
-  EX Sewer Main

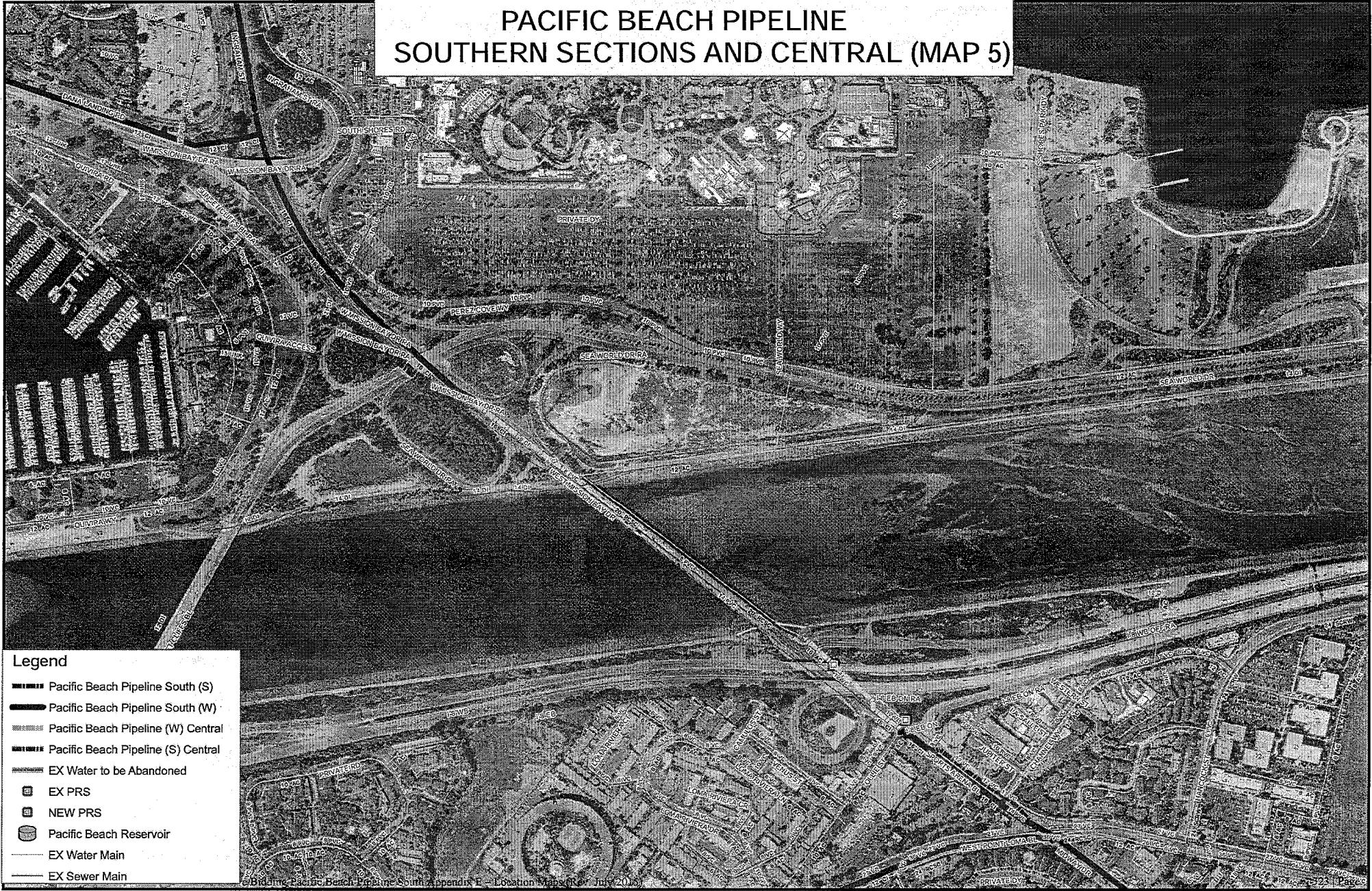


# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 4)



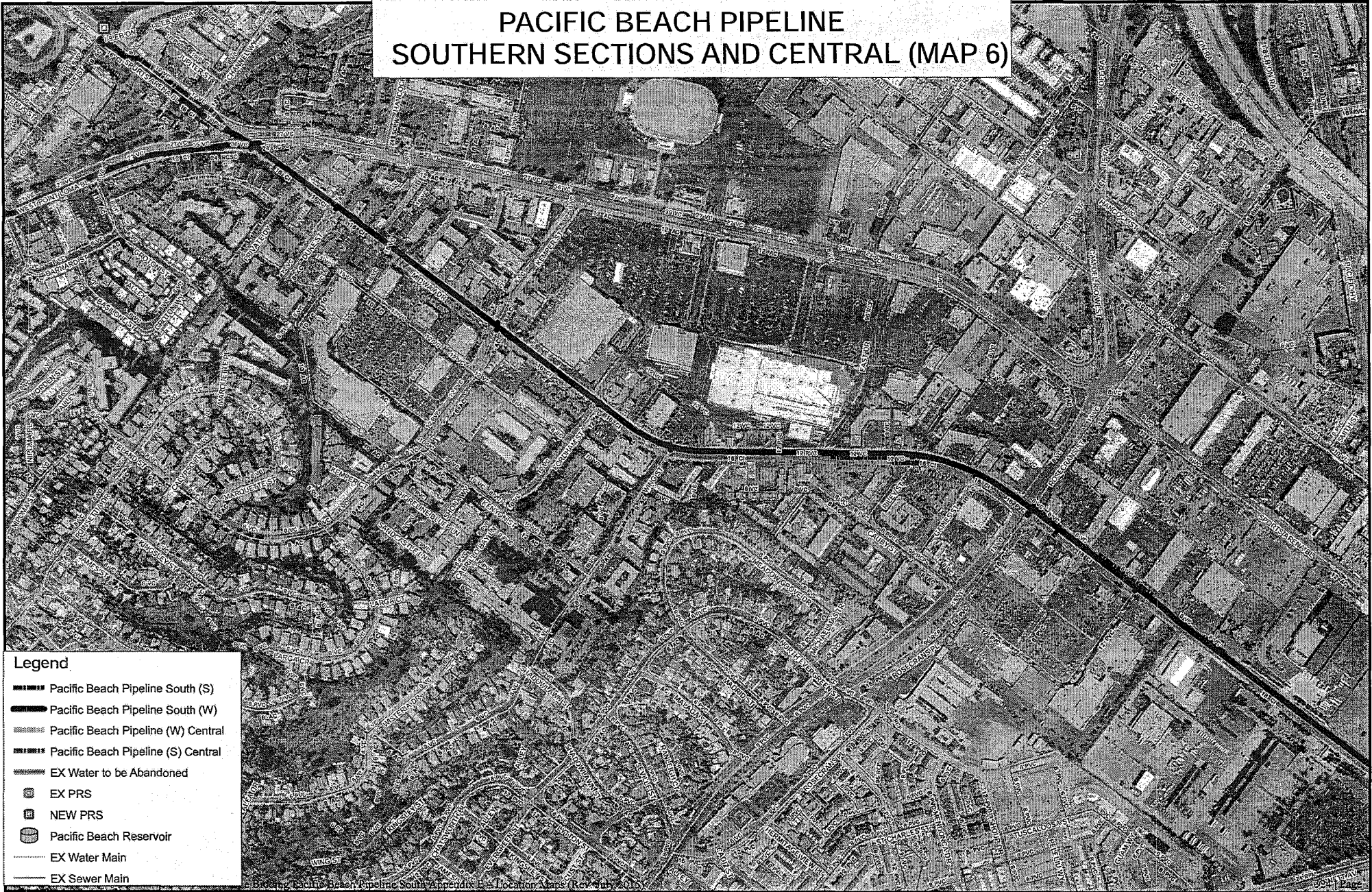
- Legend**
- Pacific Beach Pipeline South (S)
  - Pacific Beach Pipeline South (W)
  - Pacific Beach Pipeline (W) Central
  - Pacific Beach Pipeline (S) Central
  - EX Water to be Abandoned
  - EX PRS
  - NEW PRS
  - Pacific Beach Reservoir
  - EX Water Main
  - EX Sewer Main











# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 5)



- Legend**
- Pacific Beach Pipeline South (S)
  - Pacific Beach Pipeline South (W)
  - Pacific Beach Pipeline (W) Central
  - Pacific Beach Pipeline (S) Central
  - EX Water to be Abandoned
  - EX PRS
  - NEW PRS
  - Pacific Beach Reservoir
  - EX Water Main
  - EX Sewer Main

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 6)



- Legend**
-  Pacific Beach Pipeline South (S)
  -  Pacific Beach Pipeline South (W)
  -  Pacific Beach Pipeline (W) Central
  -  Pacific Beach Pipeline (S) Central
  -  EX Water to be Abandoned
  -  EX PRS
  -  NEW PRS
  -  Pacific Beach Reservoir
  -  EX Water Main
  -  EX Sewer Main

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 7)



- Legend**
- Pacific Beach Pipeline South (S)
  - Pacific Beach Pipeline South (W)
  - Pacific Beach Pipeline (W) Central
  - Pacific Beach Pipeline (S) Central
  - EX Water to be Abandoned
  - EX PRS
  - NEW PRS
  - Pacific Beach Reservoir
  - EX Water Main
  - EX Sewer Main

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 8)



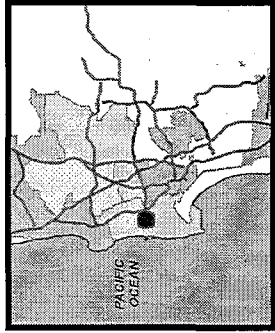
- Legend**
- Pacific Beach Pipeline South (S)
  - Pacific Beach Pipeline South (W)
  - Pacific Beach Pipeline (W) Central
  - Pacific Beach Pipeline (S) Central
  - EX Water to be Abandoned
  - EX PRS
  - NEW PRS
  - Pacific Beach Reservoir
  - EX Water Main
  - EX Sewer Main

# PACIFIC BEACH PIPELINE SOUTHERN SECTIONS AND CENTRAL (MAP 9)



- Legend:**
- ▬ Pacific Beach Pipeline South (S)
  - ▬ Pacific Beach Pipeline South (W)
  - ▬ Pacific Beach Pipeline (W) Central
  - ▬ Pacific Beach Pipeline (S) Central
  - ▬ EX Water to be Abandoned
  - ▣ EX PRS
  - ▣ NEW PRS
  - Pacific Beach Reservoir
  - ▬ EX Water Main
  - ▬ EX Sewer Main

**APPENDIX F**  
**ADJACENT PROJECTS**



# WEST MISSION BAY DRIVE BRIDGE

**SENIOR ENGINEER**  
 LUIS SCHAAR  
 619-533-7492

**PROJECT ENGINEER**  
 LESTER DEL ROSARIO  
 619-533-5116

**PROJECT MANAGER**  
 JONG CHOI  
 619-533-5493

**CONSTRUCTION PROJECT INFORMATION LINE**  
 (619) 533-4207



## Legend

WEST MISSION BAY DRIVE BRIDGE IMPROVEMENTS

e Bidding Pacific Beach Pipeline South Appendix F- Adjacent Projects (Rev. July 2015)

0 0.0425 0.085 0.17 Miles



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**COMMUNITY NAME:** MISSION BAY PARK,  
 POINT LOMA, MIDWAY

**COUNCIL DISTRICT:** 2

**SAP ID:** S-00871



Date: September 29, 2015

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COMMUNITY NAME: Pacific Beach, Council District 2, Contact: Matt DeBeliso (619-533-5286)

Date: Sept 2015 e Bidding Pacific Beach Pipeline South Appendix F- Adjacent Projects (Rev. July 2015)

**APPENDIX G**

**HYDROSTATIC DISCHARGE FORM**

### Hydrostatic Discharge Requirements Certification (Discharge Events ≥ 325,850 gpd)

All discharge activities related to this project comply with the Regional Water Quality Control Board (RWQCB) Order No. R9-2010-0003, General Permit for Discharges of Hydrostatic Test Water and Potable Water to Surface Water and Storm Drains as referenced by ([http://www.waterboards.ca.gov/sandiego/board\\_decisions/adopted\\_orders/2010/R9-2010-0003.pdf](http://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2010/R9-2010-0003.pdf)), and as follows:

Discharged water has been dechlorinated to below **0.1 (mg/l)** level; and effluent has been maintained between **6 and 9 (pH)** based on:

*Is Discharge Within Limits?*

**Comment/Action Taken**

Event #	Discharge Date	Item Tested	Duration	Amount (gpd)	Description of the Proposed Discharge	Method and Test Result	Is Discharge Within Limits?		Comment/Action Taken
							YES	NO	
		Chlorine							
		pH							
		Chlorine							
		pH							
		Chlorine							
		pH							
		Chlorine							
		pH							

**Qualified Personnel Conducting Tests (Print Name):**

**SAP No.(s):**

**\*Signed:**

**Project Name:**

\* By signing, I hereby certify and affirm under penalty of perjury that all of the statements and conditions for hydrostatic discharge events are correct.

Have any thresholds been exceeded? Per Order No. R9-2010-0003, would this be a reportable discharge and must be reported **within 24 hours** of the event? [Reportable discharge would include violation of maximum gallons per day, any upset which exceeds any effluent limit]

**APPENDIX H**  
**CALTRANS PERMIT**

In compliance with (Check one):

- Your application of OCTOBER 10, 2014
- Utility Notice No. \_\_\_\_\_ of \_\_\_\_\_
- Agreement No. \_\_\_\_\_ of \_\_\_\_\_
- R/W Contract No. \_\_\_\_\_ of \_\_\_\_\_

Permit No. <b>11-14-NUT-0655</b>	
Dist/Co/Rte/PM <b>11-SD-8/L1.25</b>	
Date <b>JULY 15, 2015</b>	
Fee Paid <b>EXEMPT</b>	Deposit <b>EXEMPT</b>
Performance Bond Amount (1) <b>N/A</b>	Payment Bond Amount (2) <b>N/A</b>
Bond Company <b>N/A</b>	
Bond Number (1) <b>N/A</b>	Bond Number (2) <b>N/A</b>

CITY OF SAN DIEGO  
 525 B STREET, SUITE 750, MS 905A  
 TO: SAN DIEGO, CA 92101

ATTN: JEFF SORIANO  
 PHONE: (619) 533-4131

, PERMITTEE

And subject to the following, PERMISSION IS HEREBY GRANTED to:

enter upon State Highway right of way in San Diego County, City of San Diego, on Route 8, post mile L1.25, to replace the 16-inch water main with a 20-inch steel water main and install a new 14-inch sewer force main, as shown on the attached plans, in accordance with the requirements and conditions contained herein and as further directed or approved by the State's Inspector, Rahi Nikraves, call number (858) 688-1605 or by email at rahi.nikraves@dot.ca.gov.

The State's Inspector shall be notified seven working days prior to starting work. Permittee shall also call Christopher Piquette, telephone number (619) 572-8520, at least ten working days prior to starting work and arrange for a mark-out. Caltrans electrical facilities may be affected by this permit work.  
 Working hours shall be 9:00 p.m. to 5:00 a.m., Sunday through Thursday or as directed or approved by the State's Inspector.

No vehicles or equipment shall be parked within the highway right of way at any time, except for those vehicles or that equipment actually engaged in the work, during the working hours specified herein.

(CONTINUED)

**THIS PERMIT IS NOT A PROPERTY RIGHT AND DOES NOT TRANSFER WITH THE PROPERTY TO A NEW OWNER**

The following attachments are also included as part of this permit (Check applicable):

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | General Provisions  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | Utility Maintenance Provisions                                      |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | Special Provisions  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | A Cal-OSHA permit, if required: Permit No. _____                    |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | As-Built Plans Submittal Route Slip for Locally Advertised Projects |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | Water Pollution Control Plan  |

In addition to fee, the permittee will be billed actual costs for:

- |                              |  |            |
|------------------------------|--|------------|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Review     |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Inspection |
| <input type="checkbox"/> Yes |  | Field Work |

(If any Caltrans effort expanded)

Yes  No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is complete before **JANUARY 31, 2016.**

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.  
 No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

JG:jg  
 cc: Permits  
 BStinnett, Reg. Mgr.  
 RNikraves, Inspector  
 STse, Utilities  
 CPiquette, Elec. Maint.  
 Permittee

APPROVED:  
  
 Laurie Berman, District Director

*Ann M. Fox* FOR Ann M. Fox, District Permit Engineer

**CITY OF SAN DIEGO**  
**11-14-NUT-0655**  
**JULY 15, 2015**  
**PAGE TWO**

The following District Standard Special Provisions are generalizations of the Department Standard Specifications and are included only as a Permittee convenience. Permittee's attention is directed to the current Department Standard Specifications for complete, unabridged, specification requirements.

Once begun, that portion of the work within the State Highway right of way shall be prosecuted to completion as rapidly as possible.

All personnel on foot within the State Highway right of way shall wear personal protective equipment, including safety glasses, hard hats and American National Standards Institute (ANSI) compliant Class II vests. In addition, all personnel working at night, on foot within the State Highway right of way shall wear ANSI Class III warning garments.

The Permittee is responsible for locating and protecting all utilities both underground and aerial. Any costs incurred for locating and protecting and/or relocating any utilities shall be borne by the Permittee

Permittee's Contractor is responsible for the actual cost of inspection, which may be more or less than the deposit. A bill or refund shall be sent upon satisfactory completion of the work. Payment of any bill is a condition of the permit.

Notwithstanding General Provision No. 4, your contractor is required to apply for and obtain an encroachment permit prior to starting work. A permit inspection deposit fee of \$5,412.00 will be required upon submittal of the application to perform the work. Also, your contractor must submit proof that they have obtained executed bonds in accordance with General Provision No. 24 and your contractor shall provide proof that they have the proper Cal-OSHA permit and classification documents.

Notwithstanding General Provision 24, the Permittee's Contractor's bonds shall remain in full force through completion of the work and acceptance by the Department. Upon fulfillment of all obligations under this permit the Department will notify the Permittee when the Permittee's Contractor's bonds may be released.

At least fourteen days prior to the start of work, Permittee's Contractor shall also prepare and submit for review and approval, as part of the application package, a project specific shoring plan and calculations for any trench 5 feet deep or greater. The shoring plan must be designed, stamped, and signed by a California Registered Civil or Structural Engineer unless the contractor elects to use the Construction Safety Order Details from the California Department of Safety and Health, Title 8 of the California Administration Code. No work shall begin until the shoring plans are approved by the Engineer.

Any damaged irrigation or landscaping shall be replaced as directed and approved by the State's Landscape Inspector.

**CITY OF SAN DIEGO  
11-14-NUT-0655  
JULY 15, 2015  
PAGE THREE**

The State of California, Department of Transportation, makes no assurance or expressed warranty that the plans are complete or that the planned construction fits field conditions. Should additional work or modifications of the work be required in order to meet established Department Standards or in order to fit field conditions, the work shall be performed by Permittee as directed by the State's Inspector at no cost to the State.

All work shall be coordinated with the State highway contractor's operations and under no circumstances shall the work granted herein interfere. All standards of construction shall be identical to similar work performed under adjacent highway contract.

All work shall be performed in accordance with the current Department of Transportation Standard Specifications, and the Department of Transportation Encroachment Permit Underground Utility Provisions, dated March, 2013.

Traffic control when permitted or directed by the State's Inspector, shall consist of closing shoulders in accordance with attached Caltrans 2010 Revised Standard Plans RSP T9, RSP T11, RSP T14, and the attached TRAFFIC CONTROL PLANS, Part 6 "Temporary Traffic Control" of the California Manual on Uniform Traffic Control Devices (California MUTCD) 2012 Edition, Section 12 "Temporary Traffic Control" of Caltrans 2010 Standard Specifications, and these Special Provisions.

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 Permittee shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

Permittee shall implement and maintain the attached WPCP, dated as approved October 30, 2014, and as directed and approved by the State's Inspector.

The Permittee shall retain a Civil Engineer, licensed to practice in California, who shall upon completion of the placement of materials requiring compaction, furnish to the State's Inspector, a report certifying that the compaction work has been accomplished in accordance with Caltrans Standard Specifications and Standard Plans. Compaction testing, in accordance with Caltrans testing procedures and policies, shall be performed by a certified testing laboratory. Copies of the test shall accompany the engineer's report.

All open trenches within the improved area shall be backfilled, compacted and temporary repairs made to the surfacing before leaving the job site at the end of the working day. In lieu of temporary repairs, steel plate bridging may be allowed if approved by the State's Inspector prior to the start of work. Permanent backfill shall conform to the attached ENCROACHMENT PERMIT TRENCH DETAIL dated September, 2006 and the attached BACKFILL REQUIREMENTS.

**CITY OF SAN DIEGO**  
**11-14-NUT-0655**  
**JULY 15, 2015**  
**PAGE FOUR**

When steel plate bridging is used, the attached Steel Plate Bridging Special Provisions will apply in addition to the attached General Provisions.

Upon completion of the work provided herein, the Permittee shall submit one vellum or paper set of As-Built plans to the District 11 Caltrans Permit Office showing the actual location of the facility to the nearest 0.1 foot horizontally and vertically. Mylar or paper sepia plans are not acceptable.

The provisions in this section will not relieve the Permittee from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, of the Standard Specifications.

Upon completion of the work, the attached card shall be completed and returned.



## BACKFILL REQUIREMENTS

### A. Backfill Within Existing or Proposed Paved Areas:

1. Material for use as structure backfill shall have a sand equivalent of not less than 20. The percentage composition by weight as determined by laboratory sieves shall conform to the following grading:

<u>Sieve Sizes</u>	<u>Percentage Passing Sieves</u>
3" -----	100
No. 4 -----	35-100
No. 30 -----	20-100

Backfill material shall be placed in horizontal, uniform layers not exceeding 8 in. in thickness, before compaction, and shall be brought up uniformly on all sides of the structure or facility. Each layer of backfill shall be compacted to a relative compaction of not less than 95 percent.

Controlled Low Strength Material (CLSM) shall be allowed for trench backfill if it meets Caltrans Standard Special Provisions 19-270-E and 19-270-M.

2. The upper 8 in. shall consist of 6 in. Class 1 high early strength portland cement concrete (7 sack Type III cement) or Class 1 portland cement concrete (7 sack Type II with 2 percent calcium chloride by weight of cement) and 2 in. of asphalt concrete extending outside the underlying trench a minimum distance of 6 in. on each side. Pavement shall be saw-cut a minimum of 2.5 in. deep to a neat, straight line. Traffic shall not be allowed across the trench area until the PCC has been poured and has had reasonable time to set and permanent or temporary AC paving is in place.
3. In cases where the trench width does not exceed 6 feet, requirement A2 may be waived and the following requirements substituted: the backfill material shall conform to A1 above and shall be thoroughly mixed with 2 sacks of portland cement per cubic yard. Placement and compaction shall conform to A.1. The upper portion shall consist of a tack coat of liquid asphalt and 4 in. asphalt concrete placed and compacted in two even lifts and rolled to a smooth even finish. Traffic shall not be allowed across the trench area until the AC paving is in place.
4. For paved shoulders only, upon express permission of the State's Inspector, Provision A may be waived and Provision 3 backfill requirements shall apply.

### B. Backfill in Paved Shoulder Areas:

The backfill to within 12 in. of the existing or proposed profile grade shall conform to A1 above. The upper 12 in. shall consist of 8 in. Class 2 aggregate base compacted to a relative compaction of not less than 95 percent, covered with a tack coat of liquid asphalt and 4 in. asphalt concrete placed and compacted in two lifts and rolled to a smooth, even finish.

### C. Backfill in Unpaved Shoulder Areas:

The backfill to within 12 in. of the existing or proposed profile grade shall conform to A1 above. The upper 12 in. shall consist of Class 2 aggregate base compacted to not less than 95 percent.

### D. Backfill Outside of Highway Shoulders:

The backfill material may consist of material from excavation, free from stones or lumps exceeding 3 in., vegetable matter, or other unsatisfactory material, and shall be compacted in lifts not exceeding 8 in. to a relative compaction of 90 percent. When the material from excavation is unsuitable for use as backfill, it shall be disposed of and replaced with material meeting the above requirements of A1.

Excess material shall be disposed of outside the State right of way or at a location designated by the Department of Transportation's representative.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**ENCROACHMENT PERMIT UNDERGROUND UTILITY PROVISIONS**

TR - 0163 (Rev. 03/2013)

Highway and Freeway encasement requirements for Transverse crossings of Utility installations, installed by the following methods. The pavement or roadway shall not be open-cut unless specifically allowed under a "UT" permit. Utility installations shall not be installed inside of culverts or drainage structures.

The installation of Uncased High Pressure Natural Gas pipelines, on a case by case basis may be allowed, when in compliance with TR-0158 Special Provisions, "Exception to Policy" for Uncased High Pressure Natural Gas Pipelines.

Encasement Requirements based on: Installation Method, Type of Highway Facility and Material Transported in carrier.						
Facility Type	Bore and Jack		Directional Drilling		Trenching	
	Frwy/Expwy	Conventional	Frwy/Expwy	Conventional	Frwy/Expwy	Conventional
High Risk (Section 605)	Encase	Encase	Encase	Encase	Encase	Encase
Low Risk (Section 605)	Encase	Encase	Encase	Encase	Encase	Encase*
Exempt Facilities (Section 605)	Encase	Encase	Encase*	Encase*	Encase*	Encase*
Pressurized Fluids	Encase	Encase	Encase	Encase	Encase	Encase
Natural Gas Lines Minimum 7.5' Depth (Appendix H)	Encase*	Encase*	Encase*	Encase*	Encase*	Encase*
Gravity Flows	Encase	Encase	Encase	Encase	Encase*	Encase*

\*NOTE: The District Permit Engineer may waive at his/her discretion the encasement requirement when warranted.

**UG 1. CASINGS:**

Casings should be steel conduit with a minimum inside diameter sufficiently larger than the outside diameter of the pipe or ducts to accommodate placement and removal. The casing can be either new or used steel pipe, or an approved connector system. Used pipe shall be pre-approved by the Department's engineer or representative before installation.

When the method of Horizontal Directional Drilling is used to place casing, the use of High Density Polyethylene Pipe (HDPE) as casing is acceptable. In specific instances the approval of Headquarters Office of Encroachment Permits, may be required.

Reinforced Concrete Pipe (RCP) in compliance of State Standard Specifications is an acceptable carrier for storm drain gravity flow or non-pressure flow. RCP when installed by Bore & Jack shall have rubber gaskets at the joints, and holes for grouting of voids left by jacking operations, see "E" below.

- A. All pipes 6" or larger in diameter, or placement of multiple pipes or ducts, regardless of diameters, shall require encasement.
- B. Minimum wall thickness for steel pipe casing for different lengths and diameters of pipes are as follows:

Casing Pipe (Diameter)	Minimum Wall Thickness	
	Up to 150 ft (Length)	Over 150 ft (Length)
6" to 28"	1/4"	1/4"
30" to 38"	3/8"	1/2"
40" to 60"	1/2"	3/4"
62" to 72"	3/4"	3/4"

- C. Spiral welded casing is authorized provided the casing is new and the weld is smooth.

- D. The ends of the casing shall be plugged with ungrouted bricks or other suitable material approved by the Department's representative.
- E. When required by the Department's representative, the permittee shall at his expense, pressure grout the area between the casing and the pavement and the casing from within the casing in order to fill any voids caused by the work covered under this permit. The increments for grout holes inside the pipe shall be 8' staggered and located 22-1/2 degrees from vertical axis of the casing. Pressure shall not exceed 5 psig for a duration sufficient to fill all voids.
- F. There is a spacing requirement when placement of multiple encasements is requested. The distance between multiple encasements shall be the greater of either 24" or twice that of the diameter of the larger pipe being installed.
- G. The casings placed within freeway right-of-way shall extend to the access control lines.
- H. Wing cutters, if used, shall be a maximum of 1" larger than the casing. Voids caused by the use of wing cutters shall be grouted in accordance with "E" above.
- I. A band welded to the leading edge of the casing should be placed square to the alignment. The band should not be placed on the bottom edge. Flaring the lead section on bores over 100' shall not be permitted.
- J. All casing lengths shall equal to the auger length.
- K. The casings within conventional highways shall extend 5' beyond the back of curb or edge of pavement, or to the right of way line if less. Where PCC cross-gutter exists, the casing shall extend at least 5' beyond the back of the cross-gutter, or to the right of way line if less.

**Bore and receiving pits shall be:**

- A. Located at least 10' or more from the edge of pavement on conventional highways in rural areas.
- B. Located 5' behind the concrete curb or AC dike on conventional highways in urban areas.
- C. Located 5' outside the toe of slope of embankment areas.

- D. Located outside freeway right of way.
- E. Adequately fenced and/or have a Type-K barrier placed around them.
- F. Adequately shored in accordance with Cal-OSHA requirements. Shoring for jacking and receiving pits located within 15' of traffic lanes on a State highway shall not extend more than 36" above the pavement grade unless otherwise authorized by Department's representative. Reflectors shall be affixed to the shoring on the sides facing traffic. A 6' chain link fence shall be installed around the perimeter of the pits during non-working hours.
- G. All pits should have crushed-rock and sump areas to clear groundwater and water used to clean the casing. Where ground water is found and pumping is required, the pits shall be lined with filter fabric.

**UG 2. DIRECTIONAL DRILLING:  
Bore and Receiving Pits**

When directional drilling is the approved method for pipe installation, drilling plans shall contain information listed as follows:

1. Location of entry and exit point, access pit, equipment, and pipe staging area.
2. Proposed drill path alignment (horizontal and vertical).
3. Location and clearances of all other facilities.
4. Depth of cover.
5. Soil analysis.\*
6. Carrier pipe length, diameter, thickness, and material (HDPE/steel) and ream pipe diameter.
7. Detailed carrier pipe calculations confirming ability to withstand installation loads and long term operational loads including H2O.
8. Proposed drilling fluid composition, viscosity, and density (based on soils analysis).
9. Drilling fluid pumping capacity, pressures, and flow rates
10. State right-of-way lines, property, and utility right of way or easement lines.
11. Elevations.
12. Type of tracking method/system and accuracy used.
13. A detailed plan for monitoring ground surface movement (settlement or heave) resulting from the drilling operation.

\* May be waived by the District Permit Engineer for HDD jobs less than 6" in diameter and a traverse crossing less than 150'.

**UG 3. LIMIT OF EXCAVATION:**

No excavation is allowed within 10' from the edge of pavement except in curbed urban areas or as specified in the permit. Where no curb exists and excavations within 10' of the traveled way are to remain open, a temporary Type-K railing shall be placed at a 20:1 taper or as otherwise directed by the Department.

**UG 4. TUNNELING:**

Review, requirements of Section 623.6 of the Encroachment Permits Manual, if applicable. In addition to the requirements of "UG1" the following requirements apply:

- A. For the purpose of this provision, a tunnel is defined as any pipe, 30" or larger in diameter placed.
- B. When tunneling is authorized, the permittee shall provide full-time inspection of tunneling operations. The Department's representative shall monitor projects.

- C. A survey grid shall be set and appropriately checked over the centerline of the pipe jacking or tunneling operation. Copies of the survey notes shall be submitted to the Department's representative.
- D. Sand shields may be required as ground conditions change.
- E. The method used to check the grade and alignment shall be approved by the Department's representative.
- F. Pressure grouting for liner plates, rib and spiling, or rib and lagging tunnels shall be at every 8' section or at the end of work shift before the next section is excavated. All grouting shall be completed at the end of each workday.
- G. A method for securing the headway at the end of each workday is required. Breastplates shall be installed during working hours for running sand or super-saturated soil.

**UG 5. HIGH AND LOW RISK FACILITIES:**

High and Low Risk Facilities, as defined in the Department's current Manual on High and Low Risk Underground Facilities, shall be installed with a minimum cover of 42".

**UG 6. EXEMPT AND OTHER UNDERGROUND FACILITIES:**

**A. Exempt Facilities:**

1. Gas service lines no larger than 2" in diameter or operating at 60 psig or less.
2. Underground electrical service conductors with a potential to ground of 300 volts or less.
3. Departmental owned electrical systems.

**B. All facilities other than high and low risk shall have a minimum cover of 36" except for service connections, which shall have a minimum cover of 30".**

**UG 7. DETECTOR STRIP:**

A continuous metallic detector strip shall be provided with non-metallic main installations. Service connections shall be installed at right angles to the centerline of the State highway where possible.

**UG 8. BACKFILLING:**

All backfilling shall conform to the applicable sections of the Department's Standard Specifications. Ponding or jetting methods of backfilling is prohibited.

Any required compaction tests shall be performed by a certified laboratory at no cost to the Department and the laboratory report furnished to the Department's representative.

**UG 9. ROADWAY SURFACING AND BASE MATERIALS:**

When the permit authorizes installation by the open cut method, surfacing and base materials and thickness thereof shall be as specified in the permit.

Temporary repairs to pavements shall be made and maintained upon completion of backfill until permanent repairs are made. Permanent repairs to pavements shall be made within thirty (30) days of completion of backfill unless otherwise specified by the Department. Temporary pavement patches shall be placed and maintained in a smooth riding plane free of humps and/or depressions.

**UG 10. DAMAGE TO TREE ROOTS:**

No tree roots over 3" will be cut within the tree drip line when trenching or other underground work is necessary adjacent to roadside trees. The roots that are 3" or more in diameter inside the tree drip line shall be tunneled under and wrapped in burlap and kept moist until the trench is refilled. Trenching machines may not be used under trees if the trunk or limbs will be damaged by their use.

If the trees involved are close together and of such size that it is impractical to protect all roots over 3" in diameter, or when roots are less than 4" in diameter, outside tree drip line, special arrangements may be made whereby pruning of the tree tops to balance the root loss can be done by the permittee under the close supervision of the District Landscape Specialist or District Tree Maintenance Supervisor. Manholes shall not be installed within 20' of any trunk.

**UG 11. PIPES ALONG ROADWAY:**

Pipes and conduits paralleling the pavement shall be located as shown on the plans or located outside of pavement as close as possible to the right-of-way line.

**UG 12. BORROW AND WASTE:**

Borrow and waste will be allowed within the work limits only as specified in the permit.

**UG 13. MARKERS:**

The permittee shall not place any markers that create a safety hazard for the traveling public or departmental employees.

**UG 14. CATHODIC PROTECTION:**

The permittee shall perform stray current interference tests on underground utilities under cathodic protection. The permittee shall notify the Department prior to the tests. The permittee shall perform any necessary corrective measures and advise the Department.

**UG 15. TIE-BACKS:**

- A. Tie-backs shall be placed for the sole purpose of supporting shoring and/or soldier piles placed outside State highway rights-of-way to facilitate permittee's excavation.
- B. Tiebacks shall be disconnected from the shoring and/or soldier piles one (1) year prior to releasing the bond.

**UG 16. INSTALLATION BY OPEN CUT METHOD:**

When the permit authorizes installation by the open cut method no more than one lane of the highway pavement shall be open-cut at any one time. Any exceptions shall be in writing by the Department's representative. After the pipe is placed in the open section, the trench is to be backfilled in accordance with specifications, temporary repairs made to the surfacing and that portion opened to traffic before the pavement is cut for the next section.

If, at the end of the working day, backfilling operations have not been properly completed, steel plate bridging shall be required to make the entire highway facility available to the traveling public in accordance with the Steel Plate Bridging Special Provisions (TR-0157)

**UG 17. PAVEMENT REMOVAL:**

PCC pavement to be removed shall be saw cut at a minimum depth of 4" to provide a neat and straight pavement break along both sides of the trench. AC pavement shall be saw cut to the full depth.

Where the edge of the trench is within 2' of existing curb and gutter or pavement edge, the asphalt concrete pavement between the trench and the curb or pavement edge shall be removed.

**UG 18. MAINTAIN ACCESS:**

Where facilities exist (sidewalks, bike paths), a minimum width of 4' shall be maintained at all times for safe pedestrian and bicyclist passage through the work area.

**UG 19. SIDES OF OPEN-CUT TRENCHES:**

Sides of open cut trenches in paved areas shall be kept as nearly vertical as possible. Trenches shall not be more the 2' wider than the outside diameter of the pipe to be laid therein, plus the necessary width to accommodate shoring.

**UG 20. EXCAVATION UNDER FACILITIES:**

Where it is necessary to excavate under existing curb and gutter, or underground facilities, the void shall be backfilled with two (2) sack cement-sand slurry.

**UG 21. PERMANENT REPAIRS TO PCC PAVEMENT:**

Repairs to PCC pavement shall be made of Portland Cement Concrete containing a minimum of 658 lbs. or 7 sack of cement per cubic yard. Replaced PCC pavement shall equal existing pavement thickness. The concrete shall be satisfactorily cured and protected from disturbance for not less than forty-eight (48) hours. Where necessary to open the area to traffic, no more than two (2%) percent by weight of calcium chloride may be added to the mix and the road opened to traffic after six (6) hours.

**UG 22. REMOVAL OF PCC SIDEWALKS OR CURBS:**

Concrete sidewalks or curbs shall be saw cut to the nearest score marks and replaced equal in dimension to that removed with score marks matching existing sidewalk or curb.

**UG 23. SPOILS:**

No earth or construction materials shall be dragged or scraped across the highway pavement, and no excavated earth shall be placed or allowed to remain at a location where it may be tracked on the highway traveled way, or any public or private approach by the permittee's construction equipment, or by traffic entering or leaving the highway traveled way. Any excavated earth or mud so tracked onto the highway pavement or public or private approach shall be immediately removed by the permittee.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**ENCROACHMENT PERMIT STEEL PLATE BRIDGING UTILITY PROVISIONS**

TR-0157 (Rev. 07/2009)

To accommodate excavation work, steel plate bridging may be necessary. All conditions for use of steel plate bridging should be set forth in the special provisions.

Consideration of steel plate bridging should take into account the following factors:

1. Traffic speed
2. Traffic Volume and Composition
3. Duration and dimensions (width & daily estimated lengths) of the proposed excavation
4. Weather conditions

When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring (see Trenching & Shoring) may be required to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

1. Steel plate bridging on freeways is not allowed.
2. Steel plates used for bridging must extend a minimum of 12" beyond the edges of the trench.
3. Steel plate bridging shall be installed to operate with minimum noise.
4. The trench shall be adequately shored, (as mentioned in Section 624.2 of the Encroachment Permits Manual) to support the bridging and traffic loads.
5. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method (2) described below, is used.
6. Bridging shall be secured against displacement by using adjustable cleats, shims, or other devices.

As required by the district, steel plate bridging and shoring shall be installed using either Method (1) or (2):

**Method 1** For speeds of 45 MPH or greater:

The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate.

Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of 2 dowels pre-drilled into the corners of the plate and drilled 2" into the pavement. Subsequent plates are to be butted and tack welded to each other.

**Method 2** For Speeds less than 45 mph:

Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of 2 dowels pre-drilled into the corners of the plate and drilled 2" into the pavement. Subsequent plates are to be butted and tack welded to each other. Fine graded asphalt concrete shall be compacted to form ramps, maximum slope 8.5 % with a minimum 12" taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fines of asphalt concrete mix, concrete slurry, epoxy or an equivalent that is satisfactory to the Caltrans representative.

The permittee is responsible for maintenance of the steel plates, shoring, asphalt concrete ramps, and ensuring that they meet minimum specifications. Unless specifically noted or granted in the special provisions, or approved by the State representative, steel plate bridging shall not exceed 4 consecutive working days in any given week. Backfilling of excavations shall be covered with a minimum 3" temporary layer of cold asphalt concrete.

The following table shows the advisory minimal thickness of steel plate bridging required for a given trench width (A-36 grade steel, designed for HS20-44 truck loading per Caltrans Bridge Design Specifications Manual).

Trench Width	Minimum Plate Thickness
10"	One-half inch - ½"
1'-11"	Three-quarters inch - ¾"
2'-7"	Seven-eighths inch - 7/8"
3'-5"	One inch - 1"
5'-3"	One & three-quarter inch - 1 ¾"

NOTE: For spans greater than 5'-3", a structural design shall be prepared by a California registered civil engineer.

All steel plates within the right of way whether used in or out of the traveled way shall be without deformation. Inspectors can determine the trueness of steel plates by using a straight edge and should reject any plate that is permanently deformed.

Steel plates used in the traveled portion of the highway shall have a surface that was manufactured with a nominal Coefficient Of Friction (COF) of 0.35 as determined by California Test Method 342 (See Appendix H, Encroachment Permits Manual). If a different test method is used, the permittee may utilize standard test plates with known coefficients of friction available from each Caltrans District Materials Engineer to correlate skid resistance results to California Test Method 342. Based on the test data, the permittee shall determine what amount of surface wear is acceptable, and independently ascertain when to remove, test, or resurface an individual plate.

Caltrans Inspectors should not enforce plate removal unless it is permanently deformed or delivered without the required surfacing. However, an inspector should document in a diary all contacts with the contractor.

A Rough Road sign (W8-8) with black lettering on an orange background may be used in advance of steel plate-bridging. This sign is used along with any other required construction signing.

Surfacing requirements are not necessary for steel plates used in parking strips, on shoulders not used for turning movements, or on connecting driveways, etc., not open to the public.

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

## LEGEND

- TRAFFIC CONE
- ⚡ TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

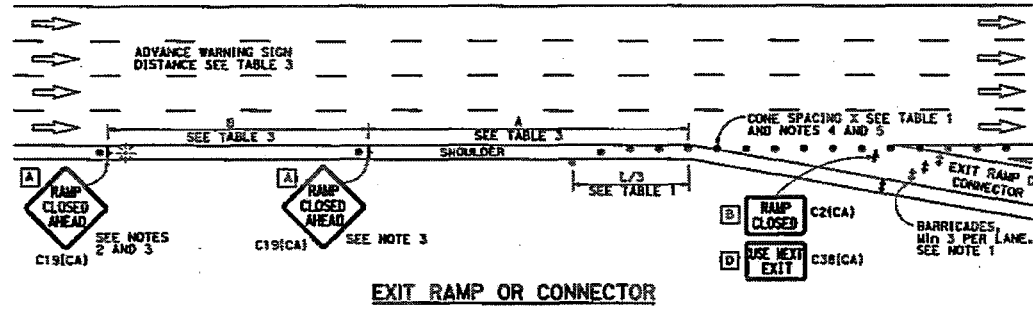
SHEET NO.	COUNTY	ROUTE	PROJECT	TOTAL SHEETS

REGISTERED CIVIL ENGINEER  
 APRIL 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA BY ITS OFFICERS  
 AND AGENTS SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF DRAWN  
 COPIES OF THIS PLAN SHEET.

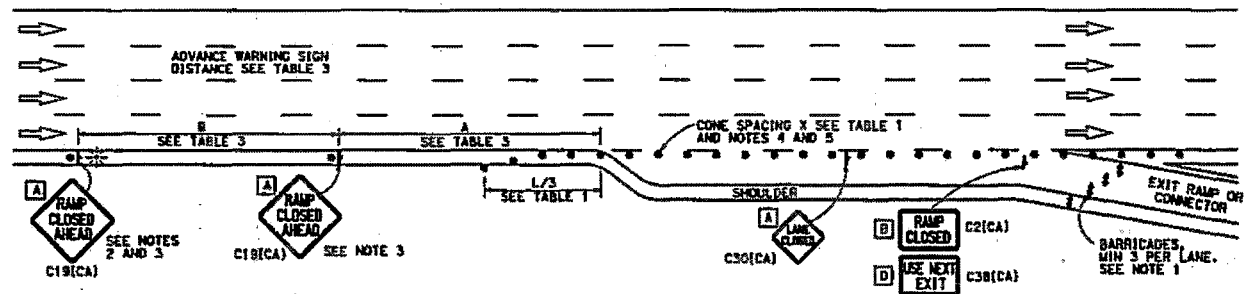
## NOTES:

- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black or orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at pre-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

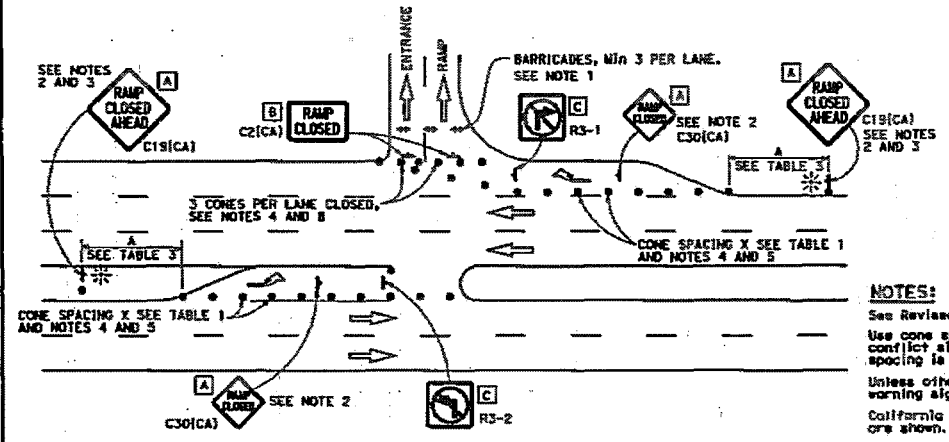
2010 REVISED STANDARD PLAN RSP T14



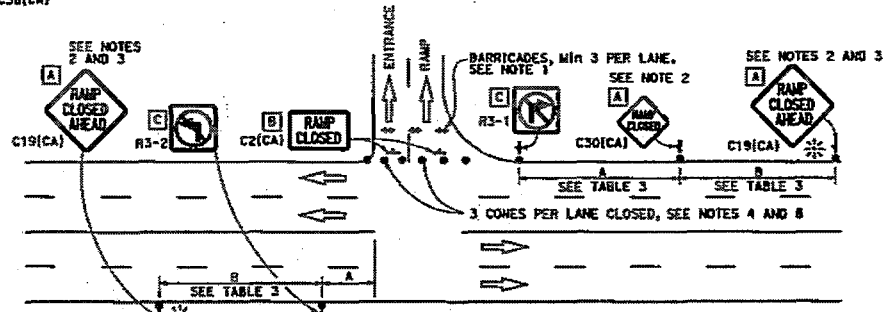
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

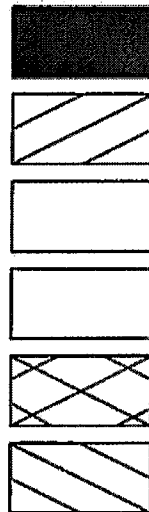
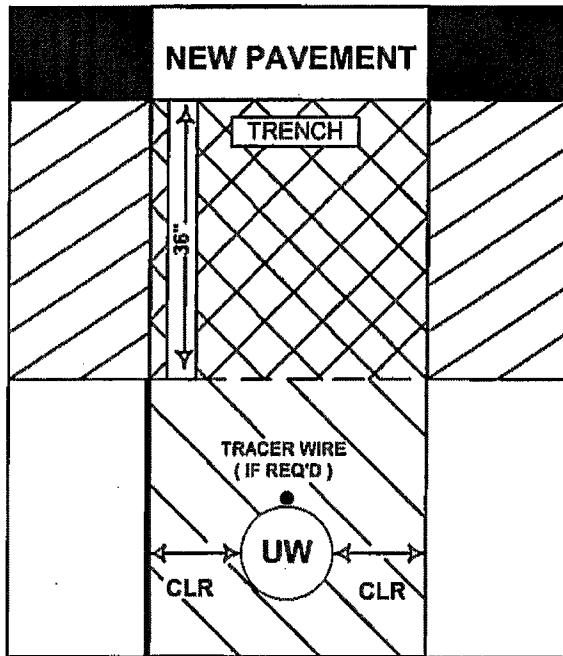
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14  
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP T14**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**ENCROACHMENT PERMIT TRENCH DETAIL**

TR-0153\* (REV. 09/2006)

**TYPICAL TRENCH DETAIL**



Existing Pavement  
 ( Existing HMA Pavement )

Existing Base

Existing Subgrade

New Pavement  
 ( New HMA Pavement )  
 match existing + 1" - ( MAX 7" )

New Pavement Base

New Subgrade

UW - Width of Utility or Culvert      HMA - Hot Mix Asphalt  
 CLR - Clearance between product and trench wall      TW - Trench Width  
 CLSM - Controlled Low Strength Material

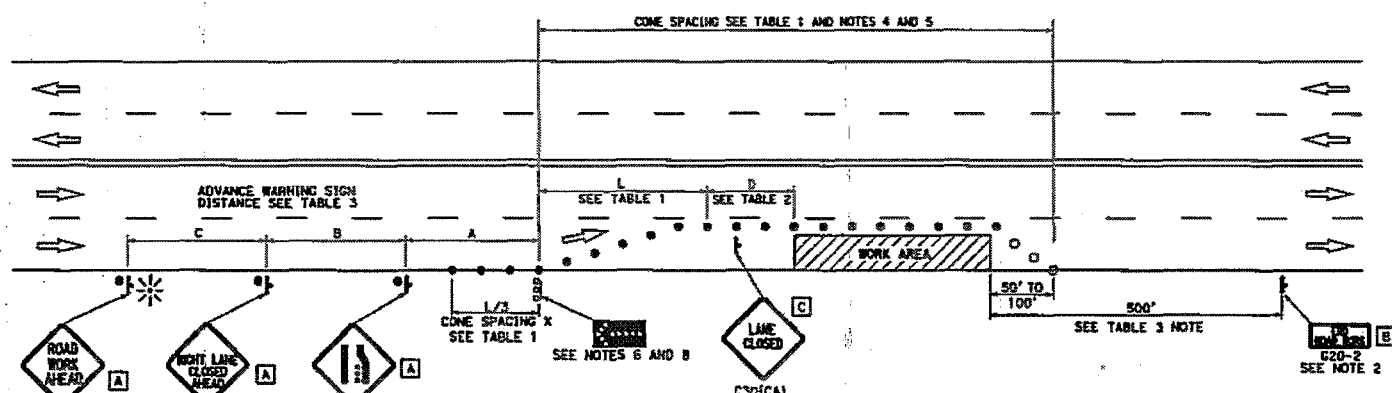
- STRUCTURE BACKFILL SHALL CONFORM TO SECTION 19 - 3.06 OF THE STANDARD SPECIFICATIONS
- SLURRY CEMENT BACKFILL SHALL CONFORM TO SECTION 19 - 3.062 OF THE STANDARD SPECIFICATIONS
- HMA SHALL CONFORM TO SECTION 39 OF THE STANDARD SPECIFICATIONS
- ALL METHODS OF COMPACTION SHALL BE BY MECHANICAL MEANS. PONDING, JETTING OR FLOODING SHALL NOT BE ALLOWED.
- AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STANDARD SPECIFICATIONS
- WHEN CLSM IS UTILIZED THE MIX DESIGN AND TEST RESULTS SHALL BE SUBMITTED TO THE STATE'S REPRESENTATIVE.
- ALL WORK SHALL BE AS AUTHORIZED BY THE APPROVED ENCROACHMENT PERMIT PLANS, AND/OR AS DIRECTED BY THE STATE'S REPRESENTATIVE.
- WHEN THE UW IS  $\geq 6"$  THEN THE MINIMUM CLR SHALL BE 6"
- COLD PLANING AND RE-SURFACING OVERLAY SHALL BE PARALLEL TO THE ROADWAY AND TO THE NEAREST LANE LINE FOR THE ENTIRE LENGTH OF THE TRENCH/DISTURBED AREAS, AND/OR AS DIRECTED BY THE STATE'S REPRESENTATIVE.
- WHEN COLD PLANING IS REQUIRED, THE MINIMUM SHALL BE 0.10' OR AS DIRECTED BY THE STATE'S REPRESENTATIVE TO ACCOMMODATE FIELD CONDITIONS.
- COLD PLANING MAY BE REQUIRED AT THE DIRECTION OF THE STATE'S REPRESENTATIVE TO ACCOMMODATE THE PLACEMENT OF STEEL PLATES.
- WHEN TRENCH PLACEMENT IS WITHIN 4' OF CURB & GUTTER, ADDITIONAL COLD PLANING MAY BE REQUIRED AT THE DISCRETION OF THE STATE'S REPRESENTATIVE.
- ANY PAVEMENT MARKINGS AND/OR STRIPING REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AS DIRECTED BY THE STATE'S REPRESENTATIVE.
- A TRACER WIRE SHALL BE PLACED ON TOP OF THE FACILITY, WHEN REQUIRED BY THE STATE'S REPRESENTATIVE.
- OTHER TRENCH RELATED DETAILS ARE SHOWN IN FIGURE 6.1, CHAPTER 6 OF THE ENCROACHMENT PERMITS MANUAL.
- A PAINT BINDER (TACK COAT) OF ASPHALTIC EMULSION CONFORMING TO SECTION 39-4.02, PRIME COAT & PAINT BINDER (TACK COAT) SHALL BE FURNISHED AND APPLIED.
- NEW PAVEMENT BASE SHALL CONSIST OF EITHER CL. II AGGREGATE BASE, 2-SACK SLURRY CEMENT, OR CLSM. WHEN TW IS  $< 24"$  CL. II AGGREGATE BASE IS NOT RECOMMENDED FOR BACKFILL.
- NEW SUBGRADE SHALL CONSIST OF EITHER CL. II AGGREGATE BASE, 2-SACK SLURRY CEMENT, OR CLSM. WHEN TW IS  $< 24"$  CL. II AGGREGATE BASE IS NOT RECOMMENDED FOR BACKFILL.

DATE	COUNTY	ROUTE	COST	DATE	DATE	DATE

REGISTERED CIVIL ENGINEER

April 19, 2013  
 PLANS APPROVAL DATE  
 THE SIGNING OF THESE PLANS OR ANY PART THEREOF  
 OR ANY PART THEREOF SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF NUMBER  
 COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED \_\_\_\_\_



**TYPICAL LANE CLOSURE**

**NOTES:**

See Revised Standard Plan RSP T9 for tables.  
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.  
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background. California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

**NOTES:**

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be of least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)R and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

**LEGEND**

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- ▬ FAS SUPPORT OR TRAILER
- ★ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"


STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURE ON  
 MULTILANE CONVENTIONAL  
 HIGHWAYS**  
 NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11



STATE	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
					
July 19, 2013 PLANS EXPIRATION DATE					
<small>THE STATE IS GUARANTEEING THE ACCURACY OF THESE TABLES ONLY TO THE EXTENT OF COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

TO ACCOMPANY PLANS DATED \_\_\_\_\_

TABLE 1

SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1000	500	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

\* - For other offsets, use the following merging taper length formula for L:  
 For speed of 40 mph or less,  $L = 85^2/60$   
 For speed of 45 mph or more,  $L = 85$

where L = Taper length in feet

W = Width of offset in feet

S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Longitudinal buffer space or flagger station spacing

\*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 MPH OR LESS	100	100	100
URBAN - MORE THAN 25 MPH TO 40 MPH	250	250	250
URBAN - MORE THAN 40 MPH	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

\* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

2010 REVISED STANDARD PLAN RSP T9

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM TABLES  
 FOR LANE AND RAMP CLOSURES**

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2011  
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T9**



LIMITS OF WORK

LIMITS OF WORK

SHEET NO.	DISCIPLINE CODE	TITLE	PIPE SIZE OR	MATERIAL	LENGTH (FT)
1	C-1	COVER SHEET			
2	C-2	LIMITS OF WORK			
3	C-3	LET MAP			
4	C-4	LET MAP			
5	C-1	W. MASSON BAY DR	6"/2	PVC	565.25/68
6	C-2	W. MASSON BAY DR/ GLENNON RD	6"/2	PVC	800/200
7	C-3	W. MASSON BAY DR	6"/2	PVC	400/0
8	C-4	W. MASSON BAY DR	6"/2	PVC	305.35/40.4
9	C-5	W. MASSON BAY DR	6"/2	PVC	121.30/74.0
10	C-6	W. MASSON BAY DR	6"/2	PVC	700
11	C-7	W. MASSON BAY DR/ DANIEL ACCESS	6"/2	PVC	400/281.5
12	C-8	W. MASSON BAY DR	6"/2	PVC	500
13	C-9	W. MASSON BAY DR	6"/2	PVC	553.4
14	C-10	W. MASSON BAY DR	6"/2	PVC	474.17/297.22
15	C-11	W. MASSON BAY DR	6"/2	PVC	483.78/337.67/78
16	C-12	W. MASSON BAY DR	6"/2	PVC	100/93.07
17	C-13	W. MASSON BAY DR	6"/2	PVC	100/93.07
18	C-14	W. MASSON BAY DR	6"/2	PVC	100/93.07
19	C-15	W. MASSON BAY DR	6"/2	PVC	100/93.07
20	C-16	W. MASSON BAY DR	6"/2	PVC	100/93.07
21	C-17	W. MASSON BAY DR	6"/2	PVC	100/93.07
22	C-18	W. MASSON BAY DR	6"/2	PVC	100/93.07
23	C-19	W. MASSON BAY DR	6"/2	PVC	100/93.07
24	C-20	W. MASSON BAY DR	6"/2	PVC	100/93.07
25	C-21	W. MASSON BAY DR	6"/2	PVC	100/93.07
26	C-22	W. MASSON BAY DR	6"/2	PVC	100/93.07
27	C-23	W. MASSON BAY DR	6"/2	PVC	100/93.07
28	C-24	W. MASSON BAY DR	6"/2	PVC	100/93.07
29	C-25	W. MASSON BAY DR	6"/2	PVC	100/93.07
30	C-26	W. MASSON BAY DR	6"/2	PVC	100/93.07
31	C-27	W. MASSON BAY DR	6"/2	PVC	100/93.07
32	C-28	W. MASSON BAY DR	6"/2	PVC	100/93.07
33	C-29	W. MASSON BAY DR	6"/2	PVC	100/93.07
34	C-30	W. MASSON BAY DR	6"/2	PVC	100/93.07
35	C-31	W. MASSON BAY DR	6"/2	PVC	100/93.07
36	C-32	W. MASSON BAY DR	6"/2	PVC	100/93.07
37	C-33	W. MASSON BAY DR	6"/2	PVC	100/93.07
38	C-34	W. MASSON BAY DR	6"/2	PVC	100/93.07
39	C-35	W. MASSON BAY DR	6"/2	PVC	100/93.07
40	C-36	W. MASSON BAY DR	6"/2	PVC	100/93.07
41	C-37	W. MASSON BAY DR	6"/2	PVC	100/93.07
42	C-38	W. MASSON BAY DR	6"/2	PVC	100/93.07
43	C-39	W. MASSON BAY DR	6"/2	PVC	100/93.07
44	C-40	W. MASSON BAY DR	6"/2	PVC	100/93.07
45	C-41	W. MASSON BAY DR	6"/2	PVC	100/93.07
46	C-42	W. MASSON BAY DR	6"/2	PVC	100/93.07
47	C-43	W. MASSON BAY DR	6"/2	PVC	100/93.07
48	C-44	W. MASSON BAY DR	6"/2	PVC	100/93.07
49	C-45	W. MASSON BAY DR	6"/2	PVC	100/93.07
50	C-46	W. MASSON BAY DR	6"/2	PVC	100/93.07
51	C-47	W. MASSON BAY DR	6"/2	PVC	100/93.07
52	C-48	W. MASSON BAY DR	6"/2	PVC	100/93.07
53	C-49	W. MASSON BAY DR	6"/2	PVC	100/93.07
54	C-50	W. MASSON BAY DR	6"/2	PVC	100/93.07
55	C-51	W. MASSON BAY DR	6"/2	PVC	100/93.07
56	C-52	W. MASSON BAY DR	6"/2	PVC	100/93.07
57	C-53	W. MASSON BAY DR	6"/2	PVC	100/93.07
58	C-54	W. MASSON BAY DR	6"/2	PVC	100/93.07
59	C-55	W. MASSON BAY DR	6"/2	PVC	100/93.07

SHEET NO.	DISCIPLINE CODE	TITLE	PIPE SIZE OR	MATERIAL	LENGTH (FT)
1	C-1	COVER SHEET			
2	C-2	LIMITS OF WORK			
3	C-3	LET MAP			
4	C-4	LET MAP			
5	C-1	W. MASSON BAY DR	6"/2	PVC	565.25/68
6	C-2	W. MASSON BAY DR/ GLENNON RD	6"/2	PVC	800/200
7	C-3	W. MASSON BAY DR	6"/2	PVC	400/0
8	C-4	W. MASSON BAY DR	6"/2	PVC	305.35/40.4
9	C-5	W. MASSON BAY DR	6"/2	PVC	121.30/74.0
10	C-6	W. MASSON BAY DR	6"/2	PVC	700
11	C-7	W. MASSON BAY DR/ DANIEL ACCESS	6"/2	PVC	400/281.5
12	C-8	W. MASSON BAY DR	6"/2	PVC	500
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15	C-11	W. MASSON BAY DR	6"/2	PVC	483.78/337.67/78
16	C-12	W. MASSON BAY DR	6"/2	PVC	100/93.07
17	C-13	W. MASSON BAY DR	6"/2	PVC	100/93.07
18	C-14	W. MASSON BAY DR	6"/2	PVC	100/93.07
19	C-15	W. MASSON BAY DR	6"/2	PVC	100/93.07
20	C-16	W. MASSON BAY DR	6"/2	PVC	100/93.07
21	C-17	W. MASSON BAY DR	6"/2	PVC	100/93.07
22	C-18	W. MASSON BAY DR	6"/2	PVC	100/93.07
23	C-19	W. MASSON BAY DR	6"/2	PVC	100/93.07
24	C-20	W. MASSON BAY DR	6"/2	PVC	100/93.07
25	C-21	W. MASSON BAY DR	6"/2	PVC	100/93.07
26	C-22	W. MASSON BAY DR	6"/2	PVC	100/93.07
27	C-23	W. MASSON BAY DR	6"/2	PVC	100/93.07
28	C-24	W. MASSON BAY DR	6"/2	PVC	100/93.07
29	C-25	W. MASSON BAY DR	6"/2	PVC	100/93.07
30	C-26	W. MASSON BAY DR	6"/2	PVC	100/93.07
31	C-27	W. MASSON BAY DR	6"/2	PVC	100/93.07
32	C-28	W. MASSON BAY DR	6"/2	PVC	100/93.07
33	C-29	W. MASSON BAY DR	6"/2	PVC	100/93.07
34	C-30	W. MASSON BAY DR	6"/2	PVC	100/93.07
35	C-31	W. MASSON BAY DR	6"/2	PVC	100/93.07
36	C-32	W. MASSON BAY DR	6"/2	PVC	100/93.07
37	C-33	W. MASSON BAY DR	6"/2	PVC	100/93.07
38	C-34	W. MASSON BAY DR	6"/2	PVC	100/93.07
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40	C-36	W. MASSON BAY DR	6"/2	PVC	100/93.07
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52	C-48	W. MASSON BAY DR	6"/2	PVC	100/93.07
53	C-49	W. MASSON BAY DR	6"/2	PVC	100/93.07
54	C-50	W. MASSON BAY DR	6"/2	PVC	100/93.07
55	C-51	W. MASSON BAY DR	6"/2	PVC	100/93.07
56	C-52	W. MASSON BAY DR	6"/2	PVC	100/93.07
57	C-53	W. MASSON BAY DR	6"/2	PVC	100/93.07
58	C-54	W. MASSON BAY DR	6"/2	PVC	100/93.07
59	C-55	W. MASSON BAY DR	6"/2	PVC	100/93.07

- DISCIPLINE CODE
- A ARCHITECTURAL
  - B CATHODIC PROTECTION
  - C CIVIL
  - D EDUCATION
  - E ELECTRICAL
  - F LANDSCAPE
  - G MECHANICAL
  - H PAVEMENT
  - I TRAFFIC SIGNAL
  - J TRAFFIC CONTROL

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 114NUL0655  
 Date: 7/15/15

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CAUTRANS-PERMIT

PERMIT NUMBER 8 PM 13  
 CO. SD. RTE. 8  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

STATE REPRESENTATIVE DATE

G-2

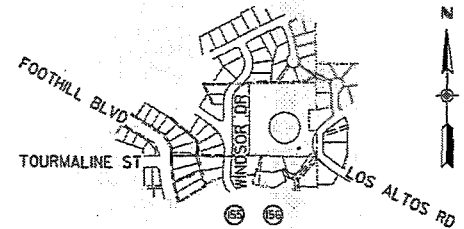
PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 LIMITS OF WORK

FOR CITY OF SAN DIEGO	DATE	BY
FOR CALTRANS	DATE	BY
FOR STATE OF CALIFORNIA	DATE	BY
FOR FEDERAL AGENCIES	DATE	BY
FOR LOCAL AGENCIES	DATE	BY
FOR OTHER AGENCIES	DATE	BY



**RICK M. WILLIAMS**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10000  
 STATE OF CALIFORNIA

PERMIT NUMBER  
 CO SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE DATE



RESERVOIR AREA  
 (2 MILES N NORTH OF CROWN POINT)

LEGEND

- PROP WATER MAIN -----
- PROP WATER MAIN SHEET (C)
- PROP SEWER MAIN -----
- PROP SEWER MAIN SHEET (S)

APPROVED ENCROACHMENT PERMIT PLAN

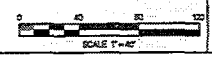
Permit No.: 1114 NM 701055  
 Date: 7/15/15

RECEIVED  
 JUL 02 2015  
 CALTRANS-PERMIT

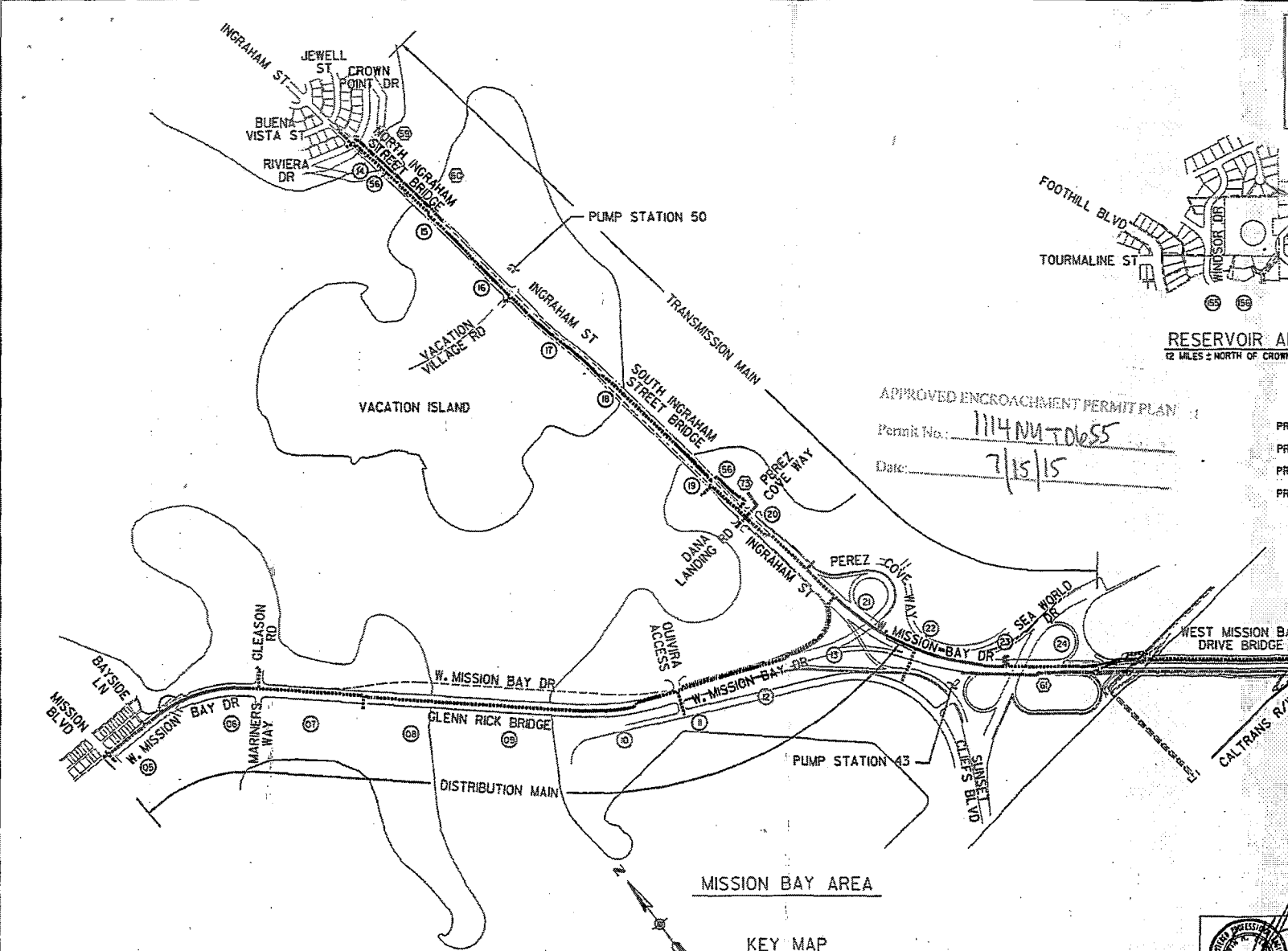
G-3

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 KEY MAP

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 3 OF 162 SHEETS		WATER SHEET S-12015
FOR CITY ENGINEER		SEWER SHEET E-12117
DATE	DATE	JUFE SORIANO PROJECT MANAGER
DESCRIPTION	DATE	JING DEBELISO PROJECT ENGINEER
ORIGINAL	BY	SEE SHEETS
REV	APPROVED (DATE)	SEE SHEETS
	BY	SEE SHEETS
	DATE	SEE SHEETS
CONTRACTOR	DATE STARTED	38005-03-D
INSPECTOR	DATE COMPLETED	



KEY MAP  
 NO SCALE

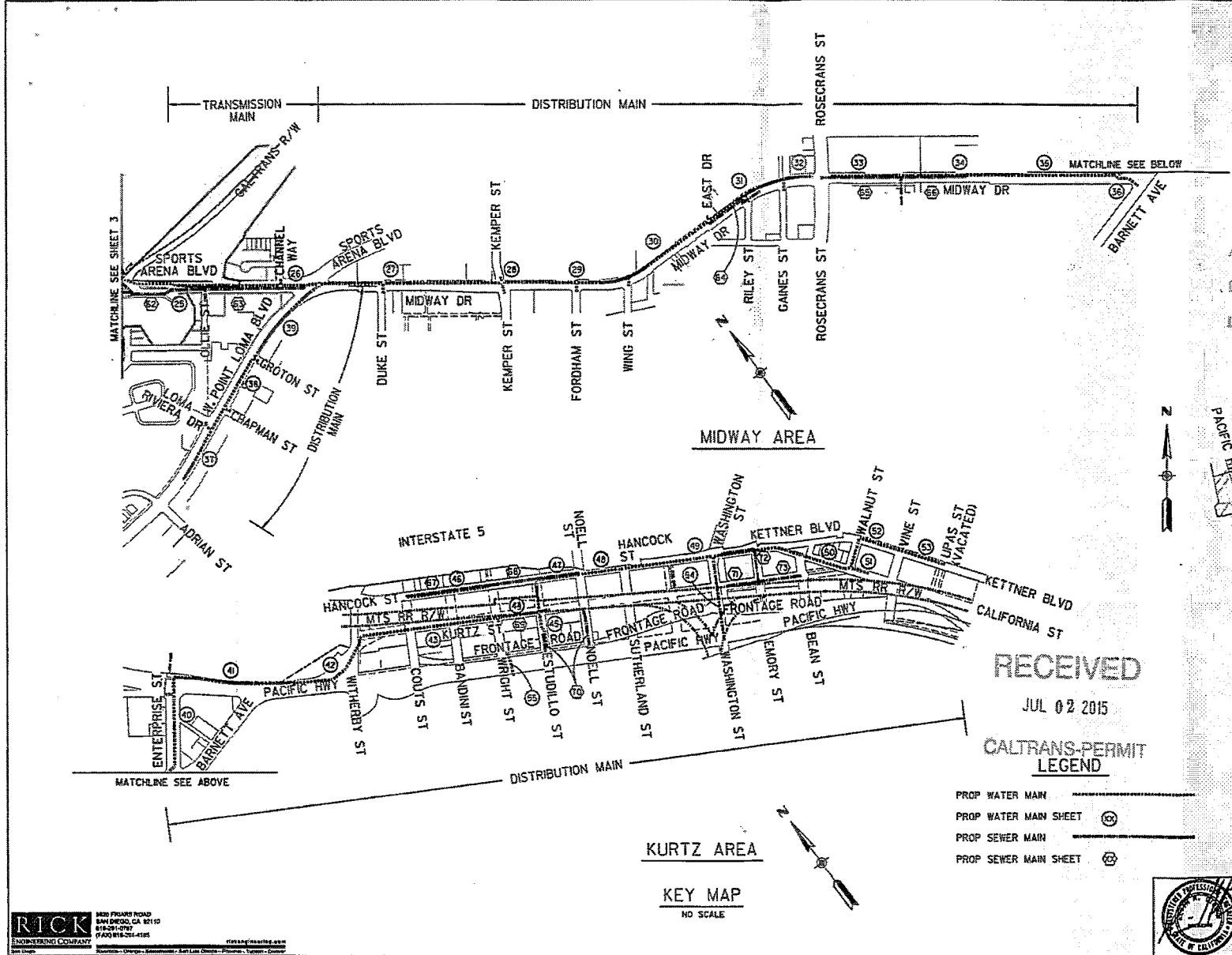
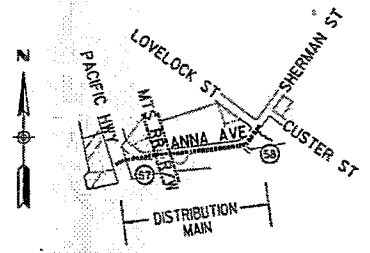


**RICK** ENGINEERING COMPANY  
 1825 FRANK ROAD  
 SAN DIEGO, CA 92112  
 619-291-9707  
 FAX 619-291-4183  
 rickengineering.com

KEY MAP

PERMIT NUMBER \_\_\_\_\_  
 CO. SD. RTE. B. PM. 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No.: 1114PUC065  
 Date: JUL 15 2015



RECEIVED  
 JUL 02 2015  
 CALTRANS-PERMIT  
 LEGEND

- PROP WATER MAIN \_\_\_\_\_
- PROP WATER MAIN SHEET ②
- PROP SEWER MAIN \_\_\_\_\_
- PROP SEWER MAIN SHEET ③

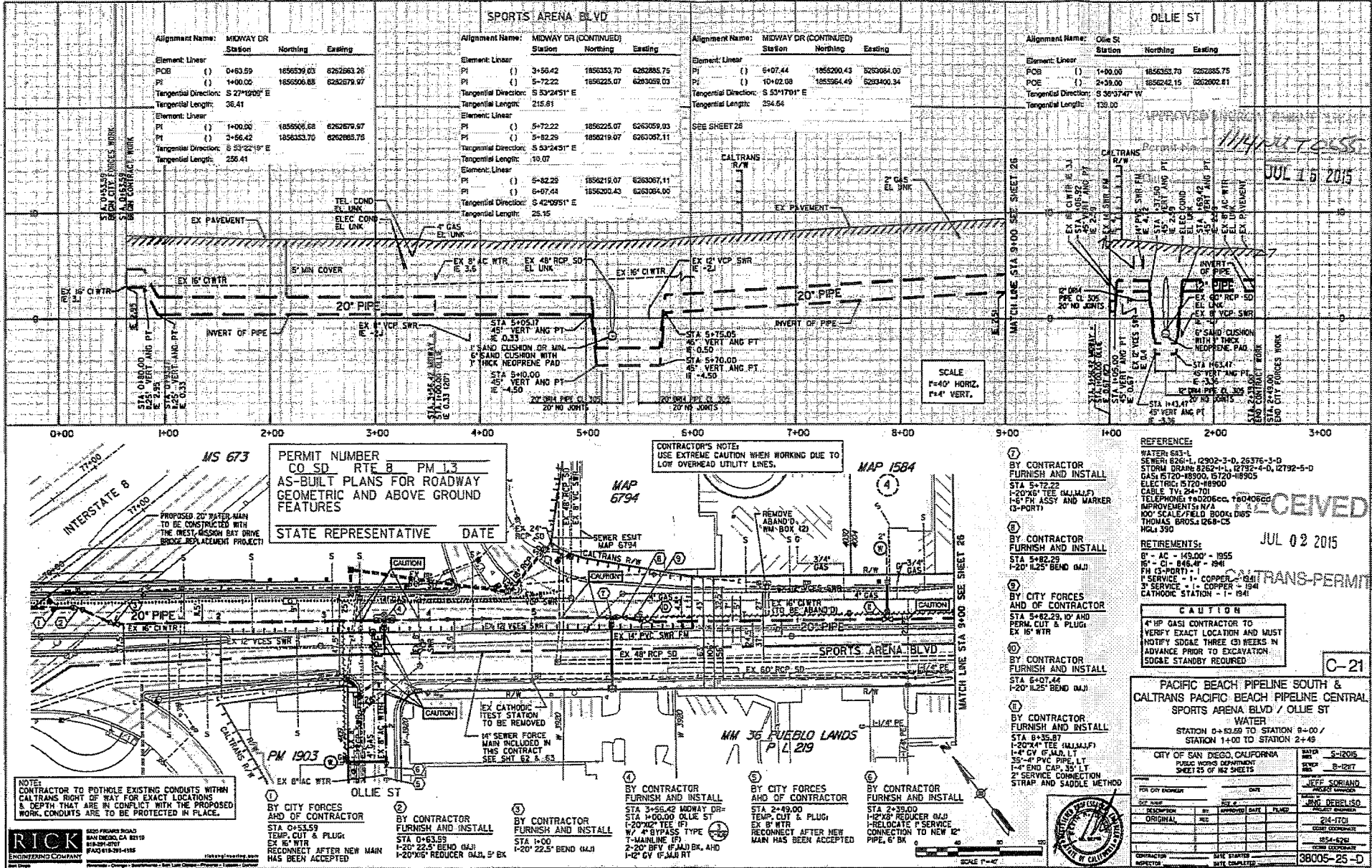
KEY MAP  
 NO SCALE

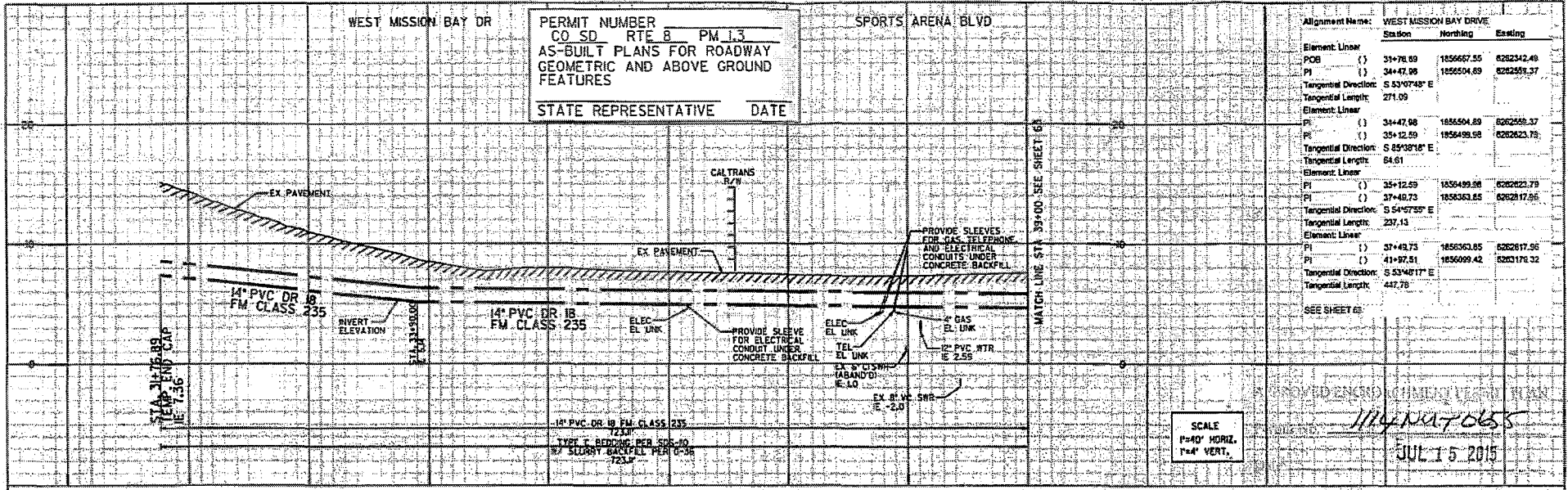
PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL			
KEY MAP			
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEETS 4 OF 162 SHEETS		SHEET NO. <b>S-205</b>	REV. NO. <b>B-1217</b>
FOR CITY ENGINEER		DATE	BY <b>JESU SORIANO</b> PROJECT ENGINEER
FOR CITY ENGINEER		DATE	BY <b>JESU SORIANO</b> PROJECT ENGINEER
DESCRIPTION	BY	APPROVED DATE	FILED
ORIGINAL	WES		
CONTRACTOR	DATE STARTED	DATE COMPLETED	<b>38005-04-D</b>
SUPERVISOR			



**RICK**  
 ENGINEERING COMPANY  
 4405 FRIARS ROAD  
 SAN DIEGO, CA 92110  
 619-591-0787  
 619-591-4185  
 rickeng.com

KEY MAP





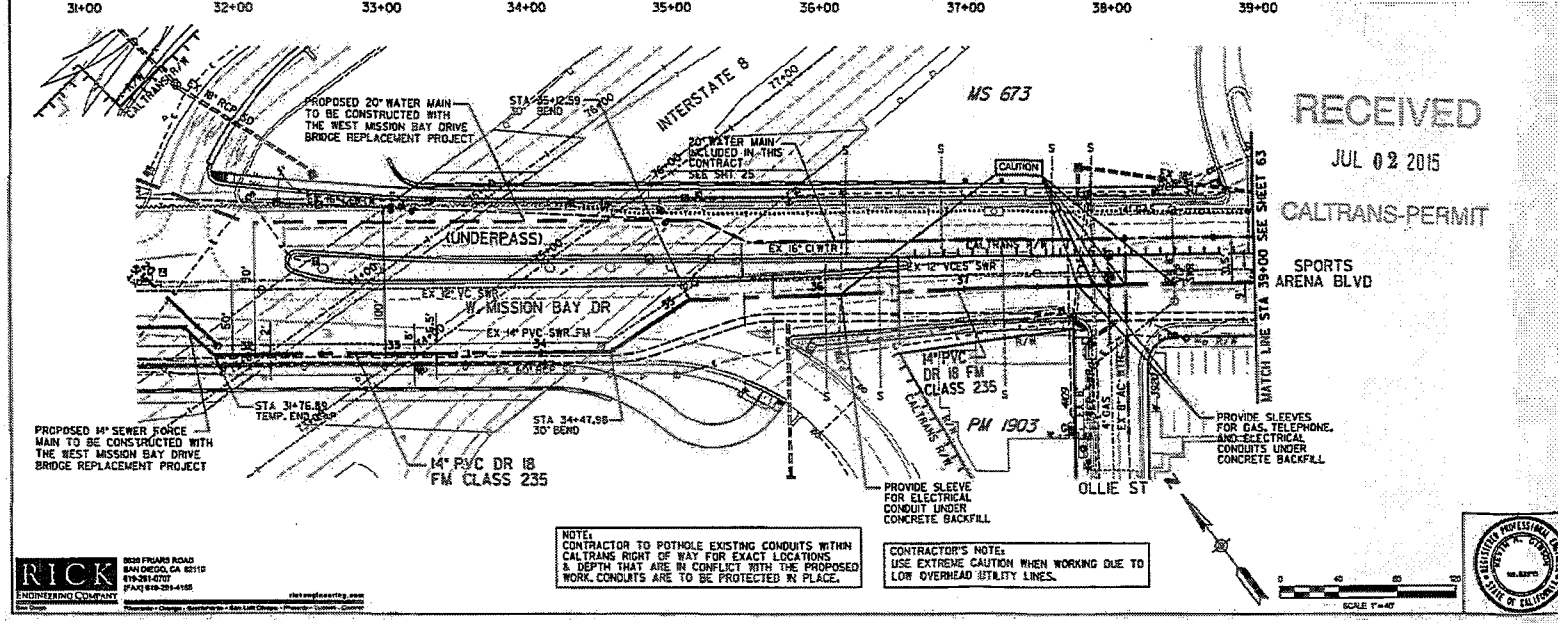
Alignment Name: WEST MISSION BAY DRIVE

Station	Northing	Easting
Element: Linear		
POB ( )	31+78.89	1856667.55
PI ( )	34+47.88	1856504.89
Tangential Direction:	S 53°07'48\" E	
Tangential Length:	271.09	
Element: Linear		
PI ( )	34+47.88	1856504.89
PI ( )	35+12.89	1856499.98
Tangential Direction:	S 85°38'18\" E	
Tangential Length:	84.61	
Element: Linear		
PI ( )	35+12.89	1856499.98
PI ( )	37+40.73	1856363.85
Tangential Direction:	S 54°07'59\" E	
Tangential Length:	237.13	
Element: Linear		
PI ( )	37+40.73	1856363.85
PI ( )	41+07.51	1856099.42
Tangential Direction:	S 53°48'17\" E	
Tangential Length:	447.78	

SEE SHEET 62

SCALE  
1\"/>

11/4/2017/0655  
JUL 15 2015



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JUL 02 2015  
CALTRANS PERMIT

REFERENCE:  
WATER: 5027-1, 683-1, 6747-W  
SEWER: 826-L, 800-L, 1610-D, 12902-3-D, 26376-4-D  
STORM DRAIN: 8262-1-L  
GAS: 6740-089-05  
ELECTRIC:  
CABLE: TW, 24-70J  
TELEPHONE: T40205b, T40206cb, T40406cc  
IMPROVEMENTS: N/A  
100' SCALE/FIELD BOOK: 0185  
THOMAS: BROS: 1268-C5  
MGL: 330

RETIREMENTS:  
N/A

**CAUTION**  
4\"/>

C-58

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL WEST MISSION BAY DR / SPORTS ARENA BLVD SEWER

STATION 31+78.89 TO STATION 39+00	
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 62 OF 162 SHEETS	
DATE PREPARED: 5-12-06	DATE CHECKED: 8-12-17
DATE DESIGNED: 5-12-06	DATE APPROVED: 8-12-17
DATE PLOTTED: 2/14/17	DATE PRINTED: 8/15/17
CONTRACTOR: 38005-62-D	DATE STARTED: 8/15/17
INSPECTOR: 38005-62-D	DATE COMPLETED: 8/15/17

NOTE:  
CONTRACTOR TO POTHOLE EXISTING CONDUITS WITHIN CALTRANS RIGHT OF WAY FOR EXACT LOCATIONS & DEPTH THAT ARE IN CONFLICT WITH THE PROPOSED WORK. CONDUITS ARE TO BE PROTECTED IN PLACE.

CONTRACTOR'S NOTE:  
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.

**RICK**  
ENGINEERING COMPANY  
3630 FIRLAND ROAD  
SAN DIEGO, CA 92118  
619-281-6707  
619-281-4158



WEST MISSION BAY DR / SPORTS ARENA BLVD





W. MISSION BAY DR / SPORTS ARENA BLVD (SEWER)

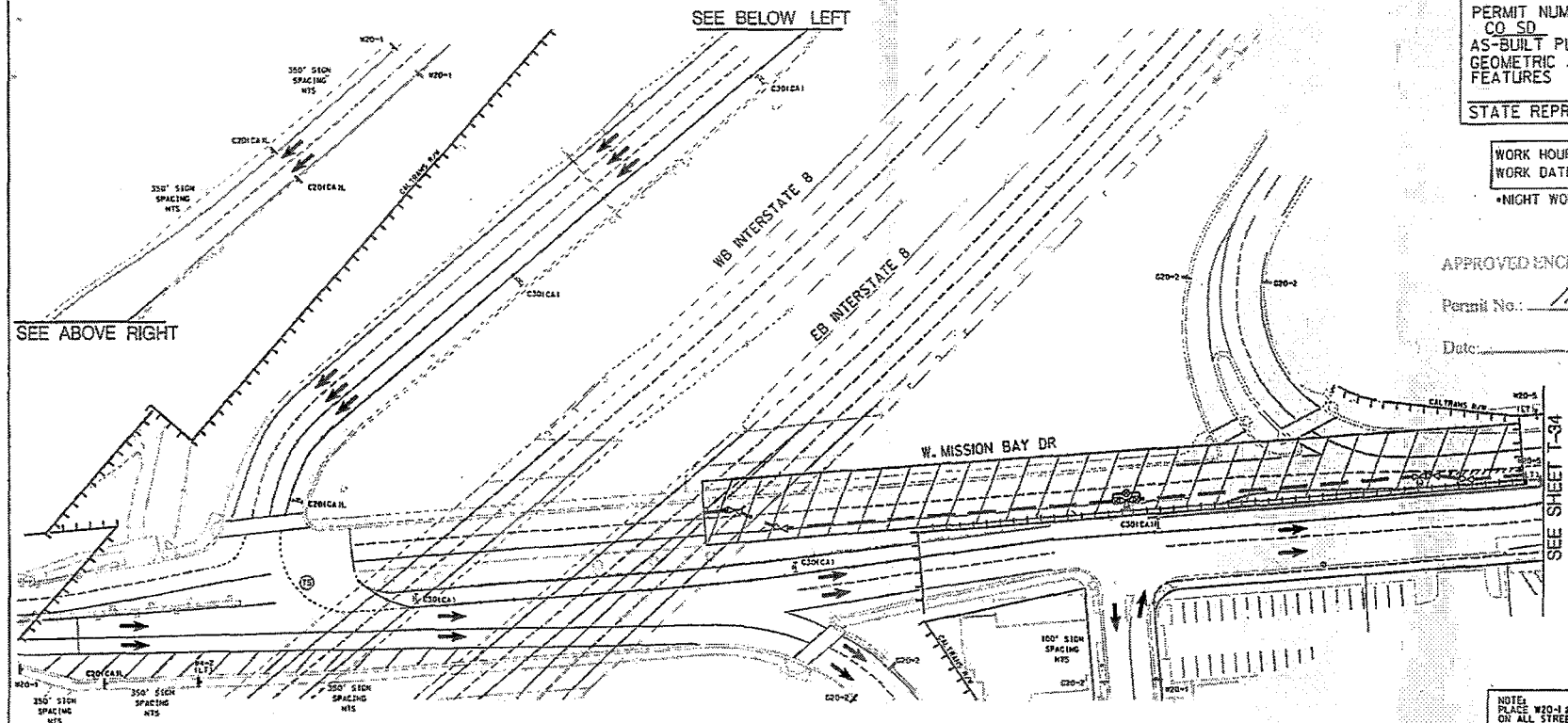
PERMIT NUMBER **11-14-N-UT-0655**  
 CO SD RTE 8 PM L3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

WORK HOURS **9:00 PM TO 5:00 AM**  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_

\*NIGHT WORK

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No: **1114NUT0655**  
 Date: **JUL 15 2015**



**CONSTRUCTION AREA SIGNS**


**LEGEND**

DIRECTION OF TRAVEL →

PORTABLE SIGN → C30

TRAFFIC CONE/GLUEDOWN DELIMITER →

FLAG TREE →

FLASHING ARROW SIGN →

EXISTING SIGN →

TYPE BARRICADE →

TYPE BARRICADE WITH SIGN →

TYPE BARRICADE WITH FLASHERS →

FLAG MAN LOCATION →

GRIND →

PAVEMENT MARKER →

RELOCATE →

TRAFFIC SIGNAL →

TYPE X TEMPORARY BAIL →

TEMPORARY CRASH CUSHION →

WORK ZONE →

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WEST MISSION BAY DRIVE	45 MPH	350'	540'	45'/10'
SPORTS ARENA BLVD	35 MPH	250'	245'	35'/10'
MISSION DR	35 MPH	250'	245'	35'/10'

**RECEIVED**  
 JUL 02 2015  
 CALTRANS-PERMIT

NOTE: PLACE W20-1 & G20-2 SIGNS ON ALL STREETS INTERSECTING THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL COORDINATE WITH TRAFFIC CONTROL AND SIGNAL SECTION (858-495-4741) A MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR TO WORK AFFECTING A TRAFFIC SIGNAL.

TRAFFIC SIGNAL TO REMAIN OPERATIONAL

SEE T-189 FOR DETOUR 1 T-33

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 WEST MISSION BAY DRIVE / SPORTS ARENA BOULEVARD

TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 33 OF 204 SHEETS

DATE SHIPPED: 5-12-2015  
 SHEET NO: 8-1287

APPROVED BY: [Signature]  
 DATE: [Date]

CONTRACTOR: [Name]  
 DATE SHIPPED: [Date]  
 DATE COMPLETED: 98005-133-D

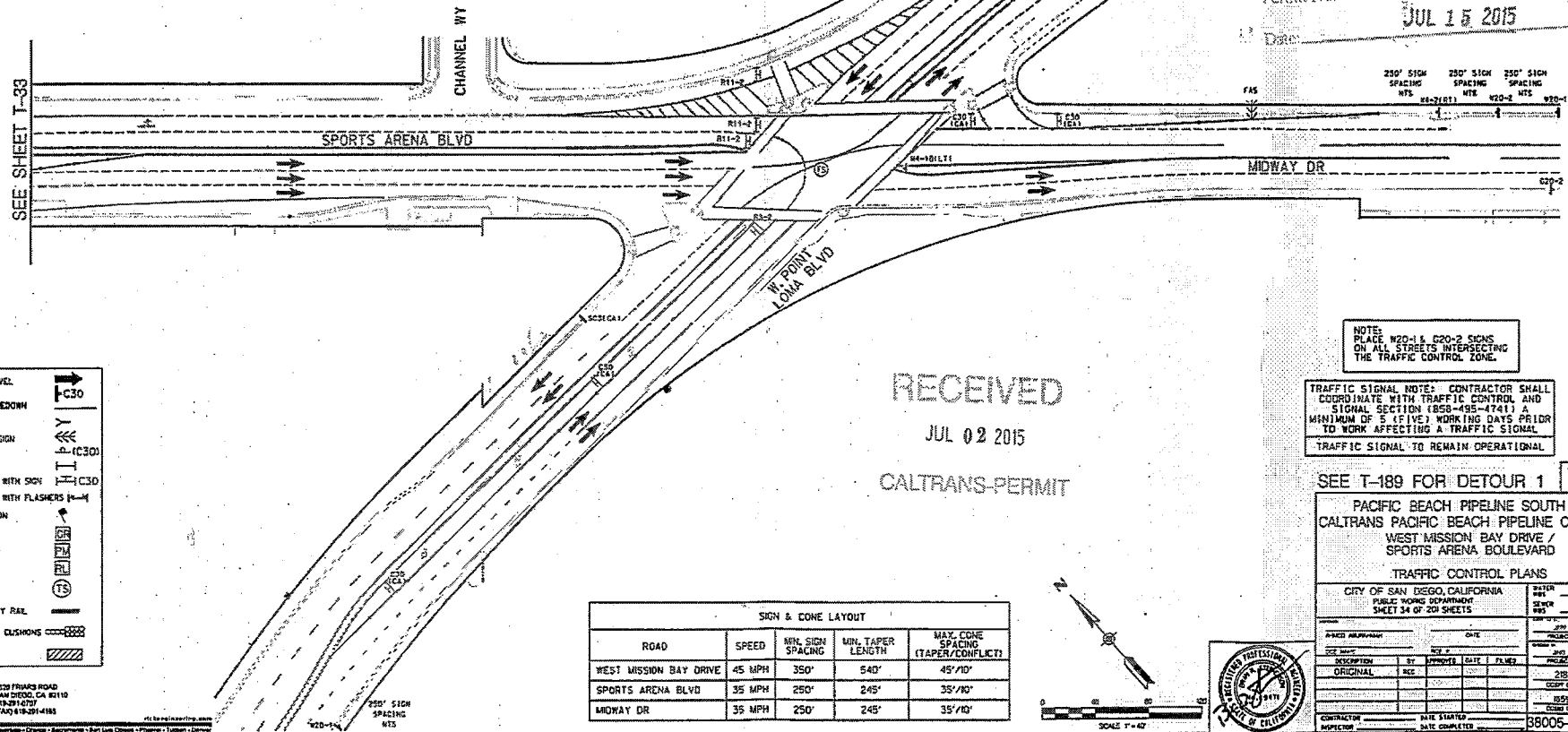
**RICK ENGINEERING COMPANY**  
 5620 FRANKS ROAD  
 SAN DIEGO, CA 92116  
 (619) 211-0707  
 FAX: (619) 211-1461

DATE: 7/15/2015

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER 11-14-N-117-0655  
 CO SD RTE 8 PM 13  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 1114 NURT 0655  
 Date JUL 15 2015



- LEGEND**
- DIRECTION OF TRAVEL: T-C30
  - PORTABLE SIGN: T-C30
  - TRAFFIC CONE/CONE/DRUM
  - DELIMITER
  - FLAG TREE
  - FLASHING ARROW SIGN
  - EXISTING SIGN: T-C30
  - TYPE W BARRICADE: T-C30
  - TYPE W BARRICADE WITH SIGN: T-C30
  - TYPE W BARRICADE WITH FLASHERS: T-C30
  - FLAG MAN LOCATION:
  - GRND:
  - PAVEMENT MARKER
  - RELOCATE:
  - TRAFFIC SIGNAL:
  - TYPE K TEMPORARY RAIL:
  - TEMPORARY CRASH CUSHIONS:
  - WORK ZONE:

RECEIVED  
 JUL 02 2015  
 CALTRANS-PERMIT

NOTES  
 PLATE W20-1 & C20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL  
 COORDINATE WITH TRAFFIC CONTROL AND  
 SIGNAL SECTION (858-495-4741) A  
 MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR  
 TO WORK AFFECTING A TRAFFIC SIGNAL.  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

SEE T-189 FOR DETOUR 1 T-34

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 WEST MISSION BAY DRIVE /  
 SPORTS ARENA BOULEVARD  
 TRAFFIC CONTROL PLANS

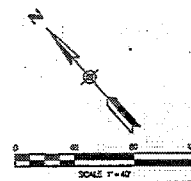
CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 34 OF 20 SHEETS

PROJECT APPROVAL	DATE	DATE	DATE
DESCRIPTION	BY	APPROVE	DATE
ORIGINAL	REV		

CONTRACTOR: \_\_\_\_\_ DATE STARTED: \_\_\_\_\_ DATE COMPLETED: 88005-T34-D

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WEST MISSION BAY DRIVE	45 MPH	350'	540'	45'/10'
SPORTS ARENA BLVD	35 MPH	250'	245'	35'/10'
MIDWAY DR	35 MPH	250'	245'	35'/10'



**RICK**  
 ENGINEERS INC. CONSULTANTS  
 8229 FRANKS ROAD  
 SAN DIEGO, CA 92110  
 619-291-0707  
 619-441-2041-4185



W. MISSION BAY DR / SPORTS ARENA BLVD (SEWER)

**LEGEND**

DIRECTION OF TRAVEL

PORTABLE SIGN

TRAFFIC CONE/BUCKET/DISK

DELMETER

FLAG TREE

FLASHING ARROW SIGN

EXISTING SIGN

TYPE # BARRICADE

TYPE # BARRICADE WITH SIGN

TYPE # BARRICADE WITH FLASHERS

FLAG MAN LOCATION

CRIMP

PAVEMENT MARKER

REMOVE AND RELOCATE

TRAFFIC SIGNAL

TYPE C TEMPORARY RAIL

TEMPORARY CRASH CUSHIONS

WORK ZONE

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
W. MISSION BAY DRIVE	45 MPH	390 FT	540 FT	345/20 FT
SPORTS ARENA BLVD	35 MPH	250 FT	245 FT	35/15 FT
OLLIE ST	25 MPH	100 FT	125 FT	25/10 FT

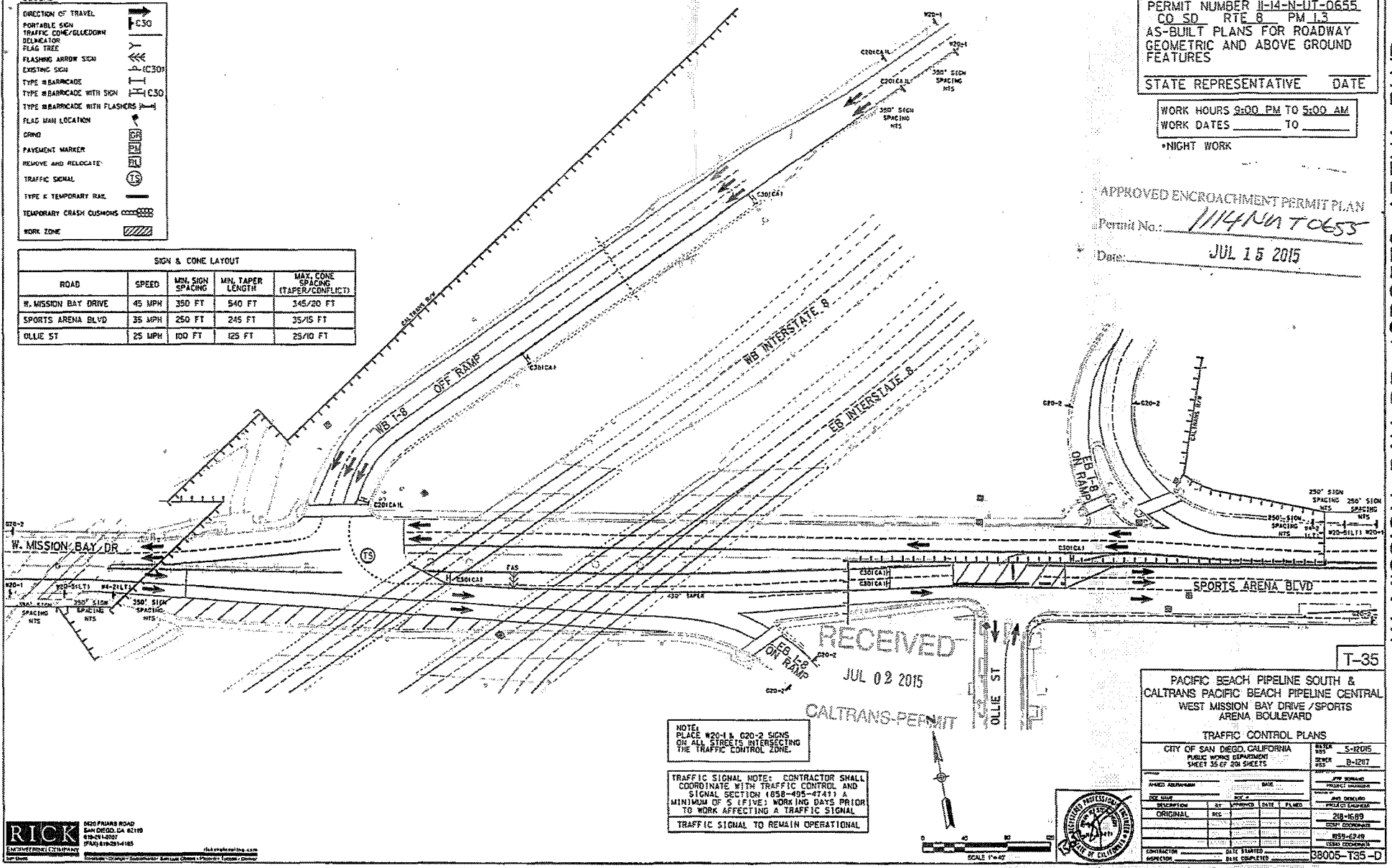
PERMIT NUMBER 11-14-N-UT-0655  
 CD SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_

\*NIGHT WORK

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No.: 114NUT0655  
 Date: JUL 15 2015



NOTE:  
 PLACE W20-1 & G20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL  
 COORDINATE WITH TRAFFIC CONTROL AND  
 SIGNAL SECTION (858-495-4741) A  
 MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR  
 TO WORK AFFECTING A TRAFFIC SIGNAL  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

T-35

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 WEST MISSION BAY DRIVE / SPORTS  
 ARENA BOULEVARD

TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA		DATE	5-22-15
PUBLIC WORKS DEPARTMENT		REVISION	B-1207
SHEET 35 OF 208 SHEETS		PROJECT NUMBER	858-495-4741
DRAWN BY		DATE	5-22-15
CHECKED BY		DATE	5-22-15
APPROVED BY		DATE	5-22-15
PROJECT ENGINEER		DATE	5-22-15
CONTRACTOR		DATE STARTED	5-22-15
INSPECTOR		DATE COMPLETED	5-22-15

38005-T35-D

**RICK**  
 ENGINEERING COMPANY  
 6620 FRANK ROAD  
 SAN DIEGO, CA 92121  
 619-441-1207  
 619-441-1185  
 rick-engineering.com

W. MISSION BAY DR / SPORTS ARENA BLVD

PERMIT NUMBER JI-14-N-UT-0655  
 CO SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

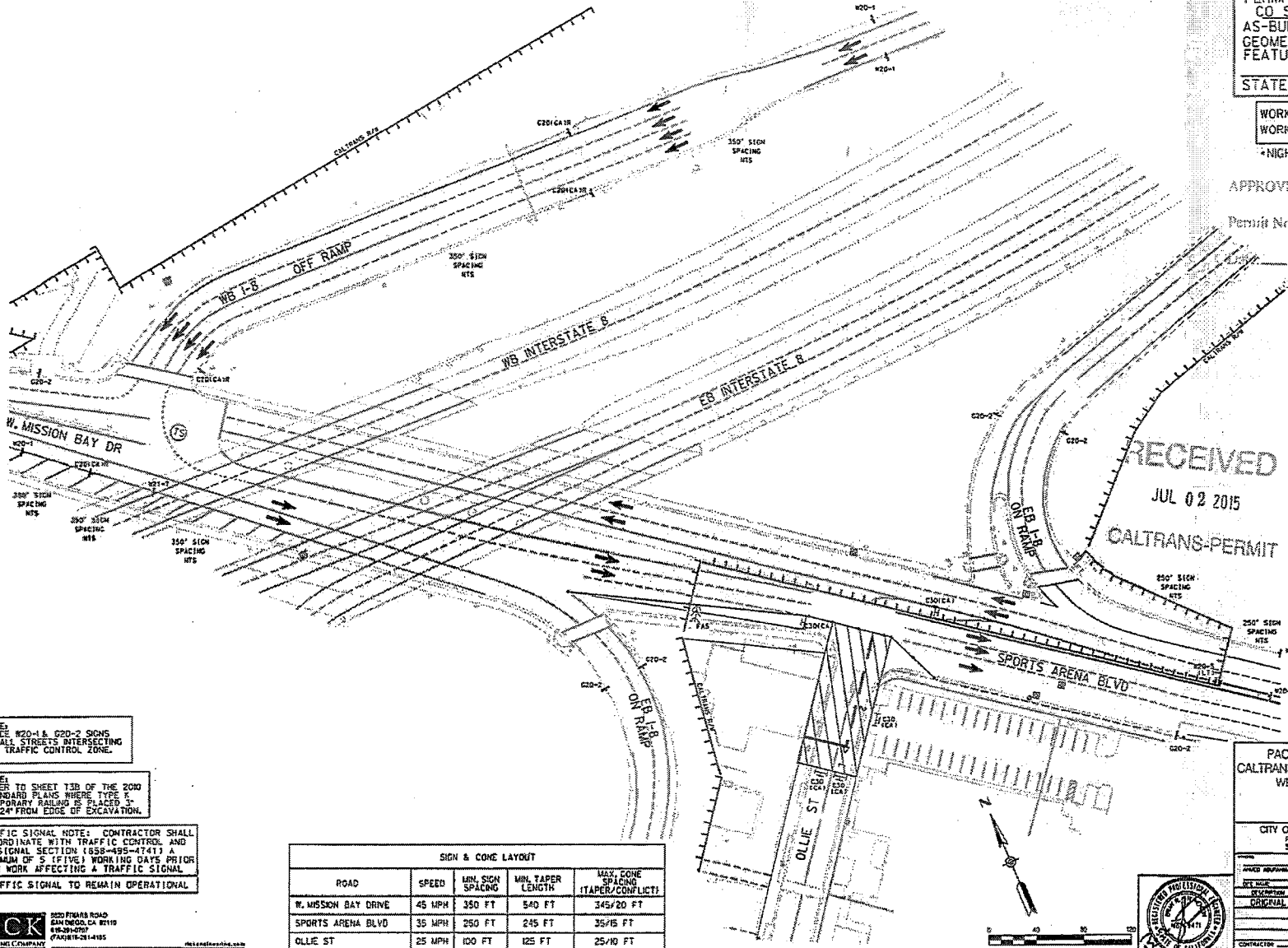
STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_

\*NIGHT WORK

APPROVED ENCROACHMENT PERMIT PL

Permit No. 114-NUT0655  
 JUL 15 2015



LEGEND

DIRECTION OF TRAVEL		T-C30
PORTABLE SIGN		T-C30
TRAFFIC CONE/BUCKET		T-C30
DELIMITER		T-C30
FLAG TREE		T-C30
FLASHING ARROW SIGN		T-C30
EXISTING SIGN		T-C30
TYPE WBARRECADE		T-C30
TYPE WBARRECADE WITH SIGN		T-C30
TYPE WBARRECADE WITH FLASHERS		T-C30
FLAG MAN LOCATION		T-C30
GRID		T-C30
PAVEMENT MARKER		T-C30
REMOVE AND RELOCATE		T-C30
TRAFFIC SIGNAL		T-C30
TYPE & TEMPORARY RAIL		T-C30
TEMPORARY CRASH CUSHIONS		T-C30
WORK ZONE		T-C30

NOTE:  
 PLACE W20-1 & G20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

NOTE:  
 REFER TO SHEET T3B OF THE 2010  
 STANDARD PLANS WHERE TYPE X  
 TEMPORARY RAILING IS PLACED 3'-  
 TO 24" FROM EDGE OF EXCAVATION.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL  
 COORDINATE WITH TRAFFIC CONTROL AND  
 SIGNAL SECTION (658-495-4741) A  
 MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR  
 TO WORK AFFECTING A TRAFFIC SIGNAL  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

SIGN & CONE LAYOUT				
ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
W. MISSION BAY DRIVE	45 MPH	350 FT	540 FT	345/20 FT
SPORTS ARENA BLVD	35 MPH	250 FT	245 FT	35/15 FT
OLLIE ST	25 MPH	100 FT	125 FT	25/10 FT

**RICK** ENGINEERING COMPANY  
 220 FIRMS ROAD  
 SAN DIEGO, CA 92110  
 619-291-0707  
 FAX: 619-291-1155  
 www.rickeng.com



PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL WEST MISSION BAY DRIVE / SPORTS ARENA BOULEVARD

TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 35 OF 204 SHEETS

DATE: 5-12-05  
 DESIGNED BY: B-327  
 CHECKED BY: B-1689  
 DATE: 8/14/05  
 CONTRACTOR: DATE STARTED: DATE COMPLETED: 88005-T36-D

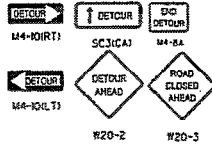
W. MISSION BAY DR / SPORTS ARENA BLVD





**NB-W. MISSION BAY DRIVE DETOUR 1**

**SIGNS THIS SHEET**

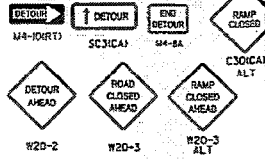


**CONSTRUCTION NOTE**

CONTRACTOR SHALL CLOSE NORTHWIND WEST MISSION BAY DRIVE AT THE SPORTS ARENA BLVD INTERSECTION. ALL TRAFFIC AT THIS POINTS MUST USE DETOUR.

**SB-W. MISSION BAY DRIVE DETOUR 2**

**SIGNS THIS SHEET**



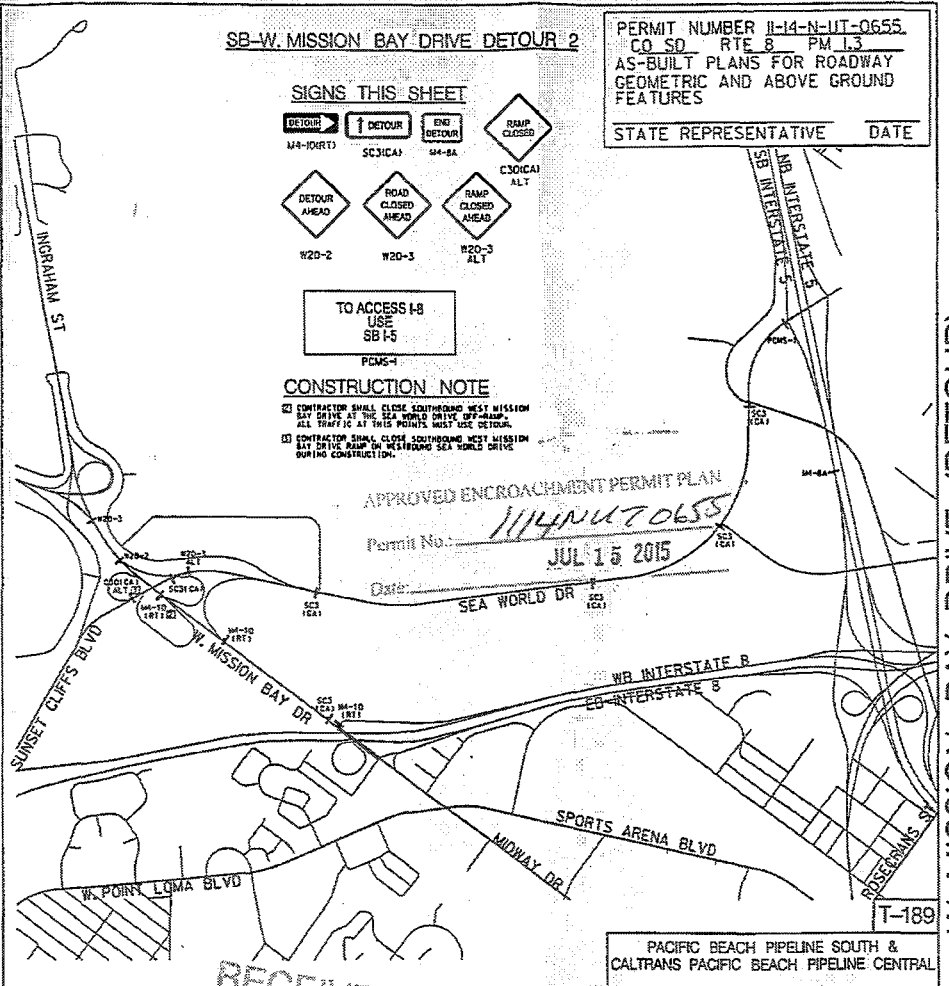
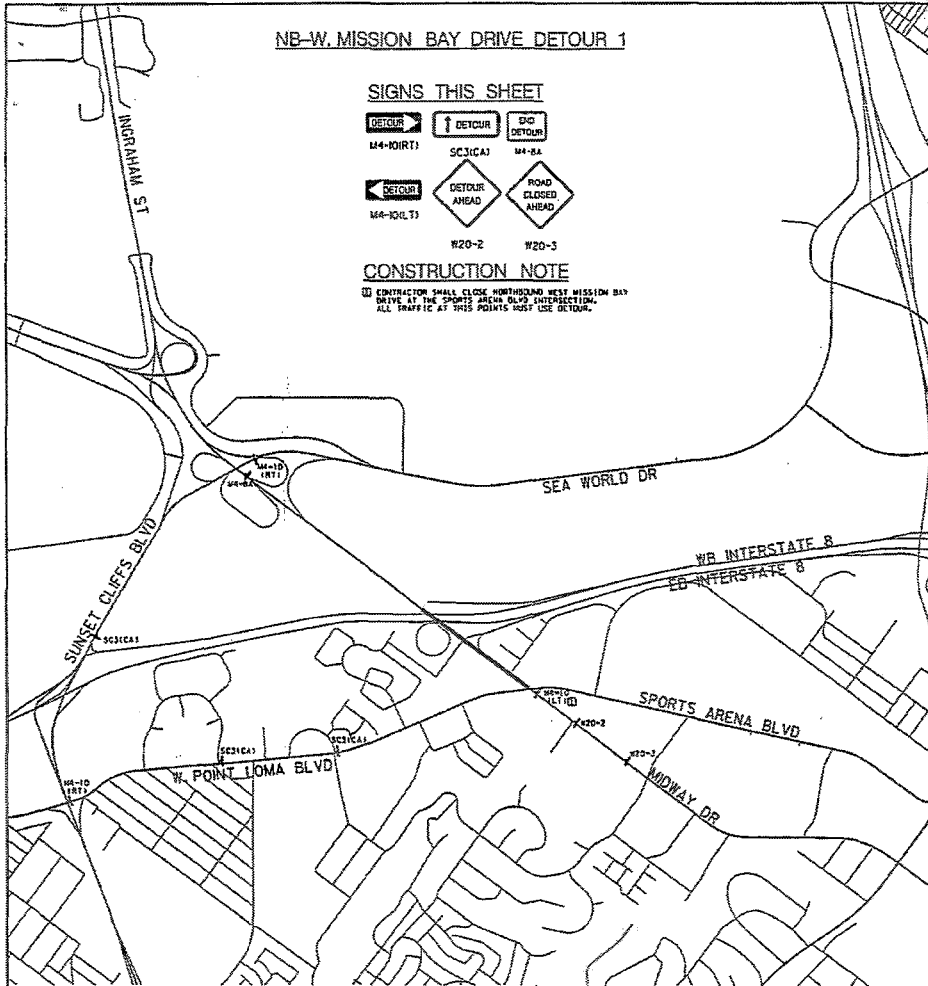
TO ACCESS I-8  
USE  
SB I-5

**CONSTRUCTION NOTE**

CONTRACTOR SHALL CLOSE SOUTHWIND WEST MISSION BAY DRIVE AT THE SEA WORLD DRIVE OFF-RAMP. ALL TRAFFIC AT THIS POINTS MUST USE DETOUR.  
CONTRACTOR SHALL CLOSE SOUTHWIND WEST MISSION BAY DRIVE RAMP TO WESTWIND SEA WORLD DRIVE DURING CONSTRUCTION.

PERMIT NUMBER 11-14-N-UT-0655  
CO. SO. RTE 8 PM 1.3  
AS-BUILT PLANS FOR ROADWAY  
GEOMETRIC AND ABOVE GROUND  
FEATURES

STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



APPROVED ENCROACHMENT PERMIT PLAN  
Permit No. 114NUT0655  
Date: JUL 15 2015

RECEIVED  
JUL 02 2015  
CALTRANS

**RICK**  
ENGINEERS ARCHITECTS  
3600 PRINCE ROAD  
SAN DIEGO, CA 92116  
619-591-4707  
619-591-4185

WORK HOURS 9:00 PM TO 5:00 AM  
WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
•NIGHT WORK

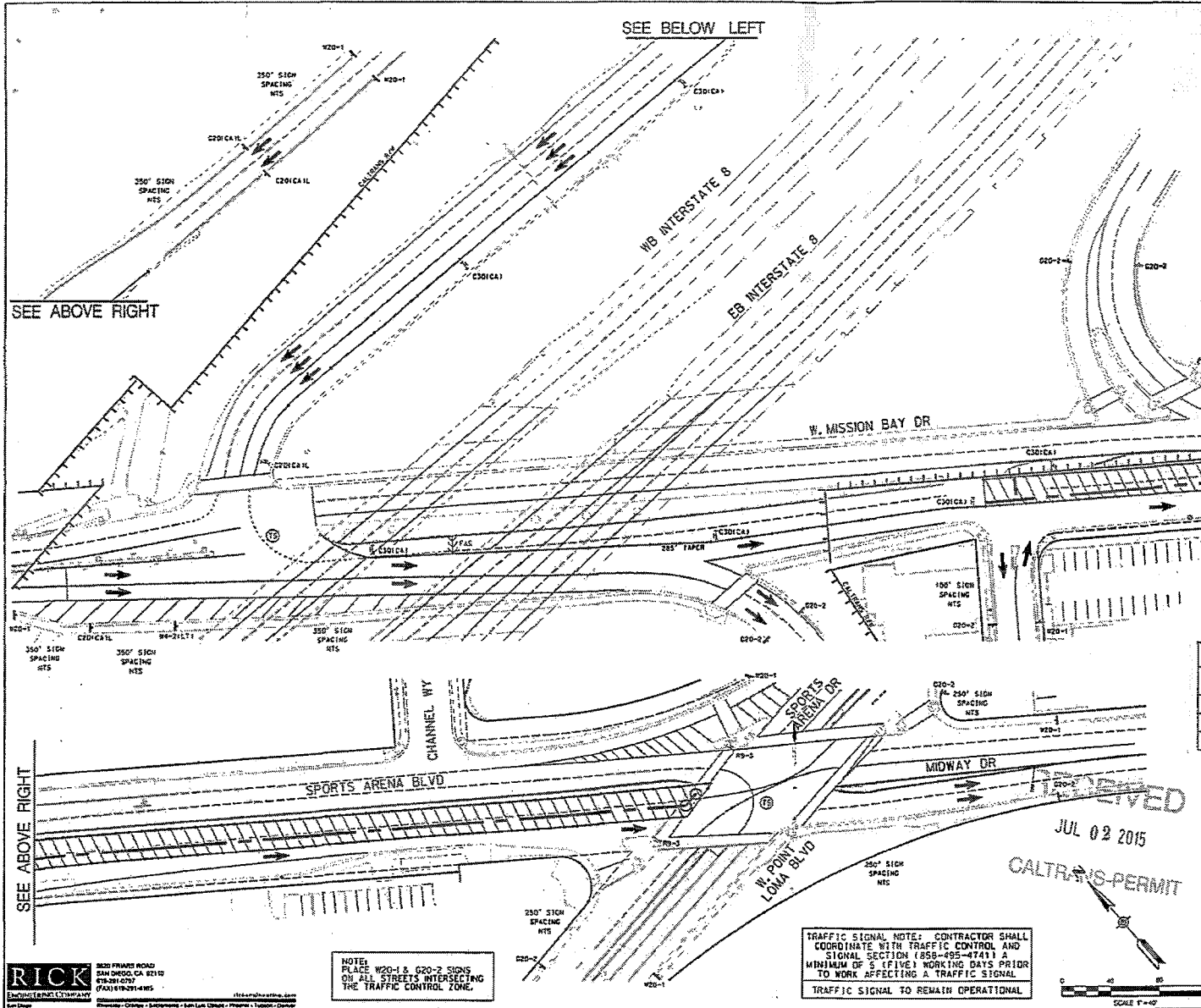


WORK HOURS 9:00 PM TO 5:00 AM  
WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
•NIGHT WORK



PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL		DATE	5-12-05
WEST MISSION BAY DRIVE		SEEN	8-12-07
TRAFFIC CONTROL PLANS		DATE	
CITY OF SAN DIEGO, CALIFORNIA		PROJECT NUMBER	210-1689
PUBLIC WORKS DEPARTMENT		CONTRACT NUMBER	859-0243
SHEET NO. OF 201 SHEETS		DATE STARTED	88005-1189-D
PROJECT MANAGER		DATE COMPLETED	
CONTRACTOR			
SUPERVISOR			

W. MISSION BAY DRIVE (DETOUR)



PERMIT NUMBER **II-14-N-UT-0655**  
 CO SD RTE 8 PM 13  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

WORK HOURS **9:00 PM TO 5:00 AM**  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK\*

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No.: **1114NUT0655**  
 Date: **JUL 15 2015**

LEGEND

DIRECTION OF TRAVEL	→
PORTABLE SIGN	T-C30
TRAFFIC CONE/COLLEDDOWN	▲
DELIMITER	Y
FLAG TREE	HT
FLASHING ARROW SIGN	RA-C30
EXISTING SIGN	HT-C30
TYPE B BARRICADE	HT
TYPE B BARRICADE WITH SIGN	HT-C30
TYPE B BARRICADE WITH FLASHERS	HT-4
FLAG MARK LOCATION	HT
GRIND	HT
PAVEMENT MARKER	HT
RELOCATE	HT
TRAFFIC SIGNAL	TS
TYPE K TEMPORARY PAV.	HT
TEMPORARY CRASH CUSHIONS	HT
WORK ZONE	HT

SIGN & CONE LAYOUT

ROAD	SPEED	SRL SIGN SPACING	SRL TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WEST MISSION BAY DRIVE	45 MPH	350'	540'	45'/10'
SPORTS ARENA BLVD	35 MPH	250'	245'	35'/10'
MIDWAY DR	35 MPH	250'	245'	35'/10'

**T-190**

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 WEST MISSION BAY DRIVE / SPORTS ARENA BOULEVARD

TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET NO. OF 20 SHEETS

DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 PROJECT NUMBER: \_\_\_\_\_  
 SHEET NUMBER: \_\_\_\_\_  
 CONTRACTOR: \_\_\_\_\_  
 DATE STARTED: \_\_\_\_\_  
 DATE COMPLETED: \_\_\_\_\_

38005-T190-D

**RICK**  
 ENGINEERS/ARCHITECTS

3620 FRANKS ROAD  
 SAN DIEGO, CA 92110  
 619-291-0297  
 FAX: 619-291-4185

www.rick-engineers.com

NOTE:  
 PLACE W20-1 & W20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL  
 COORDINATE WITH TRAFFIC CONTROL AND  
 SIGNAL SECTION (858-895-4741) A  
 MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR  
 TO WORK AFFECTING A TRAFFIC SIGNAL  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

RECEIVED  
 JUL 02 2015  
 CALTRANS-PERMIT

SCALE 1"=40'



W. MISSION BAY DR /SPORTS ARENA BLVD (SEWER)



STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION  
ENCROACHMENT PERMIT GENERAL PROVISIONS  
TR-0045 (REV. 05/2007)

1. **AUTHORITY:** The Department's authority to issue encroachment permits is provided under, Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.
2. **REVOCAION:** Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.
3. **DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.
4. **ASSIGNMENT:** No party other than the permittee or permittee's authorized agent is allowed to work under this permit.
5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.
6. **BEGINNING OF WORK:** When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.
7. **STANDARDS OF CONSTRUCTION:** All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans, High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."
8. **PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.
9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.
10. **PERMIT AT WORKSITE:** Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.
11. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).
12. **PERMITS FROM OTHER AGENCIES:** This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.
13. **PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 4' shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street. Attention is directed to Section 7-1.04 Public Safety of the Department Standard Specifications.
14. **PUBLIC TRAFFIC CONTROL:** As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. While providing traffic control, the needs and control of all road users [motorists, bicyclists and pedestrians, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA)] shall be an essential part of the work activity.  
  
Day and night time lane closures shall comply with the California Manual on Uniform Traffic Control Devices (Part 6, Temporary Traffic Control), Standard Plans, and Standard Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.
15. **MINIMUM INTERFERENCE WITH TRAFFIC:** Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the California Manual on Uniform Traffic Control Devices (Chapter 6E, Flagger Control).
16. **STORAGE OF EQUIPMENT AND MATERIALS:** The storage of equipment or materials is not allowed within State highway right-of-way, unless specified within the Special Provisions of this specific encroachment permit. If Encroachment Permit Special Provisions allow for the storage of equipment or materials within the State right of way, the equipment and material storage shall comply with Standard Specifications, Standard Plans, Special Provisions, and the Highway Design Manual. The clear recovery zone widths must be followed and are the minimum desirable for the type of facility indicated below: freeways and expressways - 30', conventional highways (no curbs) - 20', conventional highways (with curbs) - 1.5'. If a fixed object cannot be eliminated, moved outside the clear recovery zone, or modified to be made yielding, it should be shielded by a guardrail or a crash cushion.
17. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.
18. **RESTORATION AND REPAIRS IN RIGHT OF WAY:** Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).

19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.
20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.
21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.
22. **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of folded as-built plans within thirty (30) days after completion and approval of work in compliance with requirements listed as follows:
1. Upon completion of the work provided herein, the permittee shall send one vellum or paper set of As-Built plans, to the State representative. Mylar or paper sepia plans are not acceptable.
  2. All changes in the work will be shown on the plans, as issued with the permit, including changes approved by Encroachment Permit Rider.
  3. The plans are to be stamped or otherwise noted AS-BUILT by the permittee's representative who was responsible for overseeing the work. Any original plan that was approved with a State stamp, or Caltrans representative signature, shall be used for producing the As-Built plans.
  4. If As-Built plans include signing or striping, the dates of signing or striping removal, relocation, or installation shall be shown on the plans when required as a condition of the permit. When the construction plans show signing and striping for staged construction on separate sheets, the sheet for each stage shall show the removal, relocation or installation dates of the appropriate staged striping and signing.
  5. As-Built plans shall contain the Permit Number, County, Route, and Post Mile on each sheet.
  6. Disclaimer statement of any kind that differ from the obligations and protections provided by Sections 6735 through 6735.6 of the California Business and Professions Code, shall not be included on the As-Built plans. Such statements constitute non-compliance with Encroachment Permit requirements, and may result in the Department of Transportation retaining Performance Bonds or deposits until proper plans are submitted. Failure to comply may also result in denial of future permits, or a provision requiring a public agency to supply additional bonding.
23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.
24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permit(s). Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.
25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to relocate a permitted installation upon notice by the Department. Unless under prior property right or agreement, the permittee shall comply with said notice at his sole expense.
26. **ARCHAEOLOGICAL/HISTORICAL:** If any archaeological or historical resources are revealed in the work vicinity, the permittee shall immediately stop work, notify the Department's representative, retain a qualified archaeologist who shall evaluate the site, and make recommendations to the Department representative regarding the continuance of work.
27. **PREVAILING WAGES:** Work performed by or under a permit may require permittee's contractors and subcontractors to pay appropriate prevailing wages as set by the Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements are directed to State of California Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102.
28. **RESPONSIBILITY FOR DAMAGE:** The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit.
- The permittee shall indemnify and save harmless the State of California, all officers, employees, and State's contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other

The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and State contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and State's contractors, from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

For the purpose of this section, "State's contractors" shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.

29. **NO PRECEDENT ESTABLISHED:** This permit is issued with the understanding that it does not establish a precedent.

30. **FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION:**

A. The permittee, for himself, his personal representative, successors in interest, and assigns as part of the consideration hereof, does hereby covenant and agree that:

1. No person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

2. That in connection with the construction of any improvements on said lands and the furnishings of services thereon, no discrimination shall be practiced in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors.

3. That such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for public accommodations (such as eating, sleeping, rest, recreation), and operation on, over, or under the space of the right of way.

4. That the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A, Office of the Secretary of Commerce, Part 8 (15 C.F.R. Part 8) and as said Regulations may be amended.

5. That in the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the permit and to re-enter and repossess said land and the facilities thereon, and hold the same as if said permit had never been made or issued.

31. **MAINTENANCE OF HIGHWAYS:** The permittee agrees, by acceptance of a permit, to properly maintain any encroachment. This assurance requires the permittee to provide inspection and repair any damage, at permittee's expense, to State facilities resulting from the encroachment.

32. **SPECIAL EVENTS:** In accordance with subdivision (n) of Streets and Highways Code Section 682.5, the Department of Transportation shall not be responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State and the city or county against any and all claims arising out of any activity for which the permit is issued.

The permittee understands and agrees to comply with the obligations of Titles II and III of the Americans with Disabilities Act of 1990 in the conduct of the event, and further agrees to indemnify and save harmless the State of California, all officers and employees thereof, including but not limited to the Director of Transportation, from any claims or liability arising out of or by virtue of said Act.

33. **PRIVATE USE OF RIGHT OF WAY:** Highway right of way shall not be used for private purposes without compensation to the State.

The gifting of public property use and therefore public funds is prohibited under the California Constitution, Article 16.

34. **FIELD WORK REIMBURSEMENT:** Permittee shall reimburse State for field work performed on permittee's behalf to correct or remedy hazards or damaged facilities, or clear debris not attended to by the permittee.

35. **NOTIFICATION OF DEPARTMENT AND TMC:** The permittee shall notify the Department's representative and the Transportation Management Center (TMC) at least 7 days before initiating a lane closure or conducting an activity that may cause a traffic impact. A confirmation notification should occur 3 days before closure or other potential traffic impacts. In emergency situations when the corrective work or the emergency itself may affect traffic, TMC and the Department's representative shall be notified as soon as possible.

36. **SUSPENSION OF TRAFFIC CONTROL OPERATION:** The permittee, upon notification by the Department's representative, shall immediately suspend all lane closure operations and any operation that impedes the flow of traffic. All costs associated with this suspension shall be borne by the permittee.

37. **UNDERGROUND SERVICE ALERT (USA) NOTIFICATION:** Any excavation requires compliance with the provisions of Government Code Section 4216 et. seq., including, but not limited to notice to a regional notification center, such as Underground Service Alert (USA). The permittee shall provide notification at least 48 hours before performing any excavation work within the right of way.

**ENCROACHMENT PERMIT RIDER**

TR-0122 (REV. 6/99)

Collected By <b>JG</b>	Permit No. <b>11-14-NUT-0655 R1</b>
Rider Fee Paid <b>\$ EXEMPT</b>	Dis/Co/Rte/PM <b>11-SD-8/L1.25 AND 5/R18.0-R18.6</b>
Date <b>OCTOBER 14, 2015</b>	Rider Number <b>11-15-NRW-0739</b>

TO:

CITY OF SAN DIEGO  
PUBLIC WORKS DEPARTMENT  
525 B STREET, SUITE 750, MS 905A  
SAN DIEGO, CA 92101-3865

ATTN: JEFF SORIANO  
PHONE: (619) 533-4131

, PERMITTEE

In compliance with your request of SEPTEMBER 9, 2015, we are hereby amending the above numbered encroachment permit as follows:

Date of completion extended to: **APRIL 30, 2016**

1. ADD WORK LIMITS ON INTERSTATE 5, POST MILE R18.0 TO R18.6. THE PROJECT HAS BEEN EXTENDED TO INCLUDE WORK ALONG HANCOCK AVENUE. THE PIPELINE INSTALLATION WILL NOT ENCROACH ONTO THE RIGHT OF WAY.
2. ADD NEW TRAFFIC CONTROL PLAN SHEETS DATED AS RECEIVED SEPTEMBER 9, 2015, TO ALLOW PLACEMENT OF TRAFFIC CONTROL DEVICES AND SIGNS ALONG HANCOCK AVENUE.
3. WORKING HOURS/ALLOWABLE CLOSURE WINDOWS, SEE ATTACHED CHARTS 4, 5, AND 6 OR AS DIRECTED AND APPROVED BY THE STATE'S INSPECTOR.

Except as amended, all other terms and provisions of the original permit shall remain in effect.

JG:jg

cc: Permits

BStinnett, Reg. Mgr.

MPakandam, Inspector

Permittee

Contractor

APPROVED:

Laurie Berman, District Director

BY:



Ann M. Fox, District Permit Engineer

**Chart No. 6  
Road Lane Requirement**

County: SD	Route/Direction: WB Washington St	PM:																									
Closure Description: JWO Rte 5																											
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Mondays through Thursdays	1	1	1	1	1																			1	1	1	
Fridays	1	1	1	1	1																						
Saturdays																											
Sundays																								1	1	1	
<b>Legend:</b>																											
<input type="checkbox"/> 1 Provide at least one through traffic lane open in direction of travel																											
<input type="checkbox"/> Work permitted within project right of way where shoulder or lane closure is not required.																											
<b>REMARKS:</b>																											

PN - 1114NUT0655 - (6/6) - 09-24-2015 (AVO)



**Chart No. 5  
Ramp Lane Requirements**

County: SD	Route/Direction: 5/SB														PM: R18.637												
Closure Limits: SB 5 Off-ramp to Washington St																											
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Mondays through Thursdays	S	S	S	S	S																			S	S	S	
Fridays	S	S	S	S	S																						
Saturdays																											
Sundays																									S	S	S

Legend:

S    Shoulder closure permitted for placement of signs only

   Work permitted within project right of way where shoulder or lane closure is not required.

REMARKS:

PN - 1114NUT0655- (5/6) - 09-24-2015 (AVO)



**Chart No. 4  
Road Lane Requirement**

County: SD	Route/Direction: EB/WB Noell St	PM:																							
Closure Description: At Rte 5																									
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	S	S	S	S	S																		S	S	S
Fridays	S	S	S	S	S																				
Saturdays																									
Sundays																							S	S	S

**Legend:**

S    Shoulder closure permitted for placement of signs only

   Work permitted within project right of way where shoulder or lane closure is not required.

**REMARKS:**

PN - 1114NUT0655 - (4/6) - 09-24-2015 (AVO)



SIGN & CONE LAYOUT				
ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
HANCOCK ST	30 MPH	250 FT	180 FT	30/15 FT
WITHERBY ST	25 MPH	100 FT	125 FT	25/10 FT
NOELL ST	25 MPH	100 FT	125 FT	25/10 FT

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_

\*NIGHT WORK

PERMIT NUMBER II-14-N-UT-0655  
 CO. SD. RTE. 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

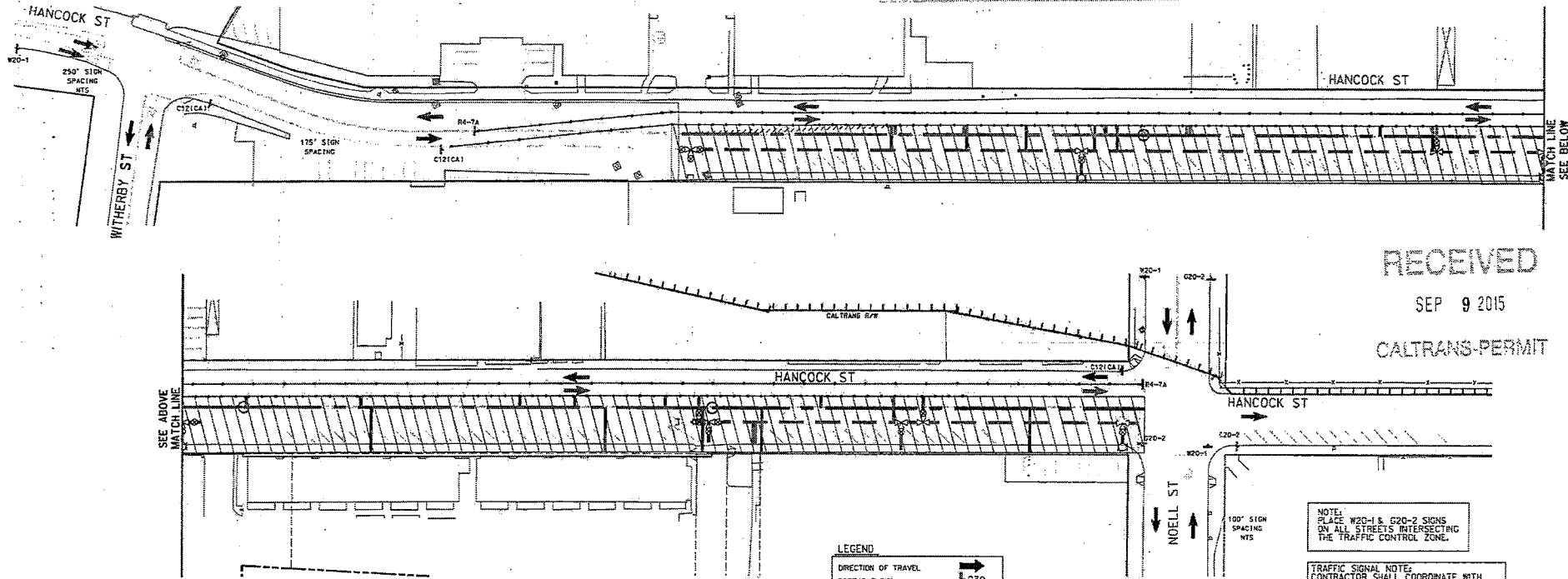
STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED ENCROACHMENT PERMIT PLAN

Permit No. 1115NRW0739

OCT 14 2015

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



RECEIVED  
 SEP 9 2015  
 CALTRANS PERMIT

SEE ABOVE  
 MATCH LINE

MATCH LINE  
 SEE BELOW

LEGEND

- DIRECTION OF TRAVEL →
- PORTABLE SIGN → C30
- TRAFFIC CONE/CLUEDOWN
- ODMETER
- FLAG TREE
- FLASHING ARROW SIGN
- EXISTING SIGN
- TYPE # BARRICADE
- TYPE # BARRICADE WITH SIGN
- TYPE # BARRICADE WITH FLASHERS
- FLAG MAN LOCATION
- GRIND
- PAVEMENT MARKER
- REMOVE AND RELOCATE
- TRAFFIC SIGNAL
- TYPE K TEMPORARY RAIL
- TEMPORARY CRASH CUSHIONS
- WORK ZONE

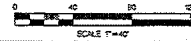
NOTE:  
 PLACE W20-1 & C20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE:  
 CONTRACTOR SHALL COORDINATE WITH  
 TRAFFIC CONTROL AND SIGNAL SECTION  
 (858) 495-4741 A MINIMUM OF 5 (FIVE)  
 WORKING DAYS PRIOR TO WORK AFFECTING  
 A TRAFFIC SIGNAL.

T-122

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 HANCOCK STREET  
 TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA		WATER	S-12015
PUBLIC WORKS DEPARTMENT		SEWER	B-12017
SHEET # OF 200 SHEETS			
DATE	DATE	DATE	DATE
BY	BY	BY	BY
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	REG		
CONTRACTOR	DATE STARTED	DATE COMPLETED	88005-1122-D
WORKSHOP			



**RICK**  
 ENGINEERING COMPANY  
 8620 FRANKS ROAD  
 SAN DIEGO, CA 92112  
 619-234-0707  
 FAX 619-234-4165  
 rickengineering.com

HANCOCK ST (WATER / SEWER)

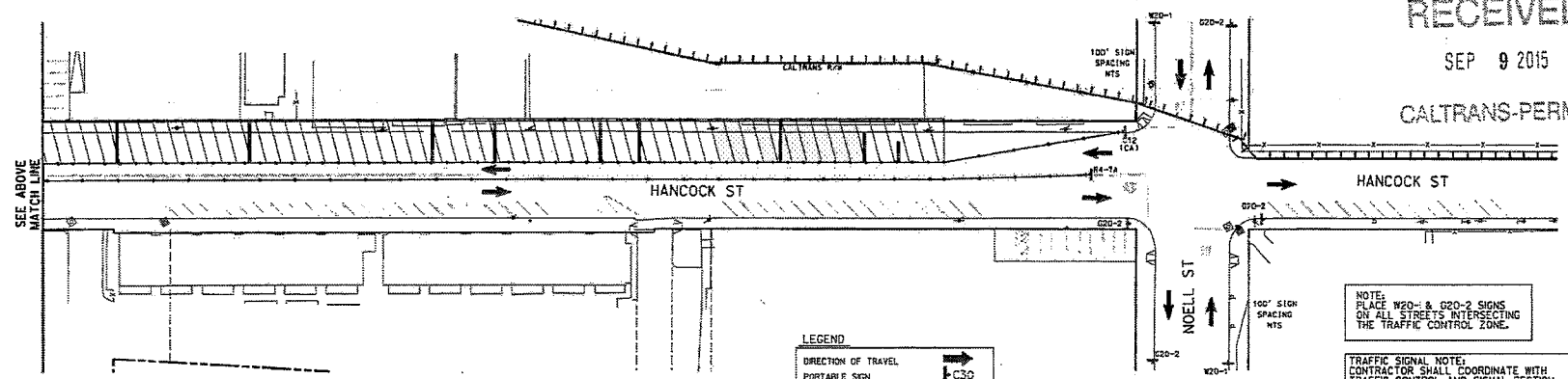
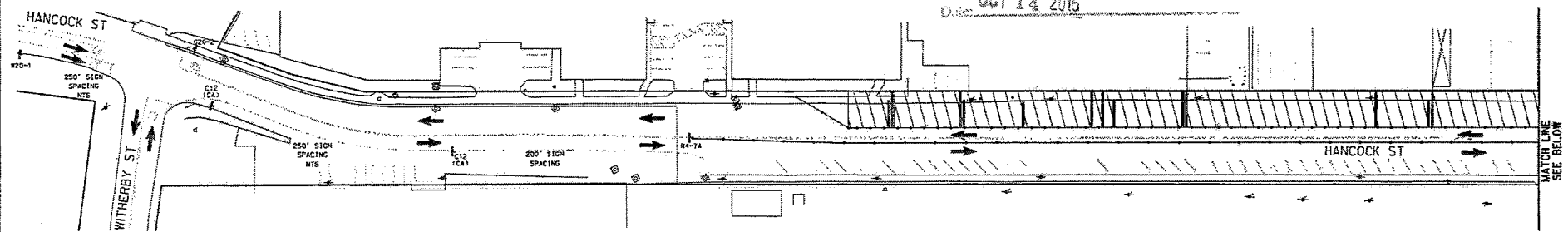


SIGN & CONE LAYOUT				
ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
HANCOCK ST	30 MPH	250 FT	180 FT	30/15 FT
WITHERBY ST	25 MPH	100 FT	125 FT	25/10 FT
NOELL ST	25 MPH	100 FT	125 FT	25/10 FT

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 •NIGHT WORK

PERMIT NUMBER 11-14-N-117-0655  
 CO SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 1115NRW-0739  
 Date: OCT 14 2015

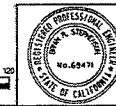
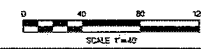


RECEIVED  
 SEP 9 2015  
 CALTRANS-PERMIT

NOTE: PLACE W20-1 & G20-2 SIGNS ON ALL STREETS INTERSECTING THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE:  
 CONTRACTOR SHALL COORDINATE WITH TRAFFIC CONTROL AND SIGNAL SECTION (855) 455-4748 A MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR TO WORK AFFECTING A TRAFFIC SIGNAL.

- LEGEND
- DIRECTION OF TRAVEL
  - PORTABLE SIGN
  - TRAFFIC CONE/COLLAPSED DELINEATOR
  - FLIC TREE
  - FLASHING ARROW SIGN
  - EXISTING SIGN
  - TYPE II BARRICADE
  - TYPE II BARRICADE WITH SIGN
  - TYPE II BARRICADE WITH FLASHERS
  - FLAG MAN LOCATION
  - GRIND
  - PAVEMENT MARKER
  - REMOVE AND RELOCATE:
  - TRAFFIC SIGNAL
  - TYPE X TEMPORARY RAIL
  - TEMPORARY CRASH CUSHIONS
  - WORK ZONE



T-123

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 HANCOCK STREET  
 TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA		WATER RES S-12015
PUBLIC WORKS DEPARTMENT		SEWER RES B-1287
SHEET 123 OF 201 SHEETS		
APPROVED	DATE	BY
DESIGNED	DATE	BY
DESCRIPTION	BY	APPROVED DATE FILED
ORIGINAL	REC	
CONTRACTOR	DATE STARTED	8559-5243
INSPECTOR	DATE COMPLETED	38005-1123-D

**RICK**  
 ENGINEERING COMPANY  
 5600 FRANKS ROAD  
 SAN DIEGO, CA 92110  
 619-591-0707  
 (FAX) 619-591-4185  
 rick-engineering.com  
 Services: • Design • Engineering • San Lites • Process • Traffic • Construction

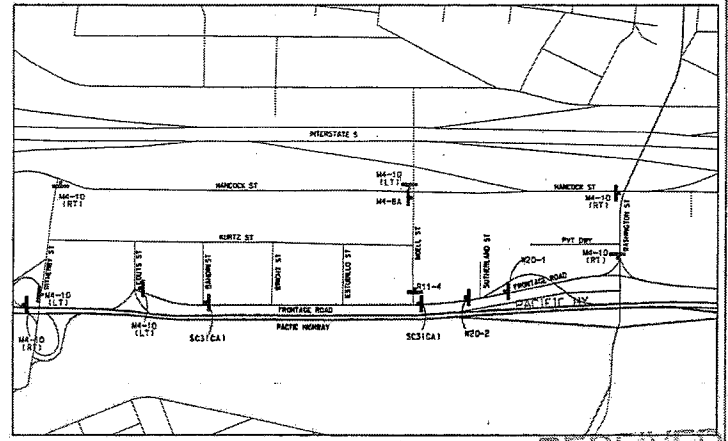
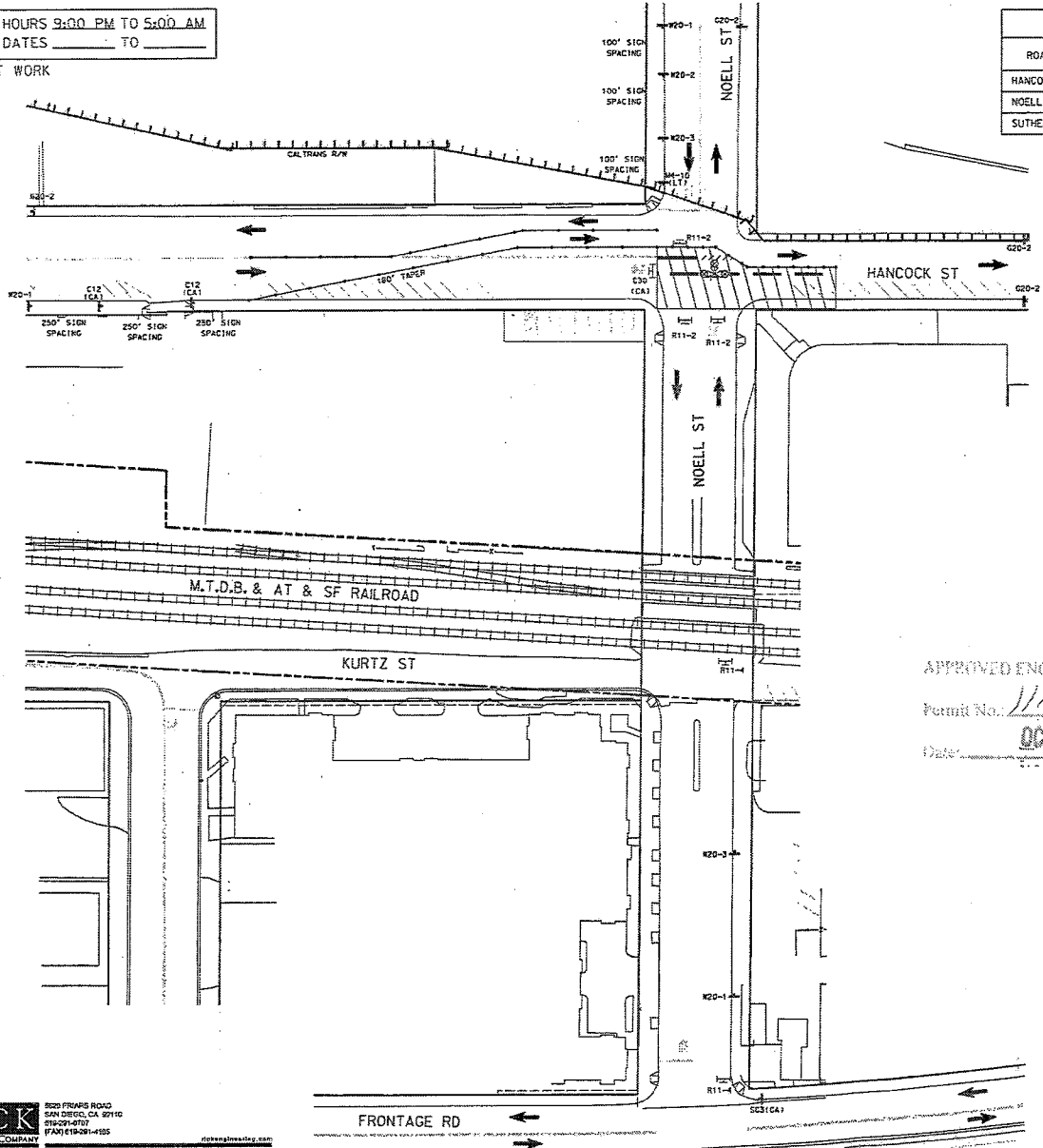
HANCOCK ST (WATER /SEWER)

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_

\*NIGHT WORK

SIGN & CONE LAYOUT				
ROAD	SPEED	MPL SIGN SPACING	MPL TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
HANCOCK ST	30 MPH	250 FT	180 FT	30/15 FT
NOELL ST	25 MPH	100 FT	125 FT	25/10 FT
SUTHERLAND ST	25 MPH	100 FT	125 FT	25/10 FT

PERMIT NUMBER 11-14-N-UT-0655  
 CO SD RTE B PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



DETOUR PLAN

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 115NRW0739  
 Date: OCT 14 2015

LEGEND

DIRECTION OF TRAVEL	→
PORTABLE SIGN	C30
TRAFFIC CONE/QUEUEDOWN	○
DELINEATOR	—
FLAG TREE	Y
FLASHING ARROW SIGN	↔
EXISTING SIGN	— (C30)
TYPE II BARRICADE	—
TYPE II BARRICADE WITH SIGN	— (C30)
TYPE II BARRICADE WITH FLASHERS	—
FLAG MAN LOCATION	—
GRIND	—
PAVEMENT MARKER	—
REMOVE AND RELOCATE	—
TRAFFIC SIGNAL	—
TYPE K TEMPORARY RAIL	—
TEMPORARY CRASH CUSHIONS	—
WORK ZONE	—

NOTE:  
 PLACE W20-1 & C20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE:  
 CONTRACTOR SHALL COORDINATE WITH  
 TRAFFIC CONTROL AND SIGNAL SECTION  
 (858) 495-4741 A MINIMUM OF 5 (FIVE)  
 WORKING DAYS PRIOR TO WORK AFFECTING  
 A TRAFFIC SIGNAL.

RECEIVED  
 SEP 9 2015  
 CALTRANS-PERMIT

T-124

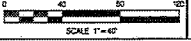
PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 HANCOCK STREET  
 TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 24 OF 201 SHEETS

DATE	DATE	DATE	DATE
DESIGNED	CHECKED	APPROVED	FILED
ORIGINAL	REC		

CONTRACTOR: \_\_\_\_\_ DATE STARTED: \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_

**RICK**  
 ENGINEERING COMPANY  
 3020 FIRMAN ROAD  
 SAN DIEGO, CA 92116  
 619-291-8707  
 FAX: 619-291-4155  
 www.rickeng.com



**LEGEND**

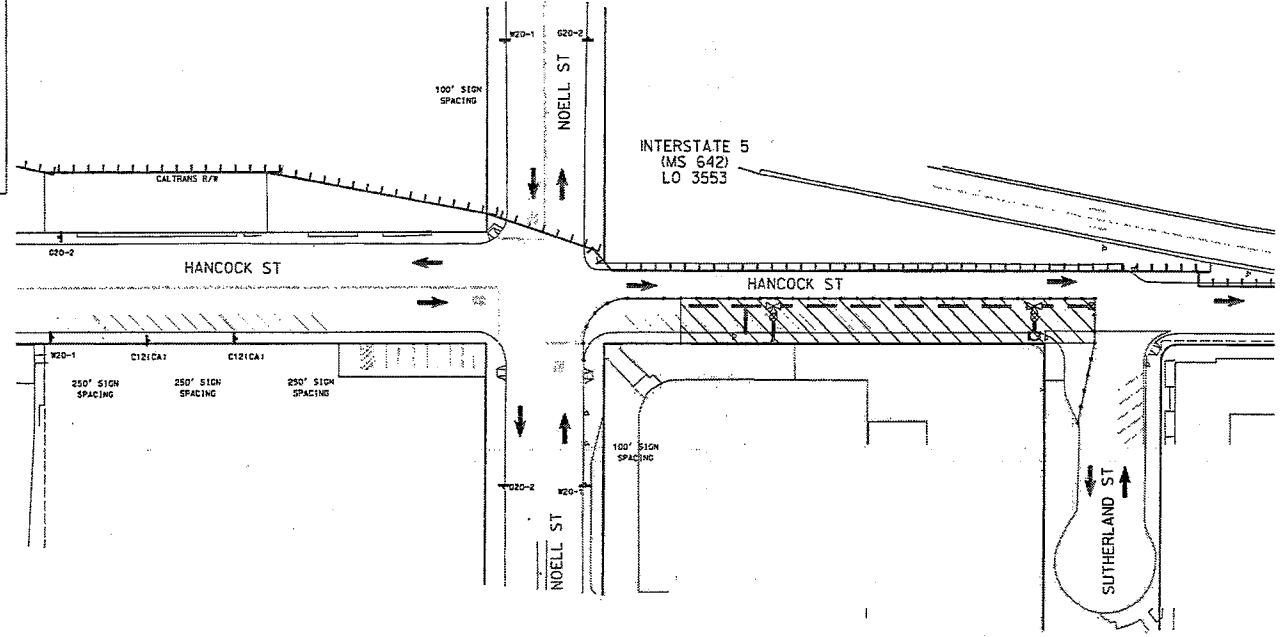
DIRECTION OF TRAVEL	→
PORTABLE SIGN	CSO
TRAFFIC CONE/QUELLOW	○
DELECIATOR	⋈
FLAG TREE	⋈
FLASHING ARROW SIGN	⋈
EXISTING SIGN	CSO
TYPE B BARRICADE	⋈
TYPE B BARRICADE WITH SIGN	CSO
TYPE B BARRICADE WITH FLASHERS	⋈
FLAG MAN LOCATION	⋈
GRIND	GR
PAVEMENT MARKER	PM
REMOVE AND RELOCATE	RL
TRAFFIC SIGNAL	TS
TYPE K TEMPORARY RAIL	TK
TEMPORARY CRASH CUSHIONS	CC
WORK ZONE	WZ

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
HANCOCK ST	30 MPH	250 FT	180 FT	30/15 FT
NOELL ST	25 MPH	100 FT	125 FT	25/10 FT
SUTHERLAND ST	25 MPH	100 FT	125 FT	25/10 FT

WORK HOURS 3:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER 11-14-N-UT-0655  
 CO SD RTE 8 PM 13  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



RECEIVED  
 SEP 9 2015  
 CALTRANS-PERMIT

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 1115TRW 0731  
 DATE 10/14/15

NOTE:  
 PLACE WZ0-1 & C20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE:  
 CONTRACTOR SHALL COORDINATE WITH  
 TRAFFIC CONTROL AND SIGNAL SECTION  
 185B1 495-474D A MINIMUM OF 5 (FIVE)  
 WORKING DAYS PRIOR TO WORK AFFECTING  
 A TRAFFIC SIGNAL.

T-125

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 HANCOCK STREET  
 TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 125 OF 201 SHEETS		WATER RES 5-1205 SEWER RES B-124T
DATE	DATE	DATE
DESCRIPTION	BY	APPROVED
ORIGINAL	REC	FILED
PROJECT NUMBER	218-1689	DATE COORDINATE
CONTRACTOR	DATE STARTED	DATE COMPLETED
INSPECTOR	DATE STARTED	DATE COMPLETED

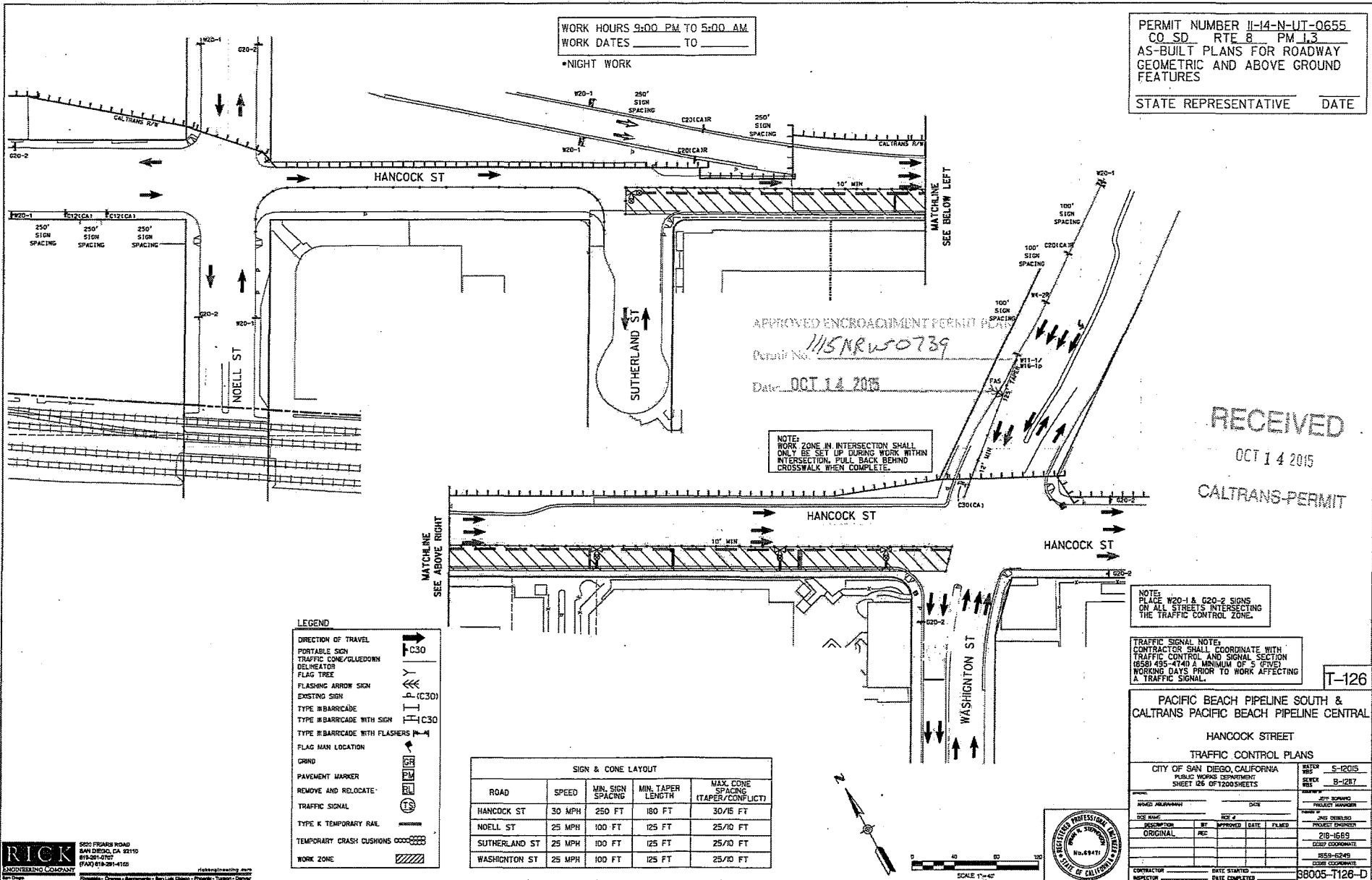


**RICK**  
 ENGINEERING COMPANY  
 3000 FREARS ROAD  
 SAN DIEGO, CA 92110  
 619-294-4707  
 619-294-4165  
 rickengineering.com  
 Services - Design - Construction - San Luis Obispo - Phoenix - Tucson - Denver

HANCOCK ST

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER II-14-N-UT-0655  
 CO SD RTE 8 PM 13  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



RECEIVED  
 OCT 14 2015  
 CALTRANS-PERMIT

HANCOCK ST

**RICK**  
 LANDMARKING COMPANY  
 5200 FRENCH ROAD  
 SAN DIEGO, CA 92110  
 (619) 591-4701  
 (FAX) 619-291-4105



NO.	DESCRIPTION	BY	APPROVED	DATE	FILED
1	ORIGINAL	PEC			

DATE STARTED \_\_\_\_\_ DATE COMPLETED \_\_\_\_\_

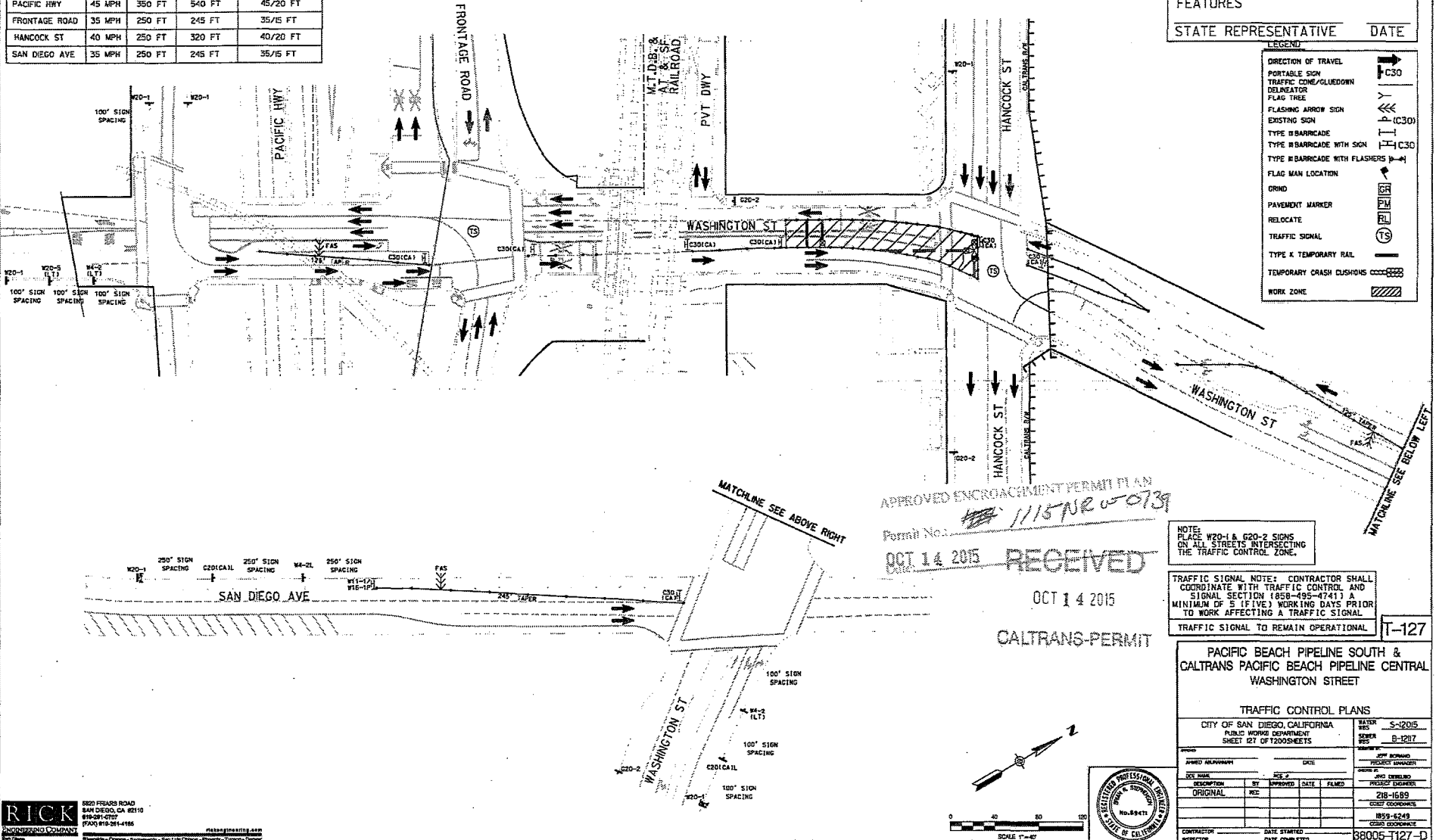
SIGN & CONE LAYOUT				
ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WASHINGTON ST	25 MPH	100 FT	125 FT	25/40 FT
PACIFIC HWY	45 MPH	350 FT	540 FT	45/20 FT
FRONTAGE ROAD	35 MPH	250 FT	245 FT	35/15 FT
HANCOCK ST	40 MPH	250 FT	320 FT	40/20 FT
SAN DIEGO AVE	35 MPH	250 FT	245 FT	35/15 FT

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER 0-14-N-UT-0655  
 CO SD RTE B PM L3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

LEGEND	
DIRECTION OF TRAVEL	→ C30
PORTABLE SIGN	□ C30
TRAFFIC CONE/GUEDOWN	○ C30
DELAGATOR	Y
FLAG TREE	⋈
FLASHING ARROW SIGN	⚡ C30
EXISTING SIGN	⊞ C30
TYPE II BARRICADE	⊞ C30
TYPE II BARRICADE WITH SIGN	⊞ C30
TYPE II BARRICADE WITH FLASHERS	⊞ C30
FLAG MAN LOCATION	⊞ C30
ORND	⊞ C30
PAVEMENT MARKER	⊞ C30
RELOCATE	⊞ C30
TRAFFIC SIGNAL	⊞ C30
TYPE X TEMPORARY RAIL	⊞ C30
TEMPORARY CRASH CUSHIONS	⊞ C30
WORK ZONE	⊞ C30



APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 1115NR 050739

OCT 14 2015 RECEIVED

OCT 14 2015

CALTRANS-PERMIT

NOTE: PLACE W20-1 & C20-2 SIGNS ON ALL STREETS INTERSECTING THE TRAFFIC CONTROL ZONE.

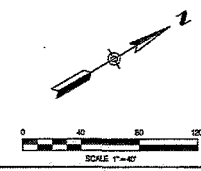
TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL COORDINATE WITH TRAFFIC CONTROL AND SIGNAL SECTION (858-495-4741) A MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR TO WORK AFFECTING A TRAFFIC SIGNAL  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

T-127

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL WASHINGTON STREET

TRAFFIC CONTROL PLANS			
CITY OF SAN DIEGO, CALIFORNIA		WATER	S-12015
PUBLIC WORKS DEPARTMENT		SEWER	B-1287
SHEET 127 OF 1200 SHEETS		DATE	11/13/15
APPROVED	DATE	BY	DATE
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	REC		
DATE STARTED	DATE COMPLETED	PROJECT NUMBER	218-1689
		COST CODE	859-6249
		CONTRACT NUMBER	88005-T127-D

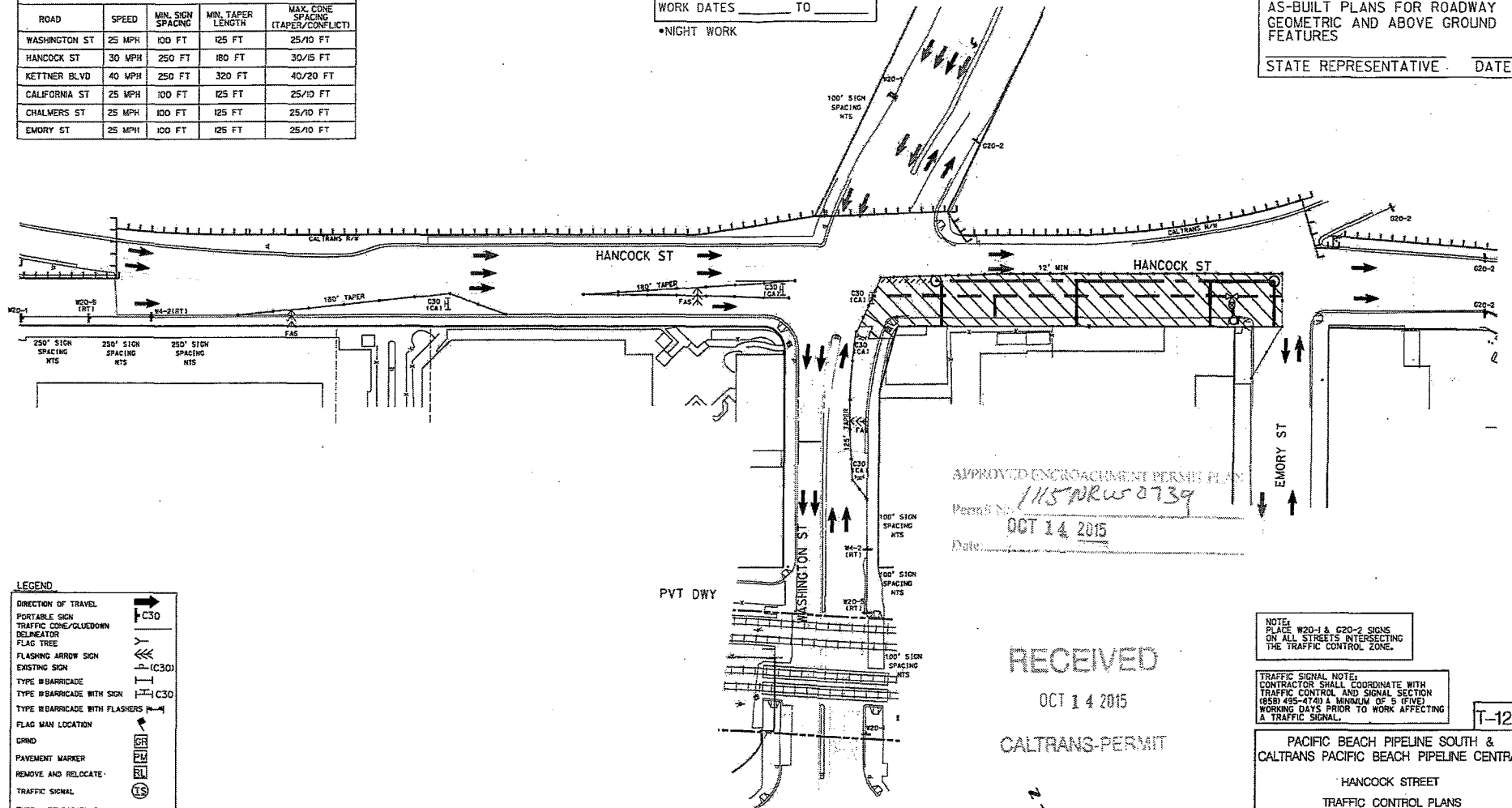
**RICK**  
 ENGINEERING COMPANY  
 8000 FRASER ROAD  
 SAN DIEGO, CA 92118  
 619-291-0707  
 619-291-2611-4166



SIGN & CONE LAYOUT				
ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WASHINGTON ST	25 MPH	100 FT	125 FT	25/10 FT
HANCOCK ST	30 MPH	250 FT	180 FT	30/15 FT
KETTNER BLVD	40 MPH	250 FT	320 FT	40/20 FT
CALIFORNIA ST	25 MPH	100 FT	125 FT	25/10 FT
CHALMERS ST	25 MPH	100 FT	125 FT	25/10 FT
EMORY ST	25 MPH	100 FT	125 FT	25/10 FT

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER H-14-N-UT-0655  
 CO SD RTE 8 PM L3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



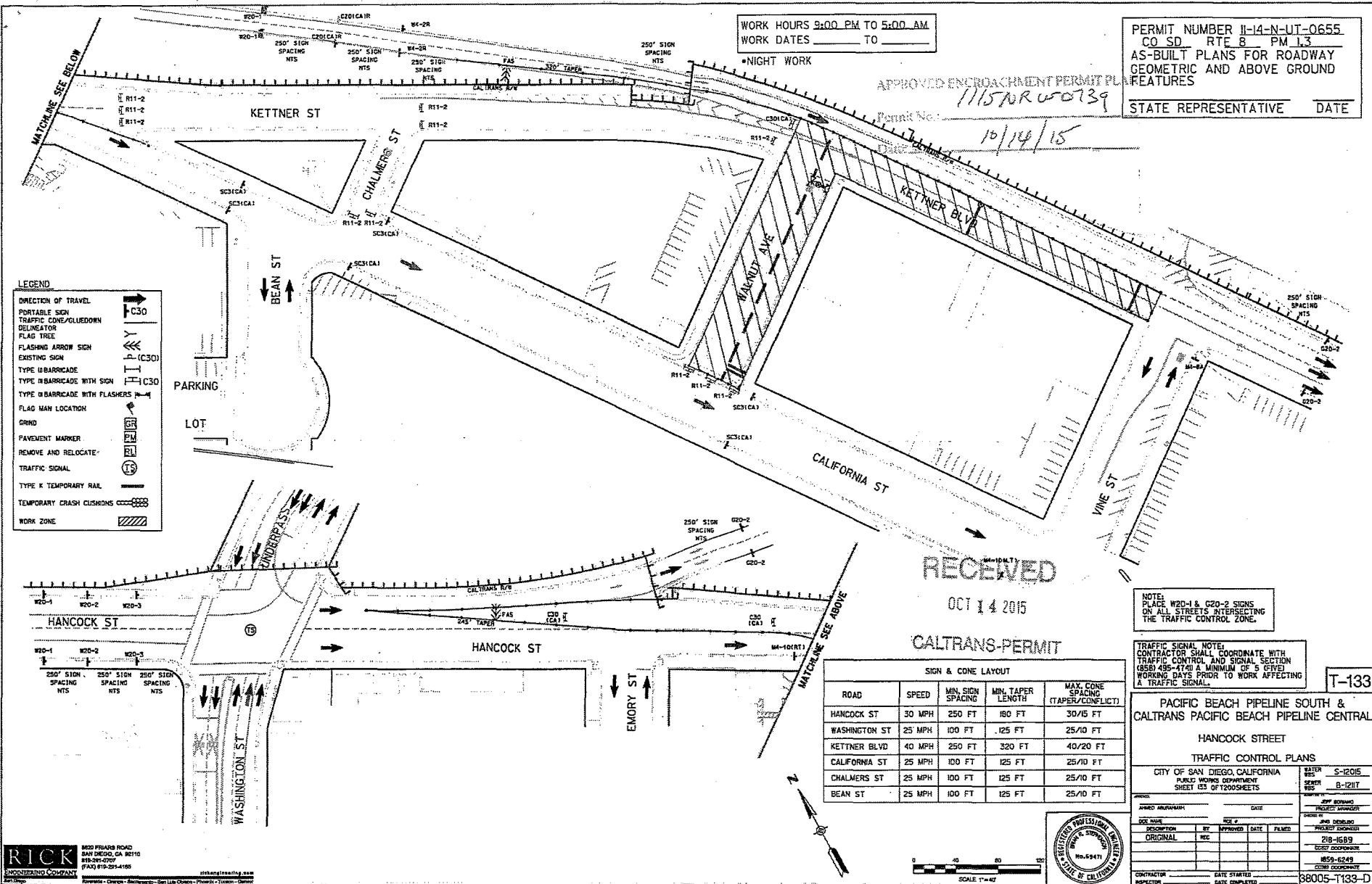
HANCOCK ST (WATER / SEWER)

**RICK**  
 ENGINEERING COMPANY  
 5600 FRANKS ROAD  
 SAN DIEGO, CA 92119  
 (619) 591-0101  
 (619) 591-4105  
 rick@rickeng.com  
 Rick Eng - Design - Surveying - Soil/Land Classes - Planning - Estimating

NOTE:  
 PLACE W20-1 & G20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTES:  
 CONTRACTOR SHALL COORDINATE WITH  
 TRAFFIC CONTROL AND SIGNAL SECTION  
 (858) 495-4740 A MINIMUM OF 5 (FIVE)  
 WORKING DAYS PRIOR TO WORK AFFECTING  
 A TRAFFIC SIGNAL.

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL			
HANCOCK STREET			
TRAFFIC CONTROL PLANS			
CITY OF SAN DIEGO, CALIFORNIA		SHEET NO.	S-12015
PUBLIC WORKS DEPARTMENT		SHEET NO.	B-1287
SHEET 128 OF 200 SHEETS		DATE	
APPROVED BY	DATE	STAFF NUMBER	PROJECT NUMBER
DESCRIPTION	BY	APPROVED DATE	FILED
ORIGINAL	REC		218-1689
			218-1689
			1858-6243
			CS&G COORDINATE
CONTRACTOR	DATE STARTED	DATE COMPLETED	88005-T128-D



WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 •NIGHT WORK

PERMIT NUMBER 11-14-N-UT-0655  
 CO. SD. RTE. B. PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED ENCROACHMENT PERMIT PL  
 1115NRW0739  
 Permit No. 10/14/15

- LEGEND**
- DIRECTION OF TRAVEL →
  - PORTABLE SIGN T-C30
  - TRAFFIC CONE/FLUORESCENT DELINEATOR
  - FLAG TREE
  - FLASHING ARROW SIGN
  - EXISTING SIGN
  - TYPE II BARRICADE
  - TYPE II BARRICADE WITH SIGN
  - TYPE II BARRICADE WITH FLASHERS
  - FLAG MAN LOCATION
  - GRIND
  - PAVEMENT MARKER
  - REMOVE AND RELOCATE
  - TRAFFIC SIGNAL
  - TYPE K TEMPORARY RAIL
  - TEMPORARY CRASH CUSHIONS
  - WORK ZONE

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
HANCOCK ST	30 MPH	250 FT	150 FT	30/15 FT
WASHINGTON ST	25 MPH	100 FT	125 FT	25/10 FT
KETTNER BLVD	40 MPH	250 FT	320 FT	40/20 FT
CALIFORNIA ST	25 MPH	100 FT	125 FT	25/10 FT
CHALMERS ST	25 MPH	100 FT	125 FT	25/10 FT
BEAN ST	25 MPH	100 FT	125 FT	25/10 FT

NOTE: PLACE W20-1 & G20-2 SIGNS ON ALL STREETS INTERSECTING THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL COORDINATE WITH TRAFFIC CONTROL AND SIGNAL SECTION (850-495-1740) A MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR TO WORK AFFECTING A TRAFFIC SIGNAL.

T-133

PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL

HANCOCK STREET

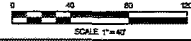
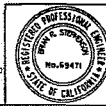
TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 133 OF 1200 SHEETS

DATE	DATE	DATE	DATE
BY	BY	BY	BY
DATE	DATE	DATE	DATE
FILED	FILED	FILED	FILED

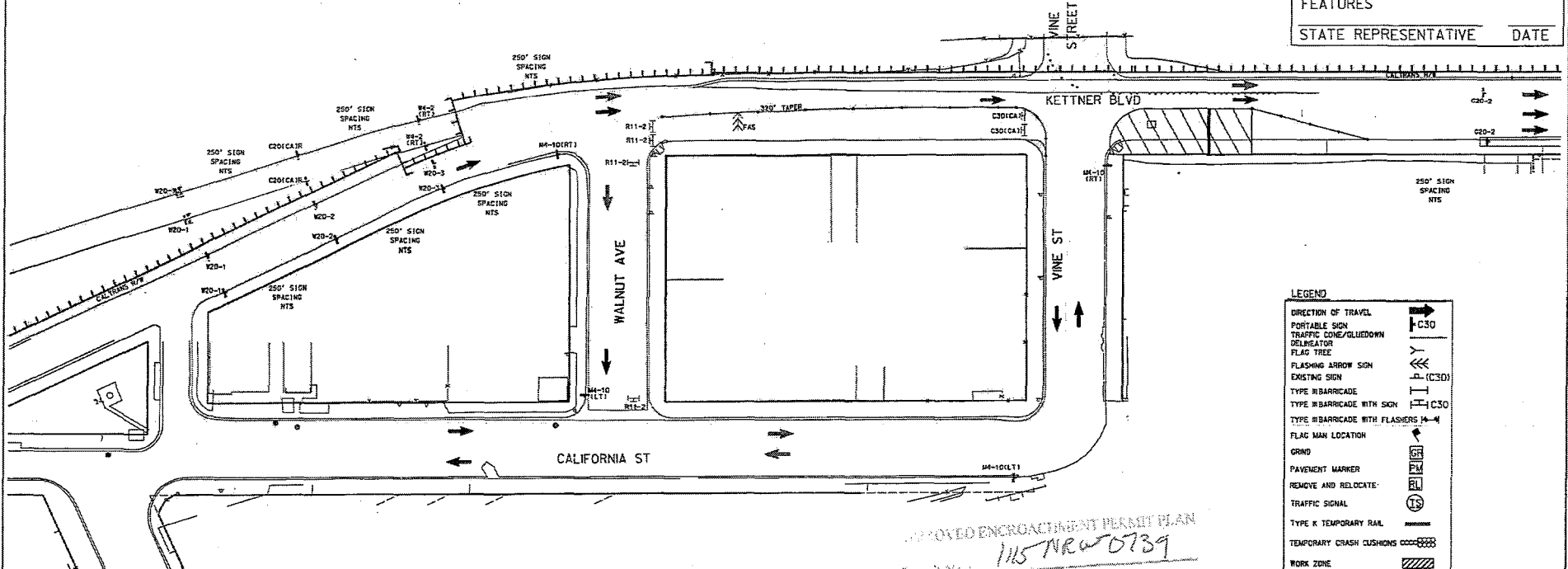
218-1689  
 859-6249  
 38005-1133-D

**RICK**  
 ENGINEERING COMPANY  
 9420 FRENCH ROAD  
 SAN DIEGO, CA 92116  
 619-291-2707  
 619-291-2944 FAX



WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER JJ-14-N-JT-0655  
 CO SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



**LEGEND**

- DIRECTION OF TRAVEL
- PORTABLE SIGN
- TRAFFIC CONE/BUEDOWN
- DELMETATOR
- FLAG TREE
- FLASHING ARROW SIGN
- EXISTING SIGN
- TYPE # BARRICADE
- TYPE # BARRICADE WITH SIGN
- TYPE # BARRICADE WITH FLASHERS 14-1
- FLAG MAN LOCATION
- GRIND
- PAVEMENT MARKER
- REMOVE AND RELOCATE
- TRAFFIC SIGNAL
- TYPE X TEMPORARY RAIL
- TEMPORARY CRASH CUSHIONS
- WORK ZONE

APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No. 115 NR 0739  
 OCT 14 2015  
 RECEIVED  
 OCT 14 2015  
 CALTRANS-PERMIT

NOTE: PLACE W20-1 & G20-2 SIGNS ON ALL STREETS INTERSECTING THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL COORDINATE WITH TRAFFIC CONTROL AND SIGNAL SECTION (ISS) 455-474J A MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR TO WORK AFFECTING A TRAFFIC SIGNAL.

T-134

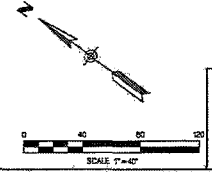
PACIFIC BEACH PIPELINE SOUTH & CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 HANCOCK STREET  
 TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 134 OF 1200 SHEETS

WATER RES S-1205  
 SEWER RES B-1287

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 JOB NUMBER: \_\_\_\_\_  
 JOB DESCRIPTION: \_\_\_\_\_  
 PROJECT NUMBER: \_\_\_\_\_  
 218-1689  
 CDD7 COORDINATOR: \_\_\_\_\_  
 1859-6243  
 CONTRACTOR: \_\_\_\_\_ DATE STARTED: \_\_\_\_\_  
 INSPECTOR: \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_ 38005-T134-D

SIGN & CONE LAYOUT				
ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
KETTNER BLVD	40 MPH	250 FT	320 FT	40/20 FT
CALIFORNIA ST	25 MPH	100 FT	125 FT	25/10 FT
WALNUT AVE	25 MPH	100 FT	125 FT	25/10 FT
VINE ST	25 MPH	100 FT	125 FT	25/10 FT



**RICK**  
 ENGINEERING COMPANY

8500 PRINARD ROAD  
 SAN DIEGO, CA 92110  
 619.291.0779  
 6740 P18-0214-1100

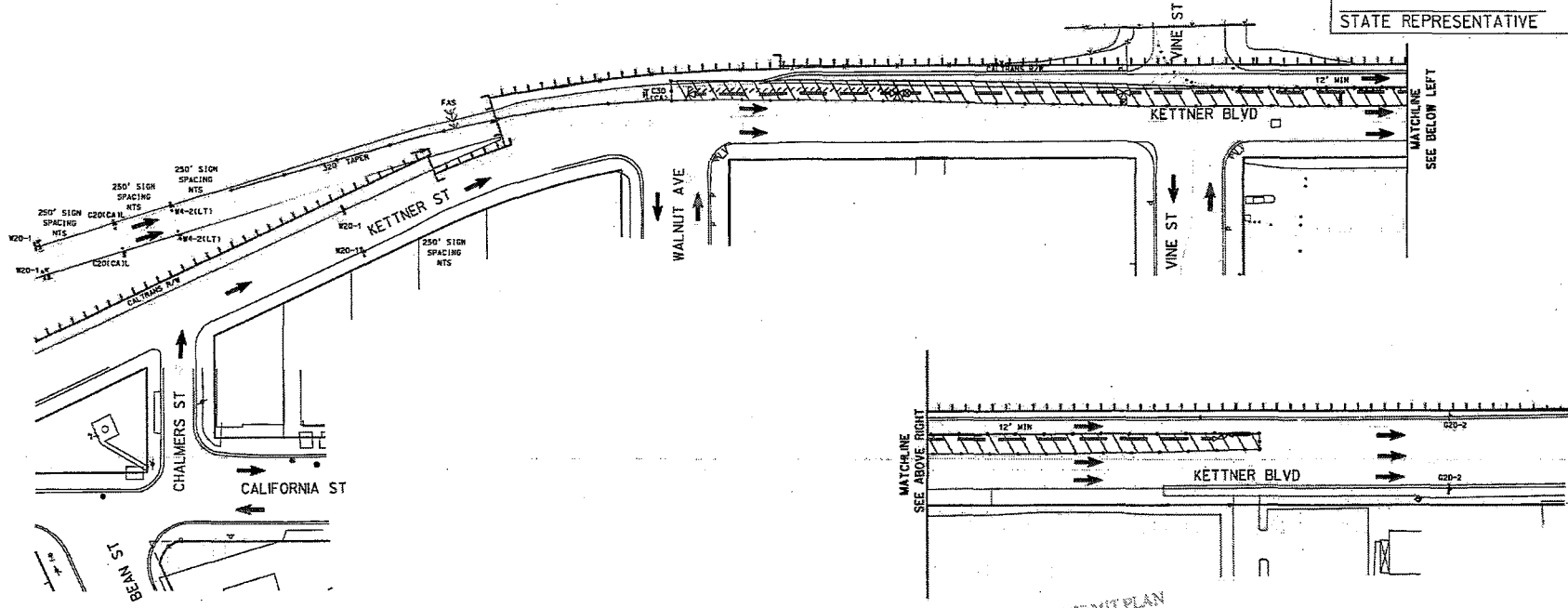
www.rickeng.com

Services: • Design • Construction • Sanitary Design • Planning • Traffic • General



WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER II-14-N-UT-0655  
 CO SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



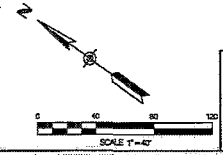
**LEGEND**

DIRECTION OF TRAVEL		C30
PORTABLE SIGN		
TRAFFIC CONE/BUCKET		
DELIMITER		
FLAG TREE		
FLASHING ARROW SIGN		
EXISTING SIGN		(C30)
TYPE B BARRICADE		
TYPE B BARRICADE WITH SIGN		C30
TYPE B BARRICADE WITH FLASHERS		
FLAG MAN LOCATION		
ORND		
PAVEMENT MARKER		
REMOVE AND RELOCATE		
TRAFFIC SIGNAL		
TYPE K TEMPORARY RAIL		
TEMPORARY CRASH CUSHIONS		
WORK ZONE		

ENCROACHMENT PERMIT PLAN  
 11/5 NR 20739  
 10/14/15  
**RECEIVED**  
 OCT 14 2015  
 CALTRANS-PERMIT

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
KETTNER BLVD	40 MPH	250 FT	320 FT	40/20 FT
CHALMERS ST	25 MPH	100 FT	125 FT	25/10 FT
WALNUT AVE	25 MPH	100 FT	125 FT	25/10 FT
VINE ST	25 MPH	100 FT	125 FT	25/10 FT



NOTE:  
 PLACE W20-1 & G20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE:  
 CONTRACTOR SHALL COORDINATE WITH  
 TRAFFIC CONTROL AND SIGNAL SECTION  
 (858) 459-4746 A MINIMUM OF 5 (FIVE)  
 WORKING DAYS PRIOR TO WORK AFFECTING  
 A TRAFFIC SIGNAL.

T-136

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 HANCOCK STREET  
 TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 036 OF 1200 SHEETS

DATE	DATE	DATE	DATE
APPROVED	BY	APPROVED	DATE
ORIGINAL	REC		

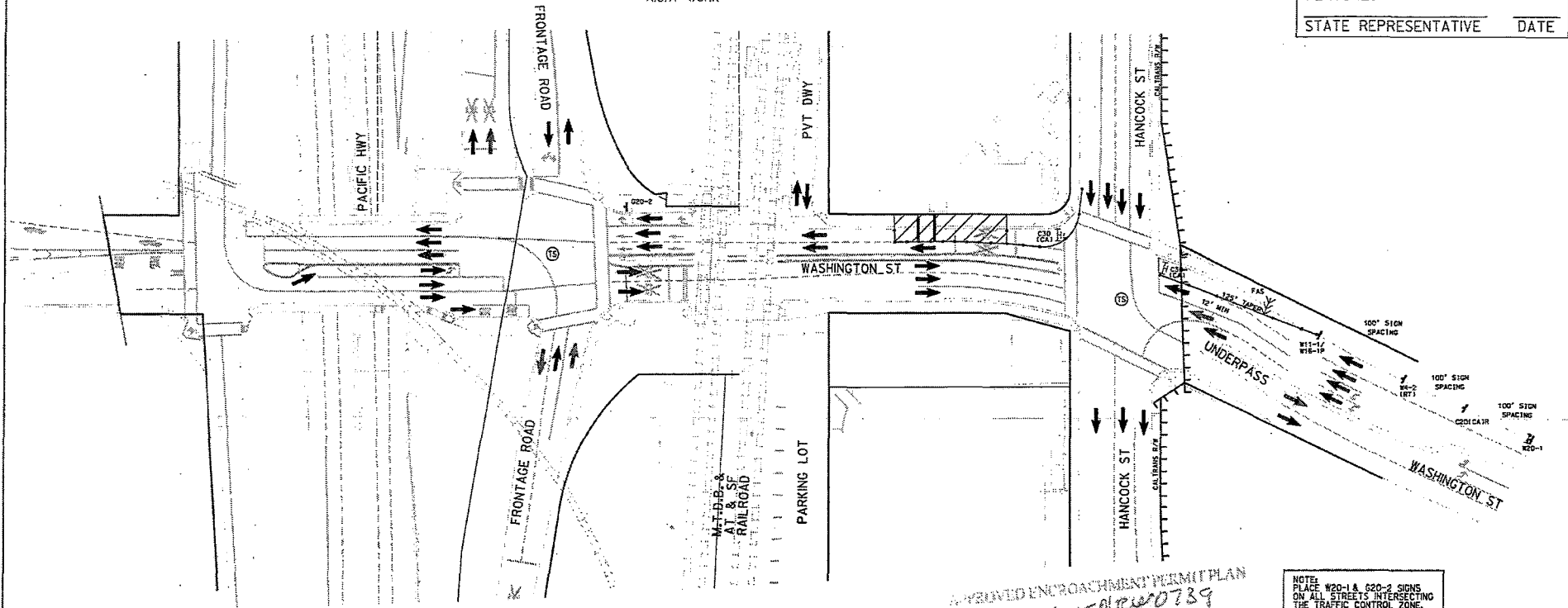
PROJECT MANAGER: JIM BISHOP  
 PROJECT ENGINEER: JIM BISHOP  
 CHECKED: 218-1589  
 DATE STARTED: 05/19/15  
 DATE COMPLETED: 08/05/15

88005-T136-D

**RICK**  
 ENGINEERING COMPANY  
 6320 FRANKS ROAD  
 SAN DIEGO, CA 92121  
 619-291-0707  
 619-291-4166  
 rickengineering.com

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK

PERMIT NUMBER II-14-N-UT-0655  
 CO. SD RTE 8 PM 1.3  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES  
 STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_



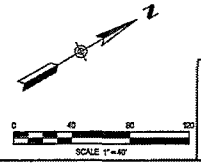
- LEGEND**
- DIRECTION OF TRAVEL →
  - PORTABLE SIGN T-C30
  - TRAFFIC CONE/GLUEDOWN DELINEATOR Y
  - FLAG TREE
  - FLASHING ARROW SIGN
  - EXISTING SIGN
  - TYPE II BARRICADE
  - TYPE II BARRICADE WITH SIGN T-C30
  - TYPE II BARRICADE WITH FLASHERS
  - FLAG MAN LOCATION
  - GRIND
  - PAYMENT MARKER
  - RELOCATE
  - TRAFFIC SIGNAL
  - TYPE X TEMPORARY RAIL
  - TEMPORARY CRASH CUSHIONS
  - WORK ZONE

**SIGN & CONE LAYOUT**

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WASHINGTON ST	25 MPH	100 FT	125 FT	25/10 FT
PACIFIC HWY	45 MPH	350 FT	540 FT	45/20 FT
FRONTAGE ROAD	35 MPH	250 FT	245 FT	35/15 FT
HANCOCK ST	40 MPH	250 FT	320 FT	40/20 FT

APPROVED ENCROACHMENT PERMIT PLAN  
 115 NRW0739  
 Permit No. \_\_\_\_\_ DATE OCT 14 2015

RECEIVED  
 OCT 14 2015  
 CALTRANS-PERMIT



NOTE:  
 PLACE W20-1 & W20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL  
 COORDINATE WITH TRAFFIC CONTROL AND  
 SIGNAL SECTION (858-495-4741) A  
 MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR  
 TO WORK AFFECTING A TRAFFIC SIGNAL  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

T-138

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 WASHINGTON STREET

TRAFFIC CONTROL PLANS  
 CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET 138 OF 200 SHEETS

DATE	DATE	DATE	DATE	DATE	DATE
APPROVED	BY	APPROVED	DATE	FILED	
ORIGINAL	REC				

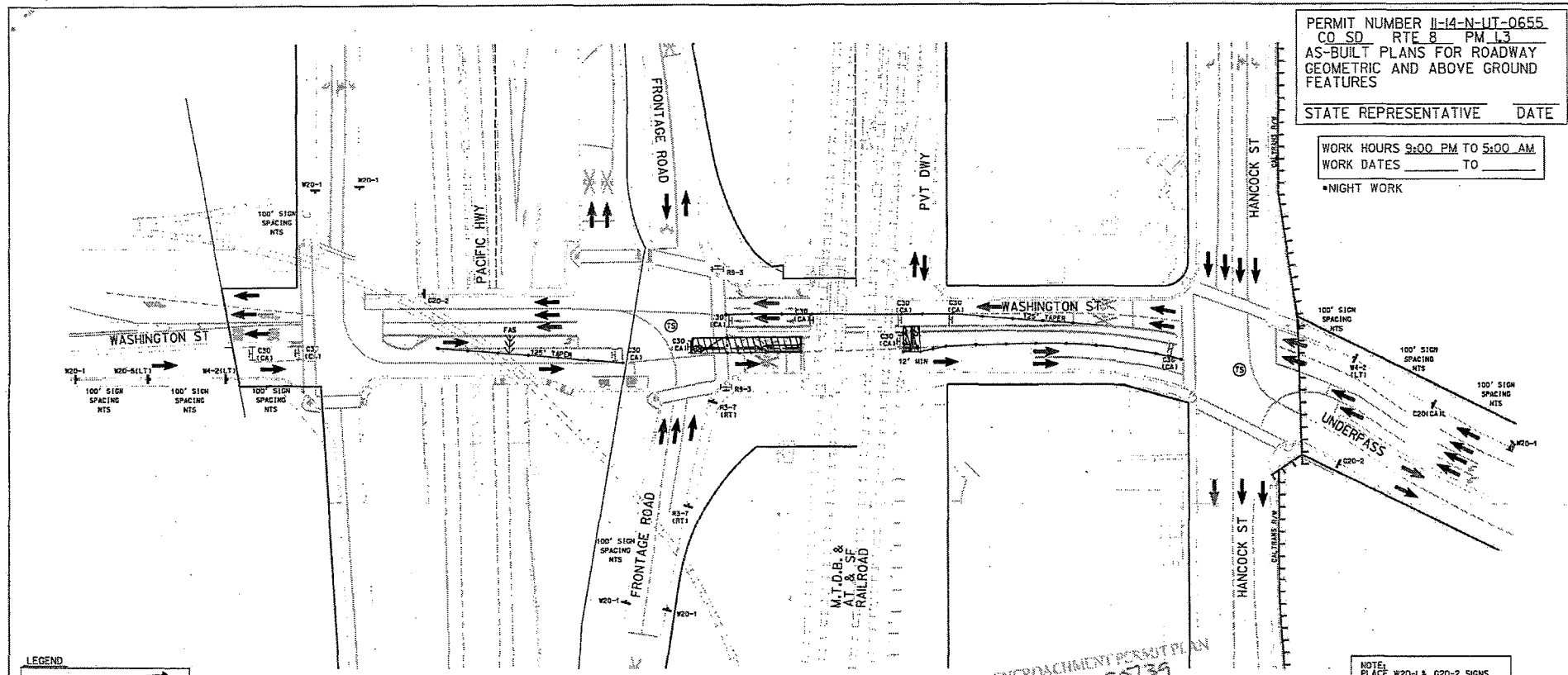
CONTRACTOR \_\_\_\_\_ DATE STARTED \_\_\_\_\_ 38005-T138-D  
 INSPECTOR \_\_\_\_\_ DATE COMPLETED \_\_\_\_\_

**RICK**  
 ENGINEERING COMPANY  
 5520 FRANKS ROAD  
 SAN DIEGO, CA 92110  
 619-291-0772  
 (619) 416-2011-1165

PERMIT NUMBER II-14-N-UT-0655  
 CO SD RTE 8 PM 13  
 AS-BUILT PLANS FOR ROADWAY  
 GEOMETRIC AND ABOVE GROUND  
 FEATURES

STATE REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

WORK HOURS 9:00 PM TO 5:00 AM  
 WORK DATES \_\_\_\_\_ TO \_\_\_\_\_  
 \*NIGHT WORK



APPROVED ENCROACHMENT PERMIT PLAN  
 Permit No: 115 NRW 0739

OCT 14 2015

RECEIVED

OCT 14 2015

CALTRANS-PERMIT

NOTE:  
 PLACE W20-1 & C20-2 SIGNS  
 ON ALL STREETS INTERSECTING  
 THE TRAFFIC CONTROL ZONE.

TRAFFIC SIGNAL NOTE: CONTRACTOR SHALL  
 COORDINATE WITH TRAFFIC CONTROL AND  
 SIGNAL SECTION (858-495-4741) A  
 MINIMUM OF 5 (FIVE) WORKING DAYS PRIOR  
 TO WORK AFFECTING A TRAFFIC SIGNAL.  
 TRAFFIC SIGNAL TO REMAIN OPERATIONAL

T-140

PACIFIC BEACH PIPELINE SOUTH &  
 CALTRANS PACIFIC BEACH PIPELINE CENTRAL  
 WASHINGTON STREET

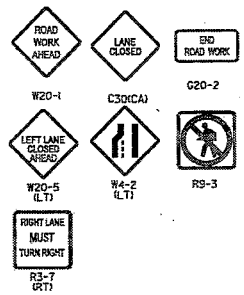
TRAFFIC CONTROL PLANS

CITY OF SAN DIEGO, CALIFORNIA		ALTERNATIVE NO. <u>S-2005</u>
PUBLIC WORKS DEPARTMENT		SEWER SYSTEM NO. <u>B-287</u>
SHEET NO. OF 1200 SHEETS		
APPROVED BY: _____	DATE: _____	JOB BOARD PROJECT MANAGER
DRAWN BY: _____	DATE: _____	AND DEVELOPED PROJECT ENGINEER
DESCRIPTION: _____	BY: _____	DATE: _____
ORIGINAL: _____	REC: _____	DATE: _____
CONTRACTOR: _____		DATE STARTED: _____
INSPECTOR: _____		DATE COMPLETED: _____
		88005-T140-D

LEGEND

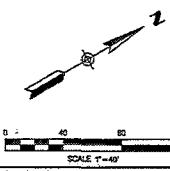
DIRECTION OF TRAVEL		C30
PORTABLE SIGN		
TRAFFIC CONE/ADJEDDOWN DELINEATOR		
FLAG TREE		
FLASHING ARROW SIGN		(C30)
EXISTING SIGN		
TYPE # BARRICADE		C30
TYPE # BARRICADE WITH SIGN		
TYPE # BARRICADE WITH FLASHERS		
FLAG MARK LOCATION		
GRIND		
PAYEMENT MARKER		
RELOCATE		
TRAFFIC SIGNAL		
TYPE K TEMPORARY RAIL		
TEMPORARY CRASH CUSHIONS		
WORK ZONE		

SIGNS THIS SHEET



SIGN & CONE LAYOUT

ROAD	SPEED	MIN. SIGN SPACING	MIN. TAPER LENGTH	MAX. CONE SPACING (TAPER/CONFLICT)
WASHINGTON ST	25 MPH	100 FT	125 FT	25/10 FT
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FRONTAGE ROAD	35 MPH	250 FT	245 FT	35/15 FT
HANCOCK ST	40 MPH	250 FT	320 FT	40/20 FT



**RICK** ENGINEERING COMPANY  
 5830 FRANK ROAD  
 SAN DIEGO, CA 92110  
 (619) 581-9707  
 (FAX) 619-281-4185  
 rickeng@netnet.com

WASHINGTON ST

**APPENDIX I**

**COASTAL DEVELOPMENT PERMIT DE MINIMIS WAIVER COASTAL ACT  
SECTION 30624.7**

**CALIFORNIA COASTAL COMMISSION**

SAN DIEGO AREA  
7676 METROPOLITAN DRIVE, SUITE 103  
SAN DIEGO, CA 92108-4421  
(619) 767-2370



October 21, 2015

## Coastal Development Permit De Minimis Waiver Coastal Act Section 30624.7

Based on the project plans and information provided in your permit application for the development described below, the Executive Director of the Coastal Commission hereby waives the requirement for a Coastal Development Permit pursuant to Section 13238.1, Title 14, California Code of Regulations. If, at a later date, this information is found to be incorrect or the plans revised, this decision will become invalid; and, any development occurring must cease until a coastal development permit is obtained or any discrepancy is resolved in writing.

**Waiver:** 6-15-1296-W

**Applicant:** San Diego Public Works Department: Jeff Soriano

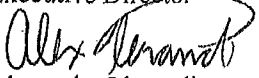
**Location:** W Mission Bay Dr & Ingraham St, Mission Bay Park, Mission Bay, San Diego (San Diego County) APNs: 423-540-08 – 09, -26 – 27, -30; 435-480-17; 423-674-05; 423-675-12 – 19, -22; 423-676-01; 423-680-12; 436-660-09 – 12, -23, -34; 441-090-19, -23; 441-132-27; 441-160-21, -24 - 25; 441-660-02, -07; 760-029-02 – 03; 760-029-01

**Proposed Development:** Use open trenches, under-bridge hanging, and directional drilling to replace approximately 20,170 linear feet of existing 8-in., 12-in., 16-in., 20-in., and 24-in. water mains and appurtenances with new lines of the same size range and abandonment of portions of the existing pipeline; replace approximately 3,290 linear ft. of existing 6-in., 8-in., 10-in., and 12-in. sewer mains including associated laterals and manholes with new lines of the same size range; and rehabilitate approximately 375 linear ft. of sewer line throughout the greater Mission Bay Park area so as to bring lines up to current City standards, not to increase development capacity.

**Rationale:** The proposed project will replace and upgrade existing sewer and water lines. While work will extend between May 2016 and May 2020, it will occur along existing public right-of-ways between 9 PM and 5 AM between October 1<sup>st</sup> and April 30<sup>th</sup>, avoiding peak summer months and heavy traffic periods. A traffic control plan will site staging and storage areas in paved and disturbed areas. While up to twelve public parking spaces may be occupied as needed, they will be released during the peak summer months. Because the work is along public right-of-way and avoids work in or under the water, impacts to sensitive coastal resources are not anticipated. The project is consistent with all applicable policies of the Coastal Act.

This waiver will not become effective until reported to the Commission at their November 2015 meeting and the site of the proposed development has been appropriately noticed, pursuant to 13054(b) of the California Code of Regulations. The Notice of Pending Permit shall remain posted at the site until the waiver has been validated and no less than seven days prior to the Commission hearing. If four (4) Commissioners object to this waiver of permit requirements, a coastal development permit will be required.

Charles Lester,  
Executive Director

  
Alexander Llerandi  
Coastal Program Analyst

**APPENDIX J**  
**HAZARDOUS LABEL/FORMS**

# INCIDENT/RELEASE ASSESSMENT FORM <sup>1</sup>

## If you have an emergency, Call 911

*Handlers of hazardous materials are required to report releases. The following is a tool to be used for assessing if a release is reportable. Additionally, a non-reportable release incident form is provided to document why a release is not reported (see back).*

### Questions for Incident Assessment:

	YES	NO
1. Was anyone killed or injured, or did they require medical care or admitted to a hospital for observation?	<input type="checkbox"/>	<input type="checkbox"/>
2. Did anyone, other than employees in the immediate area of the release, evacuate?	<input type="checkbox"/>	<input type="checkbox"/>
3. Did the release cause off-site damage to public or private property?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the release greater than or equal to a reportable quantity (RQ)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Was there an uncontrolled or unpermitted release to the air?	<input type="checkbox"/>	<input type="checkbox"/>
6. Did an uncontrolled or unpermitted release escape secondary containment, or extend into any sewers, storm water conveyance systems, utility vaults and conduits, wetlands, waterways, public roads, or off site?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will control, containment, decontamination, and/or clean up require the assistance of federal, state, county, or municipal response elements?	<input type="checkbox"/>	<input type="checkbox"/>
8. Was the release or threatened release involving an unknown material or contains an unknown hazardous constituent?	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the incident a threatened release (a condition creating a substantial probability of harm that requires immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment)?	<input type="checkbox"/>	<input type="checkbox"/>
10. Is there an increased potential for secondary effects including fire, explosion, line rupture, equipment failure, or other outcomes that may endanger or cause exposure to employees, the general public, or the environment?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer is YES to any of the above questions – report the release to the California Office of Emergency Services at 800-852-7550 and the local CUPA daytime: (619) 338-2284, after hours: (858) 565-5255. Note: other state and federal agencies may require notification depending on the circumstances.

\*Call 911 in an emergency\*

If all answers are NO, complete a Non Reportable Release Incident Form (page 2 of 2) and keep readily available. Documenting why a “no” response was made to each question will serve useful in the event questions are asked in the future, and to justify not reporting to an outside regulatory agency.

If in doubt, report the release.

<sup>1</sup> This document is a guide for accessing when hazardous materials release reporting is required by Chapter 6.95 of the California Health and Safety Code. It does not replace good judgment, Chapter 6.95, or other state or federal release reporting requirements.

## NON REPORTABLE RELEASE INCIDENT FORM

### 1. RELEASE AND RESPONSE DESCRIPTION

Incident # \_\_\_\_\_

Date/Time Discovered	Date/Time Discharge	Discharge Stopped <input type="checkbox"/> Yes <input type="checkbox"/> No
Incident Date / Time:		
Incident Business / Site Name:		
Incident Address:		
Other Locators (Bldg, Room, Oil Field, Lease, Well #, GIS)		
Please describe the incident and indicate specific causes and area affected. Photos Attached?: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicate actions to be taken to prevent similar releases from occurring in the future.		

### 2. ADMINISTRATIVE INFORMATION

Supervisor in charge at time of incident:	Phone: _____
Contact Person:	Phone: _____

### 3. CHEMICAL INFORMATION

Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT <sup>3</sup>
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT <sup>3</sup>
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT <sup>3</sup>
Clean-Up Procedures & Timeline:	
Completed By:	Phone: _____
Print Name:	Title: _____



**EMERGENCY RELEASE FOLLOW - UP NOTICE REPORTING FORM**

A	BUSINESS NAME	FACILITY EMERGENCY CONTACT & PHONE NUMBER (    )    -		
B	INCIDENT MO    DAY    YR DATE	TIME OES NOTIFIED                     (use 24 hr time)	OES CONTROL NO.	
C	INCIDENT ADDRESS LOCATION	CITY / COMMUNITY	COUNTY	ZIP
D	CHEMICAL OR TRADE NAME (print or type)		CAS Number	
	CHECK IF CHEMICAL IS LISTED IN 40 CFR 355, APPENDIX A <input type="checkbox"/>		CHECK IF RELEASE REQUIRES NOTIFI - CATION UNDER 42 U.S.C. Section 9603 (a) <input type="checkbox"/>	
	PHYSICAL STATE CONTAINED <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS	PHYSICAL STATE RELEASED <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS	QUANTITY RELEASED	
	ENVIRONMENTAL CONTAMINATION <input type="checkbox"/> AIR <input type="checkbox"/> WATER <input type="checkbox"/> GROUND <input type="checkbox"/> OTHER	TIME OF RELEASE	DURATION OF RELEASE — DAYS — HOURS — MINUTES	
E	ACTIONS TAKEN			
F	KNOWN OR ANTICIPATED HEALTH EFFECTS (Use the comments section for addition information)			
	<input type="checkbox"/> ACUTE OR IMMEDIATE (explain) _____			
	<input type="checkbox"/> CHRONIC OR DELAYED (explain) _____			
	<input type="checkbox"/> NOTKNOWN (explain) _____			
G	ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS			
H	COMMENTS (INDICATE SECTION (A - G) AND ITEM WITH COMMENTS OR ADDITIONAL INFORMATION)			
I	CERTIFICATION: I certify under penalty of law that I have personally examined and I am familiar with the information submitted and believe the submitted information is true, accurate, and complete.			
	REPORTING FACILITY REPRESENTATIVE (print or type)			DATE:
	SIGNATURE OF REPORTING FACILITY REPRESENTATIVE _____			DATE: _____

## **EMERGENCY RELEASE FOLLOW-UP NOTICE REPORTING FORM INSTRUCTIONS**

### **GENERAL INFORMATION:**

Chapter 6.95 of Division 20 of the California Health and Safety Code requires that written emergency release follow-up notices prepared pursuant to 42 U.S.C. § 11004, be submitted using this reporting form. Non-permitted releases of reportable quantities of Extremely Hazardous Substances (listed in 40 CFR 355, appendix A) or of chemicals that require release reporting under section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. § 9603(a)] must be reported on the form, as soon as practicable, but no later than 30 days, following a release. The written follow-up report is required in addition to the verbal notification.

### **BASIC INSTRUCTIONS:**

- The form, when filled out, reports follow-up information required by 42 U.S.C § 11004. Ensure that all information requested by the form is provided as completely as possible.
- If the incident involves reportable releases of more than one chemical, prepare one report form for each chemical released.
- If the incident involves a series of separate releases of chemical(s) at different times, the releases should be reported on separate reporting forms.

### **SPECIFIC INSTRUCTIONS:**

**Block A:** Enter the name of the business and the name and phone number of a contact person who can provide detailed facility information concerning the release.

**Block B:** Enter the date of the incident and the time that verbal notification was made to OES. The OES control number is provided to the caller by OES at the time verbal notification is made. Enter this control number in the space provided.

**Block C:** Provide information pertaining to the location where the release occurred. Include the street address, the city or community, the county and the zip code.

**Block D:** Provide information concerning the specific chemical that was released. Include the chemical or trade name and the Chemical Abstract Service (CAS) number. Check all categories that apply. Provide best available information on quantity, time and duration of the release.

**Block E:** Indicate all actions taken to respond to and contain the release as specified in 42 U.S.C. § 11004(c).

**Block F:** Check the categories that apply to the health effects that occurred or could result from the release. Provide an explanation or description of the effects in the space provided. Use Block H for additional comments/information if necessary to meet requirements specified in 42 U.S.C. § 11004(c).

**Block G:** Include information on the type of medical attention required for exposure to the chemical released. Indicate when and how this information was made available to individuals exposed and to medical personnel, if appropriate for the incident, as specified in 42 U.S.C. § 11004(c).

**Block H:** List any additional pertinent information.

**Block I:** Print or type the name of the facility representative submitting the report. Include the official signature and the date that the form was prepared.

### **MAIL THE COMPLETED REPORT TO:**

**State Emergency Response Commission (SERC)  
Attn: Section 304 Reports  
Hazardous Materials Unit  
3650 Schriever Avenue  
Mather, CA 95655**

**NOTE:** Authority cited: Sections 25503, 25503.1 and 25507.1, Health and Safety Code. Reference: Sections 25503(b)(4), 25503.1, 25507.1, 25518 and 25520, Health and Safety Code.

# HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL  
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY  
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES

GENERATOR NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_ 24 HR. PHONE ( ) \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
EPA ID NO. \_\_\_\_\_ MANIFEST DOCUMENT NO. \_\_\_\_\_  
EPA WASTE NO. \_\_\_\_\_ CA WASTE NO. \_\_\_\_\_ ACCUMULATION START DATE \_\_\_\_\_

CONTENTS, COMPOSITION \_\_\_\_\_  
PROPER DOT SHIPPING NAME \_\_\_\_\_  
TECHNICAL NAME (S) \_\_\_\_\_  
UNNA NO. WITH PREFIX \_\_\_\_\_

PHYSICAL STATE:  SOLID  LIQUID | HAZARDOUS PROPERTIES:  FLAMMABLE  TOXIC  
 CORROSIVE  REACTIVE  OTHER \_\_\_\_\_

**HANDLE WITH CARE!**  
CONTAINS HAZARDOUS OR TOXIC WASTES

**APPENDIX K**

**LONG-TERM REVEGETATION MAINTENANCE CONTRACT**

## LONG-TERM REVEGETATION MAINTENANCE AGREEMENT

This Long-Term Revegetation Maintenance Contract (LTRMC) is made and entered into by and between the City of San Diego (City), a municipal corporation, and **INSERT NAME OF CONTRACTOR - TO BE IDENTIFIED AFTER AWARD** (Contractor), who may be individually or collectively referred to herein as a "Party" or the "Parties."

### RECITALS

- A. Concurrent with execution of this LTRMC, the Parties entered into a general contract (Construction Contract) for the construction of **Pacific Beach Pipeline South** (Project), WBS/IO number **S-12015 / B-12117** Bid No. **K-15-1306-DBB-3**.
- B. In accordance with the Construction Contract, the Contractor shall enter into this contract with the City for the purpose of implementing and fulfilling long-term revegetation maintenance and monitoring requirements in accordance with the City of San Diego Municipal Code and the Contract Documents for the specified elopement(s) of **Pacific Beach Pipeline South** (Maintenance Requirements). The performance of the terms of this LTRMC shall commence immediately upon completion of performance of the Construction Contract.
- C. The Contractor is ready and willing to fulfill its maintenance requirements in accordance with the terms of this LTRMC.

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows:

### INTRODUCTORY PROVISIONS

- A. **Recitals Incorporated.** The above referenced Recitals are true and correct and are incorporated into this LTRMC by this reference.
- B. **Exhibits Incorporated.** All Exhibits and Attachments referenced in this LTRMC are incorporated into this LTRMC by this reference.
- C. **Contract Term.** This LTRMC shall be effective upon completion of the Plant Establishment Period as described in SECTION 700-2.11 and 700-2.12 of the Construction Contract, and it shall be effective until completion of the Work, described in Section 1.1 below.
- D. **Terms and Conditions.** This LTRMC is subject to the terms and conditions of the Construction Contract included in The GREENBOOK and The WHITEBOOK i.e., Part 1, Sections 212, 308, and 700 through Section 708 and The WHITEBOOK EOCP Section except as follows.
- E. **Partial Release of Payment Bond and Performance Bond**
  - 1. **Performance of Contract in Two Phases.** There are two separate phases of work to be performed by the Contractor under this Contract. The first phase covers the work involved in the original agreement as described in this agreement ("Phase 1 Work").

The second phase covers the work involved in the long-term maintenance of the plants contained within the Revegetation Area after Phase 1 Work has been completed ("Phase 2 Work").

2. **Bond Handling for Contract Phases.** The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work, however the value of each bond may be reduced as follows:
  - i. Completion by the Contractor of all Phase 1 Work shall be evidenced solely by the City Engineer affirming in writing that to the best of their knowledge that all Phase 1 Work has been completed by the Contractor in strict conformity with all City-approved plans and revisions, and that the Phase 1 Work completed by the Contractor meets all applicable standards ("Notice of Completion").
  - ii. Upon issuance by the City Engineer of the Notice of Completion for Phase 1 Work, the Payment guarantee provided under the Payment Bond for this Project, and the Performance guarantee provided under the Performance Bond for this Project, may be partially released, and thereby reduced, to an amount sufficient to cover all Phase 2 Work on this Project, with the remaining value of each bond type to be set and maintained through the date of completion of Phase 2 Work at a value not less than \_\_\_\_\_ Percent (\_\_\_\_%) of the Project's highest bond value for each bond type, but under no circumstances to be reduced to less than the actual cost of completion of all Phase 2 Work for this Project, whichever is higher ("Partial Bond Release").
3. **No Partial Release Upon Default.** No Partial Performance Bond Release and Reduction shall be given to the Contractor if the Performance Bond and/or this Agreement is in default.

## SECTION 1: MAINTENANCE CONTRACT SUMMARY

- 1.1. General.** The Contractor shall fulfill the Project's Maintenance Requirements (Work) as identified in the scope of work attached as Exhibit A in a manner satisfactory to the City.

The Contractor shall provide all equipment, labor, and materials necessary to perform the Work as described in the written in Exhibit A, at the direction of the City.

- 1.2. Work Schedule.** After receiving notification from the City, the Contractor shall create a comprehensive schedule of Work for performance of this LTRMC (Schedule) for the City's approval. The Schedule shall include routine work and inspection and infrequent operations such as repairs, fertilization, aerification, watering, and pruning.

The City will approve the Schedule prior to the commencement of the Work. The City may require the Contractor to revise the Schedule. The Contractor shall not revise the Schedule unless the revisions have received the prior written approval of the City.

- 1.3. Commencement of Work & Maintenance Period.** This LTRMC shall commence when the City approves of the Plant Establishment Period and sends notice of the approval to the Contractor in accordance with SECTION 700-2.11 and 700-2.12 of the Construction Contract and shall continue for 25 months. A copy of the approval form is attached as Exhibit B.

- 1.4. Performance of Work.** The Work shall be performed in accordance with the manufacturer's recommendations for each piece of equipment used in performance by the Contractor of this LTRMC.

- 1.5. License.** The Contractor shall hold the following licenses in good standing:

- a) C-27 State Contractor's License. Alternatively, the Contractor shall retain the services of a Subcontractor with a C-27 State Contractor's License.
- b) Pest Control Advisor's License. Alternatively, the Contractor shall retain the services of a licensed Pest Control Advisor.
- c) Registration with the County Agriculture Commission.
- d) Qualified Applicator's Certificate for Category B. This shall apply to any person supervising the use of pesticides, herbicides, or rodenticides.
- e) City of San Diego Business License.

Prior to performing the Work, the Contractor shall complete and submit to the City the License Data Sheet. See Exhibit C.

- 1.6. Hours of Performance.** The Contractor shall perform the Work between the hours of 6:00 a.m. and 6:00 p.m. Monday through Friday (Working Hours). The City may, in its sole discretion, grant permission to Contractor to perform Work during non-Working Hours. Maintenance functions that generate excess noise, e.g., operations of power equipment which would cause annoyance to area residents, shall not begin before 7:00 a.m.

## SECTION 2: ADMINISTRATION

- 2.1 Contract Administrator.** The Public Works Department-Field Division is the Contract Administrator for the LTRMC. The Contractor shall perform the Work under the direction of a designated representative of the Public Works Department. The City will communicate with the Contractor on all matters related to the administration of this LTRMC and the Contractor's performance of the Work rendered hereunder. When this LTRMC refers to communications to or with City, those communications shall be with the City, unless the City or this LTRMC specifies otherwise. Further, when this LTRMC requires an act or approval by City, that act or approval will be performed by the City.
- 2.2 Local Office.** The Contractor shall maintain a local office with a competent company representative who can be reached during Normal Working Hours and who is authorized to discuss matters pertaining to this LTRMC with the City. A local office is one located in San Diego County that can be reached by telephone and facsimile. An answering service in conjunction with a company email address for the designated company representative would fulfill this requirement. A mobile telephone shall not fulfill the requirement for a local office. All calls to the Contractor from the City shall be returned within a 1-hour period.
- 2.3 Emergency Calls.** The Contractor shall have the capability to receive and to respond immediately to calls of an emergency nature. The City shall refer emergency calls to Contractor for immediate disposition. The Contractor shall provide City with a 24 hour emergency telephone number for this purpose.
- 2.4 Staffing.** The Contractor shall furnish sufficient supervisory and working personnel capable of promptly accomplishing on schedule, and to the satisfaction of City, all Work required under this LTRMC.
- 2.5 Contractor Inspections.** The Contractor shall perform inspections of the Work site and prepare and submit to the City a Punchlist and dates of correction. The Punchlist shall include a comprehensive report of Work performed at the Work site to ensure 100% cover.

### **PART 3: WORK SITE MAINTENANCE**

- 3.1 Use of Chemicals.** The Contractor shall submit to City for approval sample labels and MSDS for all chemical herbicides, rodenticides and pesticides proposed for use under this LTRMC. Materials included shall be limited to chemicals approved by the State of California Department of Agriculture.

The use of any chemical shall be based on the recommendations of a licensed pest control advisor. Annual PCA Pesticide Recommendations are required for each pesticide proposed to be used for the Work site covered by this LTRMC. The use of chemicals shall conform to the current San Diego County Department of Agriculture regulations.

No chemical herbicide, rodenticide, or pesticide shall be applied until its use is approved, in writing, by City as appropriate for the purpose and area proposed.

The Contractor shall submit a monthly pesticide use report to City along with Contractor's invoices for payment. This report shall include a statement of all applications of herbicides, rodenticides, and pesticides, detailing the chemical used, undiluted quantity, rate of application, applicator's name, and the date and purpose of the application. For months in which no pesticides are applied, state "No Pesticide Used" on the report.



- 3.2 Irrigation Water.** The Contractor shall diligently practice water conservation, including minimizing run-off or other waste. The Contractor shall turn off irrigation systems, if any, during periods of rainfall and at such other times when suspension of irrigation is desirable to conserve water and to remain within the guidelines of good horticultural landscape maintenance practices in accordance with instructions from the Project Biologist. The Contractor's failure to properly manage and conserve water may result in deductions from the monthly payment to be made to the Contractor under this LTRMC, or other penalties.

If Contractor causes excessive use or waste of irrigation water, the estimated cost of that water shall be deducted from the monthly payment. Further, any monetary fines or other damages assessed to City for Contractor's failure to follow water conservation regulations imposed by the City, the Public Utilities Department of the City of San Diego, and where appropriate the State of California, the County Water Authority, or other legal entity shall be solely the responsibility of the Contractor, and may be deducted from the monthly payment to be made to the Contractor under this LTRMC.

- 3.3 Payment for Water.** The Contractor shall pay for the water used in the maintenance of the Work site and this cost is included in the price of this LTRMC.
- 3.4 Satisfactory Progression.** If the Revegetation Area is not progressing towards the required 100% Cover, as defined in the Scope of Work, in accordance with the Work Schedule, as determined by City, City may adjust monthly payments to Contractor accordingly.

#### SECTION 4: COMPENSATION

- 4.1 Maximum Compensation.** The compensation for this LTRMC shall not exceed **CONTRACTOR'S LUMP SUM BID AMOUNT FOR THIS LONG-TERM REVEGETATION MAINTENANCE CONTRACT – TO BE ESTABLISHED DURING THE AWARD PROCESS. SEE 2012 WHITEBOOK, SECTION 700-2.15, 5.** (Contract Price).
- 4.2 Wage Rates.** Refer to the Construction Contract for Prevailing wages requirements for this LTRMC.
- 4.3 Method of Payment and Reports.** The payments will be made monthly in direct proportion that each month bears to the total value of the Contract Price. As conditions precedent to payment, the Contractor shall submit every month a detailed invoice and report of maintenance work performed. The Contractor's failure to submit the required reports or certified payrolls as described in the Construction Contract shall constitute a basis for withholding of payment by the City.
- 4.4 Final Payment.** The Contractor shall not receive the final payment until the following conditions have been completed to the City's satisfaction:

The item(s) of the work subject to this maintenance coverage as specified in Exhibit A (Maintenance Items) have been determined to be in compliance with the Construction Contract and this LTRMC.

## SECTION 6: MISCELLANEOUS

- 6.1** **Illness and Injury Prevention Program.** The Contractor shall comply with all the mandates of Senate Bill 198 and specifically shall have a written Injury Prevention Program on file with the City in accordance with all applicable standards, orders, or requirements of California Labor Code, Section 6401.7. This Program shall be on file prior to performance of any Work.
- 6.2** **City Standard Provisions.** This LTRMC is subject to the following standard provisions:
1. WHITEBOOK, Section 7-13.3, Drug-Free Workplace (As adopted pursuant to City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace).
  2. WHITEBOOK, Section 7-13.2, Americans with Disabilities (As adopted pursuant to City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act).
  3. WHITEBOOK, Section 7-13.4, Contractor Standards and Pledge of Compliance (As adopted pursuant to City of San Diego Municipal Code §22.3224 as amended 11/24/08 by ordinance O-19808 for Pledge of Compliance).
  4. WHITEBOOK, Section 7-13.7, Notice of Labor Compliance Program Approval (As adopted pursuant to the City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776 (Stats. 1978, Ch. 1249)).
  5. WHITEBOOK, Section, 7-13.8, Apprentices on Public Works (As adopted pursuant to Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts).
  6. WHITEBOOK, Section 7-13.5, Equal Benefits (As adopted pursuant to the City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code).
  7. WHITEBOOK, Section 2-17, Information Security Policy (As adopted pursuant to the City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63).
- 6.3** **Taxpayer Identification Number.** I.R.S. regulations require the City to have the correct name, address, and Taxpayer Identification Number (TIN) or Social Security Number (SSN) on file for businesses or persons who provide services or products to the City. This information is necessary to complete Form 1099 at the end of each tax year. As such, the Contractor shall provide the City with a Form W-9 upon execution of this LTRMC.
- 6.4** **Assignment.** The Contractor shall not assign the obligations under this LTRMC, whether by express assignment or by sale of the company, nor any monies due or to become due, without City's prior written approval. Any assignment in violation of this Section shall constitute a Default and is grounds for immediate termination of this LTRMC, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between City and any putative assignee.

The Contractor has provided to the City a signed and notarized Affidavit of Disposal, a copy of which is attached to the Construction Contract, stating that all brush, trash, debris, and surplus materials resulting from the Work have been disposed of in a legal manner.

The Contractor has performed comprehensive and successful testing and checks of the Maintenance Items.

## SECTION 5: BONDS AND INSURANCE

- 5.1 Contract Bonds.** Prior to commencement of the Work, Contractor, at its sole cost and expense, shall provide to City the following bonds issued by a surety authorized to issue bonds in California and otherwise satisfactory to City:

A Payment Bond (Material and Labor Bond) in an amount not less than the Contract Price, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The Payment Bond shall be maintained by the Contractor in full force and effect until the Work is accepted by City and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

A Performance Bond in an amount not less than the Contract Price to guarantee faithful performance of all Work, within the time prescribed, in a manner satisfactory to the City, and that all materials and workmanship will be free from original or developed defects. The Performance Bond shall remain in full force and effect until performance of the Work is completed as set forth in this LTRMC.

- 5.2 Insurance.** At all times during the term of this LTRMC, the Contractor shall maintain insurance coverage as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE."

The Contractor shall not begin the Work under this LTRMC until it has complied with the following:

- a) Obtain insurance certificates reflecting evidence of insurance as specified in the Construction Contract, Section 7-3, "LIABILITY INSURANCE" for:
  1. Commercial General Liability
  2. Commercial Automobile Liability
  3. Worker's Compensation
- b) Confirm that all policies contain the specific provisions required in Section 7-3, "LIABILITY INSURANCE."

The Contractor shall submit copies of any policy upon request by the City.

The Contractor shall not modify any policy or endorsement thereto which increases the City's exposure to loss for the duration of this LTRMC.

- 6.5 Independent Contractors.** The Contractor and any Subcontractors employed by Contractor shall be independent contractors and not agents of City. Any provisions of this LTRMC that may appear to give City any right to direct Contractor concerning the details of performing the Work, or to exercise any control over such performance, shall mean only that Contractor shall follow the direction of City concerning the end results of the performance.
- 6.6 Covenants and Conditions.** All provisions of this LTRMC expressed as either covenants or conditions on the part of the City or the Contractor shall be deemed to be both covenants and conditions.
- 6.7 Jurisdiction, Venue, and Attorney's Fees.** The jurisdiction and venue for any suit or proceeding arising out of or concerning this LTRMC, the interpretation or application of any of its terms, or any related disputes shall be the County of San Diego, State of California.
- 6.8 Successors in Interest.** This LTRMC and all rights and obligations created by this LTRMC shall be in force and effect whether or not any Parties to this LTRMC have been succeeded by another entity, and all rights and obligations created by this LTRMC shall be vested and binding on any Party's successor in interest.
- 6.9 Integration.** This LTRMC and the exhibits, attachments, and references incorporated into this LTRMC fully express all understandings of the Parties concerning the matters covered in this LTRMC. No change, alteration, or modification of the terms or conditions of this LTRMC, and no verbal understanding of the Parties, their officers, agents, or employees shall be valid unless made in the form of a written change agreed to in writing by both Parties or an amendment to this LTRMC agreed to by both Parties. All prior negotiations and agreements are merged into this LTRMC.
- 6.10 Counterparts.** This LTRMC may be executed in counterparts, which when taken together shall constitute a single signed original as though all Parties had executed the same page.
- 6.11 No Waiver.** No failure of either the City or the Contractor to insist upon the strict performance by the other of any covenant, term or condition of this LTRMC, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term, or condition of this LTRMC, shall constitute a waiver of any such breach or of such covenant, term or condition. No waiver of any breach shall affect or alter this LTRMC, and each and every covenant, condition, and term hereof shall continue in full force and effect to any existing or subsequent breach.
- 6.12 Severability.** The unenforceability, invalidity, or illegality of any provision of this LTRMC shall not render any other provision of this LTRMC unenforceable, invalid, or illegal.

**AT LEAST 1 PARAGRAPH OF THIS LTRMC MUST BE ON SAME PAGE SIGNATURES**

**6.13 Signing Authority.** The representative for each Party signing on behalf of a corporation, partnership, joint venture or governmental entity hereby declares that authority has been obtained to sign on behalf of the corporation, partnership, joint venture, or entity and agrees to hold the other Party or Parties hereto harmless if it is later determined that such authority does not exist.

IN WITNESS WHEREOF, this Contract is executed by the City of San Diego, acting by and through its Public Works Department Director in accordance with Ordinance No. O-20301 **AND AWARD OF THE UNDERLYING CONSTRUCTION CONTRACT**, and by Contractor.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, **INSERT YEAR**.

THE CITY OF SAN DIEGO

By: \_\_\_\_\_  
Mayor or designee

I HEREBY CERTIFY I can legally bind **NAME OF CONTRACTOR TO BE DETERMINED DURING AWARD PROCESS** and that I have read this entire contract, this \_\_\_\_\_ day of \_\_\_\_\_, **INSERT YEAR**.

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

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

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

I HEREBY APPROVE the form and legality of the foregoing Contract this

\_\_\_\_\_ day \_\_\_\_\_ of **INSERT YEAR**.

Jan I. Goldsmith, City Attorney

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

Printed Name: \_\_\_\_\_  
Deputy City Attorney

## EXHIBIT A

### SCOPE OF WORK

**I. Location of Work.** The location of the Work to be performed (Revegetation Area) is shown on those Specifications and Drawings numbered **38005-157-D** through **38005-159-D** (Specifications), which are incorporated into this contract by this reference as though fully set forth herein.

**II. Description of Work.** The Contractor shall maintain and monitor the Revegetation Area during the Monitoring Program in accordance with this contract and the Specifications such that the Revegetation Area meets the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule. The Work includes complete landscape maintenance consisting of irrigation, pruning, shaping and training of trees, shrubs, and ground cover plants; fertilization; weed control; control of all plant diseases and pests; and trash removal, and all other maintenance listed in this contract and as required to maintain the Revegetation Area in a useable condition and to maintain the plant material in a healthy and viable state.

The work also includes biological monitoring of the Revegetation Area according to the schedule and methods specified in the Revegetation Plan. The monitoring work shall include all reporting tasks specified in the Revegetation plan.

**III. Method of Performing Work.**

A. Irrigation. Irrigation shall be applied to container and salvaged plants in accordance with instructions from the Project Biologist. Irrigation delivery techniques and schedules will vary depending on the availability of a sprinkler irrigation system and weather patterns. Failure of an existing irrigation system to provide full and proper irrigation shall not relieve Contractor of the responsibility to provide adequate irrigation with full and proper coverage of all areas subject to this LTRMC.

1. In areas where an automatic sprinkler system is installed, Contractor shall periodically inspect the operation of the system for any malfunction. The maximum interval between inspections shall not exceed 7 days. The Contractor shall maintain all sprinkler systems in such a way as to guarantee proper coverage and full working capability, and shall make whatever adjustments may be necessary to prevent excessive run-off into streets, rights-of-way, or other areas not meant to be irrigated. The cost of wasted water may be charged to Contractor.
2. All areas not adequately covered by a sprinkler system shall be irrigated by a portable irrigation method in accordance with instructions from the Project Biologist. The Contractor shall furnish all hoses, nozzles, sprinklers, etc. necessary to accomplish this supplementary irrigation. The Contractor shall exercise due diligence to prevent water waste, erosion, and detrimental seepage into existing underground improvements and to existing structures.
3. Irrigation shall be accomplished as follows:

- a) Turf (if any) shall be irrigated Monday through Friday, as required, to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Additional irrigation shall be performed in the event of unusually hot/dry weather conditions (as are present during Santa Ana conditions, or other times of low humidity or high winds, or during a prolonged high temperature period during summer months).
  - b) Landscaped improved banks and slopes (if any) shall be irrigated Monday through Friday as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.
  - c) Shrub beds (if any) shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Shrub areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of shrub types, seasons and weather conditions.
  - d) Planted and seeded areas shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Planted and seeded areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of plant types, seasons and weather conditions.
4. Maintenance of Irrigation System. The Contractor shall keep controller and valve boxes (if any) clear of soil and debris and shall maintain the irrigation system at no additional cost to City, including replacement, repair, adjustment, raising or lowering, straightening and any other operation required for the continued proper operation of the system from the "cold" side of the water meter throughout the Revegetation Area. The Contractor shall also be responsible for maintaining the painted surfaces of irrigation and lighting controller cabinets as well as the corresponding automatic irrigation battery numbers on the lids of the automatic control valve boxes (if any). The Contractor shall be responsible for light bulb replacements in controller cabinets as necessary.
- a) Repair or replacement includes: sprinkler system laterals (piping), sprinkler mains (pressure lines), vacuum breakers, sprinkler control valves, sprinkler controllers, sprinkler heads, sprinkler caps, sprinkler head risers, valve covers, boxes and lids (including electrical pull boxes and lids), valve sleeves and lids, quick coupler valves and hose bibs. Any replacement shall conform to the type and kind of existing system. Any deviation shall be approved in writing by City.
  - b) Contractor shall repair irrigation systems which are damaged or altered in any way, including by acts of God, vandalism, vehicular damage, or theft.
5. Operation of Automatic Irrigation Controllers. Where the operation of automatic irrigation controllers is required as part of this LTRMC, Contractor shall:
- a) Not duplicate any coded City key furnished by City for access and operation of the controller;

- b) Surrender all keys furnished by City, promptly at the end of the term of this LTRMC, or at any time deemed necessary by City to prevent serious loss to City;
- c) protect the security of City's property by keeping controller cabinet and building doors locked at all times; and
- d) refrain from using premises behind locked doors for storage of materials, supplies, or tools except as approved by City.

B. Pruning Shrubs and Ground Cover Plants. The Contractor shall prune all shrubs and ground cover plants growing in the Revegetation Area as required to:

- 1) Maintain plant growth viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.
- 2) Prevent encroachment of passage ways, walks, streets, or view of signs; and
- 3) Prevent encroachment in any manner deemed objectionable by City.

The Contractor shall remove dead or damaged limbs with sharp pruning tools, with no stubs remaining. The Contractor shall seal any pruning cut which exceeds 2" in diameter with an approved pruning paint when required by City. The Contractor shall perform pruning to permit plants to grow naturally in accordance with their normal growth characteristics except where box hedging is required by City. The Contractor shall not shear, hedge, or severely prune plants, unless authorized by City. The Contractor shall not use growth regulators.

C. Tree Maintenance. Contractor shall maintain all trees and container plants in the revegetation area in accordance with instructions from the Project Biologist. The Contractor shall perform pruning to promote the best growth habits, appearance, and health of all trees and container plants, and to prevent encroachment which is in any manner deemed undesirable by City, in accordance with instructions from the Project Biologist. The Contractor is responsible for tree pruning that can be accomplished with a 12' pole saw by a worker standing on the ground. The Contractor shall not top trees.

- 1) Potential Hazards. The Contractor shall notify City within 24 hours of any tree that shows signs of root heaving or leaning, or is in any manner a potential safety hazard. The Contractor shall immediately reestablish trees and shrubs that are uprooted due to storms, if possible. If trees or shrubs cannot be reestablished, Contractor shall remove them immediately (including roots) and fill the holes until replacement planting is complete.
- 2) Replacement. The Contractor shall completely remove and replace trees lost due to Contractor's faulty maintenance or negligence, as determined by City. The Contractor shall replace trees in kind and size as determined by City. If there is a difference in value between the tree lost and the replacement tree, City will deduct the difference from payment to be made under this LTRMC. The City shall determine the value of the tree lost using the latest International Society of Arboriculture (I.S.A.) guidelines for value determination.



3) Staking. The Contractor shall securely stake any newly planted trees and other trees needing support with 2 “lodge pole” type stakes placed on opposite sides of the tree outside the root ball and secured to the tree with at least two flexible rubber tree ties. The Contractor shall regularly inspect tree ties and stakes and reposition them as necessary to ensure against girdling and abrasion.

D. Fertilization. Contractor shall fertilize the Revegetation Area as necessary in accordance with instructions from the Project Biologist to meet the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule Prior to any fertilization, Contractor shall submit to City Material Safety Data Sheets and a schedule of application showing the site, date, and approximate time of fertilizer application (Fertilizer Schedule). The Fertilization Schedule, regardless of its intensity, timing, or the number of sites covered daily or weekly, shall not excuse Contractor from performing any other Work regularly required under this LTRMC. All fertilization shall first be approved by the Project Biologist.

1) Contractor shall notify City at least 48 hours before beginning any fertilization. Fertilizer shall be delivered to the site only in the original unopened containers bearing the manufacturer’s guaranteed analysis. Damaged packages shall not be accepted. The Contractor shall furnish City with duplicate signed, legible copies of all certificates and invoices for all fertilizer to be used for this LTRMC. The invoices shall state the grade, amount and quantity received. Both the copy to be retained by City and Contractor’s copy shall be signed by City, on site, before any fertilizer may be used.

2) Fertilizers, if necessary, shall be applied at the direction of the Project Biologist and according to manufacturer’s product specifications.

3) If deemed necessary by City to achieve required results, Contractor shall apply other materials as directed by City, including:

a) iron chelate;

b) soil sulfur;

c) gypsum; or

d) surfactant enzymes such as Sarvon or Naiad.

4) Contractor shall adequately irrigate the fertilized area(s) immediately following the application of fertilizers and/or amendments to force fertilizer material to rest directly on the soil surface. Drip irrigated areas shall be adequately hand watered using quick coupler valves and hoses to dissolve fertilizer.

- E. Weed Removal. Contractor shall completely remove weeds from the Revegetation Area, including all turf grass areas, shrub and ground cover areas, planters, tree wells, and cracks in paved areas, including sidewalks, parking lot, gutters and curbs, as shown on the Work Schedule. For the purposes of this Section, "Weed" means any undesirable or misplaced plant. The Contractor shall control Weeds by manual, mechanical, or chemical methods. The City or Project Biologist may restrict the use of chemical weed control in certain areas.
- F. Disease and Pest Control. The Contractor shall regularly inspect the Revegetation Area for the presence of disease and insect or rodent infestation. The Contractor shall notify City within 4 days if disease or insect or rodent infestation is discovered. In its notice to City, Contractor shall identify the disease, insect, or rodent and specify the control measures to be taken. Upon approval of City, Contractor shall implement the approved control measures, exercising extreme caution in the application of all sprays, dusts, or other materials utilized. The Contractor shall continue the approved control measures until the disease, insect, or rodent is controlled to the satisfaction of City.
- 1) All individuals who supervise the mixing and application of herbicides, pesticides, and rodenticides on behalf of Contractor shall possess valid Qualified Applicators Certificate for Category B issued to them by the State Department of Food and Agriculture.
  - 2) Contractor shall utilize all safeguards necessary during disease, insect or rodent control operations to ensure safety of the public and the employees of Contractor, in accordance with current standard practices accepted by the State of California Department of Food and Agriculture. If Contractor is unable to control the pest or disease, a pest control company will be hired and the cost shall be deducted from Contractor's monthly payment.
- G. Plant Replacement. Except as provided in Section H below, Contractor shall notify City within 4 days of the loss of plant material due to any cause.
- 1) Contractor shall at no cost to City replace any tree, shrub, ground cover, or other plant which is damaged or lost as a result of Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City.
  - 2) If so directed by City, Contractor shall replace any plant damaged or lost that is not a result of Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City. The City will pay for materials and labor.
  - 3) City may determine that certain plants should be replaced in order to ensure maximum ecological health and overall aesthetic appearance of planting in the Revegetation Area. When City determines such replacement should occur, Contractor shall replace the plants as directed by City. City will pay for materials and labor.
- H. Damage Reports. The Contractor shall notify City within 24 hours of any damage to the Work Area caused by accident, vandalism or theft.

- I. Litter. The Contractor shall promptly dispose of all trash and debris at an appropriate City disposal site. The Contractor shall pay any and all fees associated with the disposal of debris or trash accumulated under the terms of this LTRMC. The Contractor understands that disposal of refuse at City landfills is subject to a fee and that the Refuse Disposal Division can be contacted at (619) 573-1418 for fee information.
- 1) Contractor Generated Litter. The Contractor shall promptly remove all debris generated by Contractor's pruning, trimming, weeding, edging and other Work required by this LTRMC. Immediately after working in streets, park walks, gutters, driveways, and paved areas, Contractor shall clean them in accordance with all applicable laws.
  - 2) Third Party Generated Litter. Upon discovery Contractor shall remove all litter, including bottles, glass, cans, paper, cardboard, fecal matter, leaves, branches, metallic items, and other debris, from the Work site.
- J. Monitoring: The Project Biologist will oversee all maintenance operations and conduct qualitative and quantitative biological monitoring of the revegetation area according to the schedule and methods described in the Revegetation Plan. The Project Biologist will be responsible for preparing and submitting monitoring reports according to the schedule and instructions in the Revegetation Plan. The Project Biologist will be an individual or team of individuals with 4-year degree(s) in botany, ecology, landscape architecture or a related field, and demonstrated experience in upland and riparian community restoration.

**EXHIBIT B**

**INSERT A COPY OF THE ENGINEER'S FIELD NOTIFICATION WHICH ESTABLISHES THE COMMENCEMENT DATE OF THE MONITORING PROGRAM, SEE CITY SUPPLEMENT, SECTION 700-2.12**

**EXHIBIT C**

**LICENSE DATA SHEET**

**State Contractor License Classification and Number:** \_\_\_\_\_

Name of License Holder: \_\_\_\_\_

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

**Pest Control Applicator's Name:** \_\_\_\_\_

License Number: \_\_\_\_\_

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

**Pest Control Advisor's Name:** \_\_\_\_\_

License Number: \_\_\_\_\_

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

**City of San Diego Business License Number:** \_\_\_\_\_

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

**APPENDIX L**  
**SEWER MAINS AND MANHOLE REHABILITATION SAMPLE DATA**  
**TEMPLATES**



**REHAB DATA COLLECTION – MANHOLES**

MH FSN	REHAB DATE	LINING TYPE	LINING MATERIAL VENDOR	LINING SYSTEM	REHAB CONTRACTOR	RIM ELEVATION	INVERT ELEVATION	ACTUAL DEPTH (VF)	COMMENTS	ACCEPTANCE DATE
70536	3/28/2007	POLYURETHANE	ZEBRON	ZEBRON 386	ZEBRON CORPORATION	49.8	41.95	7	Leave this row as a sample.	3/28/2007



**APPENDIX M**  
**SAMPLE ARCHAEOLOGY INVOICE**

(FOR ARCHAEOLOGY ONLY)

Company Name

Address, telephone, fax

Date: Insert Date

To: Name of Resident Engineer  
City of San Diego  
Field Engineering Division  
9485 Aero Drive  
San Diego, CA 92123-1801

Project Name: Insert Project Name

SAP Number (WBS/IO/CC): Insert SAP Number

Drawing Number: Insert Drawing Number

Invoice period: Insert Date to Insert Date

Work Completed: Bid item Number – Description of Bid Item – Quantity – Unit Price– Amount

Detailed summary of work completed under this bid item: Insert detailed description of Work related to Archaeology Monitoring Bid item. See Note 1 below.

Summary of charges:

Description of Services	Name	Start Date	End Date	Total Hours	Hourly Rate	Amount
Field Archaeologist	Joe Smith	8/29/2011	9/2/2011	40	\$84	\$3,360
Laboratory Assistant	Jane Doe	8/29/2011	9/2/2011	2	\$30	\$60
Subtotal						\$3,420

Work Completed: Bid item Number – Description of Bid Item – Quantity – Unit Price– Amount

Detailed summary of work completed under this bid item: Insert detailed description of Work related to Archaeology Curation/Discovery Bid item. See Note 2 below.

Summary of charges:

Description of Services	Where work occurred (onsite vs offsite/lab)	Name	Start Date	End Date	Total Hours	Hourly Rate	Amount
Field Archaeologist		Joe Smith	8/29/2011	9/2/2011	40	\$84	\$3,360
Laboratory Assistant		Jane Doe	8/29/2011	9/2/2011	2	\$30	\$60
Subtotal							\$3,420

Total this invoice: \$ \_\_\_\_\_

Total invoiced to date: \$ \_\_\_\_\_

Note 1:

For monitoring related bid items or work please include summary of construction work that was monitored from Station to Station, Native American monitors present, MMC coordination, status and nature of monitoring and if any discoveries were made.

Note 2:

For curation/discovery related bid items or work completed as part of a discovery and curation process, the PI must provide a response to the following questions along with the invoice:

1. Preliminary results of testing including tentative recommendations regarding eligibility for listing in the California Register of Historical Resources (California Register).
  - a. Please briefly describe your application (consideration) of all four California Register criteria.
  - b. If the resource is eligible under Criterion D, please define the important information that may be present.
  - c. Were specialized studies performed? How many personnel were required? How many Native American monitors were present?
  - d. What is the age of the resource?
  - e. Please define types of artifacts to be collected and curated, including quantity of boxes to be submitted to the San Diego Archaeological Center (SDAC). How many personnel were required? How many Native American monitors were present?
2. Preliminary results of data recovery and a definition of the size of the representative sample.
  - a. Were specialized studies performed? Please define types of artifacts to be collected and curated, including quantity of boxes to be submitted to the SDAC. How many personnel were required? How many Native American monitors were present?
3. What resources were discovered during monitoring?
4. What is the landform context and what is the integrity of the resources?
5. What additional studies are necessary?
6. Based on application of the California Register criteria, what is the significance of the resources?
  - a. If the resource is eligible for the California Register, can the resource be avoided by construction?
  - b. If not, what treatment (mitigation) measures are proposed? Please define data to be recovered (if necessary) and what material will be submitted to the SDAC for curation. Are any specialized studies proposed?

(After the first invoice, not all the above information needs to be re-stated, just revise as applicable).

**APPENDIX N**  
**SAMPLE OF PUBLIC NOTICES**



# CONSTRUCTION NOTICE

## PROJECT NAME

### **Trenching on your street is complete.**

#### **What you need to know:**

- Pipe installation on your street is complete and construction crews are now installing new pipeline for this project at another location.
- You may see temporary trench plates or trench caps for some time –even after construction activities have concluded on your street.

#### **Street resurfacing:**

- Your Streets will be resurfaced once the entire pipeline project is complete.
- Concrete streets will not be resurfaced curb to curb; only the trench will be backfilled.
- Street resurfacing may be delayed due to the City's slurry seal moratorium.

#### **Estimated resurfacing completion on your street:**

(Insert Date-Month and Year)

**For questions related to this work**

**Call: (619) 533-4207**

**Email: [engineering@sandiego.gov](mailto:engineering@sandiego.gov)**

**Visit: [sandiego.gov/CIP](http://sandiego.gov/CIP)**



This information is available in alternative formats upon request.



**APPENDIX O**  
**MTS PERMIT/AGREEMENT**

**NORTH COUNTY  
TRANSIT DISTRICT**



810 Mission Avenue  
Oceanside, CA 92054

(760) 966-6500  
(760) 967-2001 (fax)  
www.GoNCTD.com

March 5, 2015

Michael Wykosky  
Rick Engineering Company  
5620 Friars Road  
San Diego, CA 92111

Subject: Engineering Review – City of San Diego Pacific Beach Pipeline

Dear Mr. Wykosky:

North County Transit District (NCTD) has reviewed the engineering plan submitted by Rick Engineering Company received on February 3, 2015, attached as Exhibit A, to replace existing water mains (Work). NCTD has reviewed the plan and has the following comments:

- This letter does not authorized any construction work or any work within NCTD Right-of-Way (ROW). A joint-right-of-entry permit will be required for ROW access or construction.
- The general engineering plan notes should include:
  - For all emergencies affecting the track and train safety call North County Transit District's (NCTD) 24hour security office at (760) 966-6700.
  - Prior to the start of construction and at the contractor's expense, all personnel entering the NCTD ROW, including subcontractors and third parties, shall complete NCTD Roadway Worker Protection training course. Contact: Transit America Services, Inc. (TASI) at (760) 966-6514 to arrange for training.
  - A Railroad Flagman shall be present during all construction related activities on the railroad ROW. The Railroad Flagman/EIC has sole responsibility to protect the railroad infrastructure and operations. At all times the Contractor shall follow the Railroad Flagman/EIC's direction. Contractor is responsible to request Railroad Flagman services with adequate notice to meet Contractor's construction schedule.
  - Contractors must contact Call before You Dig (811) before any excavation occurs within the ROW. NCTD Railroad Utilities are not a part of Call before You Dig. Contractor must request NCTD utility mark out before any excavations can occur by calling Herzog Technologies Inc. (HTI) at (760) 305-1970 for signaling and PTC Fiber mark-outs within the ROW at least seven (7) working days before digging.
  - Upon project completion the NCTD ROW shall be left in as good if not better condition. NCTD property shall not be used for spoils.

If you have any questions, please contact NCTD's ROW Coordinator at 760-967-2851 or mcoria@nctd.org.

Sincerely,

Tracey Foster  
Director of Real Estate

Received and Acknowledged

3/11/15  
Signature Date

JEFF SORIANO  
Print Name

**BOARD OF DIRECTORS**

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Councilmember, City of Carlsbad  
Board Chair

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Vice Mayor, City of San Marcos  
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Deputy Mayor, City of Vista

**EXECUTIVE DIRECTOR**  
Matthew O. Tucker

**GENERAL COUNSEL**  
Lori A. Winfree

**APPENDIX P**  
**ARCHEO AND PALEO MONITORING LIMITS**



Estimated Archaeological Monitoring Limits				
(Includes Main, Laterals and other trenching activities)				
Sheet #	Discipline Code #	Begin Station	End Station	Approximate Length
5	C-1	0+69.06	9+00	830.94
6	C-2	9+00	17+00	800.00
7	C-3	17+00	23+90.22	690.22
10	C-6	46+01.40	48+00	198.60
11	C-7	48+00	52+00	400.00
12	C-8	52+00	59+54.54	754.54
12	C-8	60+61.79	61+00	38.21
13	C-9	61+00	66+53.54	553.54
14	C-10	0+68.25	3+24.57	256.32
15	C-11	11+91.96	16+00	408.04
16	C-12	16+00	24+00	800.00
17	C-13	24+00	31+00	700.00
18	C-14	31+00	31+71.8	71.80
19	C-15	43+69.05	44+58	88.95
20	C-16	50+59.23	54+00	340.77
21	C-17	54+00	63+00	900.00
22	C-18	63+00	67+00	400.00
23	C-19	67+00	75+00	800.00
24	C-20	75+00	81+77.33	677.33
25	C-21	5+82.29	9+00	317.71
26	C-22	9+00	17+00	800.00
27	C-23	17+00	25+00	800.00
28	C-24	25+00	33+00	800.00
29	C-25	33+00	39+00	600.00
30	C-26	39+00	47+00	800.00
31	C-27	47+00	55+00	800.00
32	C-28	55+00	58+57.09	357.09
32	C-28	60+29.50	61+00	70.50
33	C-29	61+00	69+00	800.00
34	C-30	69+00	74+00	500.00
35	C-31	74+00	81+00	700.00
36	C-32	81+00	86+46.72	546.72
36	C-32	1+00	3+36.58	236.58
37	C-33	1+20	7+00	580.00
38	C-34	7+00	14+00	700.00
39	C-35	14+00	21+52.25	752.25
39	C-35	1+00	1+37.23	37.23
40	C-36	1+84.58	9+00	715.42
41	C-37	9+00	17+27	827.00
41	C-37	18+44.85	19+00	55.15
42	C-38	19+00	27+77.71	877.71
44	C-40	12+95.08	16+61.41	366.33
45	C-41	1+00	4+29	329.00

45	C-41	5+80	7+03.52	123.52
47	C-43	12+30.32	15+00	269.68
48	C-44	15+00	23+00	800.00
49	C-45	23+00	30+00	700.00
50	C-46	30+00	38+00	800.00
51	C-47	38+00	41+69.65	369.65
52	C-48	1+00	5+00	400.00
53	C-49	5+00	11+39.76	639.76
54	C-50	1+00	8+19.6	719.60
56	C-52	1+00	5+20.09	420.09
57	C-53	1+72.12	5+60	387.88
59	C-55	0+84.83	1+31.74	46.91
59	C-55	1+00	2+34.21	134.21
60	C-56	10+24.02	10+90.65	66.63
61	C-57	1+00	3+60	260.00
61	C-57	6+00	9+13.18	313.18
62	C-58	31+76.89	39+00	723.11
63	C-59	39+00	46+61.82	761.82
64	C-60	4+36.12	6+51.25	215.13
64	C-60	1+00	1+32.47	32.47
65	C-61	1+00	8+00	700.00
66	C-62	8+00	13+61.68	561.69
67	C-63	1+00	8+00	700.00
68	C-64	8+00	16+21.17	821.17
72	C-68	1+00	6+65.36	565.36
Actual limits to be determined by the PI/Monitor(s) prior to construction and shall be consistent with the project's mitigation and monitoring program (MMRP).				

Estimated Paleontological Monitoring Limits				
(Includes Main, Laterals and other trenching activities)				
Sheet #	Discipline Code #	Begin Station	End Station	Approximate Length
25	C-21	5+05.17	5+75.05	69.88
26	C-22	10+10	10+60	50.00
42	C-38	24+80	25+50	70.00
42	C-38	26+70	27+10	40.00
57	C-53	1+50	2+00	50.00
57	C-53	4+20	4+70	50.00
63	C-59	43+50	46+61.82	311.82
64	C-60	2+00	5+80	380.00
64	C-60	1+00	1+32.47	32.47
65	C-61	1+00	8+00	700.00
66	C-62	8+00	9+30	130.00
67	C-63	4+60	8+00	340.00
68	C-64	8+00	11+50	350.00
72	C-68	2+20	6+10	390.00

Actual limits to be determined by the PI/Monitor(s) prior to construction and shall be consistent with the project's mitigation and monitoring program (MMRP).

**APPENDIX Q**

**MEMORANDUM OF AGREEMENT BETWEEN THE CITY OF SAN DIEGO AND  
NOELL LAPLAYA PROPERTIES, LLC**

**MEMORANDUM OF AGREEMENT  
BETWEEN THE CITY OF SAN DIEGO PROJECT AND NOELL LAPLAYA  
PROPERTIES, LLC  
3485 NOELL STREET, SAN DIEGO, CALIFORNIA**

This Memorandum of Agreement (“**Agreement**”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2015 by and between the City of San Diego, a California municipal corporation hereinafter referred to as “**the City**,” and Noell LaPlaya Properties, LLC (the “**Owner**”), both of which are hereinafter collectively referred to as “**the Parties**.”

**RECITALS**

**WHEREAS**, the City will contract or has contracted for the installation of underground sewer and water utilities along Noell Street as part of Pacific Beach Pipeline South and Caltrans Pacific Beach Pipeline Coastal project; and

**WHEREAS**, Owner is addressing or has addressed environmental conditions attributable to its operations at the location commonly known as 3485 Noell Street, San Diego, California (the “**Site**”) under the direction and supervision of the San Diego County Department of Environmental Health (DEH), which environmental conditions are described in the County of San Diego, Department of Environmental Health Site Assessment and Mitigation Program opened Unauthorized Release Case H03593-001 (the “**Site Release**”); and

**WHEREAS**, the portion of the Pacific Beach Pipeline South and Caltrans Pacific Beach Pipeline Coastal project located in that portion of Noell Street fronting the Site as depicted in **Exhibit 1** attached hereto (the “**Subject Area**”) (the “**City Project**”) is expected to commence on or about May 2016 and be completed within 180 days after commencement; and

**WHEREAS**, so that installation of the sewer and water lines in the Subject Area may proceed without further delays Owner has agreed to be responsible (in compliance with applicable agency requirements) for the removal and disposal of Contaminated Soil (as defined below) and Contaminated Groundwater (as defined below) (collectively “**Contaminated Material**”) disturbed by the trenching required for the City Project and for filter bags generated in connection with the filtration of water extracted from such trenches. Soil and groundwater not designated and referred to herein as Contaminated Soil or Contaminated Groundwater will not constitute Contaminated Soil or Contaminated Groundwater;

**NOW, THEREFORE**, in mutual consideration of the covenants, terms, and conditions set forth herein, the Parties agree as follows:

**TERMS**

1. **Term**. This Agreement shall commence and be effective on the date hereof and shall remain in full force and effect until terminated in writing by the Parties or until the completion of the City Project.

**2. City Scope of Work.** City will retain the services of \_\_\_\_\_ (“City Contractor”). City Contractor is qualified to perform the City Project and will perform such work with employees that have completed Hazardous Waste Operations and Emergency Response (HAZWOPER) training and that possess current certifications to perform the tasks generally outlined below and more specifically described in **Exhibit 2** (Plans) attached hereto and incorporated by reference, and the City’s Contract Documents for the City Project, including volumes 1 and 2, together with addendums, to which reference is made. Without limitation of the foregoing, City’s obligation to perform the City Project and City Contractor’s scope of work shall include the following, all at the City’s cost unless otherwise set forth herein:

- a. City Contractor’s work shall include furnishing of all labor, materials, tools, equipment and incidentals required for completing the City Project, including trenching, excavation, segregating, loading and backfilling of soil in the Subject Area for the sewer and water line trenches, traffic signal infrastructure, and miscellaneous concrete work.
- b. City Contractor shall be responsible for backfill material to replace removed uncontaminated soil which does not meet compaction specifications or which may otherwise be unsuitable for reuse.
- c. If Contaminated Soil is encountered in connection with the City Project, City Contractor shall load Contaminated Soil (that cannot be backfilled) into either trucks provided by Owner for direct transport to a landfill during regular working hours as required under contract documents or, if there is sufficient room for storage of the same, a roll-off bin on-site that will be picked up when full or excavation is complete for direct transport to a landfill during regular working hours as required under contract documents.
- d. City Contractor shall provide shoring within the trench as required by OSHA and steel plates as needed.
- e. City Contractor shall operate dewatering and ground water monitoring and processing equipment required to detect and separate Contaminated Groundwater. City Contractor shall be responsible for dewatering permits, supplying and operating dewatering equipment (including but not limited to pumps, collection tanks, baghouse for solids, oil/water separator, carbon vessels), and, except as provided under Section 3.c., disposal and discharge of groundwater and Contaminated Groundwater processed through the dewatering system and discharged to the sewer system. Consistent with the scope of work and costs described in the Change Order. Contractor will place used sediment filter bags and any sediment contained from the used filter bags in connection with Contractor’s operation of the dewatering system for the Contaminated Groundwater in drums supplied by Owner for Owner’s disposal. Contractor shall not place any other materials in drums supplied by Owner except as described herein.
- f. The Parties agree that neither Owner nor its agents, consultants (including Owner Contractor (as defined below) or representatives are responsible for obtaining, monitoring or otherwise complying with any permits that may be required for the City Project for work performed by City or contractors hired by City.

City anticipates that the City Project shall commence on or about May 2016 and will be completed within 180 days after commencement. At least thirty days prior to the start of the City Project, the City shall provide notice of commencement of the work and furnish Owner with a detailed schedule for the sequence and timing of City's work following commencement. When requested by Owner and when modified by City, City shall provide to Owner the updated schedule for the City Project. While the City Project is taking place, the City shall provide Owner with at least three business days' notice prior to the start of work that may impact Contaminated Soil and/or Contaminated Groundwater. Such notices shall be given in writing, and may be given by e-mail. The City agrees that City Contractor will work closely with Owner and Owner Contractor to allow sufficient time for Owner to fulfill its obligations herein so as not to impede City Contractor's progress on the City Project.

**Owner Scope of Work.** Owner has retained the services of EnvironApplications, Inc. ("**Owner Contractor**"). In connection with the City Project, Owner agrees to be responsible for, and Owner Contractor shall perform, the following in coordination with the City and City's Contractor:

g. Owner Contractor shall monitor soils removed by City Contractor during trenching activities in the Subject Area using a PID and benzene meter, and will visually observe soil conditions. Owner Contractor shall also collect soil for testing prior to disposal. Such excavated soils will be sampled in accordance with the United States Environmental Protection Agency (EPA) Method SW-846 (EPA Method SW-846), as outlined in the County of San Diego Site Assessment and Mitigation Manual, Section 5, Site Investigation Techniques, Subsection XI (**Exhibit 3** attached hereto). Excavated soils which contain detectable concentrations of gasoline constituents as measured by State-certified laboratory analysis in excess of the Shallow Soil Screening Levels, Commercial/Industrial Land Use, attached as **Exhibit 4** (groundwater is not a current or potential drinking water resource), which levels are approved for use at this location by the San Diego County Department of Environmental Health (**Exhibit 5**), and which are related to Owner's Release (i.e., reasonably related to the contents of the USTs previously on-site) will constitute "**Contaminated Soil**". All Contaminated Soil is to be disposed of by Owner at its cost and expense. Soils which (after the above described sampling) are determined not to be Contaminated Soils, will be considered suitable for reuse in the utility trenches if the soil has been tested in a timely manner (as defined below) and can be reused within 50 feet of the original soil removal location. If the soil is not tested in a timely manner (as defined below) or cannot be reused per the above terms, then the disposal of the soils will be the responsibility of Owner. Owner shall, at its sole cost and expense, sign all waste manifests or similar documentation which may be required related to Contaminated Soil requiring disposal. Owner shall arrange for direct transport and transport of Contaminated Soil or soil that was not tested in a timely manner (as defined below) so as to meet Exhibits 4 and 5 requirements to a licensed treatment, storage, and disposal facility in compliance with the City's 2012 "WhiteBook," section 703-19 (Exhibit 6) aka City of San Diego Public Works Department Standard Specifications for Public Works Construction. For purposes of this paragraph, testing (lab results) has been completed in a timely manner if returned within two business days of excavation. If Contaminated Soil is also contaminated with discharges not attributable to Owner's Release, which therefore requires additional costs and effort for proper

disposal, City and Owner will allocate the disposal costs so that Owner will only be responsible for the transport and disposal cost that would have been incurred for the Contaminated Soil attributable to Owner's Release and, as between City and Owner, City will be responsible for the balance of such transport and disposal costs.

**h.** Owner will only be responsible for new backfill material if the new backfill material is needed to replace soil removed pursuant to Section 3.a above.

**i.** "**Contaminated Groundwater**" is the groundwater collected by City Contractor which is impacted with chemicals typically found in gasoline and which is related to Owner's Release (i.e., reasonably related to the contents of the USTs previously on-site). With respect to the Contaminated Groundwater, (i) Owner will be responsible for the disposal of separate phase hydrocarbons that are not processed through Contractor's treatment system, and (ii) City shall be responsible for the disposal of the water processed by the treatment system (i.e., that is not separate phase hydrocarbons). Separate phase hydrocarbons that are collected in City Contractor's oil/water separator will be placed in drums provided by Owner for manifesting and disposal by Owner. Further, Owner will be responsible for disposal of drums containing used sediment filter bags and any sediment contained in the used filter bags in connection with City Contractor's operation of the dewatering system for the Contaminated Groundwater.

As provided below, Owner agrees to reimburse the City for the verified incremental costs incurred by the City attributable to Contaminated Groundwater encountered by the City's Contractor during the City Project. Incremental costs include the extra equipment necessary for dewatering contaminated water as well as handling and disposal of residuals from contaminated water treatment as described in Section 2 i.

**d.** Owner shall be responsible for preparing and implementing the Community Health and Safety Plan to the extent required to address Contaminated Soil and Contaminated Groundwater that could be encountered during the Work.

**4. Reimbursement of City Costs by Owner.** The City is required to have Hazwoper trained contractors on site due to the contamination associated with the Site. Owner agrees to reimburse the City up to \$4,400.00 for the costs to have its contractors to be Hazwoper trained. The invoices shall be sent to Owner at the address designated in item 15 b. herein below.

Further in consideration of the City's agreement to contract out to City Contractor the responsibility for handling the Contaminated Groundwater, which arrangement Owner does not oppose, Owner agrees to reimburse the City for the verified incremental costs incurred by the City attributable to Contaminated Groundwater encountered by the City's Contractor during the City Project consistent with the Groundwater Change Order. "Incremental costs" shall be defined as additional costs associated with special handling or disposal of Contaminated Groundwater as required by regulation and shall not include routine groundwater handling and discharge/disposal costs. For reimbursement purposes, the City will provide to Owner and Owner's Contractor invoices and supporting back-up documentation which are sufficiently detailed as verification of the additional costs associated with special handling or disposal of Contaminated Groundwater as required by regulation, including equipment for dewatering



contaminated water and the splitting of the costs of other equipment not associated with dewatering non-contaminated water.

**5. General Responsibility of Owner.**

a. Owner agrees to cooperate and coordinate with City and City Contractor during the City Project in a timely manner to prevent any delays with construction schedule.

b. By executing this Agreement, Owner agrees that the services to be provided and work to be performed under this Agreement shall be performed in a fully competent manner. By executing this Agreement, Owner further agrees and represents to City that Owner possesses, or shall arrange to secure from others, all of the necessary professional capabilities, experience, resources, and facilities necessary to perform the obligations of Owner under this Agreement and that City relies upon the professional skills of Owner or Owner's Contractor to do and perform Owner's work. Owner further agrees and represents that Owner Contractor shall follow the current, generally accepted practices in this area to make findings, render opinions, prepare factual presentations, and provide professional advice and recommendations regarding the Owner's performance under this Agreement. Owner shall assign a single Project Coordinator to have overall responsibility for the Owner's performance under this Agreement. Craig M. Skiera of EnviroApplications, Inc is hereby designated as the Project Coordinator for Owner. Owner may unilaterally change its representative upon notice to City.

c. After reasonable notice and opportunity to cure to Owner, notice of the reasonable out of pocket costs and damages incurred by City for delays to the City Contractor due to the unavailability or unreasonable delay of Owner's representatives on site performing Owner's responsibilities hereunder (which unreasonable delay is attributable solely to Owner, excluding factors outside of Owner's control) shall be delivered to Owner with sufficient reasonable detail, a measure of quantification recognized in the contracting industry and documentation for Owner's review. Owner shall pay to City the amount of such costs and damages.

d. Owner shall conduct all of Owner's work in a safe manner and in compliance with all applicable laws and regulations. City may require Owner to remove from the work site any Owner or Owner Contractor employee or subcontractor working in an unsafe manner.

e. Owner will secure a suitable site for the placement of dewatering equipment for the Contaminated Groundwater at Owner's cost at least 10 days prior to the start of working in the Subject Area. The fenced paved parking lot area adjacent to Noell St is considered suitable for this purpose.

**6. General Responsibility of City.** To the extent appropriate for the work to be completed by Owner pursuant to this Agreement, City shall:

a. City agrees to cooperate and coordinate with Owner and Owner Contractor during the City Project in a timely manner to prevent any delays with construction schedule. City agrees to coordinate and perform the City Project so as to avoid to the greatest extent

possible interference with ingress and egress to and from the Property required for the normal use and operation of the Project. To the extent such interference cannot be avoided, City will minimize and reasonably mitigate such interference.

b. Assist Owner by placing at Owner's disposal all available information pertinent to the City Project, including but not limited to, previous reports and any other data relative to the public work project. Nothing contained herein shall obligate City to incur any expense in connection with completion of studies or acquisition of information not otherwise in the possession of City.

c. Make provisions for Owner to enter upon public property as required by Owner to perform the Owner's work.

d. Examine all studies, reports, sketches, drawings, specifications, proposals, and other documents presented by Owner, and render verbally or in writing as may be appropriate, decisions pertaining thereto within a reasonable time so as not to delay the work of Owner.

e. Jeff Soriano, City's Project Manager shall act as City's representative with respect to the work to be performed under this Agreement. Such person shall have the authority to transmit instructions, receive information, interpret and apply City's policies and decisions as permitted under the City's Public Contracts Code with respect to materials, equipment, elements, and systems pertinent to City Project. City may unilaterally change its representative upon notice to Owner.

f. Give prompt written notice to Owner whenever City observes or otherwise becomes aware of any defect in the work or project.

g. Furnish approvals and permits required from the City from all governmental authorities having jurisdiction over the projects and such approvals and consents from others as may be necessary for completion of the City Project.

7. **Insurance.** Owner shall require Owner Contractor to provide City a certificate or memorandum of insurance, in a form satisfactory to the City, in the general aggregate amount of Five Million Dollars (\$5,000,000) as follows.

a. Maintain comprehensive general liability and property insurance covering all operations of Owner, its agents and employees, performed in connection with this Agreement including but not limited to premises and automobile with the following limits:

(a) *General Liability*

*Products-Completed Operations Aggregate Limit .....\$2 million*

*General Aggregate.....\$2 million*

***(The policy shall cover on an occurrence or an accident basis, and not on a claims made basis.)***

*Automobile Liability*

*Combined Single Limit Per Occurrence.....\$1 million*

***(The policy shall cover on an occurrence or an accident basis, and not on a claims made basis.)***

*(i) Worker's Compensation....., \$1 million*

*Pollution Liability Coverage .....\$3 million*

*Additional Insurance Coverage .....As May Be Required*

**b.** All insurance companies with the exception of “Worker’s Compensation” affording coverage shall be required to add the City of San Diego, its officers, and, agents as additional “insured” by endorsement under the insurance policy and shall stipulate that this insurance policy will operate as primary insured for the work performed under this Agreement and that no other insurance affected by the City or other named insured will be called upon to contribute to a loss covered thereunder. The policy shall contain no special limitations on the scope of protection afforded to City, its officers, employees or agents.

**c.** All insurance companies affording coverage shall be insurance organizations authorized by the Insurance Commissioner to transact the business of insurance in the State of California.

**d.** All insurance companies affording coverage shall provide thirty (30) days written notice by certified or registered mail to the City of San Diego should the policy be canceled or reduced in coverage before the expiration date. For the purpose of this notice requirement, any material change prior to expiration shall be considered cancellation.

**e.** Owner Contractor shall provide a substitute certificate of insurance no later than ten (10) days prior to the policy expiration date. In the event Owner Contractor is unable to provide a substitute certificate of insurance within the time prescribed in this subsection, Owner shall provide written confirmation of renewal, in a form satisfactory to the City, to act as proof of insurance only until such time as a certificate of insurance has been received by the City.

**f.** Maintenance of insurance as specified in this Agreement shall in no way be interpreted as relieving Owner of any responsibility whatsoever and Owner may carry, at its own expense, such additional insurance as it deems necessary.

**8. Indemnification and Hold Harmless.** Owner shall indemnify, defend, and hold the City and its officers and employees harmless from and against any and all liability, claims, suits, actions, damages, and causes of action arising out of Owner’s performance of the obligations imposed upon it under this Agreement, or any violation by Owner of any federal, state, or local law or ordinance, or other cause in connection with this Agreement asserted against the City by a third party for property damage and/or personal injury caused by Owner. In the event of breach of this section by Owner, Owner shall reimburse the City for all reasonable costs and expenses

including, but not limited to, reasonable fees incurred by the City in enforcing the provisions of this section. This provision shall survive termination or expiration of this Agreement.

9. **Breach and Termination.** The failure of either party to perform its obligations under this Agreement when required hereunder and the continuation of such failure after three (3) days' notice of the failure to the other party shall constitute a breach of this Agreement. The non-breaching party will have all remedies at law or in equity with respect to the breach and, in addition, and without limitation of such remedies, the right to terminate this Agreement prior to the cure of the breach. In addition, prior to commencement, City has the right to terminate this Agreement for any reason without liability to Owner and Owner has the right to terminate this Agreement prior to commencement of the City Project if the City Project is not commenced by \_\_\_\_\_. [CITY TO PROPOSE AN OUTSIDE DATE.]

- A. In the event that this Agreement is terminated by City, Owner shall:
  - (a) Upon receipt of written notice of such termination promptly cease all services on this project, unless otherwise directed by City; and
  - (b) Deliver to City all documents, data, reports, summaries, correspondence, photographs, computer software output, video and audio tapes, and any other materials provided to Owner or prepared by or for Owner or the City in connection with this Agreement. Such material is to be delivered to City in completed form.
- B. In the event that this Agreement is terminated by City as a result of Owner's breach, City is hereby expressly permitted to complete the City Project by any means, including but not limited to, an agreement with another party.
- C. The rights and remedies of the City and Owner provided under this Section are not exclusive and are in addition to any other rights and remedies provided by law or appearing in any other section of this Agreement.

10. **Compliance with Laws, Rules, and Regulations.** In its performance under this Agreement, Owner and City shall perform in accordance and full compliance with all applicable federal, state, and local laws and any rules or regulations promulgated thereunder.

11. **Attachments and Exhibits Incorporated.** All attachments referred to in this Agreement and attached to it are hereby incorporated in it by this reference. In the event there is a conflict between any of the terms of this Agreement and any of the terms of any attachment to this Agreement, the terms of the Agreement shall control the respective duties and liabilities of the parties.

12. **Integration and Agreement.** This Agreement represents the entire understanding of the City and Owner as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters contained herein. This Agreement may not be modified or altered except by amendment in writing signed by the Parties.

13. **Jurisdiction.** This Agreement shall be administered and interpreted under the laws of the State of California. Jurisdiction of litigation arising from this Agreement shall be in the State of California, in San Diego County.

14. **Severability.** If any part of this Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall continue to be in full force and effect.

15. **Notices.**

a. Written notices to the City hereunder shall, until further notice by City, be addressed to:

Jeff Soriano, Project Manager  
City of San Diego  
525 B Street, 6th Floor  
San Diego, CA 92101  
(619) 533-6632  
jsoriano@sandiego.gov

b. Written notices to Owner shall, until further notice by Owner, be addressed to:

Noell LaPlaya Properties, LLC  
c/o Jim LaMantia  
3011 Rogers Street  
San Diego, CA 92110

With a copy to:  
EnviroApplications, Inc.  
2831 Camino Del Rio South, Suite 214  
San Diego, CA 92108  
Attention: Craig M. Skiera

c. All such notices shall either be delivered personally to the other party's designee named above, or shall be deposited in the United States Mail, properly addressed as aforesaid, postage fully prepaid, and shall be effective the day following such deposit in the mail.

16. **Nondiscrimination.** During the performance of this Agreement, Owner shall not discriminate against any employee or applicant for employment because of race, color, religion, ancestry, creed, sex, national origin, familial status, sexual orientation, age (over 40 years) or disability. Owner shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, ancestry, creed, sex, national origin, familial status, sexual orientation, age (over 40 years) or disability.

17. **Rights and Obligations Under Agreement.** By entering into this Agreement, the parties do not intend to create any obligations express or implied other than those set out herein; further, this Agreement shall not create any rights in any party not a signatory hereto.

18. **Licenses.** If a license or permit of any kind, which term is intended to include evidence of registration, is required of Owner, its representatives or agents, by federal, state or local law, Owner warrants that such license or permit has been obtained, is valid and in good standing, and that any applicable bond posted are in accordance with applicable laws and regulations.

19. **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute a single agreement.

20. **Legal Representation.** Each party affirms that it has been represented by legal counsel of its own choosing regarding the preparation and the negotiation of this Agreement and the matters and claims set forth herein, and that each of them has read this Agreement and is fully aware of its contents and its legal effect. Neither party is relying on any statement of the other party outside the terms set forth in this Agreement as an inducement to enter into this Agreement.

21. **Joint Representation.** The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any party. No presumptions or rules of interpretation based upon the identity of the party preparing or drafting the Agreement, or any part thereof, shall be applicable or invoked.

22. **Warranty of Authority.** Each party represents and warrants that it has the right, power, and authority to enter into this Agreement. Each party further represents and warrants that it has given any and all notices, and obtained any and all consents, powers, and authorities, necessary to permit it, and the persons entering into this Agreement for it, to enter into this Agreement.

23. **No Waiver of Rights.** Waiver of a breach or default under this Agreement shall not constitute a continuing waiver or a waiver of a subsequent breach of the same or any other provision of this Agreement. The failure to provide notice of any breach of this Agreement or failure to comply with any of the terms of this Agreement shall not constitute a waiver thereof. Failure on the part of either party to enforce any provision of this Agreement shall not be construed as a waiver of the right to compel enforcement of such provision or any other provision. A waiver by the City of any one or more of the conditions of performance under this Agreement shall not be construed as waiver(s) of any other condition of performance under this Agreement.

**IN WITNESS WHEREOF**, the undersigned, as authorized representatives of the Parties hereto, have made and executed this Agreement.

1) **CITY OF SAN DIEGO**

---

Date

2)  
3)

APPROVED AS TO FORM JAN I.  
GOLDSMITH, CITY ATTORNEY

By: \_\_\_\_\_  
Deputy City Attorney

\_\_\_\_\_  
Date

**4) OWNER**

NOELL LA PLAYA PROPERTIES, LLC,  
a California limited liability company

By: \_\_\_\_\_  
Name: Francis H. Golden  
Its: Managing Member

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

**EXHIBIT LIST**

1. Exhibit 1 – Subject Area
2. Exhibit 2 – Plans
3. Exhibit 3 - County of San Diego Site Assessment and Mitigation Manual, Section 5, Site Investigation Techniques, Subsection XI
4. Exhibit 4 - Shallow Soil Screening Levels, Commercial/Industrial Land Use
5. Exhibit 5 - San Diego County Department of Environmental Health levels approved for use at this location
6. Exhibit 6 - City's 2012 "WhiteBook," Section 703-19 DISPOSAL OF CONTAMINATED SOIL





**APPENDIX R**

**MEMORANDUM OF AGREEMENT RELATING TO THE CITY OF SAN DIEGO  
PROJECT AND STATION SAN DIEGO, CALIFORNIA**

**MEMORANDUM OF AGREEMENT  
RELATING TO THE CITY OF SAN DIEGO PROJECT AND STATION  
SAN DIEGO, CALIFORNIA**

This Memorandum of Agreement (“Agreement”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, by and between the City of San Diego, a California municipal corporation hereinafter referred to as “the City,” and Tesoro Environmental Resources Company, a company hereinafter referred to as “Tesoro,” both of which are hereinafter collectively referred to as “the Parties.”

**RECITALS**

**WHEREAS**, the City will contract for the installation of underground sewer and water utilities along West Point Loma Boulevard as part of the Pacific Beach Pipeline South and Caltrans Pacific Beach Pipeline Coastal Project No. 12015 (“City Project”);

**WHEREAS**, Tesoro is addressing environmental conditions attributable to former ARCO operations at the location commonly known as 4101/4111 W. Point Loma Boulevard, San Diego, California (the “Site”) under the direction and supervision of the San Diego County Department of Environmental Health (“DEH”);

**WHEREAS**, the City’s project is expected to take approximately two weeks for installation of the water line along West Point Loma Boulevard in front of the Site and (the “City Project”);

**WHEREAS**, the City Project involves costs to export and dispose of a certain amount of excavated soil to install the water line and associated fixtures necessary for the City Project (“Soil Disposal for City Project”); the City Project also involves costs to conduct dewatering of groundwater (“Dewatering for City Project”);

**WHEREAS**, the City and Tesoro have engaged in discussions concerning incremental costs and additional scope of work for the removal and disposal of soils and groundwater/liquids that are impacted by petroleum hydrocarbons attributable to operations at the Site (“Contaminated Soil” or “Contaminated Groundwater,” collectively “Contaminated Material”) in compliance with applicable agency requirements from the trenched area in connection with the City Project, so that installation of the sewer and water lines in the area of the Site may proceed without further delays. Soil and groundwater not designated and referred to herein as Contaminated Soil or Contaminated Groundwater will not constitute Contaminated Soil or Contaminated Groundwater;

**WHEREAS**, Tesoro has agreed to handle certain incremental costs and additional scope of work associated with the Contaminated Soil and Contaminated Groundwater, excluding costs attributable to Soil Disposal for the City Project.

**NOW, THEREFORE**, in mutual consideration of the covenants, terms, and conditions set forth herein, the Parties agree as follows:

## TERMS

### **1. Term.**

This Agreement shall commence on \_\_\_\_\_, and shall remain in full force and effect until terminated in writing by the Parties or until the completion of the City Project, whichever is sooner.

### **2. City Scope of Work.**

City will retain the services of a qualified contractor ("Contractor") with employees that have completed Hazardous Waste Operations and Emergency Response ("HAZWOPER") training and possess current certifications to perform the tasks generally outlined below and more specifically described in Exhibit 1 ("Plans"), attached hereto and incorporated by reference, and the City's Contract Documents for the City Project, together with addendums, to which reference is made.

City and Tesoro agree to participate in a pre-construction meeting on a date as mutually agreed in order to share information about their respective work described herein, including but not limited to: any updated construction schedules and tasks, daily work hours, date for commencement of excavation near the Site, and timely updates to provide any changes thereto to the Plans that relate to work near the Site. City shall ensure Contractor attends the pre-construction meeting.

Within 60 days of the date that the City construction contract is awarded, the City shall provide Tesoro an estimate of the costs for Soil Disposal for the City Project within the area of concern ("AOC") depicted on Exhibit 2. The estimate shall be supported by back-up documentation and sufficiently detailed to verify the areas, quantities, and costs associated with Soil Disposal for the City Project within the AOC. At the pre-construction meeting, the Parties shall confer about the City's costs for Soil Disposal for the City Project within the AOC.

- a. Contractor's work shall include furnishing of all labor, materials, tools, equipment, incidentals, and costs required for completing the City Project, including trenching, excavation, segregating, loading and backfilling of soil in the vicinity of the 4101/4111 W. Point Loma Boulevard, San Diego, California (the "Site") (identified on the attached **Exhibit 2**) for the water line trenches, traffic

signal infrastructure, and miscellaneous concrete work at the City's cost unless otherwise set forth herein.

- b. The City shall ensure that Contractor shall be responsible for labor, materials, tools, equipment, incidentals, and costs associated with the City Project, including (i) all costs the Contractor, or others estimated would have been incurred for trenching, excavation, disposal, and handling of soil associated with Soil Disposal for City Project; (ii) all actual costs the City or Contractor incurs for trenching, excavation, disposal, and handling of soil other than Contaminated Soil, including wet soil unsuitable for re-use ("Non-Impacted Excavated Soil"); and (iii) all actual costs the City or Contractor incurs for backfilling to replace Non-Impacted Excavated Soil that does not meet compaction specifications or which may otherwise be unsuitable for reuse.
- c. The City shall require under contract with its Contractor that Contractor shall load Contaminated Soil in trucks provided by Tesoro for direct transport to a proper storage, treatment, or disposal facility during regular working hours as required under contract documents.
- d. The City shall require under contract with its Contractor that Contractor shall comply with all applicable worker safety regulations, including all requirements to provide shoring within the trench as required by OSHA and steel plates as needed.
- e. The City shall require under contract with its Contractor that Contractor shall be responsible for dewatering permits, supplying and operating dewatering equipment (including but not limited to pumps, collection tanks, bag filters for solids, oil/water separator, carbon vessels), and disposal and discharge of pumped groundwater and treatment of Contaminated Groundwater processed through the dewatering system and discharged to the sewer system consistent with the scope of work and costs described in City Contract with Contractor. Contractor will place used sediment filter bags and any sediment contained from the used filter bags in connection with Contractor's operation of the dewatering system for the Contaminated Groundwater in drums supplied by Tesoro for waste disposal. Contractor shall not place any other materials in drums supplied by Tesoro except as described herein.
- f. The Parties agree that neither Tesoro nor its agents, consultants or representatives are responsible for obtaining, monitoring or otherwise complying with any permits that may be required for the City Project for work performed by City or contractors hired by City.

### **3. Tesoro Scope of Work.**

Tesoro agrees to cooperate and coordinate with City and City's hired Contractor during installation of water lines in a timely manner to prevent delays to the construction

schedule. Tesoro's obligations under this Agreement are limited to the AOC depicted on Exhibit 2 and to the other obligations set forth in this Agreement.

- a. Tesoro shall have a representative on site during the excavation work near the Site to observe work activities and document site conditions. Tesoro shall collect soil for testing to determine if the excavated soil is Contaminated Soil.
- b. To make such a determination, Tesoro or its representative shall monitor soils removed during trenching activities using a photoionization detector ("PID") and combustible gas indicator ("GGI") and will visually observe soil conditions. Any positive detection from any of these devices shall be made available to the City representative and subjected to further evaluation by the Tesoro.
- c. Tesoro shall provide truck bins and arrange for direct transport of soil determined upon excavation to be Contaminated Soil. Tesoro shall transport Contaminated soil to an appropriate storage, treatment, or disposal site, where Tesoro shall further test and characterize the soil and dispose of Contaminated Soil at an appropriate disposal facility.
- d. Tesoro shall be responsible only for disposal costs for Contaminated Soil. Tesoro shall be responsible only for new backfill material if the new backfill replaces Contaminated Soil attributable to the Site which has been removed from the AOC due to special handling requirements by the regulatory agency or local agency requirements.
- e. With respect to the Contaminated Groundwater, Tesoro will be responsible for the disposal of separate phase hydrocarbons that are not processed through Contractor's treatment system. Any separate phase hydrocarbons that are collected in Contractor's treatment system will be placed in drums provided by Tesoro for manifesting and disposal by Belshire Environmental Services, Inc. Further, Tesoro shall be responsible for (i) ensuring that Belshire disposes of drums containing used sediment filter bags and any sediment contained in the used filter bags in connection with Contractor's operation of the dewatering system for the Contaminated Groundwater; (ii) mobilizing and de-mobilizing of carbon tanks and associated equipment and (iii) assuming 50% of rental fees associated with pumps, sediment bags, and other equipment necessary to address Contaminated Groundwater.
- f. Except for Non-Impacted Excavated Soil, Tesoro shall collect soil for testing prior to disposal. Excavated soils which contain detectable concentrations of gasoline constituents in excess of applicable regulated thresholds approved by the governing agency will constitute Contaminated Soil for disposal by Tesoro. The DEH must approve the reuse of the soil on site regardless of whether the laboratory results are below the regulatory requirements for contaminated soil.

#### **4. Soil Disposal Costs**

Tesoro shall keep records of all costs it incurs to dispose of soil excavated from the AOC, including invoices and supporting back-up documentation sufficiently detailed to serve as verification of its costs. Costs incurred for disposal of soil which is determined to be below the regulatory requirements for contaminated soil, but which the DEH determines may not be reused at the AOC, shall not be reimbursable.

**5. Reimbursement of City Costs by Tesoro.**

- a. In consideration of the City's and Tesoro's agreement to contract out to Contractor the handling of the Contaminated Groundwater, Tesoro agrees to reimburse the City for the verified incremental costs incurred by the City attributable to Contaminated Groundwater encountered by the City's Contractor during the City Project along and adjacent to the Site consistent with the scope of work and costs. "Incremental costs" shall be defined in this paragraph as additional costs associated with special handling or disposal of Contaminated Groundwater as required by regulation and as specified in paragraph 3(e), above. "Incremental costs" shall not include routine groundwater handling and discharge/disposal costs nor shall it include routine baseline samples and final samples or monthly reports for the duration the discharge permit is in effect for the City Project. As reflected in the recitals herein, incremental costs in this paragraph shall not include costs associated with Dewatering for the City Project. For reimbursement purposes, the City will provide invoices and supporting back-up documentation as provided by Contractor sufficiently detailed as verification to Tesoro. Tesoro reserves the right to object on the ground that the amount requested is not reasonable.
- b. Tesoro agrees to pay for incremental costs, as defined above, associated with the treatment of Contaminated Groundwater, subject to the following: (i) if in conjunction with soil disposal, Tesoro incurs costs at or greater than the Soil Disposal for the City Project, Tesoro shall deduct such costs from the incremental costs associated with the treatment of Contaminated Groundwater; and (ii) Tesoro shall not deduct any soil disposal costs in an amount that exceeds the Soil Disposal for the City Project. For cost deduction purposes, Tesoro will provide invoices and supporting back-up documentation as provided by its contractor sufficiently detailed as verification to City. The City reserves the right to object on the ground that the amount deducted is not reasonable.
- c. If HAZWOPER-trained contractors are required and provided costs do not exceed \$2,000, Tesoro agrees to pay the City's costs to have City staff undergo initial and refresher HAZWOPER training to the extent required to address Contaminated Soil and Contaminated Groundwater that could be encountered during the Work. Prior to such training, the City shall provide Tesoro with HAZWOPER fee schedule at the address designated in item 16b herein.

Tesoro agrees to prepare and implement the Community Health and Safety Plan to the extent required per the White Book specifications to address Contaminated Soil and Contaminated Groundwater that could be encountered during the Work.

#### **6. General Responsibility of Contractor**

- a.** Each Party shall assign a single Project Coordinator to have overall responsibility for the performance of this Agreement. For Tesoro, Jo-Anne Alvarez is hereby designated as the Project Coordinator. For the City, \_\_\_\_\_ is hereby designated as the Project Coordinator. Either Party may unilaterally change its representative upon notice to the other Party.
- b.** The City shall furnish Tesoro with at least thirty days' advance notice prior to the start of the City Project with a schedule and shall provide updated schedules during the City Project. While the City Project is taking place, the City shall provide Tesoro with at least five business days' notice prior to the start of work that may impact Contaminated Soil and Contaminated Groundwater. Such notice shall be given in writing, and may be given by e-mail. The City agrees that its Contractor will work closely with Tesoro to allow sufficient time and space for Tesoro to fulfill its obligations herein so as not to impede Contractor's progress of the construction project. After reasonable notice to Tesoro, any costs and damages for delays to the Contractor solely due to the unavailability or delay of Tesoro representatives on site performing the work, (which delay is attributable solely to Tesoro, excluding factors outside of Tesoro's control) shall be submitted to Tesoro under the provisions of this agreement with sufficient reasonable detail, a measure of quantification recognized in the contracting industry and documentation for Tesoro's consideration and shall be paid by Tesoro. Tesoro reserves the right to object on the ground that the amount requested is not reasonable.
- c.** The Parties shall conduct all work in a safe manner and in compliance with all applicable laws and regulations. City may require Tesoro to remove a Tesoro employee from the work site, or any Tesoro contractor or subcontractor, if working in an unsafe manner. Tesoro may request the City to remove a City employee from the work site, or any Contractor or City subcontractor, if working in an unsafe manner.

#### **7. Responsibility of City.**

To the extent appropriate to the work to be completed by Tesoro pursuant to this Agreement, City shall:

- a.** Assist Tesoro by placing at its disposal all available information pertinent to the work, including but not limited to, previous reports and any other data relative to

the public work project. Nothing contained herein shall obligate City to incur any expense in connection with completion of studies or acquisition of information not otherwise in the possession of City.

- b. Make provisions for Tesoro and its representatives to enter upon public property as required to perform the work.
- c. Examine all studies, reports, sketches, drawings, specifications, proposals, and other documents presented by Tesoro, and render verbally or in writing as may be appropriate, decisions pertaining thereto within a reasonable time so as not to delay the work of Tesoro.
- d. The City's Project Manager or other City designee shall act as City's representative with respect to the work to be performed under this Agreement. Such person shall have the authority to transmit instructions, receive information, interpret and apply City's policies and decisions as permitted under the City's Public Contracts Code with respect to materials, equipment, elements, and systems pertinent to City Project. City may unilaterally change its representative upon notice to Tesoro.
- e. Give prompt written notice to Tesoro whenever City observes or otherwise becomes aware of any defect in the work or project.
- f. Furnish approvals and permits required from the City from all governmental authorities having jurisdiction over the projects and such approvals and consents from others as may be necessary for completion of the City Project.
- g. The City or Contractor will secure a suitable site for the placement of dewatering equipment for the Contaminated Groundwater at its sole cost at least 10 days prior to the start of working in the area of the Site.

**8. Insurance.**

Tesoro shall provide City a certificate or memorandum of insurance, in a form satisfactory to the City, in the general aggregate amount of Five Million Dollars (\$5,000,000) as follows.

- a. Maintain comprehensive general liability and property insurance covering all operations of Tesoro, its agents and employees, performed in connection with this Agreement including but not limited to premises and automobile with the following limits:

*General Liability*  
*Products-Completed Operations Aggregate Limit.....\$2 million*  
*General Aggregate.....\$2 million*



*(The policy shall cover on an occurrence or an accident basis and not on a claims made basis.)*

*Automobile Liability*

*Combined Single Limit Per Occurrence.....\$1 million*

*(The policy shall cover on an occurrence or an accident basis and not on a claims made basis.)*

*Worker's Compensation.....\$1 million*

*Additional Insurance Coverage .....As May Be Required*

- b. All insurance companies with the exception of "Worker's Compensation" affording coverage shall be required to add the City of San Diego, its officers, and, agents as additional "insured" by endorsement under the insurance policy and shall stipulate that this insurance policy will operate as primary insured for the work performed under this Agreement and that no other insurance affected by the City or other named insured will be called upon to contribute to a loss covered thereunder. The policy shall contain no special limitations on the scope of protection afforded to City, its officers, employees or agents.
- c. All insurance companies affording coverage shall be insurance organizations authorized by the Insurance Commissioner to transact the business of insurance in the State of California.
- d. All insurance companies affording coverage shall provide thirty (30) days written notice by certified or registered mail to the City of San Diego should the policy be canceled or reduced in coverage before the expiration date. For the purpose of this notice requirement, any material change prior to expiration shall be considered cancellation.
- e. Tesoro shall provide a substitute certificate of insurance no later than ten (10) days prior to the policy expiration date. In the event Tesoro is unable to provide a substitute certificate of insurance within the time prescribed in this subsection, Tesoro shall provide written confirmation of renewal, in a form satisfactory to the City, to act as proof of insurance only until such time as a certificate of insurance has been received by the City.
- f. Maintenance of insurance as specified in this Agreement shall in no way be interpreted as relieving Tesoro of any responsibility whatsoever, and Tesoro may carry, at its own expense, such additional insurance as it deems necessary.

**9. Indemnification and Hold Harmless.**

Tesoro shall indemnify, defend, and hold the City and its officers and employees harmless from and against any and all liability, claims, suits, actions, damages, and causes of action arising out of Tesoro's performance of the obligations imposed upon it under this Agreement, or any violation by Tesoro of any federal, state, or local law or ordinance, or other cause in connection with this Agreement asserted against the City by a third party for property damage and/or personal injury to the extent caused by Tesoro. In the event of breach of this section by Tesoro, Tesoro shall reimburse the City for all reasonable costs and expenses including, but not limited to, fees and charges incurred by the City in enforcing the provisions of this section. This provision shall survive termination or expiration of this Agreement.

#### **10. Termination.**

- a. In the event that this Agreement is terminated by City for any reason, Tesoro shall:
  - (i) Upon receipt of written notice of such termination promptly cease all services on this project, unless otherwise directed by City; and
  - (ii) Upon request, deliver to City all documents, data, reports, summaries, correspondence, photographs, computer software output, video and audio tapes, and any other materials provided to Tesoro in connection with this Agreement. Such material is to be delivered to City in completed form.
- b. In the event that this Agreement is terminated by City for any reason, City is hereby expressly permitted to assume the Project and complete the Project by any means, including but not limited to, an agreement with another party
- c. The rights and remedies of the City and Tesoro provided under this Section are not exclusive and are in addition to any other rights and remedies provided by law or appearing in any other section of this Agreement.

#### **11. Compliance with Laws, Rules, and Regulations.**

In their performance under this Agreement, the Parties shall perform in accordance and full compliance with all applicable federal, state, and local laws and any rules or regulations promulgated thereunder.

#### **12. Attachments and Exhibits Incorporated.**

All attachments referred to in this Agreement and attached to it are hereby incorporated in it by this reference. In the event there is a conflict between any of the terms of this Agreement and any of the terms of any attachment to this Agreement, the terms of the Agreement shall control the respective duties and liabilities of the Parties.

#### **13. Integration and Agreement.**

This Agreement represents the entire understanding of the City and Tesoro as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters contained herein. This Agreement may not be modified or altered except by amendment in writing signed by the Parties.

**14. Jurisdiction.**

This Agreement shall be administered and interpreted under the laws of the State of California. Jurisdiction of litigation arising from this Agreement shall be in the State of California, in San Diego County.

**15. Severability.**

If any part of this Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall continue to be in full force and effect.

**16. Notices.**

- a. Written notices to the City hereunder shall, until further notice by City, be addressed to:

\_\_\_\_\_, Project Manager  
City of San Diego  
525 B Street, 6th Floor  
San Diego, CA 92101  
(619) 533-6632  
e-mail address \_\_\_\_\_

- b. Written notices to Tesoro shall, until further notice by Tesoro, be addressed to:

Jo-Anne Alvarez  
Tesoro Refining & Marketing Company LLC  
Retail Environmental Remediation Administrator  
400 Oceangate Blvd., Suite 600  
Long Beach, CA 90802  
Telephone: (562) 495-6837 office; (562) 708-6410 cell  
[Jo-Anne.J.Alvarez@tsocorp.com](mailto:Jo-Anne.J.Alvarez@tsocorp.com)

- c. All such notices shall either be delivered personally to the other Party's designee named above, or shall be deposited in the United States Mail, properly addressed as aforesaid, postage fully prepaid, and shall be effective the day following such deposit in the mail.

**17. Rights and Obligations Under Agreement.**

By entering into this Agreement, the Parties do not intend to create any obligations express or implied other than those set out herein; further, this Agreement shall not create any rights in any party not a signatory hereto.

**18. Licenses.**

If a license or permit of any kind, which term is intended to include evidence of registration, is required of Tesoro its representatives or agents, by federal, state or local law, Tesoro warrants that such license or permit has been obtained, is valid and in good standing, and that any applicable bond posted is in accordance with applicable laws and regulations.

**19. Counterparts.**

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute a single agreement.

**20. Legal Representation.**

Each Party affirms that it has been represented by legal counsel of its own choosing regarding the preparation and the negotiation of this Agreement and the matters and claims set forth herein, and that each of them has read this Agreement and is fully aware of its contents and its legal effect. Neither Party is relying on any statement of the other party outside the terms set forth in this Agreement as an inducement to enter into this Agreement.

**21. Joint Representation.**

The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any Party. No presumptions or rules of interpretation based upon the identity of the Party preparing or drafting the Agreement, or any part thereof, shall be applicable or invoked.

**22. Warranty of Authority.**

Each Party represents and warrants that it has the right, power, and authority to enter into this Agreement. Each Party further represents and warrants that it has given any and all notices, and obtained any and all consents, powers, and authorities, necessary to permit it, and the persons entering into this Agreement for it, to enter into this Agreement.

**23. No Waiver of Rights.**

Waiver of a breach or default under this Agreement shall not constitute a continuing waiver or a waiver of a subsequent breach of the same or any other provision of this Agreement. The failure to provide notice of any breach of this Agreement or failure to comply with any of the terms of this Agreement shall not constitute a waiver thereof. Failure on the part of either Party to enforce any provision of this Agreement shall not be

construed as a waiver of the right to compel enforcement of such provision or any other provision. A waiver by the City of any one or more of the conditions of performance under this Agreement shall not be construed as waiver(s) of any other condition of performance under this Agreement.

**IN WITNESS WHEREOF**, the undersigned, as authorized representatives of the Parties hereto, have made and executed this Agreement.

**CITY OF SAN DIEGO**

\_\_\_\_\_

\_\_\_\_\_

Date

APPROVED AS TO FORM

JAN I. GOLDSMITH, CITY ATTORNEY

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

\_\_\_\_\_

Deputy City Attorney

Date

**TESORO ENVIRONMENTAL RESOURCES COMPANY**

By: Robert C. Donovan

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

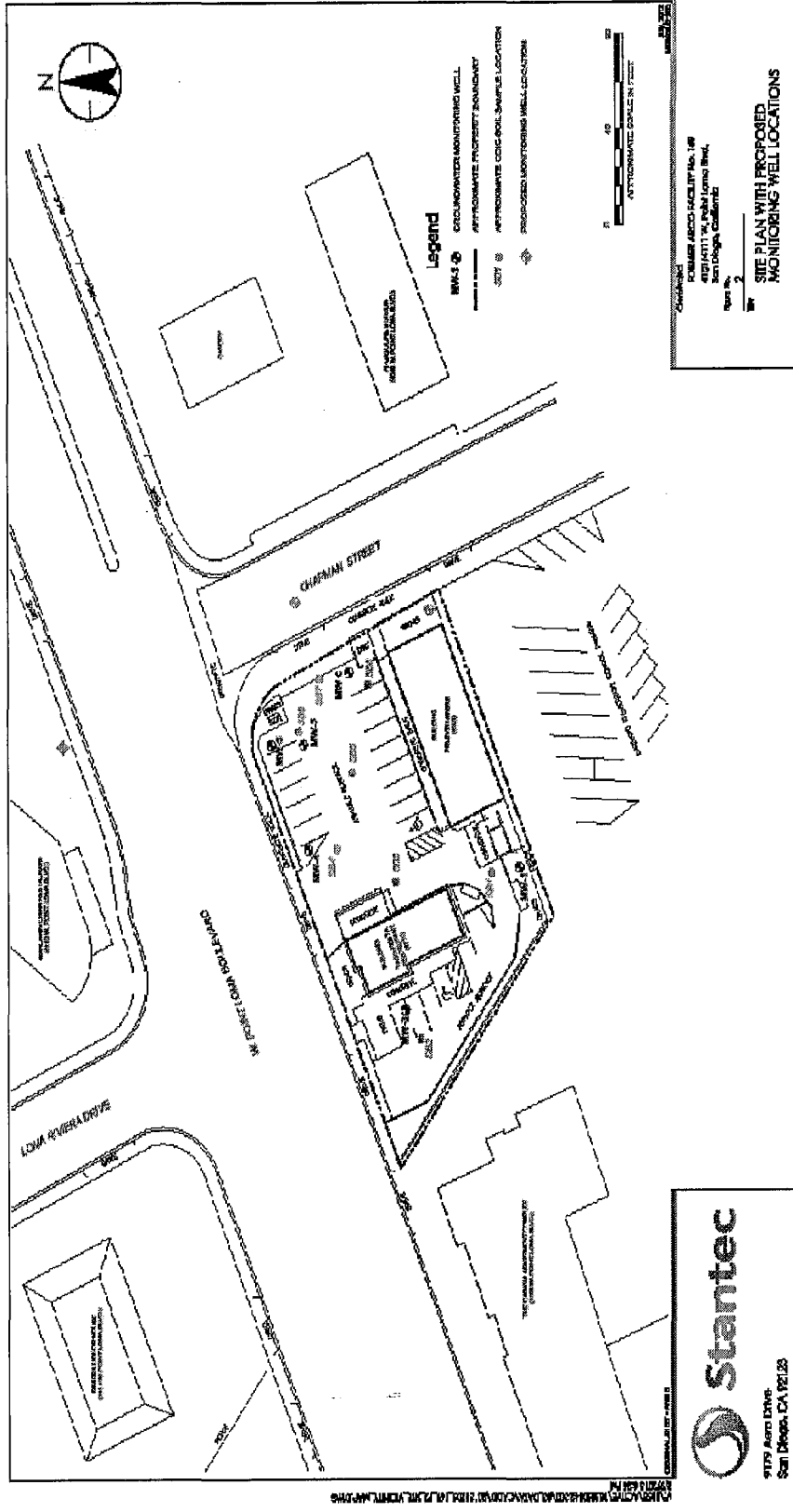
Its: Authorized Signatory, Environmental

**EXHIBIT LIST**

1. Exhibit 1 – Plans
2. Exhibit 2 – Area A Map

**Exhibit 1**

Exhibit 2



**APPENDIX S**

**MEMORANDUM OF AGREEMENT RELATING TO THE CITY OF SAN DIEGO  
PROJECT AND STATION SAN DIEGO, CALIFORNIA**



**MEMORANDUM OF AGREEMENT  
RELATING TO THE CITY OF SAN DIEGO PROJECT AND STATION  
SAN DIEGO, CALIFORNIA**

This Memorandum of Agreement (“Agreement”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, by and between the City of San Diego, a California municipal corporation hereinafter referred to as “the City,” and XXXXXXXX, a company hereinafter referred to as “XXXXXXXX,” both of which are hereinafter collectively referred to as “the Parties.”

**RECITALS**

**WHEREAS**, the City will contract for the installation of underground sewer and water utilities along West Point Loma Boulevard as part of the XXXXXXXX (“City Project”);

**WHEREAS**, XXXXXX is addressing environmental conditions attributable to former ARCO operations at the location commonly known as ADDRESS under the direction and supervision of the San Diego County Department of Environmental Health (“DEH”);

**WHEREAS**, the City’s project is expected to take approximately XXXXXX for installation of the DESCRIPTION OF PROJECT and (the “City Project”);

**WHEREAS**, the City Project involves costs to export and dispose of a certain amount of excavated soil to install the water line and associated fixtures necessary for the City Project (“Soil Disposal for City Project”); the City Project also involves costs to conduct dewatering of groundwater (“Dewatering for City Project”);

**WHEREAS**, the City and xxxxxxx have engaged in discussions concerning incremental costs and additional scope of work for the removal and disposal of soils and groundwater/liquids that are impacted by petroleum hydrocarbons attributable to operations at the Site (“Contaminated Soil” or “Contaminated Groundwater,” collectively “Contaminated Material”) in compliance with applicable agency requirements from the trenched area in connection with the City Project, so that installation of the sewer and water lines in the area of the Site may proceed without further delays. Soil and groundwater not designated and referred to herein as Contaminated Soil or Contaminated Groundwater will not constitute Contaminated Soil or Contaminated Groundwater;

**WHEREAS**, xxxxxxx has agreed to handle certain incremental costs and additional scope of work associated with the Contaminated Soil and Contaminated Groundwater, excluding costs attributable to Soil Disposal for the City Project.

**NOW, THEREFORE**, in mutual consideration of the covenants, terms, and conditions set forth herein, the Parties agree as follows:

## TERMS

### 1. Term.

This Agreement shall commence on \_\_\_\_\_, and shall remain in full force and effect until terminated in writing by the Parties or until the completion of the City Project, whichever is sooner.

### 2. City Scope of Work.

City will retain the services of a qualified contractor ("Contractor") with employees that have completed Hazardous Waste Operations and Emergency Response ("HAZWOPER") training and possess current certifications to perform the tasks generally outlined below and more specifically described in Exhibit 1 ("Plans"), attached hereto and incorporated by reference, and the City's Contract Documents for the City Project, together with addendums, to which reference is made.

City and ~~XXXXXX~~ agree to participate in a pre-construction meeting on a date as mutually agreed in order to share information about their respective work described herein, including but not limited to: any updated construction schedules and tasks, daily work hours, date for commencement of excavation near the Site, and timely updates to provide any changes thereto to the Plans that relate to work near the Site. City shall ensure Contractor attends the pre-construction meeting.

Within 60 days of the date that the City construction contract is awarded, the City shall provide ~~XXXXXX~~ an estimate of the costs for Soil Disposal for the City Project within the area of concern ("AOC") depicted on Exhibit 2. The estimate shall be supported by back-up documentation and sufficiently detailed to verify the areas, quantities, and costs associated with Soil Disposal for the City Project within the AOC. At the pre-construction meeting, the Parties shall confer about the City's costs for Soil Disposal for the City Project within the AOC.

- a. Contractor's work shall include furnishing of all labor, materials, tools, equipment, incidentals, and costs required for completing the City Project, including trenching, excavation, segregating, loading and backfilling of soil in the vicinity of the ~~ADDRESS~~ (the "Site") (identified on the attached **Exhibit 2**) for the water line trenches, traffic signal infrastructure, and miscellaneous concrete work at the City's cost unless otherwise set forth herein.
- b. The City shall ensure that Contractor shall be responsible for labor, materials, tools, equipment, incidentals, and costs associated with the City Project, including (i) all costs the Contractor, or others estimated would have been incurred for trenching, excavation, disposal, and handling of soil associated with Soil Disposal

for City Project; (ii) all actual costs the City or Contractor incurs for trenching, excavation, disposal, and handling of soil other than Contaminated Soil, including wet soil unsuitable for re-use (“Non-Impacted Excavated Soil”); and (iii) all actual costs the City or Contractor incurs for backfilling to replace Non-Impacted Excavated Soil that does not meet compaction specifications or which may otherwise be unsuitable for reuse.

- c. The City shall require under contract with its Contractor that Contractor shall load Contaminated Soil in trucks provided by XXXXXX for direct transport to a proper storage, treatment, or disposal facility during regular working hours as required under contract documents.
- d. The City shall require under contract with its Contractor that Contractor shall comply with all applicable worker safety regulations, including all requirements to provide shoring within the trench as required by OSHA and steel plates as needed.
- e. The City shall require under contract with its Contractor that Contractor shall be responsible for dewatering permits, supplying and operating dewatering equipment (including but not limited to pumps, collection tanks, bag filters for solids, oil/water separator, carbon vessels), and disposal and discharge of pumped groundwater and treatment of Contaminated Groundwater processed through the dewatering system and discharged to the sewer system consistent with the scope of work and costs described in City Contract with Contractor. Contractor will place used sediment filter bags and any sediment contained from the used filter bags in connection with Contractor’s operation of the dewatering system for the Contaminated Groundwater in drums supplied by XXXXXX for waste disposal. Contractor shall not place any other materials in drums supplied by XXXXXX except as described herein.
- f. The Parties agree that neither **ADDRESS** nor its agents, consultants or representatives are responsible for obtaining, monitoring or otherwise complying with any permits that may be required for the City Project for work performed by City or contractors hired by City.

3. **XXXXX Scope of Work.**

**XXXXX** agrees to cooperate and coordinate with City and City’s hired Contractor during installation of sewer and water lines in a timely manner to prevent delays to the construction schedule. **XXXXX** obligations under this Agreement are limited to the AOC depicted on Exhibit 2 and to the other obligations set forth in this Agreement.

- a. **XXXXXX** shall have a representative on site during the excavation work near the Site to observe work activities and document site conditions. **XXXXX** shall collect soil for testing to determine if the excavated soil is Contaminated Soil.

- b. To make such a determination, XXXXXXX or its representative shall monitor soils removed during trenching activities using a photoionization detector (“PID”) and combustible gas indicator (“GGI”) and will visually observe soil conditions. Any positive detection from any of these devices shall be made available to the City representative and subjected to further evaluation by the XXXXXXX.
- c. XXXXXXX shall provide truck bins and arrange for direct transport of soil determined upon excavation to be Contaminated Soil. XXXXXXX shall transport Contaminated soil to an appropriate storage, treatment, or disposal site, where XXXXXXX shall further test and characterize the soil and dispose of Contaminated Soil at an appropriate disposal facility.
- d. XXXXXXX shall be responsible only for disposal costs for Contaminated Soil. XXXXXXX shall be responsible only for new backfill material if the new backfill replaces Contaminated Soil attributable to the Site which has been removed from the AOC due to special handling requirements by the regulatory agency or local agency requirements.
- e. With respect to the Contaminated Groundwater, XXXXXXX will be responsible for the disposal of separate phase hydrocarbons that are not processed through Contractor’s treatment system. Any separate phase hydrocarbons that are collected in Contractor’s treatment system will be placed in drums provided by XXXXXXX for manifesting and disposal by Belshire Environmental Services, Inc. Further, XXXXXXX shall be responsible for (i) ensuring that Belshire disposes of drums containing used sediment filter bags and any sediment contained in the used filter bags in connection with Contractor’s operation of the dewatering system for the Contaminated Groundwater; (ii) mobilizing and de-mobilizing of carbon tanks and associated equipment and (iii) assuming 50% of rental fees associated with pumps, sediment bags, and other equipment necessary to address Contaminated Groundwater.
- f. Except for Non-Impacted Excavated Soil, XXXXXXX shall collect soil for testing prior to disposal. Excavated soils which contain detectable concentrations of gasoline constituents in excess of applicable regulated thresholds approved by the governing agency will constitute Contaminated Soil for disposal by XXXXXXX. The DEH must approve the reuse of the soil on site regardless of whether the laboratory results are below the regulatory requirements for contaminated soil.

**4. Soil Disposal Costs**

XXXXXX shall keep records of all costs it incurs to dispose of soil excavated from the AOC, including invoices and supporting back-up documentation sufficiently detailed to serve as verification of its costs. Costs incurred for disposal of soil which is determined to be below the regulatory requirements for contaminated soil, but which the DEH determines may not be reused at the AOC, shall not be reimbursable.

**5. Reimbursement of City Costs by XXXXXXX.**

a. In consideration of the City's and XXXXXX's agreement to contract out to Contractor the handling of the Contaminated Groundwater, XXXXXX agrees to reimburse the City for the verified incremental costs incurred by the City attributable to Contaminated Groundwater encountered by the City's Contractor during the City Project along and adjacent to the Site consistent with the scope of work and costs. "Incremental costs" shall be defined in this paragraph as additional costs associated with special handling or disposal of Contaminated Groundwater as required by regulation and as specified in paragraph 3(e), above. "Incremental costs" shall not include routine groundwater handling and discharge/disposal costs nor shall it include routine baseline samples and final samples or monthly reports for the duration the discharge permit is in effect for the City Project. As reflected in the recitals herein, incremental costs in this paragraph shall not include costs associated with Dewatering for the City Project. For reimbursement purposes, the City will provide invoices and supporting back-up documentation as provided by Contractor sufficiently detailed as verification to XXXXXX. XXXXXX reserves the right to object on the ground that the amount requested is not reasonable.

b. XXXXXX agrees to pay for incremental costs, as defined above, associated with the treatment of Contaminated Groundwater, subject to the following: (i) if in conjunction with soil disposal, XXXXXX incurs costs at or greater than the Soil Disposal for the City Project, XXXXXX shall deduct such costs from the incremental costs associated with the treatment of Contaminated Groundwater; and (ii) XXXXXX shall not deduct any soil disposal costs in an amount that exceeds the Soil Disposal for the City Project. For cost deduction purposes, XXXXXX will provide invoices and supporting back-up documentation as provided by its contractor sufficiently detailed as verification to City. The City reserves the right to object on the ground that the amount deducted is not reasonable.

c. If HAZWOPER-trained contractors are required and provided costs do not exceed \$4,400, XXXXXX agrees to pay the City's costs to have City staff undergo initial and refresher HAZWOPER training to the extent required to address Contaminated Soil and Contaminated Groundwater that could be encountered during the Work. Prior to such training, the City shall provide XXXXXX with HAZWOPER fee schedule at the address designated in item 16b herein.

XXXXXX agrees to prepare and implement the Community Health and Safety Plan to the extent required per the White Book specifications to address Contaminated Soil and Contaminated Groundwater that could be encountered during the Work.

## **6. General Responsibility of Contractor**

a. Each Party shall assign a single Project Coordinator to have overall responsibility for the performance of this Agreement. For XXXXXX, Jo-Anne Alvarez is

hereby designated as the Project Coordinator. For the City, \_\_\_\_\_ is hereby designated as the Project Coordinator. Either Party may unilaterally change its representative upon notice to the other Party.

- b. The City shall furnish XXXXXXX with at least thirty days' advance notice prior to the start of the City Project with a schedule and shall provide updated schedules during the City Project. While the City Project is taking place, the City shall provide XXXXXXX with at least five business days' notice prior to the start of work that may impact Contaminated Soil and Contaminated Groundwater. Such notice shall be given in writing, and may be given by e-mail. The City agrees that its Contractor will work closely with XXXXXXX to allow sufficient time and space for XXXXXXX to fulfill its obligations herein so as not to impede Contractor's progress of the construction project. After reasonable notice to XXXXXXX, any costs and damages for delays to the Contractor solely due to the unavailability or delay of XXXXXXX representatives on site performing the work, (which delay is attributable solely to XXXXXXX, excluding factors outside of XXXXXXX's control) shall be submitted to XXXXXXX under the provisions of this agreement with sufficient reasonable detail, a measure of quantification recognized in the contracting industry and documentation for XXXXXXX's consideration and shall be paid by XXXXXXX. XXXXXXX reserves the right to object on the ground that the amount requested is not reasonable.
- c. The Parties shall conduct all work in a safe manner and in compliance with all applicable laws and regulations. City may require XXXXXXX to remove a XXXXXXX employee from the work site, or any XXXXXXX contractor or subcontractor, if working in an unsafe manner. XXXXXXX may request the City to remove a City employee from the work site, or any Contractor or City subcontractor, if working in an unsafe manner.

## **7. Responsibility of City.**

To the extent appropriate to the work to be completed by XXXXXXX pursuant to this Agreement, City shall:

- a. Assist XXXXXXX by placing at its disposal all available information pertinent to the work, including but not limited to, previous reports and any other data relative to the public work project. Nothing contained herein shall obligate City to incur any expense in connection with completion of studies or acquisition of information not otherwise in the possession of City.
- b. Make provisions for XXXXXXX and its representatives to enter upon public property as required to perform the work.

- c. Examine all studies, reports, sketches, drawings, specifications, proposals, and other documents presented by ~~XXXXXXX~~, and render verbally or in writing as may be appropriate, decisions pertaining thereto within a reasonable time so as not to delay the work of ~~XXXXXXX~~.
- d. The City's Project Manager or other City designee shall act as City's representative with respect to the work to be performed under this Agreement. Such person shall have the authority to transmit instructions, receive information, interpret and apply City's policies and decisions as permitted under the City's Public Contracts Code with respect to materials, equipment, elements, and systems pertinent to City Project. City may unilaterally change its representative upon notice to ~~XXXXXXX~~.
- e. Give prompt written notice to ~~XXXXXXX~~ whenever City observes or otherwise becomes aware of any defect in the work or project.
- f. Furnish approvals and permits required from the City from all governmental authorities having jurisdiction over the projects and such approvals and consents from others as may be necessary for completion of the City Project.
- g. The City or Contractor will secure a suitable site for the placement of dewatering equipment for the Contaminated Groundwater at its sole cost at least 10 days prior to the start of working in the area of the Site.

**8. Insurance.**

~~XXXXXXX~~ shall provide City a certificate or memorandum of insurance, in a form satisfactory to the City, in the general aggregate amount of Five Million Dollars (\$5,000,000) as follows.

- a. Maintain comprehensive general liability and property insurance covering all operations of ~~XXXXXXX~~, its agents and employees, performed in connection with this Agreement including but not limited to premises and automobile with the following limits:

*General Liability*

*Products-Completed Operations Aggregate Limit.....\$2 million*

*General Aggregate.....\$2 million*

*(The policy shall cover on an occurrence or an accident basis and not on a claims made basis.)*

*Automobile Liability*

*Combined Single Limit Per Occurrence.....\$1 million*

*(The policy shall cover on an occurrence or an accident basis and not on a claims made basis.)*

*Worker's Compensation.....\$1 million*

*Additional Insurance Coverage .....As May Be Required*

- b. All insurance companies with the exception of "Worker's Compensation" affording coverage shall be required to add the City of San Diego, its officers, and, agents as additional "insured" by endorsement under the insurance policy and shall stipulate that this insurance policy will operate as primary insured for the work performed under this Agreement and that no other insurance affected by the City or other named insured will be called upon to contribute to a loss covered there under. The policy shall contain no special limitations on the scope of protection afforded to City, its officers, employees or agents.
- c. All insurance companies affording coverage shall be insurance organizations authorized by the Insurance Commissioner to transact the business of insurance in the State of California.
- d. All insurance companies affording coverage shall provide thirty (30) days written notice by certified or registered mail to the City of San Diego should the policy be canceled or reduced in coverage before the expiration date. For the purpose of this notice requirement, any material change prior to expiration shall be considered cancellation.
- e. ~~XXXXXX~~ shall provide a substitute certificate of insurance no later than ten (10) days prior to the policy expiration date. In the event ~~XXXXXX~~ is unable to provide a substitute certificate of insurance within the time prescribed in this subsection, ~~XXXXXX~~ shall provide written confirmation of renewal, in a form satisfactory to the City, to act as proof of insurance only until such time as a certificate of insurance has been received by the City.
- f. Maintenance of insurance as specified in this Agreement shall in no way be interpreted as relieving ~~XXXXXX~~ of any responsibility whatsoever, and ~~XXXXXX~~ may carry, at its own expense, such additional insurance as it deems necessary.

**9. Indemnification and Hold Harmless.**

XXXXXX shall indemnify, defend, and hold the City and its officers and employees harmless from and against any and all liability, claims, suits, actions, damages, and causes of action arising out of XXXXXX's performance of the obligations imposed upon it under this Agreement, or any violation by ~~XXXXXX~~ of any federal, state, or local law or ordinance, or other cause in connection with this Agreement asserted against the City by a third party for property damage and/or personal injury to the extent caused by



XXXXXX. In the event of breach of this section by XXXXXX, XXXXXX shall reimburse the City for all reasonable costs and expenses including, but not limited to, fees and charges incurred by the City in enforcing the provisions of this section. This provision shall survive termination or expiration of this Agreement.

**10. Termination.**

- a. In the event that this Agreement is terminated by City for any reason, XXXXXX shall:
  - (i) Upon receipt of written notice of such termination promptly cease all services on this project, unless otherwise directed by City; and
  - (ii) Upon request, deliver to City all documents, data, reports, summaries, correspondence, photographs, computer software output, video and audio tapes, and any other materials provided to XXXXXX in connection with this Agreement. Such material is to be delivered to City in completed form.
- b. In the event that this Agreement is terminated by City for any reason, City is hereby expressly permitted to assume the Project and complete the Project by any means, including but not limited to, an agreement with another party
- c. The rights and remedies of the City and XXXXXX provided under this Section are not exclusive and are in addition to any other rights and remedies provided by law or appearing in any other section of this Agreement.

**11. Compliance with Laws, Rules, and Regulations.**

In their performance under this Agreement, the Parties shall perform in accordance and full compliance with all applicable federal, state, and local laws and any rules or regulations promulgated thereunder.

**12. Attachments and Exhibits Incorporated.**

All attachments referred to in this Agreement and attached to it are hereby incorporated in it by this reference. In the event there is a conflict between any of the terms of this Agreement and any of the terms of any attachment to this Agreement, the terms of the Agreement shall control the respective duties and liabilities of the Parties.

**13. Integration and Agreement.**

This Agreement represents the entire understanding of the City and XXXXXX as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters contained herein. This Agreement may not be modified or altered except by amendment in writing signed by the Parties.

**14. Jurisdiction.**

This Agreement shall be administered and interpreted under the laws of the State of California. Jurisdiction of litigation arising from this Agreement shall be in the State of California, in San Diego County.

**15. Severability.**

If any part of this Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall continue to be in full force and effect.

**16. Notices.**

- a. Written notices to the City hereunder shall, until further notice by City, be addressed to:

\_\_\_\_\_, Project Manager  
City of San Diego  
525 B Street, 6th Floor  
San Diego, CA 92101  
(619) 533-6632  
e-mail address \_\_\_\_\_

- b. Written notices to **XXXXXX** shall, until further notice by **XXXXXX**, be addressed to:

**XXXXXX**

- c. All such notices shall either be delivered personally to the other Party's designee named above, or shall be deposited in the United States Mail, properly addressed as aforesaid, postage fully prepaid, and shall be effective the day following such deposit in the mail.

**17. Rights and Obligations Under Agreement.**

By entering into this Agreement, the Parties do not intend to create any obligations express or implied other than those set out herein; further, this Agreement shall not create any rights in any party not a signatory hereto.

**18. Licenses.**

If a license or permit of any kind, which term is intended to include evidence of registration, is required of **XXXXXX** its representatives or agents, by federal, state or

local law, ~~XXXXXXX~~ warrants that such license or permit has been obtained, is valid and in good standing, and that any applicable bond posted is in accordance with applicable laws and regulations.

**19. Counterparts.**

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute a single agreement.

**20. Legal Representation.**

Each Party affirms that it has been represented by legal counsel of its own choosing regarding the preparation and the negotiation of this Agreement and the matters and claims set forth herein, and that each of them has read this Agreement and is fully aware of its contents and its legal effect. Neither Party is relying on any statement of the other party outside the terms set forth in this Agreement as an inducement to enter into this Agreement.

**21. Joint Representation.**

The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any Party. No presumptions or rules of interpretation based upon the identity of the Party preparing or drafting the Agreement, or any part thereof, shall be applicable or invoked.

**22. Warranty of Authority.**

Each Party represents and warrants that it has the right, power, and authority to enter into this Agreement. Each Party further represents and warrants that it has given any and all notices, and obtained any and all consents, powers, and authorities, necessary to permit it, and the persons entering into this Agreement for it, to enter into this Agreement.

**23. No Waiver of Rights.**

Waiver of a breach or default under this Agreement shall not constitute a continuing waiver or a waiver of a subsequent breach of the same or any other provision of this Agreement. The failure to provide notice of any breach of this Agreement or failure to comply with any of the terms of this Agreement shall not constitute a waiver thereof. Failure on the part of either Party to enforce any provision of this Agreement shall not be construed as a waiver of the right to compel enforcement of such provision or any other provision. A waiver by the City of any one or more of the conditions of performance under this Agreement shall not be construed as waiver(s) of any other condition of performance under this Agreement.

**IN WITNESS WHEREOF**, the undersigned, as authorized representatives of the Parties hereto, have made and executed this Agreement.

**CITY OF SAN DIEGO**

\_\_\_\_\_

\_\_\_\_\_

Date

APPROVED AS TO FORM

JAN I. GOLDSMITH, CITY ATTORNEY

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

\_\_\_\_\_

Deputy City Attorney

Date

**XXXXXX ENVIRONMENTAL RESOURCES COMPANY**

\_\_\_\_\_

\_\_\_\_\_

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

**EXHIBIT LIST**

1. Exhibit 1 – Plans
2. Exhibit 2 – Area A Map

**Exhibit 1**

**ATTACHMENT F**  
**INTENTIONALLY LEFT BLANK**

**ATTACHMENT G**  
**BUY AMERICAN IRON/STEEL PROVISIONS**

## CONTRACTOR CERTIFICATION

*Certificate of Compliance Based on Equipment and Materials Used on the Project (Non-building heavy construction projects such as runway or roadway construction; or equipment acquisition projects)*

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that all steel and each manufactured good proposed for use on this project are made in the United States of 100% United States materials, unless 1) the product is listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation subpart 25.108; 2) the FAA has issued a waiver for the product, as indicated by its inclusion in the FAA Nationwide Buy American Waivers Issued list, or 3) the item is listed by the bidder or offeror below or on a separate and clearly identified attachment to this bid/proposal. For those items, the bidder or offeror will provide sufficient documentation to the sponsor to allow the sponsor to request and receive an FAA waiver for the product in advance of its use on the project. If the FAA does not issue a waiver, the bidder or offeror must use manufactured goods that meet the Buy American Preference requirement.

Product	Country of Origin	% of United States Components and Subcomponents

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

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

\_\_\_\_\_  
Title



## CERTIFICATIONS AND FORMS

**Instruction to Bidders, Section 1** - The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certifications, forms and affidavits submitted as part of this bid are true and correct.

## Bidder's General Information

To the City of San Diego:

Pursuant to "Notice Inviting Bids", specifications, and requirements on file with the City Clerk, and subject to all provisions of the Charter and Ordinances of the City of San Diego and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of San Diego, complete at the prices stated herein, the items or services hereinafter mentioned. The undersigned further warrants that this bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

The undersigned bidder(s) further warrants that bidder(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Bidding Documents therefore, and that by submitting said Bidding Documents as its bid proposal, bidder(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Bidding Documents.

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND  
SUBMITTED WITH BID UNDER 23 UNITED STATES CODE 112 AND  
PUBLIC CONTRACT CODE 7106**

State of California

County of San Diego

The bidder, being first duly sworn, deposes and says that he or she is authorized by the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

## CONTRACTOR CERTIFICATION

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### DRUG-FREE WORKPLACE

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 7-13.3, "Drug-Free Workplace", of the project specifications, and that;

This company has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

## CONTRACTOR CERTIFICATION

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### AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the American With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 7-13.2, "American With Disabilities Act", of the project specifications, and that;

This company has in place workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

## CONTRACTOR CERTIFICATION

---

### CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

I declare under penalty of perjury that I am authorized to make this certification on behalf of the company submitting this bid/proposal, that as Contractor, I am familiar with the requirements of City of San Diego Municipal Code § 22.3004 regarding Contractor Standards as outlined in the WHITEBOOK, Section 7-13.4, ("Contractor Standards"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors whose subcontracts are greater than \$50,000 in value has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

**AFFIDAVIT OF DISPOSAL**

**(To be submitted upon completion of Construction pursuant to the  
contracts Certificate of completion)**

WHEREAS, on the \_\_\_\_\_ DAY OF \_\_\_\_\_, 2\_\_\_\_\_ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

**PACIFIC BEACH PIPELINE SOUTH**  
(Name of Project)

as particularly described in said contract and identified as Bid No. **K-16-1306-DBB-3**; SAP No. (WBS) **S-12015 / B-12117**; and WHEREAS, the specification of said contract requires the Contractor to affirm that "all brush, trash, debris, and surplus materials resulting from this project have been disposed of in a legal manner"; and WHEREAS, said contract has been completed and all surplus materials disposed of:

NOW, THEREFORE, in consideration of the final payment by the City of San Diego to said Contractor under the terms of said contract, the undersigned Contractor, does hereby affirm that all surplus materials as described in said contract have been disposed of at the following location(s)

and that they have been disposed of according to all applicable laws and regulations.

Dated this \_\_\_\_\_ DAY OF \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_ Contractor  
by

**ATTEST:**

State of \_\_\_\_\_ County of \_\_\_\_\_

On this \_\_\_\_\_ DAY OF \_\_\_\_\_, 2\_\_\_\_, before the undersigned, a Notary Public in and for said County and State, duly commissioned and sworn, personally appeared \_\_\_\_\_ known to me to be the \_\_\_\_\_ Contractor named in the foregoing Release, and whose name is subscribed thereto, and acknowledged to me that said Contractor executed the said Release.

Notary Public in and for said County and State

**BID ITEMS**

\*\*\* PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY \*\*\*  
**TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY**  
**SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
<b>BASE BID</b>							
<b>Common</b>							
1	1	LS	524126	2-4.1	Bonds (Payment and Performance)	<del>                    </del>	\$
2	1	AL		7-5.3	CalTrans Encroachment Permit - Type I	<del>                    </del>	\$
3	1	LS	238990	7-9.1.1	Video Recording of Existing Conditions	<del>                    </del>	\$
4	1	AL		7-10.1.1	MTS/NCTD Joint Right of Entry Permit -Type I	<del>                    </del>	\$10,000.00
5	2,000	LF	237310	7-10.2.6	K-Rail		\$
6	1	LS	237310	7-10.2.6	Flashing Arrow Board	<del>                    </del>	\$
7	1	AL	237310	7-10.2.6	Portable Changeable Message Signs (PCMS) - Type I	<del>                    </del>	\$2,500.00
8	1	LS	237310	7-10.2.6	Traffic Control	<del>                    </del>	\$
9	1	LS	541820	7-16.4	Exclusive Community Liaison Services	<del>                    </del>	\$
10	200	TON	237310	302-3.2	Asphalt Pavement Repair	\$	\$
11	322,000	SF	237310	302-4.12.4	Rubber Polymer Modified Slurry Type III and Striping	\$	\$
12	10,000	SF	237310	302-5.2.1	Pavement Restoration Adjacent to Trench	\$	\$
13	12,900	TON	237310	302-5.9	1-1/2 Inch Asphalt Concrete Overlay and Striping	\$	\$



Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
14	1	LS	237110	9-3.4.1	Mobilization	<del>                    </del>	\$
15	1	AL		9-3.5	Field Orders - Type II	<del>                    </del>	\$530,000.00
16	299,100	SF	237310	302-1.12	Cold Mill AC Pavement (0-1 1/2")	\$	\$
17	6,500	LF	237310	302-1.12	Cold Mill Header Cuts	\$	\$
18	246	EA	237310	302-1.12	Traffic Detector Loop Replacement	\$	\$
19	500	LBS	237310	302-14.5	Crack Seal	\$	\$
20	900	SF	237310	302-6.8	Bus Stop Pad (75'x12')	\$	\$
21	20,000	SY	237310	302-7.4	Pavement Fabric	\$	\$
22	1,000	LF	237310	303-5.9	Additional Curb and Gutter Removal and Replacement	\$	\$
23	5,000	SF	237310	303-5.9	Additional Sidewalk Removal and Replacement	\$	\$
24	200	EA	237310	303-5.9	Contractor Date Stamp and Impressions	\$	\$
25	2	EA	237310	303-5.10.2	Curb Ramp Case E with Detectable Warning Tiles	\$	\$
26	1	EA	237310	303-5.10.2	Curb Ramp Type A with Detectable Warning Tiles	\$	\$
27	43	EA	237310	303-5.10.2	Curb Ramp Type A with Stainless Steel Detectable Warning Tiles	\$	\$
28	6	EA	237310	303-5.10.2	Curb Ramp Type B with Detectable Warning Tiles	\$	\$
29	12	EA	237310	303-5.10.2	Curb Ramp Type B with Stainless Steel Detectable Warning Tiles	\$	\$
30	24	EA	237310	303-5.10.2	Curb Ramp Type C1 with Stainless Steel Detectable Warning Tiles	\$	\$
31	7	EA	237310	303-5.10.2	Curb Ramp Type C2 with Stainless Steel Detectable Warning Tiles	\$	\$
32	10	EA	237310	303-5.10.2	Curb Ramp Type D with Stainless Steel Detectable Warning Tiles	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
33	6	EA	237310	303-5.10.2	Curb Ramp Type Island Passageway with Detectable Warning Tiles	\$	\$
34	1	LS	237110	306-1.1.6	Trench Shoring	<del>                    </del>	\$
35	570	CY	237110	306-1.2.1.1	Additional Bedding	\$	\$
36	1,600	TON	237310	306-1.5.1	Temporary Resurfacing	\$	\$
37	1,580	TON	237110	306-1.6	Imported Backfill	\$	\$
38	122	EA	238210	307-2	Countdown Pedestrian Push Button Module	\$	\$
39	17	EA	238210	307-2	Relocate Pedestrian Push Button Post	\$	\$
40	3	EA	238210	307-2	Traffic Signal Modification	\$	\$
41	2	EA	541370	309-4	Survey Monuments	\$	\$
42	1	LS	561730	700-2.15	Clearing and Grubbing	<del>                    </del>	\$
43	1	LS	561730	700-2.15	Revegetation and Erosion Control	<del>                    </del>	\$
44	1	LS	541330	700-2.15	Monitoring and Reporting	<del>                    </del>	\$
45	1	LS	541330	700-2.15	Revegetation Maintenance and Monitoring Program	<del>                    </del>	\$
46	1	AL	541330	701-13.8.4	Permit Fee - Type I	<del>                    </del>	\$10,000.00
47	1	LS	541330	701-13.8.4	SWPPP/Compliance with CGP for Reservoir Site (Risk Level 2)	<del>                    </del>	\$
48	1	LS	541330	701-13.9.5	Water Pollution Control Program Development (for linear work)	<del>                    </del>	\$
49	1	LS	237990	701-13.9.5	Water Pollution Control Program Implementation (for linear work)	<del>                    </del>	\$
50	20	DAYS	541690	707-1	Suspension of Work - Resources	\$	\$
51	34,700	LF	541690	707-2	Archeological and Native American Monitoring Program	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
52	2,970	LF	541690	707-3	Paleontological Monitoring Program	\$	\$
53	1	AL	541690	707-4	Archeological and Native American Mitigation and Curation - Type I	<del> </del>	\$35,000.00
54	350	CY	541690	707-5	Paleontological Mitigation and Excavation	\$	\$
55	4,990	LF	237110	708-6	Handling and Disposal of Non-friable Asbestos Material	\$	\$
<b>Water</b>							
56	1	LS	237110	13110	Cathodic Protection	<del> </del>	\$
57	1	LS	237110	13300, 13370, 13374, 13390, 13430, 16010, 16110, 16120, 16190, 16195, 16421, 16450, 16950	390/307 Zone Pressure Regulation Station Relocation	<del> </del>	\$
58	715	EA	237310	206-1.4.4	Adhesive Anchoring System	\$	\$
59	126	EA	237310	206-2.5	Pipe Roller Supports (18" Pipe)	\$	\$
60	280	EA	237310	206-2.5	Pipe Roller Supports (24" Pipe)	\$	\$
61	1,030	SF	237310	300-1.4	Bridge Removal (Curb Beam)	\$	\$
62	1	LS	238910	300-1.5.1	Demolition of PB Reservoir	<del> </del>	\$
63	12,000	CY	237310	300-4.9	Excavate and Fill (Unclassified)	\$	\$
64	130	LF	237310	303-1.7.5	Drill and Bond Dowels	\$	\$
65	4,940	LBS	237310	303-1.11	Reinforcing Steel	\$	\$
66	40	CY	237310	303-1.11	Structural Concrete	\$	\$
67	60	LF	237310	303-9	Cored Holes	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
68	52,000	LBS	237310	304-1.12.4	Miscellaneous Metals (Structural Steel)	\$	\$
69	4	EA	237310	304-1.7.1	PTFE Bearing Sliding Surface with Pipe Saddle and Assembly	\$	\$
70	2	EA	237110	306-1.6	10-Inch Fire Service Connection & Assembly	\$	\$
71	2	EA	237110	306-1.6	10-Inch Gate Valve	\$	\$
72	200	LF	237110	306-1.6	10-Inch Water Main	\$	\$
73	1	EA	237110	306-1.6	12-Inch Fire Service Connection & Assembly	\$	\$
74	60	EA	237110	306-1.6	12-Inch Gate Valve	\$	\$
75	5,690	LF	237110	306-1.6	12-Inch Water Main	\$	\$
76	330	LF	237110	306-1.6	12-Inch Water Main, DR 14 Class 305	\$	\$
77	30	LF	237110	306-1.6	12-Inch Water Main, DR14 Class 305 Fusible PVC	\$	\$
78	220	LF	237110	306-1.6	12-Inch Water Main, DR18 Class 235 Fusible PVC	\$	\$
79	11	EA	237110	306-1.6	16-Inch Butterfly Valve Class 150B	\$	\$
80	55	EA	237110	306-1.6	16-Inch Butterfly Valve Class 250	\$	\$
81	20,420	LF	237110	306-1.6	16-Inch Water Main	\$	\$
82	1,220	LF	237110	306-1.6	16-Inch Water Main, CML&C Steel	\$	\$
83	2,110	LF	237110	306-1.6	16-Inch Water Main, DR 14 Class 305	\$	\$
84	21	EA	237110	306-1.6	20-Inch Butterfly Valve Class 150B	\$	\$
85	8	EA	237110	306-1.6	20-Inch Butterfly Valve Class 250	\$	\$
86	6,990	LF	237110	306-1.6	20-Inch Water Main	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
87	2,250	LF	237110	306-1.6	20-Inch Water Main, CML&C Steel	\$	\$
88	160	LF	237110	306-1.6	20-Inch Water Main, DR 14 Class 305	\$	\$
89	3	EA	237110	306-1.6	24-Inch Butterfly Valve Class 250	\$	\$
90	5	LF	237110	306-1.6	24-Inch Water Main	\$	\$
91	40	LF	237110	306-1.6	24-Inch Water Main, CML&C Steel	\$	\$
92	210	LF	237110	306-1.6	30-Inch Steel Casing	\$	\$
93	100	LF	237110	306-1.6	30-Inch Water Main, CML&C Steel	\$	\$
94	4	EA	237110	306-1.6	4-Inch Fire Service Connection and Assembly	\$	\$
95	16	EA	237110	306-1.6	4-Inch Gate Valve	\$	\$
96	960	LF	237110	306-1.6	4-Inch Water Main	\$	\$
97	10	LF	237110	306-1.6	6-Inch Water Main	\$	\$
98	1	EA	237110	306-1.6	6-Inch Fire Hydrant Assembly and Marker (2-Port)	\$	\$
99	60	EA	237110	306-1.6	6-Inch Fire Hydrant Assembly and Marker (3-Port)	\$	\$
100	11	EA	237110	306-1.6	6-Inch Fire Service Connection and Assembly	\$	\$
101	4	EA	237110	306-1.6	6-Inch Gate Valve	\$	\$
102	17	EA	237110	306-1.6	8-Inch Fire Service Connection and Assembly	\$	\$
103	8	EA	237110	306-1.6	8-Inch Gate Valve	\$	\$
104	1,050	LF	237110	306-1.6	8-Inch Water Main	\$	\$
105	2	EA	237110	306-1.6	6-Inch Fire Hydrant Connection and+F132 Marker	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
106	1	LS	237110	306-1.6	Six (6) Double Ball Flex Joints at Bridges	<del>          </del>	\$
107	130	EA	237110	306-1.6	Thrust Blocks and Anchor Blocks For 16" and Larger Water Mains	\$	\$
108	2	EA	237110	306-1.6	Water Valve Bypass for Cross Mainline 16" and Larger	\$	\$
109	7	EA	237110	306-1.6	Water Valve Bypass for Straight Mainline 16" and Larger	\$	\$
110	9	EA	237110	306-1.6	Water Valve Bypass for T-Mainline 16" and Larger	\$	\$
111	2	EA	237110	306-14.1	10-Inch Water Service	\$	\$
112	59	EA	237110	306-14.1	1-Inch Water Service	\$	\$
113	105	EA	237110	306-14.1	2-Inch Water Service	\$	\$
114	1	EA	237110	306-14.1	2-Inch Water Service Transfer	\$	\$
115	2	EA	237110	306-14.1	4-Inch Water Service	\$	\$
116	2	EA	237110	306-14.1	6-Inch Water Service	\$	\$
117	2	EA	237110	306-14.1	8-Inch Water Service	\$	\$
118	3	EA	237110	306-18	2-Inch Blowoff Valve Assembly	\$	\$
119	7	EA	237110	306-18	4-Inch Blowoff Valve Assembly	\$	\$
120	3	EA	237110	306-19	1-Inch Air and Vacuum Valve	\$	\$
121	10	EA	237110	306-19	2-Inch Air and Vacuum Valve	\$	\$
122	1	LS	237110	306-25.7	Trenchless Construction - Estudillo Street	<del>          </del>	\$
123	1	LS	237110	306-25.7	Trenchless Construction - West Washington Street	<del>          </del>	\$
124	1	LS	237110	306-25.7	Trenchless Construction - Witherby Street	<del>          </del>	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
125	7,940	LF	237110	306-5.3	Abandon and Fill Existing 16-Inch Water Mains Outside of Trench Limit	\$	\$
126	3,450	LF	237110	306-5.3	Abandon and Fill Existing 18-Inch Water Mains Outside of Trench Limit	\$	\$
127	1,290	LF	237110	306-5.3	Abandon and Fill Existing 24-Inch Water Mains Outside of Trench Limit	\$	\$
128	32	EA	237110	306-5.3	Removal of Abandoned Water Meter Box	\$	\$
129	6,330	LF	237110	306-5.3	Removal or Abandonment of Existing Water Facilities	\$	\$
130	44,700	LF	237110	600-1.2.1.3	High-lining Removed by Contractor	\$	\$
131	6,000	SF	237110	600-1.3.1.5	Pavement Restoration for City Forces Connection	\$	\$
132	1	LS	237110	600-1.3.1.5	Contractor Furnished Materials for City Forces Connection and Cut-in Work for Mains 16-Inch and Larger.		\$
133	1	AL	237110	705-2.7	Dewatering Permit and Discharge Fees - Type I		\$10,000.00
134	1	LS	237110	705.2.7	Dewatering Non-Hazardous Contaminated Water (Includes Standard Equipment Required for Dewatering and Management)		\$
<b>Sewer</b>							
135	1,570	LF	237110	306-1.6	10-Inch Sewer Main	\$	\$
136	420	LF	237110	306-1.6	12-Inch Sewer Main	\$	\$
137	2,290	LF	237110	306-1.6	14-Inch PVC DR 18 Sewer Forcemain Class 235	\$	\$
138	20	LF	237110	306-1.6	18-Inch Sewer Main	\$	\$
139	30	LF	237110	306-1.6	6-Inch Sewer Main	\$	\$
140	120	LF	237110	306-1.6	6-Inch Sewer Forcemain, DR 18 Class 235	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
141	880	LF	237110	306-1.6	6-Inch Sewer Forcemain, DR 18 Class 235 with Restrained Joints	\$	\$
142	2,970	LF	237110	306-1.6	8-Inch Sewer Main	\$	\$
143	6	EA	237110	306-1.6	Thrust Blocks and Anchor Blocks (Sewer Force Main)	\$	\$
144	13	EA	237110	306-1.8.6	Connection to Existing Manhole and+A173 Rechanneling	\$	\$
145	21	EA	237110	306-1.8.6	Manholes (4' x 3'), PVC Lined	\$	\$
146	1	EA	237110	306-1.8.6	Manholes (5' x 3'), PVC Lined	\$	\$
147	35	EA	237110	306-1.9.1	4-Inch Sewer Lateral and Cleanout (Street)	\$	\$
148	6	EA	237110	306-1.9.1	6-Inch Sewer Lateral and Cleanout (Street)	\$	\$
149	40	LF	237110	306-5.3	Abandon and Fill Existing 12-Inch Sewer Main Outside of Trench Limit	\$	\$
150	1,450	LF	237110	306-5.3	Abandon and Fill Existing 6-Inch Sewer Main Outside of Trench Limit	\$	\$
151	400	LF	237110	306-5.3	Abandon and Fill Existing 7-Inch Sewer Main Outside of Trench Limit	\$	\$
152	2,910	LF	237110	306-5.3	Abandon and Fill Existing 8-Inch Sewer Main Outside of Trench Limit	\$	\$
153	17	EA	237110	306-5.3	Abandon Existing Manhole Outside of Trench	\$	\$
154	9,000	LF	237110	306-9.7	Video Inspecting Pipelines and Culverts Acceptance	\$	\$
155	770	LF	237110	500-1.1.9	Rehabilitate 8-Inch Sewer Main	\$	\$
156	12	LF	237110	500-1.2.7	Additional Point Repair for Existing 8-Inch Sewer Main	\$	\$
157	1	EA	237110	500-1.2.7	Point Repair for Existing 8-Inch Sewer Main	\$	\$
158	2	EA	237110	500-1.6.6	Sewer Lateral Lining	\$	\$
159	3	EA	237110	500-2.10.2	Rehabilitate Existing Manhole	\$	\$



Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
160	1	LS	237110	704-4	Sewage Bypass and Pumping Plan (Diversion Plan)	<del>                    </del>	\$
<b>BASE BID (SUBTOTAL):</b>							<b>\$</b>
<b>ALTERNATE "A"</b>							
1	-44,700	LF	237110	600-1.2.1.3	High-lining Removed by Contractor (Base Bid Item 130)	-\$	-\$
2	1	LS	237110	600-1.2.2.10	High-lining by the Contractor	<del>                    </del>	\$
<b>TOTAL FOR ALTERNATE "A":</b>							<b>\$</b>
<b>ALTERNATE "B"</b>							
1	-6,000	SF	237110	600-1.3.1.5	Pavement Restoration for City Forces Connection (Base Bid Item 131)	-\$	-\$
2	48	EA	237110	600-1.3.2.10	8-Inch through 12-Inch Connections to Existing System by Contractor	\$	\$
3	9	EA	237110	600-1.3.2.10	16-Inch Connections to the Existing System by Contractor	\$	\$
4	2	EA	237110	600-1.3.2.10	12-Inch Cut-In Tee by Contractor	\$	\$
5	4	EA	237111	600-1.3.2.11	12x10-Inch Cut-In Reducer by Contractor	\$	\$
6	110	EA	237110	600-1.4.9	Cut and Plug of the Existing System by Contractor	\$	\$
<b>TOTAL FOR ALTERNATE "B":</b>							<b>\$</b>
<b>ALTERNATE "C"</b>							
1	1	LS	238990	703-20	Preparation of Hazardous Waste Management Plan and Reporting	<del>                    </del>	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
2	1	LS	238990	703-20	Community Health and Safety Plan	<del>    </del>	\$	
3	500	HR	238990	703-20	Monitoring of Soils Containing RCRA/Non-RCRA Hazardous Waste and Petroleum Contaminated Soil	\$	\$	
4	1,500	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazardous Waste	\$	\$	
5	1,500	TON	238990	703-20	Loading, Transportation, and Disposal of Soils Containing RCRA Hazardous Waste	\$	\$	
6	1,400	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Petroleum Contaminated Soil	\$	\$	
7	1,400	TON	238990	703-20	Loading, Transportation, and Disposal of Petroleum Contaminated Soil	\$	\$	
8	1,500	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Soils Containing non-RCRA Hazardous Waste	\$	\$	
9	1,500	TON	238990	703-20	Loading, Transportation, and Disposal of Soils Containing non-RCRA Hazardous Waste	\$	\$	
10	20,000	GAL	238990	703-20	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of RCRA Hazardous Waste Contamination from the Treatment of Contaminated Groundwater (includes Peripheral Equipment to Treat Petroleum Contaminated Groundwater)	\$	\$	
11	20,000	GAL	238990	703-20	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Non-RCRA Hazardous Waste Contamination from the Treatment of Contaminated Groundwater (includes Peripheral Equipment to Treat Petroleum Contaminated Groundwater)	\$	\$	
<b>TOTAL FOR ALTERNATE "C":</b>							\$	
<b>TOTAL BASE BID PLUS ALTERNATE A PLUS ALTERNATE B PLUS ALTERNATE C:</b>							\$	

**LIST OF SUBCONTRACTORS**

**\*\*\* PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY \*\*\***

**TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY**

**SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the California Public Contract Code (PCC), the Bidder is to list below the name, address and license number of each Subcontractor who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement, in an amount of or in excess of 0.5% of the Contractor's total Bid. Failure to comply with this requirement may result in the Bid being rejected as non-responsive. The Contractor is to list only one Subcontractor for each portion of the Work. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percentage of the Work to be performed with the Bidder's own forces. The Bidder is to also list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which the Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.**

**NAMED EQUIPMENT/MATERIAL SUPPLIER LIST**

\*\*\* PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY \*\*\*

**TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY**

**SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES (MUST BE FILLED OUT)	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____						
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____						

① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE,SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.**

**SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE**  
**\*\*\* PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY \*\*\***  
**TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY**  
**SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

ADDITIVE/ DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTO R OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>ⓐ</sup>	WHERE CERTIFIED <sup>ⓑ</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

ⓐ As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

ⓑ As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.**

**SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE**

\*\*\* PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY \*\*\*  
 TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY  
 SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION

ADDITIVE/DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSE	WHERE CERTIFIED	CHECK IF JOINT VENTURE PARTNERSHIP
ALT. C	Name: <u>SOLLARIS CONTRACTING</u> Address: <u>7437 LOWELL CT.</u> City: <u>LA MESA</u> State: <u>CA</u> Zip: <u>91942</u> Phone: <u>619-465-3438</u> Email: <u>sollaris@stglobal.net</u>	CONSTRUCTOR	793838	HAZARDOUS MATERIAL	\$1,269,000	ELBE	CITY	
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

- |   |        |  |         |
|---|--------|--|---------|
| Certified Minority Business Enterprise        | MBE    | Certified Woman Business Enterprise            | WBE     |
| Certified Disadvantaged Business Enterprise   | DBE    | Certified Disabled Veteran Business Enterprise | DVBE    |
| Other Business Enterprise                     | OBE    | Certified Emerging Local Business Enterprise   | ELBE    |
| Certified Small Local Business Enterprise     | SLBE   | Small Disadvantaged Business                   | SDB     |
| Woman-Owned Small Business                    | WoSB   | HUBZone Business                               | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSE |  |         |

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

- |  |        |  |          |
|--|--------|--|----------|
| City of San Diego                                    | CITY   | State of California Department of Transportation | CALTRANS |
| California Public Utilities Commission               | CPUC   |  |          |
| State of California's Department of General Services | CADoGS | City of Los Angeles                              | LA       |
| State of California                                  | CA     | U.S. Small Business Administration               | SBA      |

**The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.**

## **ELECTRONICALLY SUBMITTED FORMS**

### **THE FOLLOWING FORMS MUST BE SUBMITTED IN PDF FORMAT WITH BID SUBMISSION**

The following forms are to be completed by the bidder and submitted (uploaded) electronically with the bid in PlanetBids.

- A. BID BOND – See Instructions to Bidders, Bidders  
Guarantee of Good Faith (Bid Security) for further  
instructions**
- B. CONTRACTOR’S CERTIFICATION OF PENDING  
ACTIONS**
- C. EQUAL BENEFITS ORDINANCE - CERTIFICATION  
OF COMPLIANCE**
- D. LOBBY PROHIBITION, CERTIFICATION AND  
DISCLOSURE**
- E. DISCLOSURE OF LOBBYING ACTIVITIES**
- F. SDWSRF DBE INFORMATION FORM**
- G. EPA FORM 6100-3: DISADVANTAGED BUSINESS  
ENTERPRISE (DBE) PROGRAM – DBE  
SUBCONTRACTOR PERFORMANCE FORM**
- H. EPA FORM 6100-4: DISADVANTAGED BUSINESS  
ENTERPRISE (DBE) PROGRAM - SUBCONTRACTOR  
UTILITIZATION FORM**

**Bids will not be accepted until ALL forms are submitted  
as part of the bid submittal**

**BID BOND**

**See Instructions to Bidders, Bidder Guarantee of Good Faith  
(Bid Security)**

KNOW ALL MEN BY THESE PRESENTS,

That \_\_\_\_\_ as Principal, and  
\_\_\_\_\_ as Surety, are held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under the bidding schedule(s) of the OWNER's Contract Documents entitled

\_\_\_\_\_

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
(Principal) (SEAL)

\_\_\_\_\_  
(Surety) (SEAL)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)



**BID BOND**

**See Instructions to Bidders, Bidder Guarantee of Good Faith  
(Bid Security)**

KNOW ALL MEN BY THESE PRESENTS,

That TC Construction Company, Inc. as Principal, and  
Liberty Mutual Insurance Company as Surety, are held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under the bidding schedule(s) of the OWNER's Contract Documents entitled


Pacific Beach Pipeline South, Invitation No. K-16-1306-DBB-3


NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this 6th day of January, 2016

TC Construction Company, Inc. (SEAL)  
(Principal)

Liberty Mutual Insurance Company(SEAL)  
(Surety)

By:   
(Signature)  
AUSTIN CAMERON, PRESIDENT

By:   
(Signature)  
Tara Bacon, Attorney-in-Fact

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

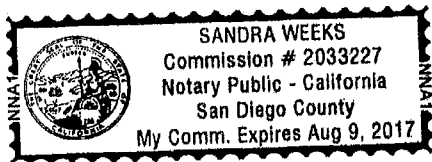
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California )  
County of San Diego )  
On January 26, 2016 before me, Sandra Weeks, Notary Public  
Date Here Insert Name and Title of the Officer  
personally appeared Austin Cameron  
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Sandra Weeks  
Signature of Notary Public

Place Notary Seal Above

**OPTIONAL**

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

**Description of Attached Document**

Title or Type of Document: Bid Bond Document Date: \_\_\_\_\_  
Number of Pages: 1 Signer(s) Other Than Named Above: N/A

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: Austin Cameron  
 Corporate Officer — Title(s): President  
 Partner —  Limited  General  
 Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_

Signer's Name: \_\_\_\_\_  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  
 Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_

Signer Is Representing: TC Construction Co, Inc.

Signer Is Representing: \_\_\_\_\_

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**  
CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of San Diego )

On January 6, 2016 before me, Minna Huovila, Notary Public  
(insert name and title of the officer)

personally appeared Tara Bacon  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature 

(Seal)



**THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.**

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 9849618

American Fire and Casualty Company  
The Ohio Casualty Insurance Company

Liberty Mutual Insurance Company  
West American Insurance Company

**POWER OF ATTORNEY**

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Bradley R. Orr; Dale G. Harshaw; Geoffrey Shelton; John R. Qualin; Kyle King; Tara Bacon

all of the city of San Diego state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 23rd day of January, 2015

American Fire and Casualty Company  
The Ohio Casualty Insurance Company  
Liberty Mutual Insurance Company  
West American Insurance Company

By: David M. Carey  
David M. Carey, Assistant Secretary



STATE OF PENNSYLVANIA ss  
COUNTY OF MONTGOMERY

On this 23rd day of January, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Notarial Seal  
Teresa Pastella, Notary Public  
Plymouth Twp., Montgomery County  
My Commission Expires March 28, 2017  
Member, Pennsylvania Association of Notaries

By: Teresa Pastella  
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

**ARTICLE IV - OFFICERS - Section 12. Power of Attorney.** Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

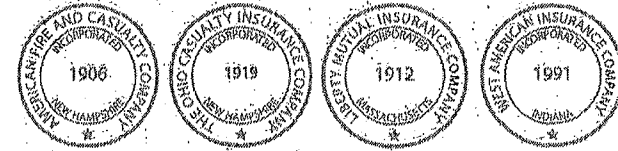
**ARTICLE XIII - Execution of Contracts - SECTION 5. Surety Bonds and Undertakings.** Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

**Certificate of Designation** - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

**Authorization** - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 6th day of January, 2016



By: Gregory W. Davenport  
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

## CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

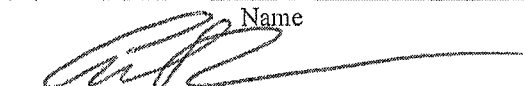
CHECK ONE BOX ONLY.

- The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.
- The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

DATE OF CLAIM	LOCATION	DESCRIPTION OF CLAIM	LITIGATION (Y/N)	STATUS	RESOLUTION/REMEDIAL ACTION TAKEN

Contractor Name: TC Construction Company Inc.

Certified By Austin Cameron Title President

  
 Name  
 Signature

Date 1-26-16

**USE ADDITIONAL FORMS AS NECESSARY**

**EQUAL BENEFITS ORDINANCE  
CERTIFICATION**



OF

For additional information, contact:  
**CITY OF SAN DIEGO**  
**EQUAL BENEFITS PROGRAM**  
 202 C Street, MS 9A, San Diego, CA 92101  
 Phone (619) 533-3948 Fax (619) 533-3220

**COMPLIANCE**

COMPANY INFORMATION	
Company Name: TC Construction Company Inc.	Contact Name: Austin Cameron
Company Address: 10540 Prospect Ave., Santee, CA 92071	Contact Phone: 619-448-4560 ext.117
	Contact Email: acameron@tcincsd.com
CONTRACT INFORMATION	
Contract Title: Pacific Beach Pipeline South	Start Date: TBD
Contract Number (if no number, state location): K-16-1306-DBB-3	End Date: TBD
SUMMARY OF EQUAL BENEFITS ORDINANCE REQUIREMENTS	
<p>The Equal Benefits Ordinance [EBO] requires the City to enter into contracts only with contractors who certify they will provide and maintain equal benefits as defined in SDMC §22.4302 for the duration of the contract. To comply:</p> <ul style="list-style-type: none"> <li>■ Contractor shall offer equal benefits to employees with spouses and employees with domestic partners.                             <ul style="list-style-type: none"> <li>▪ Benefits include health, dental, vision insurance; pension/401(k) plans; bereavement, family, parental leave; discounts, child care; travel/relocation expenses; employee assistance programs; credit union membership; or any other benefit.</li> <li>▪ Any benefit not offer an employee with a spouse, is not required to be offered to an employee with a domestic partner.</li> </ul> </li> <li>■ Contractor shall post notice of firm's equal benefits policy in the workplace and notify employees at time of hire and during open enrollment periods.</li> <li>■ Contractor shall allow City access to records, when requested, to confirm compliance with EBO requirements.</li> <li>■ Contractor shall submit <i>EBO Certification of Compliance</i>, signed under penalty of perjury, prior to award of contract.</li> </ul> <p>NOTE: This summary is provided for convenience. Full text of the EBO and Rules Implementing the EBO are available at <a href="http://www.sandiego.gov/administration">www.sandiego.gov/administration</a>.</p>	
CONTRACTOR EQUAL BENEFITS ORDINANCE CERTIFICATION	
<p>Please indicate your firm's compliance status with the EBO. The City may request supporting documentation.</p> <p><input checked="" type="checkbox"/> I affirm <b>compliance</b> with the EBO because my firm (<i>contractor must select one reason</i>):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Provides equal benefits to spouses and domestic partners.</li> <li><input type="checkbox"/> Provides no benefits to spouses or domestic partners.</li> <li><input type="checkbox"/> Has no employees.</li> <li><input type="checkbox"/> Has collective bargaining agreement(s) in place prior to January 1, 2011, that has not been renewed or expired.</li> </ul> <p><input type="checkbox"/> I request the City's approval to pay affected employees a cash equivalent in lieu of equal benefits and verify my firm made a reasonable effort but is not able to provide equal benefits upon contract award. I agree to notify employees of the availability of a cash equivalent for benefits available to spouses but not domestic partners and to continue to make every reasonable effort to extend all available benefits to domestic partners.</p> <p>It is unlawful for any contractor to knowingly submit any false information to the City regarding equal benefits or cash equivalent associated with the execution, award, amendment, or administration of any contract. [San Diego Municipal Code §22.4307(a)]</p> <p>Under penalty of perjury under laws of the State of California, I certify the above information is true and correct. I further certify that my firm understands the requirements of the Equal Benefits Ordinance and will provide and maintain equal benefits for the duration of the contract or pay a cash equivalent if authorized by the City.</p>	
Austin Cameron, President	_____ Signature
	1-26-16 Date
FOR OFFICIAL CITY USE ONLY	
Receipt Date: _____	EBO Analyst: _____
<input type="checkbox"/> Approved <input type="checkbox"/> Not Approved – Reason: _____	

(Rev 02/15/2011)

## LOBBY PROHIBITION, CERTIFICATION AND DISCLOSURE

In acknowledgment that funds received under this agreement have been provided pursuant to a Federal grant, recipient hereby recognizes the prohibitions against lobbying the Federal government with any of these funds. Recipient agrees that it shall comply with the laws set forth at 31 U.S.C. § 1352 (1989) and 24 C.F.R. part 87, to wit:

### A. Conditions on use of funds

Recipient shall not expend any funds received pursuant to this agreement to pay any person to influence an officer or employee of Federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with any of the following Covered Federal actions:

- (1) The awarding of any federal contract
- (2) The making of any Federal grant
- (3) The making of any Federal Loan
- (4) The entering into of any cooperative agreement
- (5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

For purposes of defining the terms of this part of the agreement, the definitions set forth in 24 C.F.R. § 87.105 are hereby adopted and incorporated herein by reference.

### B. Certification and Disclosure

Each recipient at every tier under this agreement shall file a certification regarding lobbying, and a Disclosure Form-LLL, where required by 24 C.F.R. § 87.110. The certification form and Disclosure Form-LLL are attached to this agreement.

### C. Certifications must be filed:

- (1) By any person upon each submission that initiates agency consideration for an award of a Federal contract, grant, or cooperative agreement exceeding \$100,000, or a Federal loan or loan guarantee exceeding \$150,000.
- (2) Upon receipt by any person of a Federal contract, grant, or cooperative agreement exceeding \$100,000, or upon receipt of a Federal loan or loan guarantee exceeding \$150,000.
- (3) By any person who requests or receives from a person referred to in subsections 1 and 2 of this paragraph:
  - a. A subcontract exceeding \$100,000 at any tier under a Federal contract;
  - b. A subgrant, contract or subcontract exceeding \$100,000 at any tier under a Federal grant;
  - c. A contract or subcontract exceeding \$100,000 at any tier under a Federal loan exceeding \$150,000;
  - d. A contract or subcontract exceeding \$100,000 at any tier under a Federal cooperative agreement.

D. Disclosure Forms-LLL must be filed in every instance when a person applies for, requests, or receives Federal appropriations exceeding \$100,000 pursuant to a contract, subcontract, grant, subgrant, loan, or cooperative agreement when such person has paid or expects to pay any sum, in cash or in kind, to influence or attempt to influence any officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress. Further, Disclosure Form-LLL must be filed by recipients at any tier at the end of each calendar quarter in which there occurs any event that requires disclosure or materially affects information submitted in prior disclosures. Such events include:

- (1) 1. An increase of \$25,000 in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action;
- (2) 2. A change in the person(s) influencing or attempting to influence a covered action;
- (3) 3. A change in the officer(s), employee(s), or member(s) contacted to influence a covered action.

All disclosure Forms-LLL, but not certifications, shall be forwarded from tier to tier until received by the principal recipient, which in turn will file them with the appropriate Federal agency.

## INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLLA Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing there port in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.  
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
15. Check whether or not a SF-LLLA Continuation Sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.



**DISCLOSURE OF LOBBYING ACTIVITIES** Approved by OMB  
 Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352  
 (See reverse for public burden disclosure)

0348-0046

<b>1. Type of Federal Action:</b> <input type="checkbox"/> a. Contract N/A <input type="checkbox"/> b. Grant <input type="checkbox"/> c. Cooperative agreement <input type="checkbox"/> d. Loan <input type="checkbox"/> e. Loan guarantee <input type="checkbox"/> f. Loan insurance		<b>2. Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award  N/A		<b>3. Report Type:</b> <input checked="" type="checkbox"/> a. initial finding <input type="checkbox"/> b. material change <b>For Material Change Only</b> year _____ quarter _____ date of last report _____	
<b>4. Name and Address of Reporting Entity:</b> <input checked="" type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known: TC Construction Company Inc. 10540 Prospect Ave., Santee, CA 92071 Congressional District, if known:			<b>5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:</b>  Congressional District, if known:		
<b>6. Federal Department/Agency:</b>			<b>7. Federal Program Name/Description:</b>  CFDA Number, if applicable: _____		
<b>8. Federal Action Number, if known:</b>			<b>9. Award Amount, if known:</b> \$		
<b>10. a. Name and Address of Lobbying Entity</b> (if individual, last name, first name, M)  N/A			<b>b. Individuals Performing Services</b> (including address if different from No. 10a) (last name, first name, MI):  N/A		
(attach Continuation Sheet(s) SF-LLL4, if necessary)					
<b>11. Amount of Payment</b> (check all that apply) \$ zero <input type="checkbox"/> actual <input type="checkbox"/> planned			<b>13. Type of Payment</b> (check all that apply) <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission N/A <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferral <input type="checkbox"/> f. other: specify: _____		
<b>12. Form of Payment</b> (check all that apply) <input type="checkbox"/> a. cash N/A <input type="checkbox"/> b. in-kind: specify: nature _____ Value _____					
<b>14. Brief Description of Services Performed or to be Performed and Date(s) of Service, Including officer(s), employee(s), or Member(s), contacted, for Payment indicated in item 11:</b>  (attach Continuation Sheet(s) SF-LLLA, if necessary)					
<b>15. Continuation Sheet(s) SF-LLLA attached:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
<b>16.</b> Information requested through this for misauthorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure may be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.			Signature: _____ Print Name: <u>Austin Cameron</u> Title: <u>President</u> Telephone No.: <u>619-448-4560</u> Date: <u>1-26-16</u>		
<b>Federal Use Only:</b>					Authorized for Local Reproduction Standard Form LLL (Rev. 7-07)



**DISCLOSURE OF LOBBYING ACTIVITIES** Approved by  
**CONTINUATION SHEET**

OMB0348-0046

Reporting Entity: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

Authorized for Local Reproduction  
Standard Form - LLL-A



OMB Control No.: 2090-0030  
 Approved: 08/13/2013  
 Approval Expires: 08/31/2015

**Disadvantaged Business Enterprise (DBE) Program  
 DBE Subcontractor Performance Form**

This form is intended to capture the DBE <sup>1</sup> subcontractor's <sup>2</sup> description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor's bid or proposal package.

Subcontractor Name Ayala Boring Inc.		Project Name Pacific Beach Pipeline South	
Bid / Proposal No. K-16-1306-DBB-3	Assistance Agreement ID No. (if known)	Point of Contact Dean B. Ayala	
Address 10150 Poplar Avenue, Fontana, CA 92335			
Telephone No. 909-350-8940		Email Address dayala@ayalaboring.com	
Prime Contractor Name TC Construction Co, Inc.		Issuing/Funding Entity: City of San Diego/SDW SRF	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
123	Jack + Bore	\$157,625
124	Jack + Bore	
DBE Certified By: <u>DOT</u> : <u>SBA</u> <input checked="" type="checkbox"/> Other: <u>City of Los Angeles</u>		Meets/exceeds EPA certification standards? <input type="checkbox"/> YES : <input checked="" type="checkbox"/> NO : <input type="checkbox"/> Unknown

<sup>1</sup> A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

EPA FORM 6100-3 (DBE Subcontractor Performance Form)

OMB Control No.: 2090-0030  
 Approved: 08/13/2013  
 Approval Expires: 08/31/2015



**Disadvantaged Business Enterprise (DBE) Program  
 DBE Subcontractor Performance Form**

This form is intended to capture the DBE<sup>1</sup> subcontractor's<sup>2</sup> description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name Loveless & Linton Consulting		Project Name PACIFIC BEACH PIPELINE SOUTH	
Bid / Proposal No. K-16-1306-DBB-3	Assistance Agreement ID No. (if known)	Point of Contact Rebekah Loveless	
Address 1421 W. Lewis St San Diego, CA 92103			
Telephone No. 619.922.0718		Email Address rebekah@loveless-linton.com	
Prime Contractor Name TC Construction Inc		Issuing/Funding Entity: EPA/SWRCB - SDWSRF	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
51,52,54	Archaeological, Native American and Paleontological Monitoring Programs	\$150,608
DBE Certified By: ___ DOT : <u>X</u> SBA ___ Other: _____		Meets/exceeds EPA certification standards? <u>X</u> YES : ___ NO : ___ Unknown

<sup>1</sup> A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFG 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

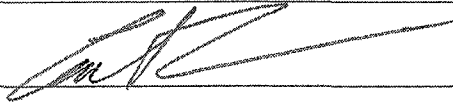
EPA FORM 6100-3 (DBE Subcontractor Performance Form)

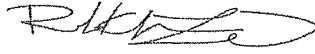


OMB Control No.: 2090-0030  
Approved: 08/13/2013  
Approval Expires: 08/31/2015

Disadvantaged Business Enterprise (DBE) Program DBE  
Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
	AUSTIN CAMERON
Title	Date
PRESIDENT	2/17/16

Subcontractor Signature	Print Name
	Rebekah Loveless
Title	Date
Owning/Managing Partner	2/16/16


The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

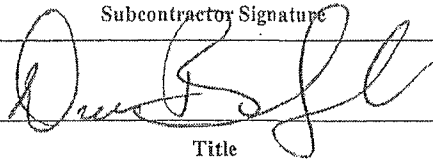


OMB Control No.: 2090-0030  
Approved: 08/13/2013  
Approval Expires: 08/31/2015

**Disadvantaged Business Enterprise (DBE) Program DBE  
Subcontractor Performance Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
	AUSTIN CAMERON
Title	Date
PRESIDENT	2/17/16

Subcontractor Signature	Print Name
	Dean B. Ayala
Title	Date
Estimator	January 28, 2016

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

EPA FORM 6100-3 (DBE Subcontractor Performance Form)



OMB Control No.: 2090-0030  
 Approved: 08/13/2013  
 Approval Expires: 08/31/2015

**Disadvantaged Business Enterprise (DBE) Program  
 Subcontractor Utilization Form**

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE1 subcontractors 2 and the estimate dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name TC Construction Company Inc.		Project Name Pacific Beach Pipeline South	
Bid / Proposal No. K-16-1306-DBB-3	Assistance Agreement ID No. (if known)		Point of Contact Austin Cameron
Address 10540 Prospect Ave., Santee, CA 92071			
Telephone No. 619-448-4560 ext. 117		Email Address acameron@tcincsd.com	
Issuing/Funding Entity: City of San Diego/SDWSRF			

I have identified potential DBE Certified subcontractors	<u> X </u> YES	___ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address / Phone / Email	Est. Dollar Amt	Currently DBE Certified?
Loveless & Linton Consulting	1421 W. Lewis St, San Diego, CA 92103	\$150,608	Yes
Ayala Boring Inc.	10150 Poplar Avenue, Fontana, CA 92335	\$157,625	Yes
Continue on back if needed			

<sup>1</sup> A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFG 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.






OMB Control No.: 2090-0030  
Approved: 08/13/2013  
Approval Expires: 08/31/2015

**Disadvantaged Business Enterprise (DBE) Program  
Subcontractor Utilization Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<b>Prime Contractor Signature</b>	<b>Print Name</b>
	Austin Cameron
<b>Title</b>	<b>Date</b>
President	2-17-16


The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

EPA FORM 6100-4 (DBE Subcontractor Utilization Form)



## ENGINEER OF WORK


The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

  
1) Registered Engineer

12/21/15  
Date

Seal:



  
2) For City Engineer

12/21/15  
Date

Seal:

**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

THE SUBMITTAL DATE FOR THIS PROJECT HAS BEEN **EXTENDED AS STATED ON THE COVER PAGE.**

**B. SUPPLEMENTARY SPECIAL PROVISIONS**

1. To Attachment E, Section 300 – Earthwork, Section 300-1.5 and 300-1.5.1, page 133, Reservoir Demolition, **DELETE** in their entirety and **SUBSTITUTE** with the following:

**300-1.5 Reservoir Demolition.** The contractor shall remove, handle, haul, and dispose all material from reservoir site as shown on the Demolition Plan including, but not limited to: labor, materials, equipment, tools, incidentals, clearing and grubbing, concrete floors and walls, interior lining materials, timber roof structure with corrugated aluminum sheeting, asphalt concrete, Portland cement concrete, and existing utilities.

In 2013, the City’s Asbestos and Lead Management Program (ALMP) conducted an inspection to evaluate for the presence of potential lead containing painted surfaces. At the time, paint chip samples were taken from areas that were accessible and no evaluation of the interior of the reservoir was conducted. The findings in 2013 were that the fascia board on the exterior of the reservoir was found “negative” for lead contents, however, the pipe fittings into the reservoir were discovered to be “positive” for high concentrations of lead.

The aforementioned inspection results can be obtained for reference at the following link:

[ftp://ftp.sannet.gov/OUT/ECP/2-15%20TECHNICAL%20STUDIES%20AND%20DATA/1306\\_%20Pacific%20Beach%20Pipeline%20Technical%20Studies/](ftp://ftp.sannet.gov/OUT/ECP/2-15%20TECHNICAL%20STUDIES%20AND%20DATA/1306_%20Pacific%20Beach%20Pipeline%20Technical%20Studies/)

At the time of the initial investigations proper inspection of the interior could not be conducted due to lack of safe access. Prior to scheduling of demolition activities the Contractor shall be responsible for the testing of materials, within the interior of the reservoir for lead and/or asbestos, that the Contractor’s California Department of Public Health certified lead and/or California Department of Occupational Safety & Health certified asbestos inspector/assessor deems as suspect. The Contractor shall share the results of these tests with the Resident Engineer and ALMP staff.

Furthermore, the Contractor and his staff shall remain vigilant in identifying any suspected materials throughout demolition activities that may not have been tested prior. If suspected asbestos containing materials or untested painted surfaces are identified, stop work in that area and immediately notify the City's Resident Engineer.

Additional costs to cover the abatement of hazardous lead and/or asbestos material not identified in the 2013 report initiated by ALMP staff, will be processed in accordance with Greenbook Section 3-4 "Changed Conditions".

**300-1.5.1 Payment.** Payment to complete the demolition of the reservoir, pre-demolition activities, inspection for additional suspect lead and/or asbestos containing materials, testing of suspect lead containing materials by certified laboratory, proper removal, transport and disclosure paperwork necessary for recycling of intact pipe inlet fittings described above, shall be included in the Lump Sum Bid item for Demolition of PB Reservoir.

#### C. CERTIFICATIONS AND FORMS

1. To Bid Items, pages 473 through 483, **DELETE** in their entirety and **SUBSTITUTE** with pages 5 through 17 of this Addendum.

James Nagelvoort, Director  
Public Works Department

Dated: *December 22, 2015*  
San Diego, California

JN/JB/lji

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
<b>BASE BID</b>							
<b>Common</b>							
1	1	LS	524126	2-4.1	Bonds (Payment and Performance)	<del>    </del>	\$
2	1	AL		7-5.3	CalTrans Encroachment Permit - Type I	<del>    </del>	\$5,000.00
3	1	LS	238990	7-9.1.1	Video Recording of Existing Conditions	<del>    </del>	\$
4	1	AL		7-10.1.1	MTS/NCTD Joint Right of Entry Permit -Type I	<del>    </del>	\$10,000.00
5	2,000	LF	237310	7-10.2.6	K-Rail	\$	\$
6	1	LS	237310	7-10.2.6	Flashing Arrow Board	<del>    </del>	\$
7	1	AL	237310	7-10.2.6	Portable Changeable Message Signs (PCMS) - Type I	<del>    </del>	\$2,500.00
8	1	LS	237310	7-10.2.6	Traffic Control	<del>    </del>	\$
9	1	LS	541820	7-16.4	Exclusive Community Liaison Services	<del>    </del>	\$
10	200	TON	237310	302-3.2	Asphalt Pavement Repair	\$	\$
11	322,000	SF	237310	302-4.12.4	Rubber Polymer Modified Slurry Type III and Striping	\$	\$
12	10,000	SF	237310	302-5.2.1	Pavement Restoration Adjacent to Trench	\$	\$
13	12,900	TON	237310	302-5.9	1-1/2 Inch Asphalt Concrete Overlay and Striping	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
14	1	LS	237110	9-3.4.1	Mobilization	<del> </del>	\$
15	1	AL		9-3.5	Field Orders - Type II	<del> </del>	\$530,000.00
16	299,100	SF	237310	302-1.12	Cold Mill AC Pavement (0-1 1/2")	\$	\$
17	6,500	LF	237310	302-1.12	Cold Mill Header Cuts	\$	\$
18	246	EA	237310	302-1.12	Traffic Detector Loop Replacement	\$	\$
19	500	LB	237310	302-14.5	Crack Seal	\$	\$
20	900	SF	237310	302-6.8	Bus Stop Pad (75'x12')	\$	\$
21	20,000	SY	237310	302-7.4	Pavement Fabric	\$	\$
22	1,000	LF	237310	303-5.9	Additional Curb and Gutter Removal and Replacement	\$	\$
23	5,000	SF	237310	303-5.9	Additional Sidewalk Removal and Replacement	\$	\$
24	200	EA	237310	303-5.9	Contractor Date Stamp and Impressions	\$	\$
25	2	EA	237310	303-5.10.2	Curb Ramp Case E with Detectable Warning Tiles	\$	\$
26	1	EA	237310	303-5.10.2	Curb Ramp Type A with Detectable Warning Tiles	\$	\$
27	43	EA	237310	303-5.10.2	Curb Ramp Type A with Stainless Steel Detectable Warning Tiles	\$	\$
28	6	EA	237310	303-5.10.2	Curb Ramp Type B with Detectable Warning Tiles	\$	\$
29	12	EA	237310	303-5.10.2	Curb Ramp Type B with Stainless Steel Detectable Warning Tiles	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
30	24	EA	237310	303-5.10.2	Curb Ramp Type C1 with Stainless Steel Detectable Warning Tiles	\$	\$
31	7	EA	237310	303-5.10.2	Curb Ramp Type C2 with Stainless Steel Detectable Warning Tiles	\$	\$
32	10	EA	237310	303-5.10.2	Curb Ramp Type D with Stainless Steel Detectable Warning Tiles	\$	\$
33	6	EA	237310	303-5.10.2	Curb Ramp Type Island Passageway with Detectable Warning Tiles	\$	\$
34	1	LS	237110	306-1.1.6	Trench Shoring	<del> </del>	\$
35	570	CY	237110	306-1.2.1.1	Additional Bedding	\$	\$
36	1,600	TON	237310	306-1.5.1	Temporary Resurfacing	\$	\$
37	1,580	TON	237110	306-1.6	Imported Backfill	\$	\$
38	122	EA	238210	307-2	Countdown Pedestrian Push Button Module	\$	\$
39	17	EA	238210	307-2	Relocate Pedestrian Push Button Post	\$	\$
40	3	EA	238210	307-2	Traffic Signal Modification	\$	\$
41	2	EA	541370	309-4	Survey Monuments	\$	\$
42	1	LS	561730	700-2.15	Clearing and Grubbing	<del> </del>	\$
43	1	LS	561730	700-2.15	Revegetation and Erosion Control	<del> </del>	\$
44	1	LS	541330	700-2.15	Monitoring and Reporting	<del> </del>	\$
45	1	LS	541330	700-2.15	Revegetation Maintenance and Monitoring Program	<del> </del>	\$




Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
46	1	AL	541330	701-13.8.4	Permit Fee - Type I	<del>                    </del>	\$10,000.00
47	1	LS	541330	701-13.8.4	SWPPP/Compliance with CGP for Reservoir Site (Risk Level 2)	<del>                    </del>	\$
48	1	LS	541330	701-13.9.5	Water Pollution Control Program Development (for linear work)	<del>                    </del>	\$
49	1	LS	237990	701-13.9.5	Water Pollution Control Program Implementation (for linear work)	<del>                    </del>	\$
50	20	DAYS	541690	707-1	Suspension of Work - Resources	\$	\$
51	34,700	LF	541690	707-2	Archeological and Native American Monitoring Program	\$	\$
52	2,970	LF	541690	707-3	Paleontological Monitoring Program	\$	\$
53	1	AL	541690	707-4	Archeological and Native American Mitigation and Curation - Type I	<del>                    </del>	\$35,000.00
54	350	CY	541690	707-5	Paleontological Mitigation and Excavation	\$	\$
55	4,990	LF	237110	708-6	Handling and Disposal of Non-friable Asbestos Material	\$	\$
<b>Water</b>							
56	1	LS	237110	13110	Cathodic Protection	<del>                    </del>	\$
57	1	LS	237110	13300, 13370, 13374, 13390, 13430, 16010, 16110, 16120, 16190, 16195, 16421, 16450, 16950	390/307 Zone Pressure Regulation Station Relocation	<del>                    </del>	\$
58	715	EA	237310	206-1.4.4	Adhesive Anchoring System	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
59	126	EA	237310	206-2.5	Pipe Roller Supports (18" Pipe)	\$	\$
60	280	EA	237310	206-2.5	Pipe Roller Supports (24" Pipe)	\$	\$
61	1,030	SF	237310	300-1.4	Bridge Removal (Curb Beam)	\$	\$
62	1	LS	238910	300-1.5.1	Demolition of PB Reservoir	<del> </del>	\$
63	12,000	CY	237310	300-4.9	Excavate and Fill (Unclassified)	\$	\$
64	130	LF	237310	303-1.7.5	Drill and Bond Dowels	\$	\$
65	4,940	LBS	237310	303-1.11	Reinforcing Steel	\$	\$
66	40	CY	237310	303-1.11	Structural Concrete	\$	\$
67	60	LF	237310	303-9	Cored Holes	\$	\$
68	52,000	LBS	237310	304-1.12.4	Miscellaneous Metals (Structural Steel)	\$	\$
69	4	EA	237310	304-1.7.1	PTFE Bearing Sliding Surface with Pipe Saddle and Assembly	\$	\$
70	2	EA	237110	306-1.6	10-Inch Fire Service Connection & Assembly	\$	\$
71	2	EA	237110	306-1.6	10-Inch Gate Valve	\$	\$
72	200	LF	237110	306-1.6	10-Inch Water Main	\$	\$
73	1	EA	237110	306-1.6	12-Inch Fire Service Connection & Assembly	\$	\$
74	54	EA	237110	306-1.6	12-Inch Gate Valve	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
75	5,690	LF	237110	306-1.6	12-Inch Water Main	\$	\$
76	330	LF	237110	306-1.6	12-Inch Water Main, DR 14 Class 305	\$	\$
77	30	LF	237110	306-1.6	12-Inch Water Main, DR14 Class 305 Fusible PVC	\$	\$
78	220	LF	237110	306-1.6	12-Inch Water Main, DR18 Class 235 Fusible PVC	\$	\$
79	11	EA	237110	306-1.6	16-Inch Butterfly Valve Class 150B	\$	\$
80	55	EA	237110	306-1.6	16-Inch Butterfly Valve Class 250	\$	\$
81	20,420	LF	237110	306-1.6	16-Inch Water Main	\$	\$
82	1,220	LF	237110	306-1.6	16-Inch Water Main, CML&C Steel	\$	\$
83	2,110	LF	237110	306-1.6	16-Inch Water Main, DR 14 Class 305	\$	\$
84	21	EA	237110	306-1.6	20-Inch Butterfly Valve Class 150B	\$	\$
85	8	EA	237110	306-1.6	20-Inch Butterfly Valve Class 250	\$	\$
86	6,990	LF	237110	306-1.6	20-Inch Water Main	\$	\$
87	2,250	LF	237110	306-1.6	20-Inch Water Main, CML&C Steel	\$	\$
88	160	LF	237110	306-1.6	20-Inch Water Main, DR 14 Class 305	\$	\$
89	3	EA	237110	306-1.6	24-Inch Butterfly Valve Class 250	\$	\$
90	5	LF	237110	306-1.6	24-Inch Water Main	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
91	40	LF	237110	306-1.6	24-Inch Water Main, CML&C Steel	\$	\$
92	210	LF	237110	306-1.6	30-Inch Steel Casing	\$	\$
93	100	LF	237110	306-1.6	30-Inch Water Main, CML&C Steel	\$	\$
94	4	EA	237110	306-1.6	4-Inch Fire Service Connection and Assembly	\$	\$
95	16	EA	237110	306-1.6	4-Inch Gate Valve	\$	\$
96	960	LF	237110	306-1.6	4-Inch Water Main	\$	\$
97	10	LF	237110	306-1.6	6-Inch Water Main	\$	\$
98	1	EA	237110	306-1.6	6-Inch Fire Hydrant Assembly and Marker (2-Port)	\$	\$
99	60	EA	237110	306-1.6	6-Inch Fire Hydrant Assembly and Marker (3-Port)	\$	\$
100	11	EA	237110	306-1.6	6-Inch Fire Service Connection and Assembly	\$	\$
101	4	EA	237110	306-1.6	6-Inch Gate Valve	\$	\$
102	17	EA	237110	306-1.6	8-Inch Fire Service Connection and Assembly	\$	\$
103	8	EA	237110	306-1.6	8-Inch Gate Valve	\$	\$
104	1,050	LF	237110	306-1.6	8-Inch Water Main	\$	\$
105	2	EA	237110	306-1.6	6-Inch Fire Hydrant Connection and+F132 Marker	\$	\$
106	1	LS	237110	306-1.6	Six (6) Double Ball Flex Joints at Bridges	X	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
107	130	EA	237110	306-1.6	Thrust Blocks and Anchor Blocks For 16" and Larger Water Mains	\$	\$
108	2	EA	237110	306-1.6	Water Valve Bypass for Cross Mainline 16" and Larger	\$	\$
109	7	EA	237110	306-1.6	Water Valve Bypass for Straight Mainline 16" and Larger	\$	\$
110	9	EA	237110	306-1.6	Water Valve Bypass for T-Mainline 16" and Larger	\$	\$
111	2	EA	237110	306-14.1	10-Inch Water Service	\$	\$
112	59	EA	237110	306-14.1	1-Inch Water Service	\$	\$
113	105	EA	237110	306-14.1	2-Inch Water Service	\$	\$
114	1	EA	237110	306-14.1	2-Inch Water Service Transfer	\$	\$
115	2	EA	237110	306-14.1	4-Inch Water Service	\$	\$
116	2	EA	237110	306-14.1	6-Inch Water Service	\$	\$
117	2	EA	237110	306-14.1	8-Inch Water Service	\$	\$
118	3	EA	237110	306-18	2-Inch Blowoff Valve Assembly	\$	\$
119	7	EA	237110	306-18	4-Inch Blowoff Valve Assembly	\$	\$
120	3	EA	237110	306-19	1-Inch Air and Vacuum Valve	\$	\$
121	10	EA	237110	306-19	2-Inch Air and Vacuum Valve	\$	\$
122	1	LS	237110	306-25.7	Trenchless Construction - Estudillo Street		\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
123	1	LS	237110	306-25.7	Trenchless Construction - West Washington Street	<del>          </del>	\$
124	1	LS	237110	306-25.7	Trenchless Construction - Witherby Street	<del>          </del>	\$
125	7,940	LF	237110	306-5.3	Abandon and Fill Existing 16-Inch Water Mains Outside of Trench Limit	\$	\$
126	3,450	LF	237110	306-5.3	Abandon and Fill Existing 18-Inch Water Mains Outside of Trench Limit	\$	\$
127	1,290	LF	237110	306-5.3	Abandon and Fill Existing 24-Inch Water Mains Outside of Trench Limit	\$	\$
128	32	EA	237110	306-5.3	Removal of Abandoned Water Meter Box	\$	\$
129	6,330	LF	237110	306-5.3	Removal or Abandonment of Existing Water Facilities	\$	\$
130	44,700	LF	237110	600-1.2.1.3	High-lining Removed by Contractor	\$	\$
131	6,000	SF	237110	600-1.3.1.5	Pavement Restoration for City Forces Connection	\$	\$
132	1	LS	237110	600-1.3.1.5	Contractor Furnished Materials for City Forces Connection and Cut-in Work for Mains 16-Inch and Larger.	<del>          </del>	\$
133	1	AL	237110	705-2.7	Dewatering Permit and Discharge Fees - Type I	<del>          </del>	\$10,000.00
134	1	LS	237110	705.2.7	Dewatering Non-Hazardous Contaminated Water (includes standard equipment required for dewatering and management)	<del>          </del>	\$
<b>Sewer</b>							
135	1,570	LF	237110	306-1.6	10-Inch Sewer Main	\$	\$
136	420	LF	237110	306-1.6	12-Inch Sewer Main	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
137	2,290	LF	237110	306-1.6	14-Inch PVC DR 18 Sewer Forcemain Class 235	\$	\$
138	20	LF	237110	306-1.6	18-Inch Sewer Main	\$	\$
139	30	LF	237110	306-1.6	6-Inch Sewer Main	\$	\$
140	120	LF	237110	306-1.6	6-Inch Sewer Forcemain, DR 18 Class 235	\$	\$
141	880	LF	237110	306-1.6	6-Inch Sewer Forcemain, DR 18 Class 235 with Restrained Joints	\$	\$
142	2,970	LF	237110	306-1.6	8-Inch Sewer Main	\$	\$
143	6	EA	237110	306-1.6	Thrust Blocks and Anchor Blocks (Sewer Force Main)	\$	\$
144	13	EA	237110	306-1.8.6	Connection to Existing Manhole and+A173 Rechanneling	\$	\$
145	21	EA	237110	306-1.8.6	Manholes (4' x 3'), PVC Lined	\$	\$
146	1	EA	237110	306-1.8.6	Manholes (5' x 3'), PVC Lined	\$	\$
147	35	EA	237110	306-1.9.1	4-Inch Sewer Lateral and Cleanout (Street)	\$	\$
148	6	EA	237110	306-1.9.1	6-Inch Sewer Lateral and Cleanout (Street)	\$	\$
149	40	LF	237110	306-5.3	Abandon and Fill Existing 12-Inch Sewer Main Outside of Trench Limit	\$	\$
150	1,450	LF	237110	306-5.3	Abandon and Fill Existing 6-Inch Sewer Main Outside of Trench Limit	\$	\$
151	400	LF	237110	306-5.3	Abandon and Fill Existing 7-Inch Sewer Main Outside of Trench Limit	\$	\$
152	2,910	LF	237110	306-5.3	Abandon and Fill Existing 8-Inch Sewer Main Outside of Trench Limit	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
153	17	EA	237110	306-5.3	Abandon Existing Manhole Outside of Trench	\$	\$	
154	9,000	LF	237110	306-9.7	Video Inspecting Pipelines and Culverts Acceptance	\$	\$	
155	770	LF	237110	500-1.1.9	Rehabilitate 8-Inch Sewer Main	\$	\$	
156	12	LF	237110	500-1.2.7	Additional Point Repair for Existing 8-Inch Sewer Main	\$	\$	
157	1	EA	237110	500-1.2.7	Point Repair for Existing 8-Inch Sewer Main	\$	\$	
158	2	EA	237110	500-1.6.6	Sewer Lateral Lining	\$	\$	
159	3	EA	237110	500-2.10.2	Rehabilitate Existing Manhole	\$	\$	
160	1	LS	237110	704-4	Sewage Bypass and Pumping Plan (Diversion Plan)	<del> </del>	\$	
<b>BASE BID (SUBTOTAL):</b>							\$	
<b>ALTERNATE "A"</b>								
1	-44700	LF	237110	600-1.2.1.3	High-lining Removed by Contractor (Base Bid Item 130)	\$	-\$	
2	1	LS	237110	600-1.2.2.10	High-lining by the Contractor	<del> </del>	\$	
<b>TOTAL FOR ALTERNATE "A":</b>							\$	



Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
<b>ALTERNATE "B"</b>								
1	-6000	SF	237110	600-1.3.1.5	Pavement Restoration for City Forces Final Connection (Base Bid Item 131)	\$	-\$	
2	48	EA	237110	600-1.3.2.10	8-Inch through 12-Inch Connections to Existing System by Contractor	\$	\$	
3	9	EA	237110	600-1.3.2.10	16-Inch Connections to the Existing System by Contractor	\$	\$	
4	1	EA	237110	600-1.3.2.10	12-Inch Cut-In Tee by Contractor (includes all work and materials per note 5 sheet C-7)	\$	\$	
5	1	EA	237111	600-1.3.2.11	12x10-Inch Cut-In Tee by Contractor (includes all work and materials per note 2 sheet C-18)	\$	\$	
6	110	EA	237110	600-1.4.9	Cut and Plug of the Existing System by Contractor	\$	\$	
<b>TOTAL FOR ALTERNATE "B":</b>							\$	
<b>ALTERNATE "C"</b>								
1	1	LS	238990	703-20	Preparation of Hazardous Waste Management Plan and Reporting	<del>    </del>	\$	
2	1	LS	238990	703-20	Community Health and Safety Plan	<del>    </del>	\$	
3	500	HR	238990	703-20	Monitoring of Soils Containing RCRA/Non-RCRA Hazardous Waste and Petroleum Contaminated Soil	\$	\$	
4	1,500	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazardous Waste	\$	\$	

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
5	1,500	TON	238990	703-20	Loading, Transportation, and Disposal of Soils Containing RCRA Hazardous Waste	\$	\$	
6	1,400	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Petroleum Contaminated Soil	\$	\$	
7	1,400	TON	238990	703-20	Loading, Transportation, and Disposal of Petroleum Contaminated Soil	\$	\$	
8	1,500	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Soils Containing non-RCRA Hazardous Waste	\$	\$	
9	1,500	TON	238990	703-20	Loading, Transportation, and Disposal of Soils Containing non-RCRA Hazardous Waste	\$	\$	
10	20,000	GAL	238990	703-20	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of RCRA Hazardous Waste Contamination from the Treatment of Contaminated Groundwater (includes Peripheral Equipment to Treat Petroleum Contaminated Groundwater)	\$	\$	
11	20,000	GAL	238990	703-20	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Non-RCRA Hazardous Waste Contamination from the Treatment of Contaminated Groundwater (includes Peripheral Equipment to Treat Petroleum Contaminated Groundwater)	\$	\$	
<b>TOTAL FOR ALTERNATE "C":</b>							\$	
<b>TOTAL BASE BID PLUS ALTERNATE A PLUS ALTERNATE B PLUS ALTERNATE C:</b>							\$	

# City of San Diego

CITY CONTACT: Lisa Nguyen-Contract Specialist, Email:LTNguyen@sandiego.gov

Phone No. (619) 533-3435, Fax No. (619) 533-3633

## ADDENDUM "B"

## CONTRACT DOCUMENTS



 - Bidding FOR

## PACIFIC BEACH PIPELINE SOUTH

BID NO.: K-16-1306-DBB-3  
SAP NO. (WBS/IO/CC): S-12015 / B-12117  
CLIENT DEPARTMENT: 2000  
COUNCIL DISTRICT: 2  
PROJECT TYPE: KA / JA

### BID DUE DATE:

**2:00 PM  
JANUARY 26, 2016  
CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101**

**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

**B. BIDDER'S QUESTIONS**

**Question pertaining to Terms and Conditions**

- Q1. Section 306-24.4 of the specs and C-108 of the plans implies that there are many Type A SMP's and SMP array's to be installed but the plans only show (1) SMP array on page C-38. Are we missing something or is that the extent of the SMP's to be installed on this project?
- A1. There are other SMP arrays identified in the plans. Please review the drawings, detail callouts on profile/plan views thoroughly.
- Q2. The EPA good faith advertising requirements are very clear that advertising must be conducted 30 days prior to bid date. The City released this project on 12/10 and the bid date is 1/11, this does not allow ample time for contractors to review the bid and advertise accordingly. Please either adjust the advertising time frame or extend the bid date to allow for the 30 day window to be met.
- A2. Bid opening was extended as per Addendum A.
- Q3. Will this project be awarded based on the base bid plus all alternates or just the base bid only?
- A3. The contract will be awarded as per "Instruction to Bidders", section 15.4.
- Q4. Bid Item #2 does not have a pre-filled allowance amount.
- A4. Revised bid document to include allowance amount as provided in the previously issued Addendum "A"
- Q5. Please confirm there are no SLBE/ELBE requirements for this project?
- A5. SLBE/ELBE does not apply. Refer to Funding Agency Provisions for requirements.
- Q6. For alternate bid schedule "B" please confirm if the cut in connections such as the tees include valves as it is not clear if there should be 1, 2 or 3 valves or none at all included.
- A6. Cut-in connections listed in Alternate "B" include all valves, reducers and materials, etc. as referenced in the revised bid documents of the previous issued Addendum "A"

- Q7. Is bid item #92 bore and jacked or open cut install?
- A7. Refer to referenced pay language 306-1.6 for information.
- Q8. Page 8, Section 4.6 of the specifications note four different line items for goal requirements for this project.
1. Construction MBE at 11%, WBE at 4%
  2. Supplies MBE at 2%, WBE at 2%
  3. Services MBE at 4%, WBE at 2%
  4. Equipment (combined in above) MBE at 2%, WBE at 1%

At the pre-bid the only goal percentages mention were the Construction percentages. Please clarify that the only goals the contractor is required to meet are those for Construction.

- A8. Goal participation requirements are for construction only.
- Q9. Attachment D, Section 1.1 of the specification lists the percentages for minority and female participation goals for this project?
1. Minority Participation at 16.9%
  2. Female Participation at 6.9%

These percentage goals differ from those listed on Page 8, Section 4.6. Please clarify which goals the contractor is required to meet.

- A9. Contractor is to meet the subcontracting requirements indicated in Section 4.6 of the Notice Inviting Bids. The percentages indicated in Attachment D, Section 1.1 refer to the participation goals of the contractor's workforce.
- Q10. Please provide the way the contractor may obtain more As-Built information regarding the Tank Demolition.
- A10. Development Services Department Contact Information by Phone (619) 446-5300, by email [dsdweb@sandiego.gov](mailto:dsdweb@sandiego.gov), address: 1222 First Avenue, MS 301, San Diego, CA 92101-4101
- Q11. Are there any hazardous materials the contractor should be aware of while performing the Tank Demolition?
- A11. See previously issued Addendum "A" for revised specification.

- Q12. The City has provided an extensive traffic control plan with the bid documents. Is the contractor required to phase work in accordance with those traffic control bid documents?
- A12. The phasing of work shown on the traffic control plans is shown for each area and does not have to be completed in the specific order as shown on the plans. The phases of work and traffic control can be either combined or reduced though the review and approval of the resident engineer. Additionally, the phasing of work in the Mission Bay Area should be completed in the order as noted on the City Forces sheets.
- Q13. With regards to dewatering for the pipeline, will the contractor be able to discharge into the sanitary sewer system?
- A13. Refer to section 705.
- Q14. Please extend the bid date to January 28th, 2016.
- A14. See previously issued Addendum A for the revised bid date.
- Q15. Refer to drawing page C-50 (sheet 54) and STA 6+00. The 12" DR 18" Fusible PVC Pipe CL 235 refers to a detail on sheet C-108. This sheet does not exist. Can you please provide us with the detail?
- A15. The sheet does exist. They need to look closer.
- Q16. One thing to have the PM look at is the traffic loops, I was contacted by one of the subcontractors that does the traffic signal modifications and he stated that there is not any bid item for traffic loops.
- A16. Review bid list, there is a bid item for traffic detector loop replacement.
- Q17. I'm not sure if you have been made aware of this yet but one of the required websites to advertise on (MBDA) has been out of service since at least last Wednesday the 23rd. We have not been able to advertise yet because of their website being down and it is still down as of this morning. We have checked multiple times every day since the 23rd and tried calling customer service and have not gotten on their site or in contact with anyone who could help. The 30 day advertising time window has now passed. Please consider extending the bid date to allow contractors to advertise within the accordance of the specifications.
- A17. We have checked with MBDA and they confirmed that their Business Tools are undergoing maintenance with no knowledge of when the site will be up and running again. Since the website is down for maintenance with no completion date, it shall be the Contractor's responsibility to document their efforts to post on the MBDA website and to include the documentation in their GFE.

Q18. Please let me know if these are going to be 20" and 16" pipe rollers.

A18. We labeled the rollers as a pipe size up from the indicated pipe diameter to make sure there is room for any coatings/lining that may go on the exterior of the pipes, so what we called the 24" pipe roller is used on the 20" water line, and what we labeled the 18" pipe roller supports the 16" water line.

**C. ATTACHMENTS:**

1. To Attachment D, SDWSRF Funding Agency Provisions, pages 40 through 68, Item 9, Wage Rates, **DELETE** in its entirety and **SUBSTITUTE** with pages 7 through 36 of this Addendum.

**D. SUPPLEMENTARY SPECIAL PROVISIONS:**

1. To Attachment E, page 98, **ADD** the following:

**SECTION 5 – UTILITIES**

**5-2 PROTECTION. ADD** the following:

1. You shall repair or replace traffic signal and lighting system equipment within 72 hours after notification of defects by the Engineer.
2. While working in or around meter boxes, you shall protect in place all Advanced Metering Infrastructure (AMI) devices attached to the water meter or located in or near water meter boxes, coffins, or vaults. This includes any antenna installed through the meter box lid.
  - a) Avoid damaging the antenna, cable, and endpoints when removing the meter box lid and when disconnecting AMI endpoints from the register on top of the water meter.
  - b) If meters or AMI devices need to be removed or relocated, the AMI endpoints shall be reinstalled with the Encoder/Receiver/Transmitter (ERT) pointing upwards.
  - c) Because the AMI equipment is uniquely matched to each service location and to specific meter serial numbers, any AMI devices that are removed or disconnected shall be reinstalled on the same service lateral as well as to the same meter serial number it was attached to originally.
  - d) Do not change or modify the lid if the lid has an antenna drilled through it.

- e) If you encounter damaged, disconnected, buried, or broken AMI endpoints, cables between the registers, antennae, lids, or ERTs, notify the Engineer within 24 hours.
- f) Any AMI equipment damaged by you shall be repaired or replaced by City Forces at your expense.



9. **WAGE RATES:** This contract shall be subject to the following Davis-Bacon Wage Decisions:

General Decision Number: CA160001 01/08/2016 CA1

Superseded General Decision Number: CA20150001

State: California

Construction Types: Building, Heavy (Heavy and Dredging),  
Highway and Residential

County: San Diego County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/08/2016

ASBE0005-002 07/01/2015

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 36.74	19.49
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 25.38	16.81

ASBE0005-004 06/29/2015

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 18.06	10.57

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 41.17	28.27

BRCA0004-008 11/01/2015

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 34.44	17.21

BRCA0018-004 06/01/2014

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.45	11.38
TILE FINISHER.....	\$ 23.78	9.84

TILE LAYER.....\$ 35.14 14.33

-----  
BRCA0018-010 09/01/2013

Rates Fringes

TERRAZZO FINISHER.....\$ 26.59 10.34  
TERRAZZO WORKER/SETTER.....\$ 33.63 11.13

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CARP0409-002 07/01/2008

Rates Fringes

Diver

(1) Wet.....\$ 663.68 9.82  
(2) Standby.....\$ 331.84 9.82  
(3) Tender.....\$ 323.84 9.82  
(4) Assistant Tender.....\$ 299.84 9.82

Amounts in "Rates" column are per day

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CARP0409-008 08/01/2010

Rates Fringes

Modular Furniture Installer.....\$ 17.00 7.41

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CARP0547-001 07/01/2009

Rates Fringes

CARPENTER

(1) Bridge.....\$ 37.28 10.58  
(2) Commercial Building....\$ 32.30 10.58  
(3) Heavy & Highway.....\$ 37.15 10.58  
(4) Residential Carpenter..\$ 25.84 10.58  
(5) Residential  
Insulation Installer.....\$ 18.00 8.16  
MILLWRIGHT.....\$ 37.65 10.58  
PILEDRIVERMAN.....\$ 37.28 10.58

-----  
CARP0547-002 07/01/2009

Rates Fringes

Drywall

(1) Work on wood framed  
construction of single  
family residences,  
apartments or condominiums  
under four stories

Drywall Installer/Lather...\$ 21.00	8.58
Drywall Stocker/Scraper...\$ 11.00	6.67
(2) All other work	
Drywall Installer/Lather...\$ 27.35	9.58
Drywall Stocker/Scraper...\$ 11.00	6.67

-----  
 \* ELEC0569-001 08/31/2015

	Rates	Fringes
Electricians (Tunnel Work)		
Cable Splicer.....\$ 46.88		13.54
Electrician.....\$ 46.13		13.51
Electricians: (All Other Work, Including 4 Stories Residential)		
Cable Splicer.....\$ 41.75		13.38
Electrician.....\$ 41.00		13.36

-----  
 ELEC0569-005 06/01/2015

	Rates	Fringes
Sound & Communications		
Sound Technician.....\$ 29.55		11.92

SOUND TECHNICIAN: Terminating, operating and performing final check-out

-----  
 ELEC0569-006 10/05/2015

Work on street lighting; traffic signals; and underground systems and/or established easements outside of buildings

	Rates	Fringes
Traffic signal, street light and underground work		
Utility Technician #1.....\$ 29.50		8.31
Utility Technician #2.....\$ 24.65		8.16

STREET LIGHT & TRAFFIC SIGNAL WORK:

UTILITY TECHNICIAN #1: Installation of street lights and traffic signals, including electrical circuitry, programmable controller, pedestal-mounted electrical meter enclosures and laying of pre-assembled cable in ducts. The layout of electrical systems and communication installation including proper position of trench depths, and radius at

duct banks, location for manholes, street lights and traffic signals.

UTILITY TECHNICIAN #2: Distribution of material at jobsite, installation of underground ducts for electrical, telephone, cable TV and communication systems. The setting, leveling, grounding and racking of precast manholes, handholes and transformer pads.

-----  
ELEC0569-008 08/31/2015

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories).....	\$ 30.75	7.54

-----  
ELEC1245-001 06/01/2015

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 52.85	15.53
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 42.21	14.32
(3) Groundman.....	\$ 32.28	14.03
(4) Powderman.....	\$ 47.19	14.60

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

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ELEV0018-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.90	28.38

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after

Thanksgiving, and Christmas Day.

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ENGI0012-003 07/06/2015

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 39.95	23.35
GROUP 2.....	\$ 40.73	23.35
GROUP 3.....	\$ 41.02	23.35
GROUP 4.....	\$ 42.51	23.35
GROUP 5.....	\$ 41.86	23.35
GROUP 6.....	\$ 41.83	23.35
GROUP 8.....	\$ 42.84	23.35
GROUP 9.....	\$ 42.19	23.35
GROUP 10.....	\$ 42.96	23.35
GROUP 11.....	\$ 42.31	23.35
GROUP 12.....	\$ 43.13	23.35
GROUP 13.....	\$ 43.23	23.35
GROUP 14.....	\$ 43.26	23.35
GROUP 15.....	\$ 43.34	23.35
GROUP 16.....	\$ 43.46	23.35
GROUP 17.....	\$ 43.63	23.35
GROUP 18.....	\$ 43.73	23.35
GROUP 19.....	\$ 43.84	23.35
GROUP 20.....	\$ 43.96	23.35
GROUP 21.....	\$ 44.13	23.35
GROUP 22.....	\$ 44.23	23.35
GROUP 23.....	\$ 44.34	23.35
GROUP 24.....	\$ 44.46	23.35
GROUP 25.....	\$ 44.63	23.35
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1.....	\$ 41.30	23.35
GROUP 2.....	\$ 42.08	23.35
GROUP 3.....	\$ 42.37	23.35
GROUP 4.....	\$ 42.51	23.35
GROUP 5.....	\$ 42.73	23.35
GROUP 6.....	\$ 42.84	23.35
GROUP 7.....	\$ 42.96	23.35
GROUP 8.....	\$ 43.13	23.35
GROUP 9.....	\$ 43.30	23.35
GROUP 10.....	\$ 44.30	23.35
GROUP 11.....	\$ 45.30	23.35
GROUP 12.....	\$ 46.30	23.35
GROUP 13.....	\$ 47.30	23.35
OPERATOR: Power Equipment (Tunnel Work)		

GROUP 1.....	\$ 41.80	23.35
GROUP 2.....	\$ 42.58	23.35
GROUP 3.....	\$ 42.87	23.35
GROUP 4.....	\$ 43.01	23.35
GROUP 5.....	\$ 43.23	23.35
GROUP 6.....	\$ 43.34	23.35
GROUP 7.....	\$ 43.46	23.35

**PREMIUM PAY:**

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

**SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS**

**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator;

Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer



operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bendng machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

#### GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single

engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck);

Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired

earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

#### CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane

operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

#### TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator

(Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

#### ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back

to start at the point which is the NW corner of Section 1,  
T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO,  
KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34, T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a thin strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County,

until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

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 ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

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 IRON0377-002 07/01/2015

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 27.08	20.21
Ornamental, Reinforcing and Structural.....	\$ 33.50	28.85

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training



Center-Goldstone, San Clemente Island, San Nicholas Island,  
 Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine  
 Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,  
 Naval Post Graduate School - Monterey, Yermo Marine Corps  
 Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

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 LABO0089-001 07/01/2014

	Rates	Fringes
LABORER (BUILDING and all other Residential Construction)		
Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19
LABORER (RESIDENTIAL CONSTRUCTION - See definition below)		
(1) Laborer.....	\$ 25.47	14.52
(2) Cleanup, Landscape, Fencing (Chain Link & Wood).	\$ 24.18	14.52

RESIDENTIAL DEFINITION: Wood or metal frame construction of  
 single family residences, apartments and condominiums -  
 excluding (a) projects that exceed three stories over a  
 garage level, (b) any utility work such as telephone, gas,  
 water, sewer and other utilities and (c) any fine grading  
 work, utility work or paving work in the future street and  
 public right-of-way; but including all rough grading work  
 at the job site behind the existing right of way

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete  
 Screeding for Rought Strike-off; Concrete, water curing;  
 Demolition laborer; Flagman; Gas, oil and/or water pipeline  
 laborer; General Laborer; General clean-up laborer;  
 Landscape laborer; Jetting laborer; Temporary water and

air lines laborer; Material hoseman (walls, slabs, floors and decks); Plugging, filling of Shee-bolt holes; Dry packing of concrete; Railroad maintenance, Repair Trackman and road beds, Streetcar and railroad construction trac laborers; Slip form raisers; Slurry seal crews (mixer operator, applicator operator, squeegee man, Shuttle man, top man), filling of cracks by any method on any surface; Tarman and mortar man; Tool crib or tool house laborer; Window cleaner; Wire Mesh puling-all concrete pouring operations

GROUP 2: Asphalt Shoveler; Cement Dumper (on 1 yard or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute man, pouring concrete, the handling of the cute from ready mix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks; Concrete curer-impervious membrane and form oiler; Cutting torch operator (demoliton); Guinea chaser; Headboard man-asphlt; Laborer, packing rod steel and pans; membrane vapor barrier installer; Power broom sweepers (small); Riiprap, stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Tank sealer and cleaner; Tree climber, faller, chain saw operator, Pittsburgh Chipper and similar type brush shredders; Underground laborers, including caisson bellower

GROUP 3: Buggymobile; Concrete cutting torch; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2 1/2 feet drill steel or longer; Dri Pak-it machine; High sealer (including drilling of same); Hydro seeder and similar type; Impact wrench, mult-plate; Kettlemen, potmen and mean applying asphalt, lay-kold, creosote, line caustic and similar type materials (applying means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operators of pneumatic, gas, electric tools, vibratring machines, pavement breakers, air blasting, come-along, and similar mechanical tools not separately classified herein; Pipelayers back up man coating, grouting, making of joints, sealing, caulking, diapering and inclduing rubber gasket joints, pointing and any and all other services; Rotary Scarifier or multiple head concrete chipping scaarifier; Steel header board man and guideline setter; Tampers, Barko, Wacker and similar type; Trenching machine, handpropelled

GROUP 4: Asphalt raker, luterman, ironer, apshalt dumpman and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), Grinder or sander; Concrete saw man; cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Laser beam in

connection with laborer's work; Oversize concrete vibrator operator 70 pounds and over; Pipelayer performing all services in the laying, installation and all forms of connection of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid, gas, air or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzleman), Porta shot-blast, water blasting

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller-all power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power.

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LABO0089-002 11/01/2012

	Rates	Fringes
LABORER (MASON TENDER).....	\$ 27.98	13.39

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LABO0089-004 07/01/2015

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1.....	\$ 27.57	16.19
Group 2.....	\$ 28.25	16.19
Group 3.....	\$ 28.96	16.19
Group 4.....	\$ 29.76	16.19
Group 5.....	\$ 31.69	16.19

LABORER CLASSIFICATIONS

GROUP 1: Laborer: General or Construction Laborer, Landscape Laborer. Asphalt Rubber Material Loader. Boring Machine Tender (outside), Carpenter Laborer (cleaning, handling, oiling & blowing of panel forms and lumber), Concrete Laborer, Concrete Screeding for rough strike-off, Concrete water curing. Concrete Curb & Gutter laborer, Certified

Confined Space Laborer, Demolition laborer & Cleaning of Brick and lumber, Expansion Joint Caulking; Environmental Remediation, Monitoring Well, Toxic waste and Geotechnical Drill tender, Fine Grader, Fire Watcher, Limbers, Brush Loader, Pilers and Debris Handlers. flagman. Gas Oil and Water Pipeline Laborer. Material Hoseman (slabs, walls, floors, decks); Plugging, filling of shee bolt holes; Dry packing of concrete and patching; Post Holer Digger (manual); Railroad maintenance, repair trackman, road beds; Rigging & signaling; Scaler, Slip-Form Raisers, Filling cracks on any surface, tool Crib or Tool House Laborer, Traffic control (signs, barriers, barricades, delineator, cones etc.), Window Cleaner

GROUP 2: Asphalt abatement; Buggymobile; Cement dumper (on 1 yd. or larger mixers and handling bulk cement); Concrete curer, impervious membrane and form oiler; Chute man, pouring concrete; Concrete cutting torch; Concrete pile cutter; driller/Jackhammer, with drill steel 2 1/2 feet or longer; Dry pak-it machine; Fence erector; Pipeline wrapper, gas, oil, water, pot tender & form man; Grout man; Installation of all asphalt overlay fabric and materials used for reinforcing asphalt; Irrigation laborer; Kettleman-Potman hot mop, includes applying asphalt, lay-klold, creosote, lime caustic and similar tyhpes of materials (dipping, brushing, handling) and waterproofing; Membrane vapor barrier installer; Pipelayer backup man (coating, grouting, making of joints, sealing caulkiing, diapering including rubber basket joints, pointing); Rotary scarifier, multiple head concrete chipper; Rock slinger; Roto scraper & tiller; Sandblaster pot tender; Septic tank digger/installer; Tamper/wacker operator; Tank scaler & cleaner; Tar man & mortar man; Tree climber/faller, chainb saw operator, Pittsburgh chipper & similar type brush shredders.

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter, Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled

Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting, making of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter, Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

GROUP 4: Any worker exposed to raw sewage. Asphalt Raker, Luteman, Asphalt Dumpman, Asphalt Spreader Boxes, Concrete Core Cutter, Concrete Saw Man, Cribber, Shorer, Head Rock Slinger. Installation of subsurface instrumentation, monitoring wells or points, remediation system installer; Laborer, asphalt-rubber distributor bootman; Oversize concrete vibrator operators, 70 pounds or over. Pipelayer, Prefabricated Manhole Installer, Sandblast Nozzleman (Water Blasting-Porta Shot Blast), Traffic Lane Closure.

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Horizontal directional driller, Boring system, Electronic tracking, Driller: all power drills excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and all other types of mechanical drills without regard to form of motive power. Environmental remediation, Monitoring well, Toxic waste and Geotechnical driller, Toxic waste removal. Welding in connection with Laborer's work.

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LABO0300-005 01/01/2014

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 28.00	15.25

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

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LABO1184-001 08/01/2015

	Rates	Fringes
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Laborers: (HORIZONTAL  
DIRECTIONAL DRILLING)

(1) Drilling Crew Laborer...\$ 32.60	12.16
(2) Vehicle Operator/Hauler.\$ 32.77	12.16
(3) Horizontal Directional Drill Operator.....\$ 34.62	12.16
(4) Electronic Tracking Locator.....\$ 36.62	12.16

Laborers: (STRIPING/SLURRY  
SEAL)

GROUP 1.....\$ 33.76	15.04
GROUP 2.....\$ 35.06	15.04
GROUP 3.....\$ 37.07	15.04
GROUP 4.....\$ 38.81	15.04

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

LABO1414-003 08/05/2015

Rates Fringes

LABORER

PLASTER CLEAN-UP LABORER....	\$ 30.16	17.11
PLASTER TENDER.....	\$ 32.71	17.11

Work on a swing stage scaffold: \$1.00 per hour additional.

Work at Military Bases - \$3.00 additional per hour:

Coronado Naval Amphibious Base, Fort Irwin, Marine Corps Air Station-29 Palms, Imperial Beach Naval Air Station, Marine Corps Logistics Supply Base, Marine Corps Pickle Meadows, Mountain Warfare Training Center, Naval Air Facility-Seeley, North Island Naval Air Station, Vandenberg AFB.

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PAIN0036-001 07/01/2015

Rates Fringes

Painters: (Including Lead Abatement)

(1) Repaint (excludes San Diego County).....	\$ 27.29	12.83
(2) All Other Work.....	\$ 30.72	12.83

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

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PAIN0036-010 10/01/2014

Rates Fringes

DRYWALL FINISHER/TAPER

(1) Building & Heavy Construction.....	\$ 26.84	14.29
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories).....	\$ 21.00	13.91

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PAIN0036-012 10/01/2015

	Rates	Fringes
GLAZIER.....	\$ 40.80	17.66

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PAIN0036-019 07/01/2015

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 26.77	13.00

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PLAS0200-005 08/06/2015

	Rates	Fringes
PLASTERER.....	\$ 38.44	13.77

NORTH ISLAND NAVAL AIR STATION, COLORADO NAVAL AMPHIBIOUS  
BASE, IMPERIAL BEACH NAVAL AIR STATION: \$3.00 additional  
per hour.

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PLAS0500-001 07/01/2015

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1.....	\$ 26.47	17.32
GROUP 2.....	\$ 28.12	17.32
GROUP 3.....	\$ 30.75	17.27

CEMENT MASONS - work inside the building line, meeting the  
following criteria:

GROUP 1: Residential wood frame project of any size; work  
classified as Type III, IV or Type V construction;  
interior tenant improvement work regardless the size of the  
project; any wood frame project of four stories or less.

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

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PLUM0016-006 07/01/2015

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton.....	\$ 50.46	20.71



Plumber and Pipefitter  
 All other work except  
 work on new additions and  
 remodeling of bars,  
 restaurant, stores and  
 commercial buildings not  
 to exceed 5,000 sq. ft.  
 of floor space and work  
 on strip malls, light  
 commercial, tenant  
 improvement and remodel  
 work.....\$ 45.96      20.71  
 Work ONLY on new additions  
 and remodeling of  
 commercial buildings,  
 bars, restaurants, and  
 stores not to exceed 5,000  
 sq. ft. of floor space.....\$ 44.51      19.73  
 Work ONLY on strip malls,  
 light commercial, tenant  
 improvement and remodel  
 work.....\$ 35.16      18.06

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 PLUM0016-011 07/01/2015

Rates      Fringes

PLUMBER/PIPEFITTER  
 Residential.....\$ 37.17      16.63

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 PLUM0345-001 07/01/2014

Rates      Fringes

PLUMBER  
 Landscape/Irrigation Fitter.\$ 29.27      19.75  
 Sewer & Storm Drain Work....\$ 33.24      17.13

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 ROOF0045-001 07/01/2012

Rates      Fringes

ROOFER.....\$ 25.08      7.28

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 SFCA0669-001 07/01/2013

Rates      Fringes

SPRINKLER FITTER.....\$ 34.86      18.66

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 SHEE0206-001 01/01/2012

Rates Fringes

SHEET METAL WORKER

Camp Pendleton.....	\$ 35.05	19.23
Except Camp Pendleton.....	\$ 33.05	19.23
Sheet Metal Technician.....	\$ 25.22	6.69

SHEET METAL TECHNICIAN - SCOPE:

a. Existing residential buildings, both single and multi-family, where each unit is heated and/or cooled by a separate system b. New single family residential buildings including tracts. c. New multi-family residential buildings, not exceeding five stories of living space in height, provided each unit is heated or cooled by a separate system. Hotels and motels are excluded. d. LIGHT COMMERCIAL WORK: Any sheet metal, heating and air conditioning work performed on a project where the total construction cost, excluding land, is under \$1,000,000 e. TENANT IMPROVEMENT WORK: Any work necessary to finish interior spaces to conform to the occupants of commercial buildings, after completion of the building shell

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TEAM0036-001 07/01/2012

Rates Fringes

Truck drivers:

GROUP 1.....	\$ 15.40	20.50
GROUP 2.....	\$ 24.99	20.50
GROUP 3.....	\$ 25.19	20.50
GROUP 4.....	\$ 25.39	20.50
GROUP 5.....	\$ 25.59	20.50
GROUP 6.....	\$ 26.09	20.50
GROUP 7.....	\$ 27.59	20.50

FOOTNOTE: HAZMAT PAY: Work on a hazmat job, where hazmat certification is required, shall be paid, in addition to the classification working in, as follows: Levels A, B and C - +\$1.00 per hour. Workers shall be paid hazmat pay in increments of four (4) and eight (8) hours.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

GROUP 2: 2-axle Dump Truck, 2-axle Flat Bed, Concrete Pumping Truck, Industrial Lift Truck, Motorized Traffic Control, Pickup Truck on Jobsite

GROUP 3: 2-axle Water Truck, 3-axle Dump Truck, 3-axle Flat Bed, Erosion Control Nozzleman, Dump Crete Truck under 6.5 yd, Forklift 15,000 lbs and over, Prell Truck, Pipeline Work Truck Driver, Road Oil Spreader, Cement Distributor or Slurry Driver, Bootman, Ross Carrier

GROUP 4: Off-road Dump Truck under 35 tons 4-axles but less than 7-axles, Low-Bed Truck & Trailer, Transit Mix Trucks under 8 yd, 3-axle Water Truck, Erosion Control Driver, Grout Mixer Truck, Dump Crete 6.5yd and over, Dumpster Trucks, DW 10, DW 20 and over, Fuel Truck and Dynamite, Truck Greaser, Truck Mounted Mobile Sweeper 2-axle Winch Truck

GROUP 5: Off-road Dump Truck 35 tons and over, 7-axles or more, Transit Mix Trucks 8 yd and over, A-Frame Truck, Swedish Cranes

GROUP 6: Off-Road Special Equipment (including but not limited to Water Pull Tankers, Athey Wagons, DJB, B70 Wuclids or like Equipment)

GROUP 7: Repairman

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

## Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

## Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

## Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage

payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

James Nagelvoort, Director  
Public Works Department

Dated: *January 12, 2016*  
San Diego, California

JN/JB/lji

# City of San Diego

CITY CONTACT: Lisa Nguyen-Contract Specialist, Email: LTNguyen@san diego.gov  
Phone No. (619) 533-3435, Fax No. (619) 533-3633

## ADDENDUM "C"

FOR

## PACIFIC BEACH PIPELINE SOUTH



BID NO.:	<u>K-16-1306-DBB-3</u>
SAP NO. (WBS).:	<u>S-12015 / B-12117</u>
CLIENT DEPARTMENT:	<u>2000</u>
COUNCIL DISTRICT:	<u>2</u>
PROJECT TYPE:	<u>KA / JA</u>

### BID DUE DATE:

**2:00 PM**  
**FEBRUARY 17, 2016**  
**CITY OF SAN DIEGO**  
**PUBLIC WORKS CONTRACTS**  
**1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C**  
**SAN DIEGO, CA 92101**

**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

THE SUBMITTAL DATE FOR THIS PROJECT HAS BEEN **EXTENDED AS STATED ON THE COVER PAGE.**

James Nagelvoort, Director  
Public Works Department

Dated: *January 25, 2016*  
San Diego, California

JN/JB/egz



**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

THE SUBMITTAL DATE FOR THIS PROJECT HAS BEEN **EXTENDED AS STATED ON THE COVER PAGE.**

James Nagelvoort, Director  
Public Works Department

Dated: *January 25, 2016*  
San Diego, California

JN/JB/egz

# City of San Diego

CITY CONTACT: Lisa Nguyen-Contract Specialist, Email: LTNguyen@sandiego.gov  
Phone No. (619) 533-3435, Fax No. (619) 533-3633

## ADDENDUM "D"



FOR



## PACIFIC BEACH PIPELINE SOUTH

BID NO.: K-16-1306-DBB-3  
SAP NO. (WBS): S-12015 / B-12117  
CLIENT DEPARTMENT: 2000  
COUNCIL DISTRICT: 2  
PROJECT TYPE: KA / JA

### BID DUE DATE:

**2:00 PM**  
**FEBRUARY 17, 2016**  
**CITY OF SAN DIEGO**  
**PUBLIC WORKS CONTRACTS**  
**1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C**  
**SAN DIEGO, CA 92101**

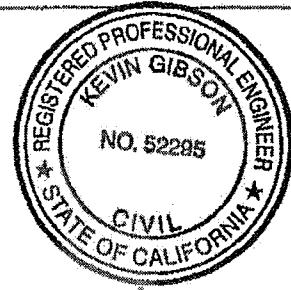
# ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

Kevin Gibson  
Registered Engineer

1/29/16  
Date

Seal:



WJR  
For City Engineer

1/29/16  
Date

## A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

## B. BIDDER'S QUESTIONS

- Q1. The cylinder thickness for 30" and 20" steel pipe is shown in Section 207-10.2.1 on page 118 of the specifications, but nothing is shown for 16" pipe. What is the required cylinder thickness for 16" straight pipe and specials?
- A1. The thickness of each pipe and specials is noted below: 16" Steel pipe cylinder thickness: The cylinder thickness for 16" welded steel pipe and specials shall be 1/4-inch.
- 20" Steel pipe cylinder thickness: The minimum cylinder thickness for 20" welded steel pipe shall be 1/4-inch and the minimum thickness for 20" steel pipe specials shall be 5/16-inch.
- 24" Steel pipe cylinder thickness: The minimum cylinder thickness for 24" welded steel pipe shall be 1/4-inch and the minimum thickness for 24" steel pipe specials shall be 5/16-inch.
- 30" Steel pipe cylinder thickness: The minimum cylinder thickness for 30" welded steel pipe shall be 5/16-inch and the minimum thickness for 30" steel pipe specials shall be 3/8-inch.
- Q2. Please clarify the complete coating system required for both buried steel pipe and exposed steel pipe installed on hangers. The specifications contain several coating systems, but do not indicate where they are to be used. Specification Section 207-10.2.1 on page 118 and Section 207-10.4.8 on page 122 describe a tape only coating system. Section 207-10.4.2 on page 122 describes an epoxy only coating system, but also describes a tape system with a 3/4" thick cement overcoat. It seems there are three different coating systems described: 1) epoxy only, 2) tape only, and 3) tape with a cement overcoat. Please clarify which of these coating systems are to be used and where.
- A2. Steel pipe coatings systems clarification-Steel pipe coatings shall be as follows: For buried steel pipe, coating shall be the tape coating system with 0.75 inch mortar overcoat. For exposed steel pipe, coating shall be the 16 mils DFT epoxy system.
- Q3. Pg. 96 of the SSP's, section 4-1.3.4 & .5 states that the contractor is to provide several different types of special inspection services for constructing the PRS. This is not typical, please confirm this requirement.

A3. Special Inspections are required by the Contractor for the items required in the specifications for the construction of the PRS.

Q4. What bid item does the masonry work for the new pump station go in?

A4. The masonry work and all other work necessary to construct the Pressure Regulating Station shall be paid for as part of the Lump Sum bid item for 390/307 Zone Pressure Regulation Station Relocation as identified under the measurement and payment clause in Section 16010 of the Technical Specifications.

Q5. The specs call for 30mil Polyurethane coating on exterior of all buried fittings, pipe, valves, flanges & nuts & bolts. Standard on fittings is 24mil C-210 and for the valves if you are having to blast the epoxy off to put this on this would void the warranty of the valves. Please confirm this requirement.

A5. 24mil coating is acceptable for all buried fittings, pipe, valves, flanges, and other appurtenances. Nuts and bolts are to have a wax tape system in lieu of the 24mil coating. See page 8 of this Addendum.

See Revised Supplementary Special Provision in this Addendum.

Q6. Bid Item #132 "Contractor Furnished Materials..." typically there is a table and or a list provided in the plans that states what the contractor is to provide. The plans do not contain a list. Please clarify if this bid item is for furnishing only the materials as described within the bid item description or if it also includes the items of work in Alternate schedule "B".

A6. The materials required for Addendum A, Bid Item 132 -"The Contractor Furnished Materials for City Forces Connection and Cut-in Work for Mains 16-Inch and Larger" are included under the various pipe bid items in the Bid Schedule. Bid Item for The Contractor Furnished Materials for City Forces Connection and Cut-in Work for Mains 16-Inch and Larger" will be eliminated. See revised Bid Schedule in this Addendum.

Q7. Please clarify if the goal percentages listed on page 8, section 4.6 are mandatory or if they are only a "goal". Section 4.5 states that the percentages are fair share objectives which should mean that they are a goal and not mandatory. Please confirm.

A7. The goals set forth in the Notice Inviting Bids, Section 4.6, are fair share objectives in accordance with EPA's Program for Utilization of Small, Minority, Disadvantaged, and Women Business Enterprises in procurement under Federal assistance programs. These fair share objectives are not considered mandatory.

Q8. We acknowledge that this is a "Buy America" project is it also A.I.S.?

A8. See revised Supplementary Special Provision in this Addendum. See page 9 of this Addendum.

- Q9. The PB Pipeline solicitation and Exhibit A and the restoration plan set (specifically L-3, note 6) reference a 'Revegetation Plan', however I haven't been able to locate the Plan. Will you please let me know where I can find the Revegetation Plan?
- A9. The plan can be obtained at the following site:  
[ftp://ftp.sannet.gov/OUT/ECP/2-15%20TECHNICAL%20STUDIES%20AND%20DATA/1306\\_%20Pacific%20Beach%20Pipeline%20Technical%20Studies/](ftp://ftp.sannet.gov/OUT/ECP/2-15%20TECHNICAL%20STUDIES%20AND%20DATA/1306_%20Pacific%20Beach%20Pipeline%20Technical%20Studies/)
- Q10. Section 6: Construction Schedule: Are we correct in our understanding that the bridge portions fall under 6-1.1.3 and is to be completed by March 15, 2017? Also that no work can be done from Memorial Day to Labor Day AND no water lines of 16" and above can be cut from May to October. This essentially leaves October 1, 2016 to March 15, 2017 to complete the bridge work. What is the flexibility of pushing out this completion date?
- A10. The bridge portions of work for the Glenn Rick Bridge, North Ingraham Bridge and South Ingraham Bridge are not required to be complete by March 15<sup>th</sup>, 2017. See revised Supplementary Special Provision 6-1.1.3 "Construction Schedule" with revised boundaries and schedule completion date. The water mains that are to be constructed parallel to the existing mains may be constructed outside of the 16-inch shut down, as long as the existing mains continue to be in service, however, no construction will be allowed during the summer beach area moratorium.
- Q11. Painting: What is the painting requirement for the above ground pipe? 207-9.2.4.1 mentions DIP but not the CML&C Steel that will go on the bridge.
- A11. Section 207-9.2.4.1 provides the painting/coating requirements for the above ground DIP pipe (PRS Station Piping), whereas Section 207-10.4.2 provides the painting/coating requirements for the above ground steel pipe (Bridge Piping).
- Q12. Asbestos/Lead: Bid Item 55: Has a study been done to identify if and where asbestos/lead paint have been found? Is that report available? If it is present, what are the requirements for handling of material found to contain asbestos/lead? Will lead abatement be needed when for sections of the pipe that will be cut?
- A12. Response to this is part of this Addendum.
- Q13. Marine Traffic: What are the steps to be taken for active water way traffic? Does a traffic control plan need to be devised for under bridge traffic? What are the regulations for marine vehicles used in construction?
- A13. All work that is required to construct/replace the water mains along the bridges shall take place from on top of each bridge and shall not utilize the waterways for construction activities.
- Q14. Under bridge equipment: What are the regulations for construction equipment access and usage on the pathways and beach under the bridge?

- A14. Work zone and construction staging areas along the pathways and beach areas underneath the bridges shall be reviewed and approved by the Resident Engineer prior to construction. All hardscape and landscaped surfaces shall be repaired or replaced to pre-construction conditions.
- Q15. Trenching: Will we be allowed to trench on the road side of the abutment to remove and install the pipe? What are the requirements for this?
- A15. Trenching on the road side of the abutment is acceptable and necessary to install the new piping. There are no structural concerns along the abutment to be concerned with.
- Q16. Environmental Containment: What are the requirements for debris containment for the bridge work over the water?
- A16. Section 303-9 contains the debris containment requirements for the bridge work over the water.
- Q17. Steel to PVC Connections: At the following locations please clarify the scope of steel pipe to be provided: 1. Plan Sheet C-10 Station 3+43: Is the 20" x 12" cross (material item 10) steel? Is the 4" bypass piping steel? 2. Plan Sheet C-14 Station 31+07: Is the 20" x 6" TEE (material item 1) steel? Is the 4" bypass piping steel? 3. Plan Sheet C-15 Station 44+58: Is the 20" x 12" TEE (material item 8) steel? Is the 4" bypass piping steel? 4. \* If any of the 4" bypass piping is steel, are flanged coupling adapters still required as shown in Detail 3 on plan sheet C-106?
- A17. 1. On Sheet C-10 the steel pipe transition to PVC occurs at STA 3+20 (Construction note 8) so the 20"x12" cross at STA 3+43.35 is to be steel and the 4" bypass is to be constructed per SDW-154.
2. On Sheet C-14 the steel pipe transition to PVC occurs at STA 31+07.19 (Construction Note 1). The 20"x6" tee is not steel, but the piping to the south is steel as well as the 4" bypass, which is to be constructed per SDW-154.
3. On Sheet C-15 the steel pipe transition to PVC occurs at STA 44+58.21 (Construction Note 8). The 20"x12" tee is not steel, but the piping to the north is steel as well as the 4" bypass, which is to be constructed per SDW-154.
4. The flanged coupling adapters are not required when constructing the bypass per SDW-154 as referenced on the Title sheet, G-1 for the Project.

**C. ADDENDUM**

1. To Addendum A, Section B. Supplementary Special Provisions, page 3, Item 1, **DELETE** in its entirety and **SUBSTITUTE** with the following:

**300-1.5 Reservoir Demolition.** The contractor shall remove, handle, haul, and dispose all material from reservoir site as shown on the Demolition Plan including, but not limited to: labor, materials, fees, equipment, tools, incidentals, clearing and grubbing, concrete floors and walls, interior lining materials, timber roof structure with corrugated aluminum sheeting, asphalt concrete, Portland cement concrete, and existing utilities.

In 2013, the City's Asbestos and Lead Management Program (ALMP) conducted an inspection to evaluate for the presence of potential lead containing painted surfaces. At the time, paint chip samples were taken from areas that were accessible and no evaluation of the interior of the reservoir was conducted. The findings in 2013 were that the fascia board on the exterior of the reservoir was found "negative" for lead contents, however, the pipe fittings into the reservoir were discovered to be "positive" for high concentrations of lead.

At the time of the initial investigations proper inspection of the interior could not be conducted due to lack of safe access. Prior to scheduling of demolition activities the Contractor shall be responsible for the testing of materials, within the interior of the reservoir for lead and/or asbestos, that the Contractor's California Department of Public Health certified lead and/or California Department of Occupational Safety & Health certified asbestos inspector/assessor deems as suspect. The Contractor shall share the results of these tests with the Resident Engineer and ALMP staff.

Furthermore, the Contractor and his staff shall remain vigilant in identifying any suspected materials throughout demolition activities that may not have been tested prior. If suspected asbestos containing materials or untested painted surfaces are identified, stop work in that area and immediately notify the City's Resident Engineer.

Additional costs to cover the abatement of hazardous lead and/or asbestos material not identified in the 2013 report initiated by ALMP staff, will be processed in accordance with Greenbook Section 3-4 "Changed Conditions".



**300-1.5.1 Payment.** Payment to complete the demolition of the reservoir, pre-demolition activities, inspection for additional suspect lead and/or asbestos containing materials, testing of suspect lead containing materials by certified laboratory, proper removal, transport and disclosure paperwork necessary for recycling of intact pipe inlet fittings described above, shall be included in the Lump Sum Bid item for Demolition of PB Reservoir.

2. To Addendum A, Section C, Certifications and Forms, Item 1, Bid Item, pages 5 through 17, **DELETE** in their entirety and **SUBSTITUTE** with pages 49 through 60 of this Addendum.

**D. SUPPLEMENTARY SPECIAL PROVISIONS**

1. To Attachment E, Supplementary Special Provisions, **ADD** the following:

**705-2.5 DEWATERING OPERATION**, item 12, **DELETE** in its entirety and **SUBSTITUTE** with the following:

12. The Contractor may discharge water into the sewer system as outlined in the Public Utilities-Wastewater Section policy for Ground Water Discharges, and the discharge points and flow data for the existing sewer system see pages 12 through 48 of this Addendum.

2. To Attachment E, Supplementary Special Provisions, page 95, Section 4 – Control Of Materials, Subsection 4-1.1.1, Buy America, **DELETE** in its entirety and **SUBSTITUTE** with the following:

**4-1.1.1 American Iron and Steel (AIS).**

1. The Consolidated Appropriations Act, 2014, includes an “American Iron and Steel (AIS)” requirement in section 436 that requires this project, funded via the Safe Drinking Water State Revolving Loan Fund (DWSRF) to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system. See pages 27 through 28 of this Addendum.
2. You acknowledge to and for the benefit of the City of San Diego (City) and the State Water Resource Control Board (State) that you understand the Work under this Contract is being funded with monies made available by the DWSRF that have statutory requirements commonly known as “American Iron and Steel” that requires all of the iron and steel products used for construction to be produced in the United States including iron and steel products to be provided by you. You hereby warrant to and for the benefit of the City and the State that:

- a) You have reviewed and understand the American Iron and Steel Requirement,
    - b) All of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement with required certification (see pages 27 through 28 of this Addendum), unless a waiver of the requirement is approved, and;
    - c) You will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the City or the State.
  3. The additional information below, is being provided for reference and guidance to ensure that you comply with all requirements set forth by the DWSRF Loans:
    - a) <http://www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement>
    - b) The United States Environmental Protection Agency's Memorandum dated March 20, 2014 entitled, "Implementation of American Iron and Steel Provisions of P.L. 113-76, Consolidated Appropriations Act, 2014", see pages 29 through 48 of this Addendum.
  4. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the City or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the City or State resulting from any such failure (including without limitation any impairment or loss of funding, whether I whole or in part, from the State or any damages owed to the State by the City). While the Contractor has no direct contractual privity with the State, as a lender to the City for the funding of its project, the City and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.
3. To Attachment E, Supplementary Special Provisions, page 95, Section 4 – Control Of Materials, Subsection 4-1.1.2, Steel and Iron Materials, (23 CFR 635.410) **DELETE** in its entirety.

4. To Attachment E, Supplementary Special Provisions, Section 6 – Prosecution, Progress and Acceptance of Work, page 98, Subsection 6-1.1.3, Construction Schedule, **DELETE** in its entirety and **SUBSTITUTE** with the following:

**6-1.1.3. Construction Schedule.** To the City Supplement, ADD the following: All work on Ingraham Street from Dana Landing Road/Perez Cove Way to West Mission Bay Drive, West Mission Bay Drive from Ingraham Street to Sports Arena Boulevard, and Sports Arena Boulevard from West Mission Bay Drive to West Point Loma Boulevard should be completed by May 8<sup>th</sup>, 2017.

5. To Attachment E, Supplementary Special Provisions, Section 207 – Pipe, Subsection 207-9.2.4, Lining and Coating, page 116, to sub-Item, Coating for Water Applications, **DELETE** in its entirety and **SUBSTITUTE** with the following:

**Coating for Water Applications.** All buried ductile iron pipe, fittings, valves, flanges, and appurtenances, shall be coated with twenty four (24) mils minimum dry film thickness (MDFT) of an approved polyurethane coating system. Nuts and bolts shall be wax tape coated per AWWA C-217 with plastic outer wrap. In addition, all steel pipe and fittings indicated in these plans and specifications to be polyurethane coated shall be coated in accordance with this section.

**Material:** The coating material shall be manufactured by a company experienced in the manufacturing and application of chemical coatings. The material shall consist of a polyisocyanate resin and polyol resin, which are mixed in a 1:1 ratio at the time of application. It shall be an ASTM-D16 Type V system.

**Solvent Cleaning:** Prior to abrasive blast, the entire area to receive the coating shall be inspected for oil, grease, rust, dust, or any other deleterious substances. Any areas where such deleterious substances are present shall be cleaned per NAPF 500-03-05 (ductile iron fittings).

**Abrasive Blasting:** After cleaning, all areas to receive the coating shall be abrasive blasted to a surface anchor pattern of 2.5 mils or greater per NAPF 500-03-04 (ductile iron pipe) or NAPF 500-03-05 (ductile iron fittings).

**Thickness:** The dry film thickness (DFT) of the coating shall be 24 mils nominal. Thickness determinations using a Type 1 magnetic thickness gage shall be conducted in accordance with Steel Structures Painting Council SSPC-PA-2 Specification.

**Joints:** In order to minimize potential dimensional and assembly problems, the coating thickness on sealing areas in the bell socket interior and on the spigot end of the pipe exterior shall be 8 mils nominal with a maximum of 10 mils. Thicker coatings in these areas are acceptable if it is demonstrated that joint dimensions are within allowable tolerances after coating.

Field Repair, and Touchup: Field repairs and touchup shall be performed in accordance with the manufacturer's recommended repair and touchup procedures. All field cut ends shall be repaired and sealed prior to installation per the manufacturer's recommendations.

James Nagelvoort, Director  
Public Works Department

Dated: February 3, 2016  
San Diego, California

JN/JP/lji

**THE CITY OF  
SAN DIEGO**  
**METROPOLITAN WASTEWATER DEPARTMENT**  
*Industrial Wastewater Control Program*

**POLICY FOR GROUNDWATER DISCHARGES TO SEWER**

This policy applies to the disposal of groundwater to the Metropolitan Sewerage System and its tributary systems from groundwater remediation projects, underground monitoring wells, underground tank removal projects, or construction dewatering projects and the like. These discharges often contain pollutants from leaking underground storage tanks or fuel lines, surface spills or leaks, liquid waste impoundment areas, or resulting from decomposition of organic matter.

Whenever possible, extracted groundwater should be discharged to surface waters under the current general National Pollutant Discharge Elimination System (NPDES) permit adopted by the California Regional Water Quality Control Board (CRWQCB). However, to protect water quality in the San Diego area, the City recognizes that it may be necessary to accept discharges of extracted groundwater during the period required to obtain this authorization, and in certain other cases, under the conditions defined in this document. Temporary discharges to sewer of groundwater extracted from remediation or dewatering projects will only be allowed if it is determined that sewerage of this wastewater is the most appropriate and prudent disposal alternative and when sufficient hydraulic and treatment plant capacity is available to allow such discharges into the sewer system.

**I. General Provisions:**

The Industrial Wastewater Control Program (IWCP) is responsible for regulating industrial discharges to sewer in the City of San Diego and fifteen tributary Metropolitan Sewerage System Participating Agencies ("Participating Agencies") within San Diego County. Information about the Participating Agencies is provided in Section VI of this document. Businesses wishing to discharge groundwater to the Metropolitan Sewerage System or its tributary systems must apply for a permit or authorization from the Industrial Wastewater Control Program. The party responsible for legal disposal of the wastewater must apply for the discharge permit or authorization. Signatory authority can be delegated for applications, compliance/self-monitoring reports, and/or certification statements. A Confirmation/Delegation of Signatory Authority form must be submitted with the application for verification of signatory authority and delegation of signatory authority if so desired (see section VII-7 for further information). The application to discharge and Confirmation/Delegation of Signatory Authority form can be obtained from the IWCP office:

*9192 Topaz Way  
San Diego, CA 92123-1119  
Phone: (858) 654-4100 Fax: (858) 654-4110*

The discharger must comply with all permit or discharge authorization conditions and the policies established in this document. Dischargers may be identified as Significant Industrial Users (SIUs), as defined in 40 CFR 403.3(v), and as such are subject to the provisions set forth in the Code of Federal Regulations, Title 40, Part 403. Any noncompliance constitutes a violation and will be subject to enforcement action(s). The discharger shall take all necessary steps to correct violations resulting

from permit or discharge authorization noncompliance. Noncompliance may result in enforcement action including revocation of discharge authorization.

Any person who violates any permit or authorization condition, or who discharges wastewater which violates any General or Specific Prohibition, permit limitation, national pretreatment standard or who violates any cease and desist order shall be liable civilly for a penalty not to exceed \$2,500 for each day in which such violation occurs. Additionally, any person intentionally causing such violations shall be liable, upon conviction, for a sum not to exceed \$25,000 for each day in which such violation occurs, or for imprisonment for not more than one year, or both.

The discharge permit or authorization is non-transferable. The permittee must notify the IWCP immediately upon change in ownership or contract termination and the new owner or contractor shall re-apply for authorization to discharge.

Once a permit or authorization has been issued, the discharger shall give written notice to the IWCP at least two weeks prior to any project expansion or process modification which results in a change in the nature of the discharge or an increase in the daily maximum flow rate or discharge volume by any amount in excess of the authorized values. Authorization must be received prior to commencing discharge from any project expansion area or modified process.

Compliance with this policy does not relieve the discharger from its obligations regarding compliance with any and all applicable Local, State and Federal standards and requirements including any such standards or requirements that may become effective during the term of the permit.

## II. Applying for Discharge Authorization:

1. **Type of Authorization:** Authorization to discharge extracted groundwater may be issued in the form of an *Industrial User Discharge Permit* (Permit) or a *Batch Discharge Authorization* (Authorization). Applicants should contact the Industrial Wastewater Control Program to obtain the application to discharge.
  - a. **Permit:** Permits are issued to authorize discharges originating from remediation projects and projects where pretreatment is required to comply with applicable discharge standards. Additionally, a permit will be issued to approve long term or high-volume construction dewatering projects, (generally defined as those projects lasting longer than one month and estimated to discharge more than 40,000 gallons of wastewater).
  - b. **Batch Discharge Authorization:** Short duration, non-recurring, low volume discharges originating from construction dewatering, tank removal, or purging of monitoring wells are approved using a batch discharge authorization.
2. **Applicant:** The party responsible for legal disposal of the wastewater is responsible for applying for the permit or batch discharge authorization. Signatory authority can be delegated for applications, compliance/self-monitoring reports, and/or certification statements. A Confirmation/Delegation of Signatory Authority form must be submitted with the application for verification of signatory authority and delegation of signatory authority if so desired (see section VII-7 for further information).

3. **Participating Agencies:** Discharges made to the Metropolitan Sewerage System or its tributary systems from sites outside the City of San Diego receive final approval from the Participating Agency in which the site is located. Participating Agencies may impose additional restrictions or fees not described in this document. To expedite the discharge approval process, the IWCP will coordinate with the Participating Agency during the application review process to reduce the need for the applicant to contact each agency separately. For a list of Participating Agencies, see Section VI of this document.
  
4. **Initial Analysis:** The applicant must provide analytical results of a representative sample or multiple samples of the groundwater to be discharged with the permit application or discharge request. Where the wastewater is homogeneous and extracted from a small area, a single representative initial sampling event is generally acceptable. However, when multiple sources of contamination are known or suspected, or where the wastewater is extracted from a large area, the applicant shall take multiple samples as necessary to generate a representative profile of the wastewater to be discharged. The applicant must submit analysis results for Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and all pollutants known or suspected to be present in the wastewater to be discharged. All handling, preservation, and laboratory analyses of samples shall be performed in accordance with 40 CFR Part 136 and amendments thereto, unless specified otherwise in this policy or in the monitoring conditions of the discharge permit, and all analyses, with the exception of continuous monitoring, must be performed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory. The table below outlines the minimum analytical tests that shall be performed.

**Table I**

Project	Known/Suspected Contaminant(s)	Initial Analyses Required	Units
Construction Dewatering	None (as supported by historic use of the property and monitoring if necessary)	Chemical Oxygen Demand Solids, Total Suspended	mg/L mg/L
Remediation or Construction Dewatering	Gasoline	Benzene BTEX <sup>1</sup> Flash Point- Instantaneous Lead, Total TPHg, DOHS modified 8015 <sup>2</sup> Chemical Oxygen Demand Solids, Total Suspended	ug/L ug/L Deg F mg/L mg/L mg/L mg/L
	Diesel/Jet Propellant (JP)	Flash Point- Instantaneous Oil & Grease, SGT-HEM TPHd, DOHS modified 8015 (optional) <sup>3</sup> Chemical Oxygen Demand Solids, Total Suspended	Deg F mg/L mg/L mg/L
	Other Contaminants	Discharger must contact the IWCP, prior to applying for authorization, to determine the initial monitoring requirements.	

<sup>1</sup> **BTEX** - Shall be measured as the sum of benzene, toluene, ethylbenzene and xylenes. EPA methods 602,

624 or 1624 or equivalent shall be used for the measurement of benzene, ethylbenzene, and toluene. EPA methods 8021 or 8260 shall be used for the measurement of xylenes including ortho-, meta- and para-xylene. EPA methods 8021 or 8260 may be used as a substitute or equivalent for EPA methods 602, 624 or 1624 required under the CWA in 40 CFR Part 136.

<sup>2</sup> TPHg - Total petroleum hydrocarbons in gasoline range (C4 – C12).

<sup>3</sup> TPHd - Total petroleum hydrocarbons in diesel range (C13 – C22).

If an environmental site assessment of the proposed project has been performed, this information must also be submitted in support of your discharge permit application.

### III. Conditions of the Authorization:

1. **Flow Metering:** The amount of wastewater discharged to sewer from permitted groundwater projects and batch discharges exceeding 6,500 gallons must be accurately measured, for reporting and billing purposes, using totalizing flow meter(s). The meter(s) must have a feature that allows for instantaneous flow rate monitoring, and must provide accurate readings within +/- 2% throughout the full operating range. To ensure accurate flow measurement, the meter(s) must be sized, installed, calibrated, and operated according to the manufacturer's specifications. The meter(s) must be in place and operational prior to commencing discharge.
  - a. In most cases, it is necessary to pump treated wastewater through the flow meter in order to consistently satisfy the flow meter's minimum flow rate requirements.
  - b. Generally, some combination of maximum pump capability and flow restrictors is used to ensure compliance with the maximum authorized discharge flow rate limitation. The maximum allowable flow rate will be either the lesser of the receiving pipe hydraulic capacity or the maximum flow rate accurately measured by the meter per the manufactures specifications, whichever is less.
  - c. Accepted mechanisms to satisfy the "full pipe" requirement of some meter types include, but are not limited to: 1) Elevating the discharge line following the flow meter to a level exceeding the height of the meter. 2) Installing an inverted "U" on the discharge line following the flow meter with a peak level exceeding the height of the meter.
2. **Sample Port:** A sample port that will allow representative sampling of groundwater being discharged to sewer must be in place prior to initiating discharge. The sample port shall be installed at a point that allows for collection of representative samples of this waste stream, after pretreatment, but prior to commingling with any other permitted or non-permitted wastewater. Contact the project's assigned inspector for review of your proposed sample point design prior to installation.
3. **Discharge Prohibitions:** All discharges of extracted groundwater must be made in compliance with the following General and Specific prohibitions:



## DISCHARGE PROHIBITIONS

- A. **GENERAL PROHIBITION (from 40 CFR 403):** A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference. These general prohibitions and the specific prohibitions in "D" below apply to each User introducing pollutants into a POTW whether or not the User is subject to other National Pretreatment Standards or any National, State, or Local Pretreatment Requirements.
- B. **PROHIBITION AGAINST DILUTION:** No industrial user shall ever increase the use of process water, or in any other way attempt to dilute as a partial or complete substitute for adequate treatment to achieve compliance with a Pretreatment Standard or Requirement.
- C. **PROHIBITION AGAINST BYPASS:** Bypass of wastewater pretreatment is prohibited, and the IWCP may take enforcement action against an industrial user for a bypass, unless the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; and the industrial user submitted notices in compliance with the Standard Conditions of this permit.
- D. **SPECIFIC PROHIBITIONS:** In addition, a User may not introduce the following discharges into the Metropolitan Sewerage System:
1. **Flammable or Explosive Substances:** Pollutants which create a fire or explosion hazard in the wastewater collection system or treatment plant, including but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Centigrade) using the test methods specified in 40 CFR 261.21;
  2. **Corrosives:** Pollutants which will cause corrosive structural damage to the POTW, but in no case Discharges with pH lower than 5.0 unless a specific variance is granted;
  3. **Hazardous Wastes:** Hazardous wastes, as defined in California Administrative Code, Title 22, Section 66261.3;
  4. **Trucked Pollutants:** Any trucked or hauled pollutants except at discharge points designated by the POTW;
  5. **Toxic and Poisonous Substances:** Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
  6. **Substances which may obstruct flow:** Solid or viscous substances in amounts which will cause obstruction to flow in the sewer resulting in Interference;
  7. **Odorous Wastes:** Strongly odorous wastes or wastes tending to evolve strong odors;
  8. **Uncontaminated Water:** Uncontaminated ground, storm, and surface waters, and roof runoff;
  9. **Pretreatment Sludges:** Sludges or deposited solids resulting from an industrial or pretreatment process;
  10. **Heat:** Heated wastestreams having a temperature that is equal to or greater than one hundred and fifty (150) degrees Fahrenheit or sixty-five (65) degrees Centigrade;
  11. **Radioactive Wastes:** Radioactive wastes or isotopes of such half-life or concentrations as may exceed limits established in the "Code of Federal Regulations" at 10 CFR 20, Subpart K;
  12. **Greases and Oils:** Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.

4. **Pretreatment:** The discharger must install, operate, and maintain any and all pretreatment equipment necessary to comply with the terms of the permit or authorization and with the General and Specific Prohibitions. When discharges originate from sites contaminated with petroleum products (e.g., gasoline, diesel, AvGas, JP) or organic solvents, the permittee must provide pretreatment equivalent to the California Regional Water Quality Control Board's pretreatment technology standards for organics (carbon adsorption or air stripping). Additionally, if free product is present or expected, the pretreatment system must include a free product recovery system/method to prevent pass through and the pretreatment equipment must be equipped with a feature, such as an automatic sensor with shut-off, that would cease all discharges to sewer in the event of breakthrough (free product release from the recovery device). For the purposes of this requirement, free product is defined as an immiscible liquid phase hydrocarbon existing in the subsurface with a positive pressure such that it can flow into a well. Pretreatment equipment may also be necessary to remove silt, sand, or other solid material from the wastewater prior to disposal. All pretreatment equipment must be in place and fully operational prior to commencing discharges to sewer.
5. **Discharge Limitations:** Discharge limitations established in the permit will depend on the source/type of contamination. See Table II for most frequently encountered sources and associated limitations.

Table II

Project	Known/Suspected Contaminant(s)	Characteristic or Pollutant	Units	Limits
Remediation or Construction Dewatering	Gasoline	Benzene BTEX <sup>1</sup> Flash Point- Instantaneous	ug/L ug/L Deg F	50 750 Must be > 140
	Diesel/Jet Propellant (JP)	Flash Point- Instantaneous Oil & Grease, SGT-HEM TPHd, DOHS modified 8015 (optional) <sup>2</sup>	Deg F mg/L mg/L	Must be > 140 500 500
Construction Dewatering	Suspended Solids	Requirement for solids removal <sup>3</sup>		

<sup>1</sup> **BTEX** - Shall be measured as the sum of benzene, toluene, ethylbenzene and xylenes. EPA methods 602, 624 or 1624 or equivalent shall be used for the measurement of benzene, ethylbenzene, and toluene. EPA methods 8021 or 8260 shall be used for the measurement of xylenes including ortho-, meta- and para-xylene. EPA methods 8021 or 8260 may be used as a substitute or equivalent for EPA methods 602, 624 or 1624 required under the CWA in 40 CFR Part 136.

<sup>2</sup> **TPHd** - Total petroleum hydrocarbons in diesel range (C13 – C22).

<sup>3</sup> **Solids Removal** - The discharger shall pretreat wastewater to remove solids using technology acceptable to the IWCP.

6. **Discharge Point Restrictions:** The discharger is authorized to introduce process wastewater only to the discharge point specified in the permit or batch discharge authorization request. Waste may not be trucked or hauled to the discharge point unless specifically authorized under the permit.
7. **Discharges to Manholes:** Dischargers are encouraged to use private sewer connections whenever possible. However, when no private sewer connection is available, it may be possible to discharge the wastewater to a public manhole. Dischargers wishing to utilize a public sewer

connection within the City of San Diego must submit a signed "Hold Harmless Agreement" with the permit application or authorization request. Should the discharger wish to discharge to a public manhole in a Participating Agency (outside the City of San Diego), then authorization to access the manhole must be obtained from the City or Sanitation District where the wastewater will be discharged. The discharger is required to comply with all Federal, State, and Local laws and regulations pertaining to worker safety and traffic control when utilizing public sewer connections.

8. **Discharge Flow Limitations:** In all cases, the discharge of extracted groundwater (alone or in combination with other flows) must not exceed the capacity of the sewer or sewerage facilities used to transport or treat the wastewater. The discharger must not discharge wastewater at a rate violating any flow rate limitation (maximum or minimum) established in the permit or batch discharge authorization. Additionally, should the discharger observe any evidence (e.g. overflows, surcharges, and spills) that their discharge is exceeding the carrying capacity of the sewer in their area; they must immediately cease discharge or reduce the flow rate until the problem is eliminated. Sewer overflows to the environment must be reported to the appropriate environmental control agencies. To report a sewer overflow in the City of San Diego, immediately call the Sewer Emergency Hotline at (619) 515-3525.

- a. ***City of San Diego:*** Upon receipt of an application to discharge extracted groundwater to sewer within the City of San Diego, the Industrial Wastewater Control Program will coordinate with sewer collection system staff to evaluate if sufficient hydraulic capacity is available in the sewer system to allow the discharge. Flow limits or restrictions may be imposed.

- b. ***Participating Agency:*** Should the request to discharge originate from a facility in a Participating Agency outside the City of San Diego, authorization must also be obtained from the City or Sanitation District where the wastewater will be discharged. The IWCP will coordinate with the Participating Agency, which is responsible for determining if sufficient capacity is available to accept the discharge and for imposing any flow limits or restrictions.

Dischargers are required to configure discharge piping, size pumping equipment, and operate the system so that the maximum and minimum flow rate limits indicated in the permit are not violated. The minimum flow rate is based on the flow meter's operational requirements and only applies when the system is actively discharging.

9. **Monitoring:** In addition to the initial monitoring required at the time of application, some permits will require periodic self-monitoring of the wastewater; these requirements will be established in Attachment B of the permit. To verify compliance with the terms of the permit or authorization, the Industrial Wastewater Control Program may perform periodic inspections or unannounced sampling. The industrial user shall, upon the presentation of a valid City of San Diego I.D., allow IWCP personnel to enter the premises for inspection or sampling related to conditions of the permit or authorization.

#### **IV. Duration of Authorization:**

1. **Batch Discharge Authorizations:** Unless otherwise indicated in writing by the IWCP, batch discharge authorizations are valid only for the dates specified in the authorization request.

2. **Discharge Permits:** Unless otherwise authorized in writing by the IWCP, discharge shall cease no later than the expiration date of the permit. In the City of San Diego, groundwater extraction discharge permits are issued for an initial period of up to one year. For projects outside of the City of San Diego, the permit duration shall be established by the Participating Agency in which the project is located. In the City of San Diego, when capacity remains available, groundwater discharge permits may be extended for one year provided the permittee has submitted a renewal application and proof that the permittee has applied to the California Regional Water Quality Control Board to discharge the groundwater directly to the storm drain or receiving waters. Note: In order to avoid a lapse in sewer discharge authorization, permit renewal applications and proof of application for direct discharge must be received by the IWCP no less than two weeks prior to the expiration of the initial permit. For information on NPDES permits contact:

*California Regional Water Quality Control Board*  
 9174 Sky Park Ct., Suite 100  
 San Diego, CA 92123  
 (858) 467-2967  
[www.swrcb.ca.gov/rwqcb9](http://www.swrcb.ca.gov/rwqcb9)

Within the City of San Diego, permits will not be extended beyond two years unless the permittee purchases adequate sewer capacity to allow continued discharge; see *Sewer Capacity Charges* under Section V-4. Permit extensions for projects located outside the City of San Diego are subject to approval and capacity charges established by the City or Sanitation District receiving the discharge.

- a. **Expiration:** The permittee shall terminate groundwater discharges to sewer and remove the sewer connection upon the permit expiration date unless an extension is obtained from the IWCP.

**V. Fees:**

1. **Batch Discharge Authorizations:** There are no fees associated with the review or approval of batch discharge authorization requests, however, disposal fees may apply. Disposal fees may also be set and billed by Participating Agencies for projects located outside the City of San Diego.
2. **Permit Fees:** Applicable permit fees will be billed to the billing contact and address after the permit is issued.
- a. **City of San Diego:** Permits issued for discharges within the City of San Diego are billed at the following rates:

**Table III**

Discharge Volume (Gallons Per Day)	Remediation Projects (Class 2)	Construction Dewatering Projects (Class 3)
< 100	\$25	\$25
100 to 10,000	\$275	\$200
10,001 to 25,000	\$500	\$300
25,001 to 50,000	\$600	\$500
50,001 to 100,000	\$1,000	\$600
100,001 and up	\$1,200	\$1,000



## VI. Agency Contact Information

Table IV

Area Name	Participating Agency	Phone/Fax
Chula Vista	City of Chula Vista Engineering Department 1800 Maxwell Road Chula Vista, CA 91911	Phone (619) 476-5387 FAX (619) 691-5171
Coronado	City of Coronado 101 B Avenue Coronado, CA 92118	Phone (619) 522-7380 FAX (619) 435-4479
Del Mar	City of Del Mar Public Works Department 1050 Camino Del Mar Del Mar, CA 92014	Phone (858) 755-3294 FAX (858) 481-0254
El Cajon	City of El Cajon 200 E. Main Street El Cajon, CA 92020	Phone (619) 441-5598 FAX (619) 579-5254
Imperial Beach	City of Imperial Beach 825 Imperial Beach Boulevard Imperial Beach, CA 91932	Phone (619) 423-8311 FAX (619) 429-4861
La Mesa	City of La Mesa P.O. Box 937 La Mesa, CA 91944-0937	Phone (619) 667-1153 FAX (619) 667-1380
National City	City of National City 1243 National City Boulevard National City, CA 91950-4397	Phone (619) 336-4210 FAX (619) 336-4217
Poway	City of Poway P.O. Box 789 Poway, CA 92064	Phone (858) 668-4719 FAX (858) 679-9603
Santee	Padre Dam Municipal Water District P.O. Box 719003 Santee, CA 92072-9003	Phone (619) 258-4731 FAX (619) 258-8774
Lemon Grove	City of Lemon Grove 3232 Main Street Lemon Grove, CA 91945	Phone (619) 825-3810 FAX (619) 825-3818
Lakeside, Alpine, Spring Valley, Wintergardens, East Otay Mesa	County of San Diego Department of Public Works 5555 Overland Dr., Bldg 2, Room 260 San Diego, CA 92123	Phone (858) 694-2660 Phone (858) 694-2663 FAX (858) 505-6394

## VII. Other Provisions

1. **Duty to Comply with Municipal Code:** The industrial user shall comply with applicable provisions of the Municipal Code pertaining to the Sewer Department and to the discharge of industrial wastes to the sewerage system.

2. **Duty to Provide Access:** The industrial user shall, upon the presentation of a valid City of San Diego I.D., allow Industrial Wastewater Control Program personnel to enter the premises for inspection or sampling related to conditions of the permit or authorization.
3. **Duty to Comply:** The discharger must comply with all discharge limits, requirements, and conditions established in this document or in the permit or authorization. Failure to comply may be grounds for administrative action, or enforcement proceedings including civil or criminal penalties, injunctive relief, and summary abatements.
4. **Accidental Discharge Report:** The industrial user shall notify the IWCP immediately in the event of any accidental discharge, spill, or slug load to the public sewerage system in violation of discharge prohibitions or standards. Immediate notification shall be made by contacting the IWCP Compliance Supervisor, Program Manager, or Permit Supervisor at (858) 654-4100 from 8:00 a.m. to 5:00 p.m. Monday through Friday, or (619) 527-7660 at all other times, and submitting a written report within five calendar days to:

**Industrial Wastewater Control Program  
9192 Topaz Way  
San Diego, CA 92123-1119**

This report must detail the nature, volume, time, and duration of the discharge, the steps taken to control/mitigate its effects on the sewer system, and the measures which have been and/or will be implemented to prevent similar discharges in the future. The discharger's notification of accidental releases in accordance with this section does not relieve it of other reporting requirements that arise under Local, State, or Federal laws.

5. **Changes at Facility Affecting Potential for Slug Discharge (40 CFR 403.8(f)(2)(vi)):** Notify the Industrial Wastewater Control Program immediately of any changes at the facility affecting the potential for a Slug Discharge including, but not limited to, the installation of an automatic feed treatment system using chemicals stored in volumes greater than 55 gallons.
6. **Modifications to the Discharge Authorization:** The permit or authorization may be modified for good causes including, but not limited to, the following:
  - a. To incorporate any new or revised Federal, State, or Local pretreatment standards or requirements;
  - b. Material or substantial alterations or additions to the discharger's operation processes, or discharge volume or character;
  - c. A change in any condition in either the industrial user or the Publicly Owned Treatment Works (POTW) that requires either a temporary or permanent reduction or elimination of the authorized discharge;
  - d. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters;
  - e. Violation of any terms or conditions of the permit or authorization;
  - f. Misrepresentation or failure to disclose fully all relevant facts in the request for authorization to discharge or in any required reporting;
  - g. To correct typographical or other errors;
  - h. To reflect transfer of the facility ownership and/or operation to a new owner/operator;

- i. Upon request of the discharger, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.
7. **Signatory Requirements:** All applications and reports submitted to the Industrial Wastewater Control Program must contain the following certification statement and be signed as required in Sections (a), (b), (c), or (d) below:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

- a) By a responsible corporate officer, if the industrial user submitting the reports is a corporation. For the purpose of this paragraph, a responsible corporate officer means:
  - i. a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or;
  - ii. the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for control mechanism requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- b) By a general partner or proprietor if the industrial user submitting the reports is a partnership or sole proprietorship, respectively.
- c) The principal executive officer or director having responsibility for the overall operation of the discharging facility if the industrial user submitting the reports is a Federal, State, or Local governmental entity, or their agents.
- d) By a duly authorized representative of the individual designated in paragraph (a), (b), or (c) of this section if:
  - i. the authorization is made in writing by the individual described in paragraph (a), (b), or (c);
  - ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the industrial discharge originates, such as the position of plant manager, operator of a well, or a well field superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the company; and
  - iii. the written authorization is submitted to the City.



**CITY OF SAN DIEGO  
M E M O R A N D U M**

DATE: January 25, 2016

TO: Jing DeBeliso, Assistant Civil Engineer, Right of Way Design Division, Public Works Department

FROM: Alex Ottens, Assistant Civil Engineer, Engineering and Program Management Division, Public Utilities Department

SUBJECT: Pre-Approval Discharge Flow Rate for Pacific Beach Pipeline South

The hydraulic modeling analysis for Pacific Beach South Pipeline groundwater discharge has been completed. The maximum allowable combined discharge to the requested manholes is shown in the table below.

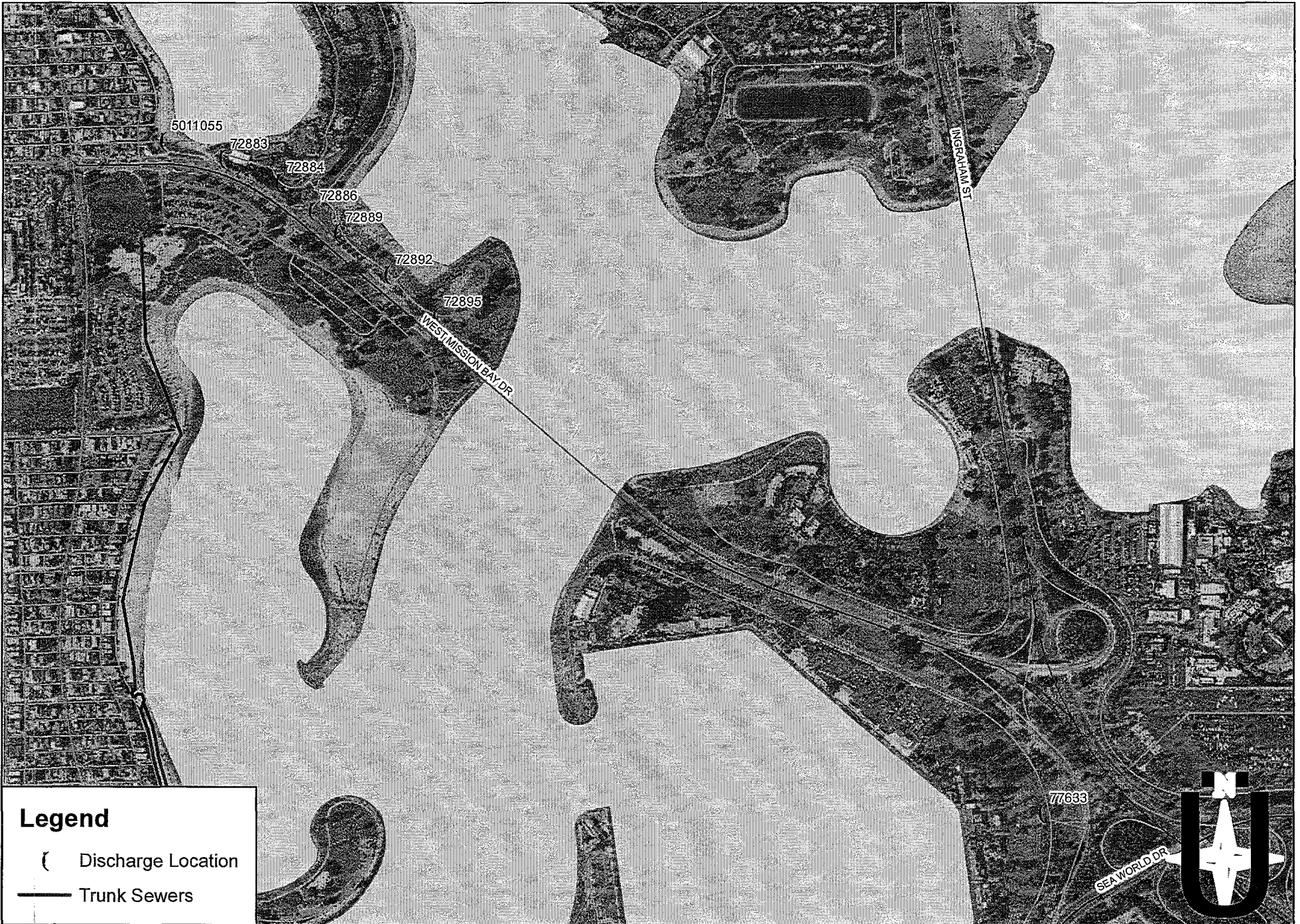
Basin	FSNs	Maximum Allowable Discharge (gpm)
B17S18	72883, 72884, 72886, 72889, 72895, 5011055, 72892	50
C17S240	77633	700
D18S180	82982	700
D19S70	83020, 83021, 83062, 83064, 83068	350
D19S92	83079, 83080, 83082, 83084, 83085, 87521, 5585171	70
E19S238	87628, 87528, 87615, 87622, 87537	70
E19S244	87589, 87592	250

This is for allowable discharge to the existing sewer configuration under dry weather flow conditions. No discharge maybe allowed under wet weather flow conditions. If discharging to multiple manholes in the same basin, the total combined flow cannot exceed the flow rates listed above.

This is only a pre-approval for capacity. Before discharge begins Industrial Waste needs to approve the discharge, and the capacity will be re-evaluated at that time.

Alex Ottens

Attachments: Location Map



750 375 0 750 1,500 2,250 3,000





SAMPLE CERTIFICATION LETTERS

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

\_\_\_\_\_

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

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If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative



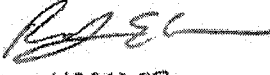
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460


MAR 20 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of American Iron and Steel provisions of P.L. 113-76,  
Consolidated Appropriations Act, 2014

FROM: For Andrew D. Sawyers, Director   
Office of Wastewater Management (4201M)

Peter C. Grevatt, Director   
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors  
Regions I - X

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an “American Iron and Steel (AIS)” requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Federal Fiscal Year 2014.

Section 436 also sets forth certain circumstances under which EPA may waive the AIS requirement. Furthermore, the Act specifically exempts projects where engineering plans and specifications were approved by a State agency prior to January 17, 2014.

The approach described below explains how EPA will implement the AIS requirement. The first section is in the form of questions and answers that address the types of projects that must comply with the AIS requirement, the types of products covered by the AIS requirement, and compliance. The second section is a step-by-step process for requesting waivers and the circumstances under which waivers may be granted.

## Implementation

The Act states:

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out

the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

The following questions and answers provide guidance for implementing and complying with the AIS requirements:

### **Project Coverage**

#### **1) What classes of projects are covered by the AIS requirement?**

All treatment works projects funded by a CWSRF assistance agreement, and all public water system projects funded by a DWSRF assistance agreement, from the date of enactment through the end of Federal Fiscal Year 2014, are covered. The AIS requirements apply to the entirety of the project, no matter when construction begins or ends. Additionally, the AIS requirements apply to all parts of the project, no matter the source of funding.

#### **2) Does the AIS requirement apply to nonpoint source projects or national estuary projects?**

No. Congress did not include an AIS requirement for nonpoint source and national estuary projects unless the project can also be classified as a 'treatment works' as defined by section 212 of the Clean Water Act.

#### **3) Are any projects for the construction, alteration, maintenance, or repair of a public water system or treatment works excluded from the AIS requirement?**

Any project, whether a treatment works project or a public water system project, for which engineering plans and specifications were approved by the responsible state agency prior to January 17, 2014, is excluded from the AIS requirements.

#### **4) What if the project does not have approved engineering plans and specifications but has signed an assistance agreement with a CWSRF or DWSRF program prior to January 17, 2014?**

The AIS requirements do not apply to any project for which an assistance agreement was signed prior to January 17, 2014.



**5) What if the project does not have approved engineering plans and specifications, but bids were advertised prior to January 17, 2014 and an assistance agreement was signed after January 17, 2014?**

If the project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the approval date for purposes of the exemption in section 436(f).

**6) What if the assistance agreement that was signed prior to January 17, 2014, only funded a part of the overall project, where the remainder of the project will be funded later with another SRF loan?**

If the original assistance agreement funded any construction of the project, the date of the original assistance agreement counts for purposes of the exemption. If the original assistance agreement was only for planning and design, the date of that assistance agreement will count for purposes of the exemption only if there is a written commitment or expectation on the part of the assistance recipient to fund the remainder of the project with SRF funds.

**7) What if the assistance agreement that was signed prior to January 17, 2014, funded the first phase of a multi-phase project, where the remaining phases will be funded by SRF assistance in the future?**

In such a case, the phases of the project will be considered a single project if all construction necessary to complete the building or work, regardless of the number of contracts or assistance agreements involved, are closely related in purpose, time and place. However, there are many situations in which major construction activities are clearly undertaken in phases that are distinct in purpose, time, or place. In the case of distinct phases, projects with engineering plans and specifications approval or assistance agreements signed prior to January 17, 2014 would be excluded from AIS requirements while those approved/signed on January 17, 2014, or later would be covered by the AIS requirements.

**8) What if a project has split funding from a non-SRF source?**

Many States intend to fund projects with "split" funding, from the SRF program and from State or other programs. Based on the Act language in section 436, which requires that American iron and steel products be used in any project for the construction, alteration, maintenance, or repair of a public water system or treatment works receiving SRF funding between and including January 17, 2014 and September 30, 2014, any project that is funded in whole or in part with such funds must comply with the AIS requirement. A "project" consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of SRF projects into separate and smaller contracts or assistance agreements to avoid AIS coverage on some portion of a larger

project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreement for SRF and State or other funding would carry separate requirements.

**9) What about refinancing?**

If a project began construction, financed from a non-SRF source, prior to January 17, 2014, but is refinanced through an SRF assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, AIS requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a responsible state agency prior to January 17, 2014. There is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to January 17, 2014.

**10) Do the AIS requirements apply to any other EPA programs, besides the SRF program, such as the Tribal Set-aside grants or grants to the Territories and DC?**

No, the AIS requirement only applies to funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12)

**Covered Iron and Steel Products**

**11) What is an iron or steel product?**

For purposes of the CWSRF and DWSRF projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the public water system or treatment works:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings (defined in more detail below);
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel (defined in more detail below);
- Reinforced precast concrete; and
- Construction materials (defined in more detail below).

**12) What does the term ‘primarily iron or steel’ mean?**

‘Primarily iron or steel’ places constraints on the list of products above. For one of the listed products to be considered subject to the AIS requirements, it must be made of greater than 50% iron or steel, measured by cost. The cost should be based on the material costs.

**13) Can you provide an example of how to perform a cost determination?**

For example, the iron portion of a fire hydrant would likely be the bonnet, body and shoe, and the cost then would include the pouring and casting to create those components. The other material costs would include non-iron and steel internal workings of the fire hydrant (i.e., stem, coupling, valve, seals, etc). However, the assembly of the internal workings into the hydrant body would not be included in this cost calculation. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required. An exception to this definition is reinforced precast concrete, which is addressed in a later question.

**14) If a product is composed of more than 50% iron or steel, but is not listed in the above list of items, must the item be produced in the US? Alternatively, must the iron or steel in such a product be produced in the US?**

The answer to both question is no. Only items on the above list must be produced in the US. Additionally, the iron or steel in a non-listed item can be sourced from outside the US.

**15) What is the definition of steel?**

Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels.

**16) What does ‘produced in the United States’ mean?**

Production in the United States of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the

material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

**17) Are the raw materials used in the production of iron or steel required to come from US sources?**

No. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-US sources.

**18) If an above listed item is primarily made of iron or steel, but is only at the construction site temporarily, must such an item be produced in the US?**

No. Only the above listed products made primarily of iron or steel, permanently incorporated into the project must be produced in the US. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

**19) What is the definition of ‘municipal castings’?**

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are:

- Access Hatches;
- Ballast Screen;
- Benches (Iron or Steel);
- Bollards;
- Cast Bases;
- Cast Iron Hinged Hatches, Square and Rectangular;
- Cast Iron Riser Rings;
- Catch Basin Inlet;
- Cleanout/Monument Boxes;
- Construction Covers and Frames;
- Curb and Corner Guards;
- Curb Openings;
- Detectable Warning Plates;
- Downspout Shoes (Boot, Inlet);
- Drainage Grates, Frames and Curb Inlets;
- Inlets;
- Junction Boxes;
- Lampposts;
- Manhole Covers, Rings and Frames, Risers;

Meter Boxes;  
Service Boxes;  
Steel Hinged Hatches, Square and Rectangular;  
Steel Riser Rings;  
Trash receptacles;  
Tree Grates;  
Tree Guards;  
Trench Grates; and  
Valve Boxes, Covers and Risers.

**20) What is 'structural steel'?**

Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

**21) What is a 'construction material' for purposes of the AIS requirement?**

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered "structural steel". This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

**22) What is not considered a 'construction material' for purposes of the AIS requirement?**

Mechanical and electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and

data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

**23) If the iron or steel is produced in the US, may other steps in the manufacturing process take place outside of the US, such as assembly?**

No. Production in the US of the iron or steel used in a listed product requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

**24) What processes must occur in the US to be compliant with the AIS requirement for reinforced precast concrete?**

While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing bar and wire must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin.

If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the US.

**Compliance**

**25) How should an assistance recipient document compliance with the AIS requirement?**

In order to ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, starting with the assistance agreement, all the way down to the purchase agreements. Sample language for assistance agreements and contracts can be found in Appendix 3 and 4.

EPA recommends the use of a step certification process, similar to one used by the Federal Highway Administration. The step certification process is a method to ensure that producers adhere to the AIS requirement and assistance recipients can verify that products comply with the AIS requirement. The process also establishes accountability and better enables States to take enforcement actions against violators.

Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer,

processor, etc) of the iron and steel products certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification can be quite simple. Typically, it includes the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer's responsible party. Attached, as Appendix 5, are sample certifications. These certifications should be collected and maintained by assistance recipients.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the US. While this type of certification may be acceptable, it may not provide the same degree of assurance. Additional documentation may be needed if the certification is lacking important information. Step certification is the best practice.

**26) How should a State ensure assistance recipients are complying with the AIS requirement?**

In order to ensure compliance with the AIS requirement, States SRF programs must include specific AIS contract language in the assistance agreement. Sample language for assistance agreements can be found in Appendix 3.

States should also, as a best practice, conduct site visits of projects during construction and review documentation demonstrating proof of compliance which the assistance recipient has gathered.

**27) What happens if a State or EPA finds a non-compliant iron and/or steel product permanently incorporated in the project?**

If a potentially non-compliant product is identified, the State should notify the assistance recipient of the apparent unauthorized use of the non-domestic component, including a proposed corrective action, and should be given the opportunity to reply. If unauthorized use is confirmed, the State can take one or more of the following actions: request a waiver where appropriate; require the removal of the non-domestic item; or withhold payment for all or part of the project. Only EPA can issue waivers to authorize the use of a non-domestic item. EPA may use remedies available to it under the Clean Water Act, the Safe Drinking Water Act, and 40 CFR part 31 grant regulations, in the event of a violation of a grant term and condition.

It is recommended that the State work collaboratively with EPA to determine the appropriate corrective action, especially in cases where the State is the one who identifies the item in noncompliance or there is a disagreement with the assistance recipient.

If fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-

888-546-8740 or [OIG\\_Hotline@epa.gov](mailto:OIG_Hotline@epa.gov). More information can be found at this website: <http://www.epa.gov/oig/hotline.htm>.

## **28) How do international trade agreements affect the implementation of the AIS requirements?**

The AIS provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to such agreements. In general, SRF assistance recipients are not signatories to such agreements, so these agreements have no impact on this AIS provision. In the few instances where such an agreement applies to a municipality, that municipality is under the obligation to determine its applicability and requirements and document the actions taken to comply for the State.

### **Waiver Process**

The statute permits EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent.

In order to implement the AIS requirements, EPA has developed an approach to allow for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow States, on behalf of the assistance recipients, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from states will be considered. Pursuant to the Act, EPA has the responsibility to make findings as to the issuance of waivers to the AIS requirements.

### **Definitions**

The following terms are critical to the interpretation and implementation of the AIS requirements and apply to the process described in this memorandum:

**Reasonably Available Quantity:** The quantity of iron or steel products is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

**Satisfactory Quality:** The quality of iron or steel products, as specified in the project plans and designs.

**Assistance Recipient:** A borrower or grantee that receives funding from a State CWSRF or DWSRF program.



## Step-By-Step Waiver Process

### Application by Assistance Recipient

Each local entity that receives SRF water infrastructure financial assistance is required by section 436 of the Act to use American made iron and steel products in the construction of its project. However, the recipient may request a waiver. Until a waiver is granted by EPA, the AIS requirement stands, except as noted above with respect to municipalities covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the AIS requirement, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron and steel products. It is essential that the assistance recipient include the AIS terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 3 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act would be inconsistent with the public interest;
2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron and steel products needed to complete the project as described in the plans and specifications that may not be available from domestic sources. It may also identify the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the State SRF program. It is strongly recommended that the State designate a single person for all AIS communications. The State SRF designee will review the application for the waiver and determine whether the necessary information has been included. Once the waiver application is complete, the State designee will forward the application to either of two email addresses. For CWSRF waiver requests, please send the application to: [cwsrfwaiver@epa.gov](mailto:cwsrfwaiver@epa.gov). For DWSRF waiver requests, please send the application to: [dwsrfwaiver@epa.gov](mailto:dwsrfwaiver@epa.gov).

## Evaluation by EPA

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the State designee that a waiver request has been approved or denied as soon as such a decision has been made. Granting such a waiver is a three-step process:

1. Posting – After receiving an application for a waiver, EPA is required to publish the application and all material submitted with the application on EPA's website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: [http://water.epa.gov/grants\\_funding/aisrequirement.cfm](http://water.epa.gov/grants_funding/aisrequirement.cfm)
2. Evaluation – After receiving an application for waiver of the AIS requirements, EPA Headquarters will use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.
3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program, and post the signed waiver on our website. The assistance recipient should keep a copy of the signed waiver in its project files.

## Public Interest Waivers

EPA has the authority to issue public interest waivers. Evaluation of a public interest waiver request may be more complicated than that of other waiver requests so they may take more time than other waiver requests for a decision to be made. An example of a public interest waiver that might be issued could be for a community that has standardized on a particular type or manufacturer of a valve because of its performance to meet their specifications. Switching to an alternative valve may require staff to be trained on the new equipment and additional spare parts would need to be purchased and stocked, existing valves may need to be unnecessarily replaced, and portions of the system may need to be redesigned. Therefore, requiring the community to install an alternative valve would be inconsistent with public interest.

EPA also has the authority to issue a public interest waiver that covers categories of products that might apply to all projects.

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron or steel products. EPA may develop national or (US geographic) regional categorical waivers through the identification of similar circumstances in the detailed justifications presented to EPA in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public's interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at [dorfman.jordan@epa.gov](mailto:dorfman.jordan@epa.gov) or (202) 564-0614 or Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at [anderer.kirsten@epa.gov](mailto:anderer.kirsten@epa.gov) or (202) 564-3134.

Attachments

## Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

Items	✓	Notes
<p><b>General</b></p> <ul style="list-style-type: none"> <li>• Waiver request includes the following information:                             <ul style="list-style-type: none"> <li>— Description of the foreign and domestic construction materials</li> <li>— Unit of measure</li> <li>— Quantity</li> <li>— Price</li> <li>— Time of delivery or availability</li> <li>— Location of the construction project</li> <li>— Name and address of the proposed supplier</li> <li>— A detailed justification for the use of foreign construction materials</li> </ul> </li> <li>• Waiver request was submitted according to the instructions in the memorandum</li> <li>• Assistance recipient made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor</li> </ul>	✓	
<p><b>Cost Waiver Requests</b></p> <ul style="list-style-type: none"> <li>• Waiver request includes the following information:                             <ul style="list-style-type: none"> <li>— Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products</li> <li>— Relevant excerpts from the bid documents used by the contractors to complete the comparison</li> <li>— Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers</li> </ul> </li> </ul>	✓	
<p><b>Availability Waiver Requests</b></p> <ul style="list-style-type: none"> <li>• Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested:                             <ul style="list-style-type: none"> <li>— Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials</li> <li>— Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers.</li> <li>— Project schedule</li> <li>— Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials</li> </ul> </li> <li>• Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought</li> <li>• Has the State received other waiver requests for the materials described in this waiver request, for comparable projects?</li> </ul>	✓	

## Appendix 2: HQ Review Checklist for Waiver Request

Instructions: To be completed by EPA. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic product for which the waiver is sought:

1. The iron and/or steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron and/or steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Review Items	Yes	No	N/A	Comments
<b>Cost Waiver Requests</b>				
<ul style="list-style-type: none"> <li>• Does the waiver request include the following information?                             <ul style="list-style-type: none"> <li>— Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products</li> <li>— Relevant excerpts from the bid documents used by the contractors to complete the comparison</li> <li>— A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market</li> </ul> </li> <li>• Does the Total Domestic Project exceed the Total Foreign Project Cost by more than 25%?</li> </ul>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>Availability Waiver Requests</b>				
<ul style="list-style-type: none"> <li>• Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron and/or steel product for which the waiver is requested?                             <ul style="list-style-type: none"> <li>— Supplier information or other documentation indicating availability/delivery date for materials</li> <li>— Project schedule</li> <li>— Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of materials</li> </ul> </li> <li>• Does supporting documentation provide sufficient evidence that the contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers?</li> <li>• Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information)</li> <li>• Is EPA aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? Examples include:                             <ul style="list-style-type: none"> <li>— Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same State</li> <li>— Multiple waiver requests for the materials described in this waiver request, for comparable projects in other States</li> <li>— Correspondence with construction trade associations indicating the non-availability of the materials</li> </ul> </li> <li>• Are the available domestic materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits?</li> </ul>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

### **Appendix 3: Example Loan Agreement Language**

ALL ASSISTANCE AGREEMENT MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN SRF ASSISTANCE AGREEMENTS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE LAW:

Comply with all federal requirements applicable to the Loan (including those imposed by the 2014 Appropriations Act and related SRF Policy Guidelines) which the Participant understands includes, among other, requirements that all of the iron and steel products used in the Project are to be produced in the United States (“American Iron and Steel Requirement”) unless (i) the Participant has requested and obtained a waiver from the Agency pertaining to the Project or (ii) the Finance Authority has otherwise advised the Participant in writing that the American Iron and Steel Requirement is not applicable to the Project.

Comply with all record keeping and reporting requirements under the Clean Water Act/Safe Drinking Water Act, including any reports required by a Federal agency or the Finance Authority such as performance indicators of program deliverables, information on costs and project progress. The Participant understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities and (ii) failure to comply with the Clean Water Act/Safe Drinking Water Act and this Agreement may be a default hereunder that results in a repayment of the Loan in advance of the maturity of the Bonds and/or other remedial actions.

#### Appendix 4: Sample Construction Contract Language

ALL CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS IN PROJECTS THAT USE SRF FUNDS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the City of \_\_\_\_\_ (“Purchaser”) and the \_\_\_\_\_ (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

## Appendix 5: Sample Certifications

The following information is provided as a sample letter of **step** certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

\_\_\_\_\_

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative



The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

\_\_\_\_\_

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

**BID ITEMS**

\*\*\* PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY \*\*\*  
**TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY**  
**SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
<b>BASE BID</b>							
<b>Common</b>							
1	1	LS	524126	2-4.1	Bonds (Payment and Performance)	<del> </del>	\$
2	1	AL		7-5.3	CalTrans Encroachment Permit - Type I	<del> </del>	\$5,000.00
3	1	LS	238990	7-9.1.1	Video Recording of Existing Conditions	<del> </del>	\$
4	1	AL		7-10.1.1	MTS/NCTD Joint Right of Entry Permit -Type I	<del> </del>	\$10,000.00
5	2,000	LF	237310	7-10.2.6	K-Rail	\$	\$
6	1	LS	237310	7-10.2.6	Flashing Arrow Board	<del> </del>	\$
7	1	AL	237310	7-10.2.6	Portable Changeable Message Signs (PCMS) - Type I	<del> </del>	\$2,500.00
8	1	LS	237310	7-10.2.6	Traffic Control	<del> </del>	\$
9	1	LS	541820	7-16.4	Exclusive Community Liaison Services	<del> </del>	\$
10	200	TON	237310	302-3.2	Asphalt Pavement Repair	\$	\$
11	322,000	SF	237310	302-4.12.4	Rubber Polymer Modified Slurry Type III and Striping	\$	\$
12	10,000	SF	237310	302-5.2.1	Pavement Restoration Adjacent to Trench	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
13	12,900	TON	237310	302-5.9	1-1/2 Inch Asphalt Concrete Overlay and Striping	\$	\$
14	1	LS	237110	9-3.4.1	Mobilization	<del>\$</del>	\$
15	1	AL		9-3.5	Field Orders - Type II	<del>\$</del>	\$530,000.00
16	299,100	SF	237310	302-1.12	Cold Mill AC Pavement (0-1 1/2")	\$	\$
17	6,500	LF	237310	302-1.12	Cold Mill Header Cuts	\$	\$
18	246	EA	237310	302-1.12	Traffic Detector Loop Replacement	\$	\$
19	5000	LB	237310	302-14.5	Crack Seal	\$	\$
20	900	SF	237310	302-6.8	Bus Stop Pad (75'x12')	\$	\$
21	20,000	SY	237310	302-7.4	Pavement Fabric	\$	\$
22	1,000	LF	237310	303-5.9	Additional Curb and Gutter Removal and Replacement	\$	\$
23	5,000	SF	237310	303-5.9	Additional Sidewalk Removal and Replacement	\$	\$
24	200	EA	237310	303-5.9	Contractor Date Stamp and Impressions	\$	\$
25	2	EA	237310	303-5.10.2	Curb Ramp Case E with Detectable Warning Tiles	\$	\$
26	1	EA	237310	303-5.10.2	Curb Ramp Type A with Detectable Warning Tiles	\$	\$
27	43	EA	237310	303-5.10.2	Curb Ramp Type A with Stainless Steel Detectable Warning Tiles	\$	\$
28	6	EA	237310	303-5.10.2	Curb Ramp Type B with Detectable Warning Tiles	\$	\$
29	12	EA	237310	303-5.10.2	Curb Ramp Type B with Stainless Steel Detectable Warning Tiles	\$	\$
30	24	EA	237310	303-5.10.2	Curb Ramp Type C1 with Stainless Steel Detectable Warning Tiles	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
31	7	EA	237310	303-5.10.2	Curb Ramp Type C2 with Stainless Steel Detectable Warning Tiles	\$	\$
32	10	EA	237310	303-5.10.2	Curb Ramp Type D with Stainless Steel Detectable Warning Tiles	\$	\$
33	6	EA	237310	303-5.10.2	Curb Ramp Type Island Passageway with Detectable Warning Tiles	\$	\$
34	1	LS	237110	306-1.1.6	Trench Shoring	<del>    </del>	\$
35	570	CY	237110	306-1.2.1.1	Additional Bedding	\$	\$
36	1,600	TON	237310	306-1.5.1	Temporary Resurfacing	\$	\$
37	1,580	TON	237110	306-1.6	Imported Backfill	\$	\$
38	122	EA	238210	307-2	Countdown Pedestrian Push Button Module	\$	\$
39	17	EA	238210	307-2	Relocate Pedestrian Push Button Post	\$	\$
40	3	EA	238210	307-2	Traffic Signal Modification	\$	\$
41	2	EA	541370	309-4	Survey Monuments	\$	\$
42	1	LS	561730	700-2.15	Clearing and Grubbing	<del>    </del>	\$
43	1	LS	561730	700-2.15	Revegetation and Erosion Control	<del>    </del>	\$
44	1	LS	541330	700-2.15	Monitoring and Reporting	<del>    </del>	\$
45	1	LS	541330	700-2.15	Revegetation Maintenance and Monitoring Program	<del>    </del>	\$
46	1	AL	541330	701-13.8.4	Permit Fee - Type I	<del>    </del>	\$10,000.00
47	1	LS	541330	701-13.8.4	SWPPP/Compliance with CGP for Reservoir Site (Risk Level 2)	<del>    </del>	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
48	1	LS	541330	701-13.9.5	Water Pollution Control Program Development (for linear work)	<del>    </del>	\$
49	1	LS	237990	701-13.9.5	Water Pollution Control Program Implementation (for linear work)	<del>    </del>	\$
50	5	DAYS	541690	707-1	Suspension of Work - Resources	\$	\$
51	34,700	LF	541690	707-2	Archeological and Native American Monitoring Program	\$	\$
52	2,970	LF	541690	707-3	Paleontological Monitoring Program	\$	\$
53	1	AL	541690	707-4	Archeological and Native American Mitigation and Curation - Type I	<del>    </del>	\$35,000.00
54	350	CY	541690	707-5	Paleontological Mitigation and Excavation	\$	\$
55	4,990	LF	237110	708-6	Handling and Disposal of Non-friable Asbestos Material	\$	\$
<b>Water</b>							
56	1	LS	237110	13110	Cathodic Protection	<del>    </del>	\$
57	1	LS	237110	13300, 13370, 13374, 13390, 13430, 16010, 16110, 16120, 16190, 16195, 16421, 16450, 16950	390/307 Zone Pressure Regulation Station Relocation	<del>    </del>	\$
58	715	EA	237310	206-1.4.4	Adhesive Anchoring System	\$	\$
59	126	EA	237310	206-2.5	Pipe Roller Supports (18" Pipe)	\$	\$
60	280	EA	237310	206-2.5	Pipe Roller Supports (24" Pipe)	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
61	1,030	SF	237310	300-1.4	Bridge Removal (Curb Beam)	\$	\$
62	1	LS	238910	300-1.5.1	Demolition of PB Reservoir	<del>\$</del>	\$
63	12,000	CY	237310	300-4.9	Excavate and Fill (Unclassified)	\$	\$
64	130	LF	237310	303-1.7.5	Drill and Bond Dowels	\$	\$
65	4,940	LBS	237310	303-1.11	Reinforcing Steel	\$	\$
66	40	CY	237310	303-1.11	Structural Concrete	\$	\$
67	60	LF	237310	303-9	Cored Holes	\$	\$
68	52,000	LBS	237310	304-1.12.4	Miscellaneous Metals (Structural Steel)	\$	\$
69	4	EA	237310	304-1.7.1	PTFE Bearing Sliding Surface with Pipe Saddle and Assembly	\$	\$
70	2	EA	237110	306-1.6	10-Inch Fire Service Connection & Assembly	\$	\$
71	2	EA	237110	306-1.6	10-Inch Gate Valve	\$	\$
72	200	LF	237110	306-1.6	10-Inch Water Main	\$	\$
73	1	EA	237110	306-1.6	12-Inch Fire Service Connection & Assembly	\$	\$
74	54	EA	237110	306-1.6	12-Inch Gate Valve	\$	\$
75	5,690	LF	237110	306-1.6	12-Inch Water Main	\$	\$
76	330	LF	237110	306-1.6	12-Inch Water Main, DR 14 Class 305	\$	\$
77	30	LF	237110	306-1.6	12-Inch Water Main, DR14 Class 305 Fusible PVC	\$	\$
78	220	LF	237110	306-1.6	12-Inch Water Main, DR18 Class 235 Fusible PVC	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
79	11	EA	237110	306-1.6	16-Inch Butterfly Valve Class 150B	\$	\$
80	55	EA	237110	306-1.6	16-Inch Butterfly Valve Class 250	\$	\$
81	20,420	LF	237110	306-1.6	16-Inch Water Main	\$	\$
82	1,220	LF	237110	306-1.6	16-Inch Water Main, CML&C Steel	\$	\$
83	2,110	LF	237110	306-1.6	16-Inch Water Main, DR 14 Class 305	\$	\$
84	21	EA	237110	306-1.6	20-Inch Butterfly Valve Class 150B	\$	\$
85	8	EA	237110	306-1.6	20-Inch Butterfly Valve Class 250	\$	\$
86	6,990	LF	237110	306-1.6	20-Inch Water Main	\$	\$
87	2,250	LF	237110	306-1.6	20-Inch Water Main, CML&C Steel	\$	\$
88	160	LF	237110	306-1.6	20-Inch Water Main, DR 14 Class 305	\$	\$
89	3	EA	237110	306-1.6	24-Inch Butterfly Valve Class 250	\$	\$
90	5	LF	237110	306-1.6	24-Inch Water Main	\$	\$
91	40	LF	237110	306-1.6	24-Inch Water Main, CML&C Steel	\$	\$
92	210	LF	237110	306-1.6	30-Inch Steel Casing	\$	\$
93	100	LF	237110	306-1.6	30-Inch Water Main, CML&C Steel	\$	\$
94	4	EA	237110	306-1.6	4-Inch Fire Service Connection and Assembly	\$	\$
95	16	EA	237110	306-1.6	4-Inch Gate Valve	\$	\$
96	960	LF	237110	306-1.6	4-Inch Water Main	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
97	10	LF	237110	306-1.6	6-Inch Water Main	\$	\$
98	1	EA	237110	306-1.6	6-Inch Fire Hydrant Assembly and Marker (2-Port)	\$	\$
99	60	EA	237110	306-1.6	6-Inch Fire Hydrant Assembly and Marker (3-Port)	\$	\$
100	11	EA	237110	306-1.6	6-Inch Fire Service Connection and Assembly	\$	\$
101	4	EA	237110	306-1.6	6-Inch Gate Valve	\$	\$
102	17	EA	237110	306-1.6	8-Inch Fire Service Connection and Assembly	\$	\$
103	8	EA	237110	306-1.6	8-Inch Gate Valve	\$	\$
104	1,050	LF	237110	306-1.6	8-Inch Water Main	\$	\$
105	2	EA	237110	306-1.6	6-Inch Fire Hydrant Connection	\$	\$
106	1	LS	237110	306-1.6	Six (6) Double Ball Flex Joints at Bridges	<del>    </del>	\$
107	130	EA	237110	306-1.6	Thrust Blocks and Anchor Blocks For 16" and Larger Water Mains	\$	\$
108	2	EA	237110	306-1.6	Water Valve Bypass for Cross Mainline 16" and Larger	\$	\$
109	7	EA	237110	306-1.6	Water Valve Bypass for Straight Mainline 16" and Larger	\$	\$
110	9	EA	237110	306-1.6	Water Valve Bypass for T-Mainline 16" and Larger	\$	\$
111	2	EA	237110	306-14.1	10-Inch Water Service	\$	\$
112	59	EA	237110	306-14.1	1-Inch Water Service	\$	\$
113	105	EA	237110	306-14.1	2-Inch Water Service	\$	\$
114	1	EA	237110	306-14.1	2-Inch Water Service Transfer	\$	\$



Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
115	2	EA	237110	306-14.1	4-Inch Water Service	\$	\$
116	2	EA	237110	306-14.1	6-Inch Water Service	\$	\$
117	2	EA	237110	306-14.1	8-Inch Water Service	\$	\$
118	3	EA	237110	306-18	2-Inch Blowoff Valve Assembly	\$	\$
119	7	EA	237110	306-18	4-Inch Blowoff Valve Assembly	\$	\$
120	3	EA	237110	306-19	1-Inch Air and Vacuum Valve	\$	\$
121	10	EA	237110	306-19	2-Inch Air and Vacuum Valve	\$	\$
122	1	LS	237110	306-25.7	Trenchless Construction - Estudillo Street	<del>\$</del>	\$
123	1	LS	237110	306-25.7	Trenchless Construction - West Washington Street	<del>\$</del>	\$
124	1	LS	237110	306-25.7	Trenchless Construction - Witherby Street	<del>\$</del>	\$
125	7,940	LF	237110	306-5.3	Abandon and Fill Existing 16-Inch Water Mains Outside of Trench Limit	\$	\$
126	3,450	LF	237110	306-5.3	Abandon and Fill Existing 18-Inch Water Mains Outside of Trench Limit	\$	\$
127	1,290	LF	237110	306-5.3	Abandon and Fill Existing 24-Inch Water Mains Outside of Trench Limit	\$	\$
128	32	EA	237110	306-5.3	Removal of Abandoned Water Meter Box	\$	\$
129	6,330	LF	237110	306-5.3	Removal or Abandonment of Existing Water Facilities	\$	\$
130	44,700	LF	237110	600-1.2.1.3	High-lining Removed by Contractor	\$	\$
131	6,000	SF	237110	600-1.3.1.5	Pavement Restoration for City Forces Connection	\$	\$
132	1	AL	237110	705-2.7	Dewatering Permit and Discharge Fees - Type I	<del>\$</del>	\$10,000.00

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
133	1	LS	237110	705.2.7	Dewatering Non-Hazardous Contaminated Water (includes standard equipment required for dewatering and management)	<del>    </del>	\$
<b>Sewer</b>							
134	1,570	LF	237110	306-1.6	10-Inch Sewer Main	\$	\$
135	420	LF	237110	306-1.6	12-Inch Sewer Main	\$	\$
136	2,290	LF	237110	306-1.6	14-Inch PVC DR 18 Sewer Forcemain Class 235	\$	\$
137	20	LF	237110	306-1.6	18-Inch Sewer Main	\$	\$
138	30	LF	237110	306-1.6	6-Inch Sewer Main	\$	\$
139	120	LF	237110	306-1.6	6-Inch Sewer Forcemain, DR 18 Class 235	\$	\$
140	880	LF	237110	306-1.6	6-Inch Sewer Forcemain, DR 18 Class 235 with Restrained Joints	\$	\$
141	2,970	LF	237110	306-1.6	8-Inch Sewer Main	\$	\$
142	6	EA	237110	306-1.6	Thrust Blocks and Anchor Blocks (Sewer Force Main)	\$	\$
143	13	EA	237110	306-1.8.6	Connection to Existing Manhole and+A173 Rechanneling	\$	\$
144	21	EA	237110	306-1.8.6	Manholes (4' x 3'), PVC Lined	\$	\$
145	1	EA	237110	306-1.8.6	Manholes (5' x 3'), PVC Lined	\$	\$
146	35	EA	237110	306-1.9.1	4-Inch Sewer Lateral and Cleanout (Street)	\$	\$
147	6	EA	237110	306-1.9.1	6-Inch Sewer Lateral and Cleanout (Street)	\$	\$

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
148	40	LF	237110	306-5.3	Abandon and Fill Existing 12-Inch Sewer Main Outside of Trench Limit	\$	\$	
149	1,450	LF	237110	306-5.3	Abandon and Fill Existing 6-Inch Sewer Main Outside of Trench Limit	\$	\$	
150	400	LF	237110	306-5.3	Abandon and Fill Existing 7-Inch Sewer Main Outside of Trench Limit	\$	\$	
151	2,910	LF	237110	306-5.3	Abandon and Fill Existing 8-Inch Sewer Main Outside of Trench Limit	\$	\$	
152	17	EA	237110	306-5.3	Abandon Existing Manhole Outside of Trench	\$	\$	
153	9,000	LF	237110	306-9.7	Video Inspecting Pipelines and Culverts Acceptance	\$	\$	
154	770	LF	237110	500-1.1.9	Rehabilitate 8-Inch Sewer Main	\$	\$	
155	12	LF	237110	500-1.2.7	Additional Point Repair for Existing 8-Inch Sewer Main	\$	\$	
156	1	EA	237110	500-1.2.7	Point Repair for Existing 8-Inch Sewer Main	\$	\$	
157	2	EA	237110	500-1.6.6	Sewer Lateral Lining	\$	\$	
158	3	EA	237110	500-2.10.2	Rehabilitate Existing Manhole	\$	\$	
159	1	LS	237110	704-4	Sewage Bypass and Pumping Plan (Diversion Plan)	<del>\$</del>	\$	
<b>BASE BID (SUBTOTAL):</b>							\$	
<b>ALTERNATE "A"</b>								
1	-44700	LF	237110	600-1.2.1.3	High-lining Removed by Contractor (Base Bid Item 130)	\$	\$-	
2	1	LS	237110	600-1.2.2.10	High-lining by the Contractor	<del>\$</del>	\$	
<b>TOTAL FOR ALTERNATE "A":</b>							\$	

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
<b>ALTERNATE "B"</b>								
1	-6000	SF	237110	600-1.3.1.5	Pavement Restoration for City Forces Final Connection (Base Bid Item 131)	\$	\$-	
2	48	EA	237110	600-1.3.2.10	8-Inch through 12-Inch Connections to Existing System by Contractor	\$	\$	
3	9	EA	237110	600-1.3.2.10	16-Inch Connections to the Existing System by Contractor	\$	\$	
4	1	EA	237110	600-1.3.2.10	12-Inch Cut-In Tee by Contractor (includes all work and materials per note 5 sheet C-7)	\$	\$	
5	1	EA	237111	600-1.3.2.11	12x10-Inch Cut-In Tee by Contractor (includes all work and materials per note 2 sheet C-18)	\$	\$	
6	110	EA	237110	600-1.4.9	Cut and Plug of the Existing System by Contractor	\$	\$	
<b>TOTAL FOR ALTERNATE "B":</b>							\$	
<b>ALTERNATE "C"</b>								
1	1	LS	238990	703-20	Preparation of Hazardous Waste Management Plan and Reporting	<del>    </del>	\$	
2	1	LS	238990	703-20	Community Health and Safety Plan	<del>    </del>	\$	
3	500	HR	238990	703-20	Monitoring of Soils Containing RCRA/Non-RCRA Hazardous Waste and Petroleum Contaminated Soil	\$	\$	
4	1,500	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazardous Waste	\$	\$	
5	1,500	TON	238990	703-20	Loading, Transportation, and Disposal of Soils Containing RCRA Hazardous Waste	\$	\$	

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension	
6	1,400	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Petroleum Contaminated Soil	\$	\$	
7	1,400	TON	238990	703-20	Loading, Transportation, and Disposal of Petroleum Contaminated Soil	\$	\$	
8	1,500	TON	238990	703-20	Testing, Sampling, Site Storage, and Handling of Soils Containing non-RCRA Hazardous Waste	\$	\$	
9	1,500	TON	238990	703-20	Loading, Transportation, and Disposal of Soils Containing non-RCRA Hazardous Waste	\$	\$	
10	20,000	GAL	238990	703-20	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of RCRA Hazardous Waste Contamination from the Treatment of Contaminated Groundwater (includes Peripheral Equipment to Treat Petroleum Contaminated Groundwater)	\$	\$	
11	20,000	GAL	238990	703-20	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Non-RCRA Hazardous Waste Contamination from the Treatment of Contaminated Groundwater (includes Peripheral Equipment to Treat Petroleum Contaminated Groundwater)	\$	\$	
<b>TOTAL FOR ALTERNATE "C":</b>							\$	\$
<b>TOTAL BASE BID PLUS ALTERNATE A PLUS ALTERNATE B PLUS ALTERNATE C:</b>							\$	\$

Bid Results for Project Pacific Beach Pipeline South (K-16-1306-DBB-3)  
 Issued on 12/10/2015  
 Bid Due on February 17, 2016 2:00 PM (Pacific)  
 Exported on 02/17/2016

Vendor ID	Company Name	Address	City	State	Zip Code	Country	Contact	Phone	Fax	Email	Vendor Type
294833	TC Construction Company, Inc.	10540 Prospect Avenue	Santee		92071	United States	Austin Cameron	619-448-4560 ext. 117	619-448-3341	acameron@tclncsd.com	CAU,MALE,PQUAL,CADIR,Local

Responded	Respondent Title	Respondent Phone	Respondent Email
Austin Cameron	President	619-448-4560 ext. 117	acameron@tclncsd.com

Bid Format	Submitted Date	Status	Confirmation #	Ranking
Electronic	2/17/2016 13:55	Submitted	73403	0

Attachments		
File Title	File Name	File Type
Sub additive-deductive alternate	Sub additive-deductive alternate.pdf	General Attachments
Certification of Pending Actions	Certification of Pending Actions.pdf	General Attachments
Equal Benefits Ordinance	Equal Benefits Ordinance.pdf	General Attachments
Lobby Prohibition, Certification and Disclosure of Lobbying Activities	Lobby Prohibition, Certification and Disclosure of Lobbying Activities.pdf	General Attachments
DBE Information form	DBE Information form.pdf	General Attachments
EPA Form 6100-3	EPA Form 6100-3.pdf	General Attachments
EPA Form 6100-4	EPA Form 6100-4.pdf	General Attachments
Bid bond PB Pipeline	Bid bond PB Pipeline.pdf	General Attachments
Bid bond PB Pipeline	Bid bond PB Pipeline.pdf	Bid Bond

Line Items							
Item Num	Section	Item Code	Description	Unit of Measure	Quantity	Unit Price	Line Total
1	Common	524126	Bonds (Payment and Performance)	LS	1	\$190,000.00	\$190,000.00
2	Common		CalTrans Encroachment Permit - Type I	AL	1	\$5,000.00	\$5,000.00
3	Common	238990	Video Recording of Existing Conditions	LS	1	\$6,900.00	\$6,900.00
4	Common		MTS/NCTD Joint Right of Entry Permit - Type I	AL	1	\$10,000.00	\$10,000.00
5	Common	237310	K-Rail	LF	2000	\$19.00	\$26,000.00
6	Common	237310	Flashing Arrow Board	LS	1	\$68,000.00	\$68,000.00
7	Common	237310	Portable Changeable Message Signs (PCMS) - Type I	AL	1	\$2,500.00	\$2,500.00
8	Common	237310	Traffic Control	LS	1	\$1,000,000.00	\$1,000,000.00
9	Common	541820	Exclusive Community Liaison Services	LS	1	\$85,000.00	\$85,000.00
10	Common	237310	Asphalt Pavement Repair	TON	200	\$247.00	\$49,400.00
11	Common	237310	Rubber Polymer Modified Slurry Type III and Striping	SF	322000	\$0.55	\$177,100.00
12	Common	237310	Pavement Restoration Adjacent to Trench	SF	10000	\$17.00	\$170,000.00
13	Common	237310	1-1/2 Inch Asphalt Concrete Overlay and Striping	TON	12900	\$116.00	\$1,496,400.00
14	Common	237110	Mobilization	LS	1	\$1,060,000.00	\$1,060,000.00
15	Common		Field Orders - Type II	AL	1	\$530,000.00	\$530,000.00
16	Common	237310	Cold Mill AC Pavement (0-1 1/2")	SF	299100	\$0.35	\$104,685.00
17	Common	237310	Cold Mill Header Cuts	LF	6500	\$2.00	\$13,000.00
18	Common	237310	Traffic Detector Loop Replacement	EA	246	\$295.00	\$72,570.00
19	Common	237310	Crack Seal	LB	5000	\$3.00	\$15,000.00
20	Common	237310	Bus Stop Pad (7'5"x12')	SF	900	\$21.00	\$18,900.00
21	Common	237310	Pavement Fabric	SY	20000	\$3.00	\$60,000.00
22	Common	237310	Additional Curb and Gutter Removal and Replacement	LF	1000	\$48.00	\$48,000.00
23	Common	237310	Additional Sidewalk Removal and Replacement	SF	5000	\$13.00	\$65,000.00
24	Common	237310	Contractor Date Stamp and Impressions	EA	200	\$318.00	\$63,600.00

ES

25	Common	237310	Curb Ramp Case E with Detectable Warning Tiles	EA	2	\$5,100.00	\$10,200.00
26	Common	237310	Curb Ramp Type A with Detectable Warning Tiles	EA	1	\$2,800.00	\$2,800.00
27	Common	237310	Curb Ramp Type A with Stainless Steel Detectable Warning Tiles	EA	43	\$2,900.00	\$124,700.00
28	Common	237310	Curb Ramp Type B with Detectable Warning Tiles	EA	6	\$2,800.00	\$16,800.00
29	Common	237310	Curb Ramp Type B with Stainless Steel Detectable Warning Tiles	EA	12	\$2,900.00	\$34,800.00
30	Common	237310	Curb Ramp Type C1 with Stainless Steel Detectable Warning Tiles	EA	24	\$3,000.00	\$72,000.00
31	Common	237310	Curb Ramp Type C2 with Stainless Steel Detectable Warning Tiles	EA	7	\$3,000.00	\$21,000.00
32	Common	237310	Curb Ramp Type D with Stainless Steel Detectable Warning Tiles	EA	10	\$2,500.00	\$25,000.00
33	Common	237310	Curb Ramp Type Island Passageway with Detectable Warning Tiles	EA	6	\$9,000.00	\$54,000.00
34	Common	237110	Trench Shoring	LS	1	\$120,000.00	\$120,000.00
35	Common	237110	Additional Bedding	CY	570	\$53.00	\$30,210.00
36	Common	237310	Temporary Resurfacing	TON	1600	\$121.00	\$193,600.00
37	Common	237110	Imported Backfill	TON	1580	\$25.00	\$39,500.00
38	Common	238210	Countdown Pedestrian Push Button Module	EA	122	\$165.00	\$20,130.00
39	Common	238210	Relocate Pedestrian Push Button Post	EA	17	\$550.00	\$9,350.00
40	Common	238210	Traffic Signal Modification	EA	3	\$15,000.00	\$45,000.00
41	Common	541370	Survey Monuments	EA	2	\$1,400.00	\$2,800.00
42	Common	561730	Clearing and Grubbing	LS	1	\$16,000.00	\$16,000.00
43	Common	561730	Revegetation and Erosion Control	LS	1	\$79,000.00	\$79,000.00
44	Common	541330	Monitoring and Reporting	LS	1	\$5,500.00	\$5,500.00
45	Common	541330	Revegetation Maintenance and Monitoring Program	LS	1	\$60,000.00	\$60,000.00
46	Common	541330	Permit Fee - Type I	AL	1	\$10,000.00	\$10,000.00
47	Common	541330	SWPPP/Compliance with CGP for Reservoir Site (Risk Level 2)	LS	1	\$11,000.00	\$11,000.00
48	Common	541330	Water Pollution Control Program Development (for linear work)	LS	1	\$890.00	\$890.00
49	Common	237990	Water Pollution Control Program Implementation (for linear work)	LS	1	\$160,000.00	\$160,000.00
50	Common	541690	Suspension of Work - Resources	DAYS	5	\$280.00	\$1,400.00
51	Common	541690	Archeological and Native American Monitoring Program	LF	34700	\$4.00	\$138,800.00
52	Common	541690	Paleontological Monitoring Program	LF	2970	\$6.00	\$17,820.00
53	Common	541690	Archeological and Native American Mitigation and Curation - Type I	AL	1	\$35,000.00	\$35,000.00
54	Common	541690	Paleontological Mitigation and Excavation	CY	350	\$38.00	\$13,300.00
55	Common	237110	Handling and Disposal of Non-friable Asbestos Material	LF	4990	\$15.00	\$74,850.00
56	Water	237110	Cathodic Protection	LS	1	\$51,000.00	\$51,000.00
57	Water	237110	390/307 Zone Pressure Regulation Station Relocation	LS	1	\$800,000.00	\$800,000.00
58	Water	237310	Adhesive Anchoring System	EA	715	\$500.00	\$357,500.00
59	Water	237310	Pipe Roller Supports (18" Pipe)	EA	126	\$2,000.00	\$252,000.00
60	Water	237310	Pipe Roller Supports (24" Pipe)	EA	280	\$3,100.00	\$868,000.00
61	Water	237310	Bridge Removal (Curb Beam)	SF	1030	\$116.00	\$119,480.00
62	Water	238910	Demolition of PB Reservoir	LS	1	\$130,000.00	\$130,000.00
63	Water	237310	Excavate and Fill (Unclassified)	CY	12000	\$6.00	\$72,000.00
64	Water	237310	Drill and Bond Dowels	LF	130	\$104.00	\$13,520.00
65	Water	237310	Reinforcing Steel	LBS	4940	\$1.70	\$8,398.00
66	Water	237310	Structural Concrete	CY	40	\$2,500.00	\$100,000.00
67	Water	237310	Cored Holes	LF	60	\$6,900.00	\$414,000.00
68	Water	237310	Miscellaneous Metals (Structural Steel)	LBS	52000	\$10.70	\$556,400.00
69	Water	237310	PTFE Bearing Sliding Surface with Pipe Saddle and Assembly	EA	4	\$1,700.00	\$6,800.00
70	Water	237110	10-inch Fire Service Connection & Assembly	EA	2	\$11,000.00	\$22,000.00
						Subtotal	\$6,784,505.00

ES

71	Water	237110	10-Inch Gate Valve	EA	2	\$2,900.00	\$5,800.00
72	Water	237110	10-Inch Water Main	LF	200	\$338.00	\$67,600.00
73	Water	237110	12-Inch Fire Service Connection & Assembly	EA	1	\$22,000.00	\$22,000.00
74	Water	237110	12-Inch Gate Valve	EA	54	\$3,300.00	\$178,200.00
75	Water	237110	12-Inch Water Main	LF	5690	\$195.00	\$1,109,550.00
76	Water	237110	12-Inch Water Main, DR 14 Class 305	LF	330	\$271.00	\$89,430.00
77	Water	237110	12-Inch Water Main, DR14 Class 305 Fusible PVC	LF	30	\$258.00	\$7,740.00
78	Water	237110	12-Inch Water Main, DR18 Class 285 Fusible PVC	LF	220	\$331.00	\$72,820.00
79	Water	237110	16-Inch Butterfly Valve Class 150B	EA	11	\$4,600.00	\$50,600.00
80	Water	237110	16-Inch Butterfly Valve Class 250	EA	55	\$4,900.00	\$269,500.00
81	Water	237110	16-Inch Water Main	LF	20470	\$210.00	\$4,288,200.00
82	Water	237110	16-Inch Water Main, CML&C Steel	LF	1220	\$1,570.00	\$1,915,400.00
83	Water	237110	16-Inch Water Main, DR 14 Class 305	LF	2110	\$201.00	\$424,110.00
84	Water	237110	20-Inch Butterfly Valve Class 150B	EA	21	\$6,700.00	\$140,700.00
85	Water	237110	20-Inch Butterfly Valve Class 250	EA	8	\$7,000.00	\$56,000.00
86	Water	237110	20-Inch Water Main	LF	6990	\$246.00	\$1,719,540.00
87	Water	237110	20-Inch Water Main, CML&C Steel	LF	2250	\$4,100.00	\$2,475,000.00
88	Water	237110	20-Inch Water Main, DR 14 Class 305	LF	160	\$313.00	\$50,080.00
89	Water	237110	24-Inch Butterfly Valve Class 250	EA	3	\$11,000.00	\$33,000.00
90	Water	237110	24-Inch Water Main	LF	5	\$1,100.00	\$5,500.00
91	Water	237110	24-Inch Water Main, CML&C Steel	LF	40	\$1,300.00	\$52,000.00
92	Water	237110	30-Inch Steel Casing	LF	210	\$291.00	\$61,110.00
93	Water	237110	30-Inch Water Main, CML&C Steel	LF	100	\$560.00	\$56,000.00
94	Water	237110	4-Inch Fire Service Connection and Assembly	EA	4	\$7,400.00	\$29,600.00
95	Water	237110	4-Inch Gate Valve	EA	16	\$1,100.00	\$17,600.00
96	Water	237110	4-Inch Water Main	LF	960	\$128.00	\$122,880.00
97	Water	237110	6-Inch Water Main	LF	10	\$394.00	\$3,940.00
98	Water	237110	6-Inch Fire Hydrant Assembly and Marker (2-Port)	EA	1	\$10,000.00	\$10,000.00
99	Water	237110	6-Inch Fire Hydrant Assembly and Marker (3-Port)	EA	60	\$12,750.00	\$765,000.00
100	Water	237110	6-Inch Fire Service Connection and Assembly	EA	11	\$9,300.00	\$102,300.00
101	Water	237110	6-Inch Gate Valve	EA	4	\$1,300.00	\$5,200.00
102	Water	237110	8-Inch Fire Service Connection and Assembly	EA	17	\$9,200.00	\$156,400.00
103	Water	237110	8-Inch Gate Valve	EA	8	\$1,800.00	\$14,400.00
104	Water	237110	8-Inch Water Main	LF	1050	\$118.00	\$123,900.00
105	Water	237110	6-Inch Fire Hydrant Connection	EA	2	\$6,500.00	\$13,000.00
106	Water	237110	Sk (6) Double Ball Flex Joints at Bridges	LS	1	\$210,000.00	\$210,000.00
107	Water	237110	Thrust Blocks and Anchor Blocks For 16" and Larger Water Mains	EA	130	\$930.00	\$120,900.00
108	Water	237110	Water Valve Bypass for Cross Mainline 16" and Larger	EA	2	\$29,000.00	\$58,000.00
109	Water	237110	Water Valve Bypass for Straight Mainline 16" and Larger	EA	7	\$24,000.00	\$168,000.00
110	Water	237110	Water Valve Bypass for T-Mainline 16" and Larger	EA	9	\$28,000.00	\$252,000.00
111	Water	237110	10-Inch Water Service	EA	2	\$11,000.00	\$22,000.00
112	Water	237110	1-Inch Water Service	EA	59	\$3,400.00	\$200,600.00
113	Water	237110	2-Inch Water Service	EA	105	\$4,700.00	\$493,500.00
114	Water	237110	2-Inch Water Service Transfer	EA	1	\$1,900.00	\$1,900.00
115	Water	237110	4-Inch Water Service	EA	2	\$7,700.00	\$15,400.00
116	Water	237110	6-Inch Water Service	EA	2	\$9,000.00	\$18,000.00
117	Water	237110	8-Inch Water Service	EA	2	\$9,500.00	\$19,000.00
118	Water	237110	2-Inch Blowoff Valve Assembly	EA	3	\$5,000.00	\$15,000.00
119	Water	237110	4-Inch Blowoff Valve Assembly	EA	7	\$8,700.00	\$60,900.00
120	Water	237110	1-Inch Air and Vacuum Valve	EA	3	\$3,500.00	\$10,500.00
121	Water	237110	2-Inch Air and Vacuum Valve	EA	10	\$5,300.00	\$53,000.00
122	Water	237110	Trenchless Construction - Estudillo Street	LS	1	\$43,000.00	\$43,000.00
123	Water	237110	Trenchless Construction - West Washington Street	LS	1	\$175,000.00	\$175,000.00
124	Water	237110	Trenchless Construction - Witharby Street	LS	1	\$280,000.00	\$280,000.00
125	Water	237110	Abandon and Fill Existing 16-Inch Water Mains Outside of Trench Limit	LF	7940	\$8.60	\$68,284.00
126	Water	237110	Abandon and Fill Existing 18-Inch Water Mains Outside of Trench Limit	LF	3450	\$12.00	\$41,400.00
127	Water	237110	Abandon and Fill Existing 24-Inch Water Mains Outside of Trench Limit	LF	1290	\$20.00	\$25,800.00



128	Water	237110	Removal of Abandoned Water Meter Box	EA	32	\$284.00	\$9,088.00
129	Water	237110	Removal or Abandonment of Existing Water Facilities	LF	6930	\$3.00	\$18,990.00
130	Water	237110	High-lining Removed by Contractor	LF	44700	\$6.00	\$268,200.00
131	Water	237110	Pavement Restoration for City Forces Connection	SF	6000	\$21.00	\$126,000.00
132	Water	237110	Dewatering Permit and Discharge Fees - Type I	AL	1	\$10,000.00	\$10,000.00
133	Water	237110	Dewatering Non-Hazardous Contaminated Water (includes standard equipm	LS	1	\$1,500,000.00	\$1,500,000.00
						Subtotal	\$22,569,660.00
134	Sewer	237110	10-Inch Sewer Main	LF	1570	\$202.00	\$317,140.00
135	Sewer	237110	12-Inch Sewer Main	LF	420	\$276.00	\$99,920.00
136	Sewer	237110	14-Inch PVC DR 18 Sewer Force Main Class 235	LF	2290	\$245.00	\$561,050.00
137	Sewer	237110	18-Inch Sewer Main	LF	20	\$349.00	\$6,980.00
138	Sewer	237110	6-Inch Sewer Main	LF	30	\$245.00	\$7,350.00
139	Sewer	237110	6-Inch Sewer Force Main, DR 18 Class 235	LF	120	\$177.00	\$21,240.00
140	Sewer	237110	6-Inch Sewer Force Main, DR 18 Class 235 with Restrained Joints	LF	880	\$159.00	\$139,920.00
141	Sewer	237110	8-Inch Sewer Main	LF	2970	\$191.00	\$567,270.00
142	Sewer	237110	Thrust Blocks and Anchor Blocks (Sewer Force Main)	EA	6	\$700.00	\$4,200.00
143	Sewer	237110	Connection to Existing Manhole and A173 Rechanneling	EA	13	\$2,800.00	\$36,400.00
144	Sewer	237110	Manholes (4' x 3'), PVC Lined	EA	21	\$8,100.00	\$170,100.00
145	Sewer	237110	Manholes (5' x 3'), PVC Lined	EA	1	\$11,000.00	\$11,000.00
146	Sewer	237110	4-Inch Sewer Lateral and Cleanout (Street)	EA	35	\$3,900.00	\$136,500.00
147	Sewer	237110	6-Inch Sewer Lateral and Cleanout (Street)	EA	6	\$3,800.00	\$22,800.00
148	Sewer	237110	Abandon and Fill Existing 12-Inch Sewer Main Outside of Trench Limit	LF	40	\$81.00	\$3,240.00
149	Sewer	237110	Abandon and Fill Existing 6-Inch Sewer Main Outside of Trench Limit	LF	1450	\$10.00	\$14,500.00
150	Sewer	237110	Abandon and Fill Existing 7-Inch Sewer Main Outside of Trench Limit	LF	400	\$13.00	\$5,200.00
151	Sewer	237110	Abandon and Fill Existing 8-Inch Sewer Main Outside of Trench Limit	LF	2920	\$6.00	\$17,460.00
152	Sewer	237110	Abandon Existing Manhole Outside of Trench	EA	17	\$1,100.00	\$18,700.00
153	Sewer	237110	Video Inspecting Pipelines and Culverts Acceptance	LF	9000	\$1.50	\$13,500.00
154	Sewer	237110	Rehabilitate 8-Inch Sewer Main	LF	770	\$97.00	\$43,890.00
155	Sewer	237110	Additional Point Repair for Existing 8-Inch Sewer Main	LF	12	\$930.00	\$11,160.00
156	Sewer	237110	Point Repair for Existing 8-Inch Sewer Main	EA	1	\$11,000.00	\$11,000.00
157	Sewer	237110	Sewer Lateral Lining	EA	2	\$7,400.00	\$14,800.00
158	Sewer	237110	Rehabilitate Existing Manhole	EA	3	\$4,100.00	\$12,300.00
159	Sewer	237110	Sewage Bypass and Pumping Plan (Diversion Plan)	LS	1	\$530.00	\$530.00
						Subtotal	\$2,268,150.00
160	Alternate "A"	237110	High-lining Removed by Contractor (Base Bid Item 130) (Deductive) In the c	LF	-44700	\$6.00	(\$268,200.00)
161	Alternate "A"	237110	High-lining by the Contractor	LS	1	\$360,000.00	\$360,000.00
						Subtotal	\$91,800.00
162	Alternate "B"	237110	Pavement Restoration for City Forces Final Connection (Base Bid Item 131) (	SF	-6000	\$21.00	(\$126,000.00)
163	Alternate "B"	237110	8-Inch through 12-Inch Connections to Existing System by Contractor	EA	48	\$7,000.00	\$336,000.00
164	Alternate "B"	237110	16-Inch Connections to the Existing System by Contractor	EA	9	\$13,500.00	\$121,500.00
165	Alternate "B"	237110	12-Inch Cut-in Tee by Contractor (includes all work and materials per note 5	EA	1	\$23,000.00	\$23,000.00
166	Alternate "B"	237111	12x10-Inch Cut-In Tee by Contractor (includes all work and materials per not	EA	1	\$23,000.00	\$23,000.00
167	Alternate "B"	237110	Cut and Plug of the Existing System by Contractor	EA	110	\$3,350.00	\$368,500.00
						Subtotal	\$746,000.00
168	Alternate "C"	238990	Preparation of Hazardous Waste Management Plan and Reporting	LS	1	\$4,700.00	\$4,700.00
169	Alternate "C"	238990	Community Health and Safety Plan	LS	1	\$4,700.00	\$4,700.00
170	Alternate "C"	238990	Monitoring of Soils Containing RCRA/Non-RCRA Hazardous Waste and Petro	HR	500	\$22.00	\$11,000.00
171	Alternate "C"	238990	Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazar	TON	1500	\$42.00	\$63,000.00
172	Alternate "C"	238990	Loading, Transportation, and Disposal of Soils Containing RCRA Hazardous W	TON	1500	\$812.00	\$468,000.00
173	Alternate "C"	238990	Testing, Sampling, Site Storage, and Handling of Petroleum Contaminated So	TON	1400	\$27.00	\$37,800.00
174	Alternate "C"	238990	Loading, Transportation, and Disposal of Petroleum Contaminated Soil	TON	1400	\$117.00	\$163,800.00
175	Alternate "C"	238990	Testing, Sampling, Site Storage, and Handling of Soils Containing non-RCRA H	TON	1500	\$27.00	\$40,500.00
176	Alternate "C"	238990	Loading, Transportation, and Disposal of Soils Containing non-RCRA Hazardo	TON	1500	\$287.00	\$430,500.00
177	Alternate "C"	238990	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of RC	GAL	20000	\$2.36	\$47,200.00
178	Alternate "C"	238990	Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of No	GAL	20000	\$1.60	\$32,000.00
						Subtotal	\$1,303,200.00
						Total	\$39,758,315.00

ES

Subcontractors										
Name	Description	License Num	Amount	Type	Address	City	State	Zip Code	Country	
HMS Construction Inc.	traffic signals	765890	\$167,102.00	CAU,MALE,PQU	2885 Scott Street	Vista		92081	United States	
MIRAMAR GENERAL ENGINEER	concrete flatwork	1008541	\$439,100.00		3291 Caminito Ameca	La Jolla		92037	United States	
Bridge Masters, Inc.	bridge piping	842747	\$6,181,392.00	CAU,MALE	25290 Bachelor Ln.	Bend		97701	United States	
Sociaris Contracting	hazardous material	793838	\$1,269,000.00	CAU,MALE,ELDE	7437 Lowell Ct.	La Mesa		91942	United States	
Loveless & Linton Consulting-Arch	archeo, paleo, native american	N/A	\$150,608.00	CAU,FEM,SLBE,I	1421 W. Lewis St	San Diego		92103	United States	
Ayala Boring, Inc.	Jack & bore	388577	\$157,625.00		10150 Poplar Ave	Fontana		92335	United States	

\$8,364,827.00

Prime Self Performance
75.2214

*ES*

*The above is correct.*

*Elan Schier - Elan Schier  
Chief Estimator  
TC Construction*

Item 5500  
(R-2016-507)  
4-26-16

RESOLUTION NUMBER R- 310391

DATE OF FINAL PASSAGE MAY 03 2016

A RESOLUTION OF THE COUNCIL OF THE CITY OF  
SAN DIEGO AWARDING A PHASE FUNDED CONTRACT  
TO TC CONSTRUCTION COMPANY, INC.

WHEREAS, the Pacific Beach Pipeline South project [Project] is part of City's water main replacement program as mandated by the California Department of Health, and the sewer main replacement program; and

WHEREAS, the Project extends from Crown Point South to Upas Street, and includes 8.4 miles of transmission and distribution waterline replacement, 2.4 miles of sewer main replacement, and demolition of the previously abandoned Pacific Beach Reservoir; and

WHEREAS, TC Construction Company, Inc. was selected as the lowest responsible bidder following the competitive selection process to provide construction services pursuant to City of San Diego standards; NOW, THEREFORE,

BE IT RESOLVED, by the City Council of the City of San Diego that the Mayor or his designee is authorized to establish contract funding phases, and award a phase funded construction contract to TC Construction Company, Inc. in an amount not to exceed \$33,758,315, provided that the City Comptroller first furnishes one or more certificates certifying that funds necessary for expenditure, under established contract funding phases are, or will be, on deposit with the City Treasurer.

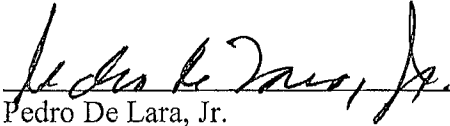
BE IT FURTHER RESOLVED, that the Chief Financial Officer [CFO] as delegated to Financial Management is authorized to appropriate, and the City Comptroller is authorized to expend an amount not to exceed \$530,000 for the first phase, and \$30,422,405 for all subsequent phases from CIP S-12015, Pacific Beach Pipeline South (W), Fund 700010, Water Utility CIP,

contingent upon the approval of the Fiscal Year 2017 through Fiscal Year 2020 Appropriation Ordinances, and contingent upon the Chief Financial Officer first furnishing one or more certificates certifying that the funds necessary for expenditures, under the established contract funding phases are, or will be, on deposit with the City Treasurer.

BE IT FURTHER RESOLVED, that the CFO, as delegated to expend to Financial Management is authorized to appropriate, and the City Comptroller is authorized to expend an amount not to exceed \$25,910 for the first phase, and \$2,780,000 for all subsequent phases from CIP A-JA.00001, Annual Allocations-Sewer Main Replacements (B-12117), Fund 700008, Muni Sewer CIP, contingent upon the approval of the Fiscal Year 2017 through Fiscal Year 2018 Appropriation Ordinances, and contingent upon the Chief Financial Officer first furnishing one or more certificates certifying that the funds necessary for expenditure, under the established contract funding phases are, or will be, on deposit with the City Treasurer.

BE IT FURTHER RESOLVED, that the use of City Force Work in CIP S-12015, Pacific Beach Pipeline South (W), Fund 700010, Water Utility CIP is authorized for construction and related expenses of the Project in an amount not to exceed \$1,455,440.

APPROVED: JAN I. GOLDSMITH, City Attorney

By   
Pedro De Lara, Jr.  
Deputy City Attorney

PDL:bas  
March 25, 2016  
Or.Dept:PW/Eng.  
CC No.  
Doc. No.: 1252902

I certify that the foregoing Resolution was passed by the Council of the City of San Diego, at this meeting of APR 26 2016.

ELIZABETH S. MALAND  
City Clerk

By   
Deputy City Clerk

Approved: 5/2/16  
(date)

  
KEVIN L. FAULCONER, Mayor

Vetoed: \_\_\_\_\_  
(date)

\_\_\_\_\_  
KEVIN L. FAULCONER, Mayor

Passed by the Council of The City of San Diego on APR 26 2016, by the following vote:

Councilmembers	Yeas	Nays	Not Present	Recused
Sherri Lightner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lorie Zapf	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Todd Gloria	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Myrtle Cole	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mark Kersey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chris Cate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scott Sherman	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
David Alvarez	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marti Emerald	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Date of final passage MAY 03 2016.

(Please note: When a resolution is approved by the Mayor, the date of final passage is the date the approved resolution was returned to the Office of the City Clerk.)

AUTHENTICATED BY:

KEVIN L. FAULCONER  
Mayor of The City of San Diego, California.

(Seal)

ELIZABETH S. MALAND  
City Clerk of The City of San Diego, California.

By *Aty Brady*, Deputy

Office of the City Clerk, San Diego, California

Resolution Number R- 310391

Passed by the Council of The City of San Diego on April 26, 2016, by the following vote:

**YEAS:** LIGHTNER, ZAPP, GLORIA, COLE, KERSEY, CATE,  
SHERMAN, ALVAREZ.

**NAYS:** NONE.

**NOT PRESENT:** EMERALD.

**RECUSED:** NONE.

AUTHENTICATED BY:  
**KEVIN L. FAULCONER**  
Mayor of The City of San Diego, California  
**ELIZABETH S. MALAND**  
City Clerk of The City of San Diego, California

(Seal)

By: Jeannette I. Santos, Deputy

I HEREBY CERTIFY that the above and foregoing is a full, true and correct copy of  
RESOLUTION NO. R-310391, approved on May 2, 2016. The date of final passage is  
May 3, 2016.

**ELIZABETH S. MALAND**  
City Clerk of The City of San Diego, California

(Seal)

By:  Jeannette I. Santos, Deputy