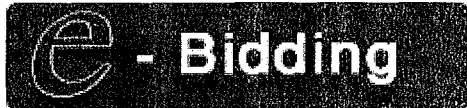


City of San Diego

CONTRACTOR'S NAME: Ortiz Corporation
ADDRESS: 2000 McKinley Av., National City, CA 91950
TELEPHONE NO.: 619-434-7925 FAX NO.: 619-434-7931
CITY CONTACT: Rosa Riego Contract Specialist, Email: RRiego@sandiego.gov
Phone No. (619) 533-3426, Fax No. (619) 533-3633
N. Salem / A. Jaro / LJI

BIDDING DOCUMENTS



FOR

ORIGINAL

Sewer & Water Group 701

BID NO.: K-16-1362-DBB-3
SAP NO. (WBS/IO/CC): B-00452 (S) / B-00039 (W)
CLIENT DEPARTMENT: 2012 / 2013
COUNCIL DISTRICT: 3
PROJECT TYPE: KB / JA

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

- PHASED-FUNDING
- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- PREVAILING WAGE RATES: STATE FEDERAL
- APPRENTICESHIP

BID DUE DATE:

2:00 PM

MAY 3, 2016

CITY OF SAN DIEGO

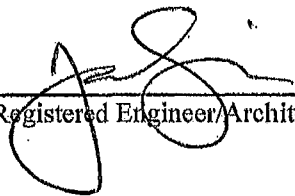
PUBLIC WORKS CONTRACTS

1010 SECOND AVENUE, 14th 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/Architect:


1) Registered Engineer/Architect

2016-01-25
Date

Seal:




2) For City Engineer

3/9/16
Date

Seal



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NOTICE INVITING BIDS

1. **SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Construction services for **Sewer & Water Group 701**. For additional information refer to Attachment A.
2. **FULL AND OPEN COMPETITION:** This contract is open to full competition and may be bid on by Contractors who are on the City's current Prequalified Contractors' List. For information regarding the Contractors Prequalified list visit the City's website: <http://www.sandiego.gov>.
3. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **\$4,717,000**.
4. **BID DUE DATE AND TIME ARE:** **May 3, 2016 at 2:00 P.M.**
5. **PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.
6. **LICENSE REQUIREMENT:** The City has determined that the following licensing classifications are required for this contract: A or C34.
7. **SUBCONTRACTING PARTICIPATION PERCENTAGES:** The City has incorporated mandatory SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1. SLBE participation	6.6%
2. ELBE participation	15.7%
3. Total mandatory participation	22.3%

- 7.1. The Bid may be declared non-responsive if the Bidder fails the following mandatory conditions:
 - 7.1.1. Attending the Pre-Bid Meeting as required in the Notice Inviting Bids of these documents.
 - 7.1.2. Bidder's inclusion of SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; **OR**
 - 7.1.3. 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 SLBE-ELBE Subcontractors required in this document within **3 Working Days** of the Bid opening if the overall mandatory participation percentage is not met.

8. PRE-BID MEETING:

- 8.1.** Prospective Bidders are required to attend the Pre-Bid Meeting. The purpose of the meeting is to discuss the scope of the Project, submittal requirements, the pre-qualification process and any Equal Opportunity Contracting Program requirements and reporting procedures. To request a sign language or oral interpreter for this visit, call the Public Works Contracts Division at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. Failure to attend the Mandatory Pre-Bid Meeting may result in the Design-Builder's Bid being deemed non-responsive. The Pre-Bid meeting is scheduled as follows:

Date: April 13, 2016
Time 10:00 A.M.
Location: 1010 Second Avenue, Suite 1400, San Diego, CA 92101

Attendance at the Pre-Submittal Meeting will be evidenced by the Bidder's representative's signature on the attendance roster. It is the responsibility of the Bidder's representative to complete and sign the attendance roster.

Bidders may not be admitted after the specified start time of the mandatory Pre-Bid Meeting.

9. AWARD PROCESS:

- 9.1.** The Award of this contract is contingent upon the Contractor's compliance with all conditions of Award as stated within these documents and within the Notice of Intent to Award.
- 9.2.** Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening. The City will then award the Contract within approximately 14 days of receipt of properly signed Contract, bonds, and insurance documents.
- 9.3.** This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.
- 9.4.** The low Bid will be determined by Base Bid plus all Alternates.
- 9.5.** 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 in consecutive order beginning with Alternate A.

10. SUBMISSION OF QUESTIONS:

- 10.1.** 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, 14th Floor
San Diego, California, 92101
Attention: Rosa Riego

OR:

Contract Specialist: Rriego@sandiego.gov

- 10.2. Questions received less than 14 days prior to the date for opening of Bids may not be considered.
 - 10.3. Questions or clarifications deemed by the City to be material shall be answered via issuance of an addendum and posted to the City's online bidding service.
 - 10.4. 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 be informed of any addenda that have been issued and to include all such information in its Bid.
11. **PHASED FUNDING:** For Phased Funding Conditions, see Attachment B.
12. **ADDITIVE/DEDUCTIVE ALTERNATES:**
- 12.1. 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 a decision whether to incorporate these portions 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 for the Base Bid plus one or more Alternates.
 - 12.2. 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.

INSTRUCTIONS TO BIDDERS

1. PREQUALIFICATION OF CONTRACTORS:

- 1.1. Contractors submitting a Bid must be pre-qualified for the total amount proposed, including 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>

- 1.2. 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.
- 1.3. Due to 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™](#).

2. 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.

- 2.1. **BIDDERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit and electronic bid.
- 2.2. 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.
- 2.3. 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.
- 2.4. **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.

- 2.5. **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, EOCP compliance and other issues. The City may require any Bidder to furnish statement of experience, financial responsibility, technical ability, equipment, and references.
- 2.6. **RECAPITULATION OF THE WORK.** Bids shall not contain any recapitulation of the Work. Conditional Bids may be rejected as being non-responsive. Alternative proposals will not be considered unless called for.
- 2.7. **BIDS MAY BE WITHDRAWN** by the Bidder only up to the bid due date and time.
 - 2.7.1. **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.
- 2.8. **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.

3. ELECTRONIC BID SUBMISSIONS CARRY FULL FORCE AND EFFECT

- 3.1. 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.
- 3.2. 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.
- 3.3. 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.

- 3.4. 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.
4. **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.
5. **CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:**
- 5.1. **Prior** to the Award of the Contract or 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 WILL APPLY:** Refer to Attachment D.
8. **SUBCONTRACTING PARTICIPATION PERCENTAGES:** Subcontracting participation percentages apply to this contract. Refer to Attachment E.
9. **INSURANCE REQUIREMENTS:**
- 9.1. 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.

9.2. 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.

10. **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
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: http://www.sandiego.gov/publicworks/edocref/index.shtml		

11. **CITY'S RESPONSES AND ADDENDA:** The City, at its discretion, 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.

12. **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.

13. **CONTRACT PRICING:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth herein. The Bidder agrees to perform construction services for the City of San Diego in accordance with these contract documents for the prices listed below. The Bidder further agrees to guarantee the Contract Price for a period of 120 days from the date of Bid opening. The duration of the Contract Price guarantee may be extended, by mutual consent

of the parties, by the number of days required for the City to obtain all items necessary to fulfill all contractual conditions.

14. SUBCONTRACTOR INFORMATION:

14.1. **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.

14.2. **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.

14.3. **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.

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

16. AWARD PROCESS:

- 16.1. The Award of this contract is contingent upon the Contractor's compliance with all conditions precedent to Award.
- 16.2. 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.
- 16.3. This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.
17. **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.
18. **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.
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 ALL eBid forms as required by this solicitation. Incomplete eBids will not be accepted.
- 22.3. The City reserves the right to reject any or all Bids, to waive any informality or technicality in Bids received, and to waive 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 within 3 Working Days of the bid opening, written notice from the Bidder which shows proof of honest, credible, clerical error of a 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 the San Diego Municipal Code.
- 22.6. The City of San Diego will not discriminate in the award of contracts with regard to race, religion creed, color, national origin, ancestry, physical handicap, marital status, sex or age.
- 22.7. Each Bid package properly signed as required by these specifications shall constitute a firm offer which may be accepted by the City within the time specified herein.
- 22.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of the base bid and any proposed alternates 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 the bid results, view the results on the City's web site, or request the results by U.S. mail and provide a self-addressed, stamped envelope. If requesting by mail, be sure to reference the bid name and number. The bid tabulations will be mailed to you upon their completion. The results will not 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.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Ortiz Corporation, a corporation, as principal, and International Fidelity 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 FOUR MILLION THREE HUNDRED FORTY-TWO THOUSAND TWO HUNDRED ONE DOLLAR AND 65/100 (\$4,342,201.65) for the faithful performance of the annexed contract, and in the sum of FOUR MILLION THREE HUNDRED FORTY-TWO THOUSAND TWO HUNDRED ONE DOLLAR AND 65/100 (\$4,342,201.65) for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract with the City of 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)

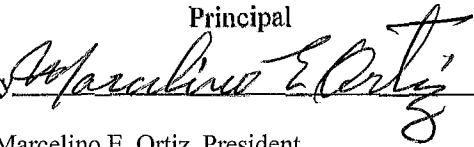
The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

Dated May 25, 2016

Approved as to Form


Ortiz Corporation

Principal

By 
Marcelino E. Ortiz, President

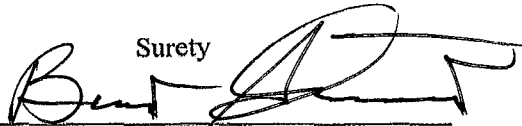
Printed Name of Person Signing for Principal

Jan I. Goldsmith, City Attorney

By 
Deputy City Attorney

International Fidelity Insurance Company

Surety

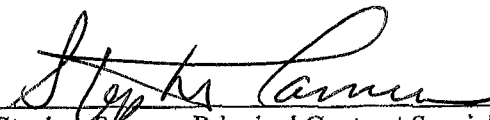
By 

Attorney-in-fact: Bart Stewart

Approved:

2400 E. Katella Ave Ste. 250

Local Address of Surety

By 
Stephen Samara, Principal Contract Specialist
Public Works Department

Anaheim, CA 92806

Local Address (City, State) of Surety

(714) 602-9170

Local Telephone No. of Surety

Premium \$ 29,463.00

Bond No. 0703335

POWER OF ATTORNEY

INTERNATIONAL FIDELITY INSURANCE COMPANY ALLEGHENY CASUALTY COMPANY

ONE NEWARK CENTER, 20TH FLOOR NEWARK, NEW JERSEY 07102-5207

KNOW ALL MEN BY THESE PRESENTS: That **INTERNATIONAL FIDELITY INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of New Jersey, and **ALLEGHENY CASUALTY COMPANY**, a corporation organized and existing under the laws of the State of New Jersey, having their principal office in the City of Newark, New Jersey, do hereby constitute and appoint

MOLLY CASHMAN, BART STEWART

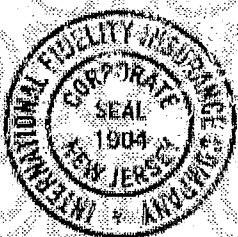
Encinitas, CA.

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said **INTERNATIONAL FIDELITY INSURANCE COMPANY** and **ALLEGHENY CASUALTY COMPANY**, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of **INTERNATIONAL FIDELITY INSURANCE COMPANY** and **ALLEGHENY CASUALTY COMPANY** and is granted under and by authority of the following resolution adopted by the Board of Directors of **INTERNATIONAL FIDELITY INSURANCE COMPANY** at a meeting duly held on the 20th day of July, 2010 and by the Board of Directors of **ALLEGHENY CASUALTY COMPANY** at a meeting duly held on the 15th day of August, 2000:

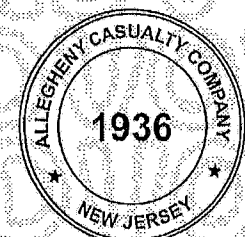
"RESOLVED, that (1) the President, Vice President, Chief Executive Officer or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto; such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, **INTERNATIONAL FIDELITY INSURANCE COMPANY** and **ALLEGHENY CASUALTY COMPANY** have each executed and attested these presents on this 31st day of December, 2015.



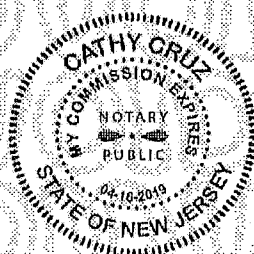
STATE OF NEW JERSEY
County of Essex

ROBERT W. MINSTER
Chief Executive Officer (International Fidelity Insurance Company) and President (Allegheny Casualty Company)



On this 31st day of December 2015, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of **INTERNATIONAL FIDELITY INSURANCE COMPANY** and **ALLEGHENY CASUALTY COMPANY**; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.



A NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 16, 2019

CERTIFICATION

I, the undersigned officer of **INTERNATIONAL FIDELITY INSURANCE COMPANY** and **ALLEGHENY CASUALTY COMPANY** do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand this

25th day of May 2016

MARIA BRANCO, Assistant Secretary

ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

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 }

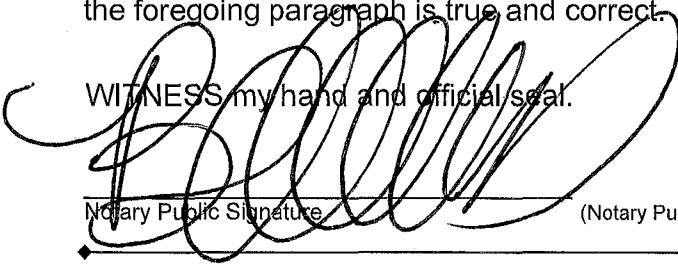
County of San Diego }

On 05/25/2016 before me, Brittany Aceves, Notary Public,
(Here insert name and title of the officer)

personally appeared Bart Stewart
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) (s) 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.




Notary Public Signature _____ (Notary Public Seal)

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

(Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he~~/she/~~they~~, is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** Construction of Sewer and Water Group 701 consists of the installation of 8-inch sewer mains, sewer laterals, replumbs, manholes, and the installation of 8-inch and 12-inch water mains, water services, valves, fire hydrants, and markers, trench resurfacing, pavement resurfacing, sidewalk, curb and gutter, curb ramps and all other work and appurtenances in accordance with the specifications and drawings numbered 37501-01-D through 37501-38-D.
 - 1.1. The Work shall be performed in accordance with:
 - 1.1.1. The Notice Inviting Bids and Plans numbered 37501-01-D through 37501-38-D, inclusive.
2. **LOCATION OF WORK:** The location of the Work is as follows:

See Appendix E for Location Map.
3. **CONTRACT TIME:** The Contract Time for completion of the Work, including the Plant Establishment Period, shall be **297 Working Days**.

ATTACHMENT B
PHASED FUNDING PROVISIONS

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, the next Apparent Low Bidder is to provide the Pre-Award Schedule within 5 Working Days after receiving notice. This process will continue until the City has selects an Awardee or rejects all Bids.
- 1.4.** The first Phased Funding Schedule Agreement must show the fund availability for the first phase. Upon selection of the Awardee and acceptance by the City of the Pre-Award Schedule, the City will present the first Phased Funding Schedule Agreement to you.
- 1.5.** At the City's request, meet with the City's project manager before execution of the first Phased Funding Schedule Agreement to discuss their comments and requests for revision to the Pre-Award Schedule.
- 1.6.** Your failure to perform the any of 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.

PHASED FUNDING SCHEDULE AGREEMENT

Check one:

- First Phased Funding Schedule Agreement
 Final Phased Funding Schedule Agreement

BID NUMBER: K-16-1362-DBB-3

CONTRACT OR TASK TITLE: SEWER & WATER GROUP 701


CONTRACTOR: ORTIZ CORPORATION

Funding Phase	Phase Description	Phase Start	Phase Finish	Not-to-Exceed Amount
1	CONSTRUCTION SERVICES	NTP	8/31/2017	WATER \$751,351.42 SEWER \$3,052,222.70
2	CONSTRUCTION SERVICES	9/1/2017	NOC	SEWER \$538,627.53
Total				\$4,342,201.65

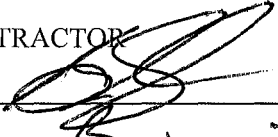
Notes:

- (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: 
 Name: Jong Choi
 Project Manager
 Department Name: Public Works
 Date: 6/2/16

CONTRACTOR

By: 
 Name: Brian Juliana
 Title: Project Manager
 Date: 6/2/16

END OF PHASED FUNDING SCHEDULE AGREEMENT

ATTACHMENT C
EQUAL OPPORTUNITY CONTRACTING PROGRAM

EQUAL OPPORTUNITY CONTRACTING PROGRAM REQUIREMENTS

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
PREVAILING WAGES

1. **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.
 - 1.1. **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.
 - 1.1.1. 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.
 - 1.1.2. 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.
 - 1.2. **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.
 - 1.3. **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.

- 1.3.1.** 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.
- 1.4. 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.
- 1.5. 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.
- 1.6. 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.
- 1.7. 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.”
- 1.8. 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.
- 1.9. 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.

- 1.9.1. 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.

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 **8:30 AM to 3:30 PM.**

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>

2-5.3.2

Working Drawings. To TABLE 2-5.3.2 (A), ADD the following:

Item	Section No.	Title	Subject
17	306-1.6	Water Valve Bypass for Mainlines 16" and Larger	SDW-154*

*Note: The distance dimensions shown between the bypass pipes and mainlines are subject to change to field conditions.

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. Geotechnical Engineering Evaluation Report, Dated March 4, 2016, by Twining, Inc.
5. The report above can be found in Appendix J of this contract.

2-9.1

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

1. Pursuant to Division 3, Chapter 15 of the Business and Professions Code, you 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.
2. Monument Preservation shall be performed by the City's Construction Management and Field Services (CMFS) Division on all Projects, unless permission is obtained for these services in writing by CMFS.
3. You 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. CMFS shall do the following:
 - 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.
 - 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:

Adjacent projects are scheduled for construction during the same time period as Group Job 701. See Appendix "F" for approximate location. Coordinate the Work with the adjacent projects as listed below:

- a) Upas Street Pipeline Replacement Project, Project Manager- Alice Altes (619) 533-4105.
- b) FY14 PCC Panel Group 2, Project Manager- Chris Hudson (619) 527-8081
- c) SDG&E Undergrounding Distribution, Project Manager- Mike Van Zandt (858) 385-0400.

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. Biological Technical Report dated November 7, 2014 by Merkle & Associates, Inc.
6. The report listed above is available in Appendix I.

SECTION 4 - CONTROL OF MATERIALS

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:

14. You shall submit your list of proposed substitutions for an "equal" item **no less than 5 Working Days after determination of Apparent Low Bidder** and on the City's Product Submittal Form available at:

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

4-1.10 Foreign Materials. To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

1. Materials that are manufactured, produced, or fabricated outside of the United States shall be delivered to a distribution point in California, unless otherwise specified. Quality Control and related testing shall be performed to all applicable specified US standards. Manufacturer's testing and staff certification shall be traceable to a United States regulatory agency. Retain the materials for a sufficient period of time to permit inspection, sampling, and testing. You shall not be entitled to an extension of time for acts or events occurring outside of, at point of entry, or during transport to the United States.

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.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

6-1.1 Construction Schedule. To item 20, ADD the following:

The 120 Calendar Day for the Plant Establishment Period is included in the stipulated Contract Time.

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

4. Do not Work in the areas where there is currently a moratorium issued by the City. The areas subject to moratorium are listed here:
 - a) There are no known moratoriums in the proposed work area.

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. You 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 shall be included in the stipulated Contract time for full depth asphalt final mill and resurfacing Work required per SDG-107.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-3

LIABILITY INSURANCE. DELETE in its entirety and SUBSTITUTE with the following:

The insurance provisions herein shall not be construed to limit your indemnity obligations contained in the Contract.

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 shall 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. The payment for insurance shall be included in the Contract Price as bid by you. 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 shall 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.

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 shall 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 shall be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You shall maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense shall be outside the policy limits. Policy coverage shall 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 shall 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 shall be outside the limits of the policy.

7-3.2.3 Contractors Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your 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.

2. All costs of defense shall be outside the limits of the policy. Any such insurance provided by your Subcontractor instead of you shall be approved separately in writing by the City.
3. For approval of a substitution of your Subcontractor's insurance, you shall 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 shall not exceed \$25,000 per claim.
4. Contractual liability shall include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There shall be no endorsement or modification of the coverage limiting the scope of coverage for either "insured vs. insured" claims or contractual liability.
5. Occurrence based policies shall be procured before the Work commences and shall be maintained for the Contract Time. Claims Made policies shall be procured before the Work commences, shall be maintained for the Contract Time, and shall include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work without advancing the retroactive date.
6. Except as provided for under California law, the policy or policies shall 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.

7-3.3 Rating Requirements. Except for the State Compensation Insurance Fund, all insurance required by this Contract as described herein shall 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 shall be subject to all of the requirements for policies of insurance provided by admitted carriers described herein.

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 shall 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.

7-3.5 Policy Endorsements.

7-3.5.1 Commercial General Liability Insurance.

7-3.5.1.1 Additional Insured.

- a) You shall 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 shall 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 shall 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 shall 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 shall 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 shall provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

7-3.5.1.3 Project General Aggregate Limit. The policy or policies shall 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 shall reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit shall 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 shall 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 shall 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 shall 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 are 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 shall 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 shall 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 shall be in excess of your insurance and shall not contribute to it.

- 7-3.5.3.3 Severability of Interest.** For Contractors Pollution Liability Insurance, the policy or policies shall provide that your insurance shall 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 shall provide cross-liability coverage.
- 7-3.6 Deductibles and Self-Insured Retentions.** You shall pay for all deductibles and self-insured retentions. You shall 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 shall 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 shall 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).**
1. For Contracts with required engineering services (e.g., Design-Build, preparation of engineered Traffic Control Plans (TCP), Engineered Shoring Plans, and etc) by you, you shall keep or require all of your employees or Subcontractors, who provide professional engineering services under this contract, Professional Liability coverage with a limit of \$1,000,000 per claim and \$2,000,000 annual aggregate in full force and effect.
 2. You shall ensure the following:
 - a) The policy retroactive date is on or before the date of commencement of the Project.
 - 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.
 3. If professional engineering services are to be provided solely by the Subcontractor, you shall:
 - 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 shall 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 shall 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 requires 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 shall 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 shall 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.

7-10.5.3 **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, Paragraph (4), Sentence (3), 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 shall work with you to inform the public (which includes, but shall not be limited to, property owners, renters, homeowners, business owners, recreational users, and other community members and stakeholders) of construction impacts. Your efforts 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 shall 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.
4. 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 internal public contact tracking system.
5. You shall execute the Information Security Policy (ISP) Acknowledgement Form - For Non-City Employees within 15 Days of the award of the Contract if any of the following apply:
 - a) Your contact information is made available on any outreach materials.
 - b) You will be the primary point of contact to resolve project related inquiries and complaints.
6. Electronic Communication.
 - a) All inquiries and complaints shall be logged in to the City's internal public contact tracking system within 24 hours of receipt of inquiries and complaints.
 - b) Any updates or a resolution of inquiries and complaints shall be documented in the City's internal public contact tracking system within 24 hours.
 - c) Copies of email communications shall be saved individually on to the City's internal public contact tracking system in an Outlook Message Format (*.msg).

- d) All graphics, photos, and other electronic files associated with inquiries and/or complaints shall be saved into the individual records, located within the City's internal public contact tracking system.

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, and 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 internal public contact tracking system 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 internal public contact tracking system 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:

Sheila Bose, Senior Engineer, SBose@sandiego.gov

Nicole Salem, Project Manager, NSalem@sandiego.gov

Resident Engineer, TBA

7-16.2 Community Outreach Services.

7-16.2.1 Public Notice by Contractor.

1. Post Project Identification Signs in accordance with 7-10.6.2, "Project Identification Sign".
2. Notify businesses, institutions, property owners, residents or any other impacted stakeholders, within a minimum 300 feet (90 m) 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, 1¼ inch (31.8 mm) 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 **the 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, uninvited members of the media may **show up** at construction Sites. Members of the media (including, but not **limited** to newspapers, magazines, radios, 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 that 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 visits from members of the media 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.

1. You shall retain an Exclusive Community Liaison for **the Project** whose sole responsibilities shall be to implement 7-16.2, "Community Outreach Services" and the following:
 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 to the City's internal public contact tracking system.
- 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.

- 1. The payment for the community outreach services shall be included in the Contract Price.
- 2. The payment for the exclusive community liaison services shall be included in the Bid item for "Exclusive Community Liaison Services".

7-20 ELECTRONIC COMMUNICATION. ADD the following:

- 1. Virtual Project Manager will be used on this contract.

SECTION 9 - MEASUREMENT AND PAYMENT

9-3.2.5 Withholding of Payment. To the City Supplement, item 1, subsection 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. To the City Supplement, subsection c), item 2, DELETE in its entirety and SUBSTITUTE with the following:

- 2) In the event of an overrun of Contract time, adjustment in compensation for asphalt binder included in estimates during the overrun period shall be determined using the California Statewide Crude Oil Price Index in effect on the first business day of the month within the pay period in which the overrun began.

ADD the following:

- e) 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 207 – PIPE

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

- 8. Flange gaskets shall be 3.2 mm (1/8 inch) 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 shall require full face gaskets.

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

- 1. PVC products, C900 and C905, as manufactured or distributed by J-M Manufacturing Company or JM Eagle shall not be used on the Contract for pressurized pipe unless specified otherwise.

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:

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

ADD:

207-29

FUSIBLE PRESSURE POLYVINYL CHLORIDE PIPE.

207-29.1

General.

1. This subsection specifies fusible polyvinyl chloride pipe for water mains when used for horizontal directional drilling and where shown on the Plans.

207-29.2

Material.

1. Fusible polyvinyl chloride plastic material for pipe shall conform to AWWA C900, AWWA C905, ASTM D2241 or ASTM 1785 for standard dimensions, as applicable. Fusible polyvinyl chloride pipe shall be tested at the extrusion facility for properties required to meet all applicable parameters.
2. Fusible polyvinyl chloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
3. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
4. Fusible polyvinyl chloride pipe shall be manufactured in a standard 40' nominal length or custom lengths as specified and DR 18 minimum unless otherwise shown on the plans.

207-29.2.1

Fusible Polyvinyl Chloride Pressure Pipe for Potable Water.

1. Fusible polyvinyl chloride pipe shall be blue in color for potable water use and shall be marked as follows:
 - a). Nominal pipe size
 - b). PVC
 - c). Dimension Ratio, Standard Dimension Ratio, or Schedule.
 - d). AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable
 - e). AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable
 - f). NSF-61 mark verifying suitability for potable water service
 - g). Extrusion production-record code
 - h). Trademark or trade name
 - i). Cell Classification 12454 and/or PVC material code 1120 may also be included.

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

207-29.3

Quality Assurance.

1. This section contains references to the following documents in the table below. They shall be a part of this section as specified and modified herein.
2. Unless otherwise specified, references to documents shall mean the documents in effect at the time of design, bid, or construction, whichever is earliest. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.
3. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI/AWWA C110/A21.10	American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids
ANSI/AWWA C153/A21.53	AWWA Standard for Ductile-Iron Compact Fittings for Water Service
ANSI/AWWA C111/A21.11	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C605	Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
AWWA C651	Standard for Disinfecting Water Main
AWWA C900	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 12 in. (100mm Through 300mm), for Water Distribution
AWWA C905	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 in. through 48 in. (350mm Through 1200mm), for Water Distribution and Transmission
AWWA M23	AWWA Manual of Supply Practices PVC Pipe—Design and Installation, Second Edition
ASTM D1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2152	Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
ASTM D2241	Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR)
ASTM D2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D3034	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F1057	Standard Practice for Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
UNI-PUB-08	Tapping Guide for PVC Pressure Pipe
NSF-14	Plastics Piping System Components and Related Materials
NSF-61	Drinking Water System Components--Health Effects
PPI TR-2	PVC Range Composition Listing of Qualified Ingredients

207-29.4 Submittals. You shall submit the following product data from the pipe supplier or fusion provider.

207-29.4.1 Pre-Construction Submittals.

1. Name of the pipe manufacturer and a list of the materials to be provided by manufacturer. This shall include:
 - a) Pipe Size
 - b) Dimensionality
 - c) Pressure Class per applicable standard
 - d) Color
 - e) Recommended Minimum Bending Radius
 - f) Recommended Maximum Safe Pull Force
 - g) Fusion technician qualification indicating conformance with this specification
2. Written procedural documentation for piping products including proper handling and storage, installation, tapping, and testing.
3. Couplings to be utilized in the installation.

207-29.4.2 Post-Construction Submittals.

1. The following AS-RECORDED DATA is required from the contractor and/or fusion provider to the owner or pipe supplier upon request:
 - a) Pipe Size and Thickness
 - b) Machine Size
 - c) Fusion Technician Identification
 - d) Job Identification
 - e) Fusion Joint Number
 - f) Fusion, Heating, and Drag Pressure Settings
 - g) Heat Plate Temperature
 - h) Time Stamp
 - i) Heating and Cool Down Time of Fusion
 - j) Ambient Temperature

207-29.5 Warranty.

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

207-29.6 Connections and Fittings for Pressure Applications. The following connections shall be used in conjunction with tie-ins to existing potable water piping as shown on the Plans.

209-8.6.1 Ductile Iron Mechanical and Flange Fittings.

1. Acceptable fittings for use with fusible PVC pipe shall include standard ductile iron fittings conforming to AWWA/ANSI C110/A21.10, or AWWA/ANSI C153/A21.53 and AWWA/ANSI C111/A21.11.
 - a) Connections to fusible PVC pipe may be made using a restrained or non-restrained retainer gland product for PVC pipe as well as for mechanical joints or flanged fittings.
 - b) Bends, tees, and other ductile iron fittings shall be restrained with the use of thrust blocking or other means as indicated on the Plans.
 - c) Ductile iron fittings and glands shall be installed per the manufacturer's guidelines.
 - d) If required, linings for ductile iron fittings shall be the following:
 - i. Liquid Epoxy in accordance with AWWA C210.
 - ii. Polyurethane in accordance with AWWA C222.
 - iii. Fusion-Bonded Epoxy in accordance with AWWA C116.
 - e) If required, coatings for ductile iron fittings shall meet the following requirements for buried and/or immersion service duty:
 - i. Liquid Epoxy in accordance with AWWA C210.
 - ii. Polyurethane in accordance with AWWA C222.
 - iii. Fusion-Bonded Epoxy in accordance with AWWA C116.
 - iv. Wax tape coating in accordance with AWWA C217.

207-29.6.2 PVC Gasketed Push-On Couplings. Acceptable fittings for use with fusible polyvinyl chloride pipe shall include standard PVC pressure fittings conforming to AWWA C900 or AWWA C905.

1. Acceptable fittings for use joining fusible polyvinyl chloride pipe other sections of fusible polyvinyl chloride pipe or other sections of PVC pipe shall include gasketed PVC, push-on type couplings and fittings, including bends, tees, and couplings as shown in the drawings.
2. Bends, tees and other PVC fittings shall be restrained with the use of thrust blocking or other restraint products as indicated in the construction documents.
3. PVC gasketed, push-on fittings and mechanical restraints, if used, must be installed per the manufacturer's guidelines.

207-29.6.3 Fusible Polyvinyl Chloride Sweeps or Bends.

1. Fusible polyvinyl chloride sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe being joined using the sweep or bend.
2. Fusible polyvinyl chloride sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least 2 feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation. There shall be no gasketed connections utilized with a fusible polyvinyl chloride sweep.
3. Standard fusible polyvinyl chloride sweep or bend angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4 inch through 16 inch.

207-29.6.4 Sleeve -Type Coupling.

1. Sleeve-type mechanical couplings shall be manufactured for use with PVC pressure pipe, and may be restrained or unrestrained as indicated in the construction documents.
2. Sleeve-type couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.
3. Acceptable sleeve-type mechanical pipe couplings shall be any of those listed on the Water Approved Materials List or approved equal.

207-29.6.5 Expansion and Flexible Coupling.

1. Expansion-type mechanical couplings shall be manufactured for use with PVC pipe, and may be restrained or unrestrained as indicated in the construction documents.
2. Expansion-type mechanical couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

207-29.6.6 Connection Hardware. Bolts and nuts for buried service shall be made of non-corrosive, high-strength, low-alloy steel having the characteristics specified in ANSI/AWWA C111/A21.11, regardless of any other protective coating.

207-29.7 Handling and Storage.

1. The pipe shall be handled, stored, and stacked per the manufacturer's and supplier's recommendations, stored at ambient temperatures, and shall be protected from ultraviolet light degradation.
2. Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the Work. Damaged areas or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by Engineer.
3. Any scratch or gouge greater than 10% of the wall thickness shall be considered significant and shall be rejected unless determined otherwise by Engineer.
4. Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch, or otherwise abrade the piping in any way.

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

207-29.7.1 Delivery and Off Loading.

1. All pipes shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the Site. Any pipe damaged in shipment shall be replaced as directed by Engineer.
2. Inspect each pipe shipment prior to unloading to see if the load has shifted or otherwise been damaged. Notify the Engineer immediately if more than immaterial damage is found. Check for quantity and proper pipe size, color, and type.
3. Pipe shall be loaded, off-loaded, and otherwise handled in accordance with AWWA M23 and all of the pipe supplier's guidelines.
4. Off-loading devices such as chains, wire ropes, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.
5. During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.

5. During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.
6. If appropriate unloading of equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to ensure that the pipe is not dropped or damaged. Pipe should be carefully lowered and not dropped from trucks.

SECTION 209 – STREET LIGHTING AND TRAFFIC SIGNAL MATERIALS

209-6.4 Induction Cobra Head Luminaire. To the City Supplement, CORRECT 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

212-1.2.4 Organic Soil Amendment. ADD the following:

Type 4 organic soil amendment (compost) shall be derived from Green Material (yard waste and/or food waste) that is composted in accordance with California Code of Regulations, Title 14, Chapter 3 Article 7, 17868.3 (15 Day Process to Further Reduce Pathogens and kill weed and other seeds). Incorporated into the soil, compost improves soil texture; increases both nutrient and water holding capacity; and reduces the need for commercial fertilizer. Where applicable, Organic Soil Amendment can qualify as a component of LEED certification.

Type 4 organic soil amendment must come from a compost facility that tests its compost on a quarterly basis and meets the requirements listed in Table 212-1.2.4(B). Contractor shall provide a copy of the most recent quarterly test results, and a current representative sample of the compost to be used on the project, to the City, prior to approval and the compost being used.

The City of San Diego’s Miramar Greenery produces Type 4 organic soil amendment (compost) and complies with the U.S. Composting Council’s Seal of Testing Assurance Program. The Miramar Greenery is located within the City’s Miramar Landfill at State Hwy. 52 and Convoy St. in San Diego.

<http://www.sandiego.gov/environmental-services/miramar/greenery/>

Table 212-1.2.4 (B)

Test Criteria	Acceptable Range	Unit of Measure	TMCC Test Method
pH	6.0 - 8.0		04.11-A 1:5 Slurry pH
Soluble salts	0 - 10	dS/m (mmhos/cm)	04.10-A 1:5 Slurry Method
Organic Matter	30 - 75%	% dry weight basis	05.07-A Loss-on-ignition Organic Matter Method (LOI)
Stability	≤ 8	mg CO ₂ /g OM/day	05.08-B carbon Dioxide Evolution Rate
Maturity	> 80% emergence	average % of control	05.05-A Germination and vigor
Pathogens			
Fecal coliform	Pass	Pass/Fail per U.S. EPA Class A standard, 40CFR 503.32(a)	07.01-B Fecal coliforms
Salmonella	Pass	Pass/Fail per U.S. EPA Class A standard, 40CFR 503.32(a)	07.02 Salmonella
Heavy Metal	Pass	Pass/Fail per U.S. EPA Class A standard, 40CFR 503.13(a) Tables 1 and 3.	04.06-Heavy Metals standards, and Hazardous Elements.
Particle Size	≥ 90%	% dry weight passing through 11mm	02.02-B Sample Sieving for Aggregate Size Classification

ADD:

212-3.2.2.3 Trench Marker Tape. To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

1. Trench marker tape shall be installed in accordance with Standard Drawing SDM-105, "Warning/Identification Tape Installation".

ADD:

215-1.1 Manufacturer. To the City Supplement ADD the following:

All pumps shall include a minimum 2 year manufacturer's warranty.

SECTION 300 – EARTHWORK

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

2. Payment for existing pavement removal and disposal of up to 12 inches thick, within the excavation e.g., trench limits, shall be included in the Bid item for the installation of the mains or the Work item that requires pavement removal.

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.

302-3.1

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 concrete 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.

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".

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-5.10.2 Payment. To the City Supplement, ADD the following:

- 3 Payment for the relocation of street sign disturbed by the construction of curb ramp shall be included in the bid item for street sign relocation
- 4 Payment for the relocation of pull box disturbed by the construction of curb ramp shall be included in the bid item for pull box relocation
- 5 Payment for the replacement of existing storm drain inlet grate with ADA compliant grate shall be included in the bid item for ADA compliant storm drain inlet grate replacement.

SECTION 306 – UNDERGROUND CONDUIT CONSTRUCTION

306-1 OPEN TRENCH OPERATIONS. To the City Supplement, CORRECT section numbering as follows:

OLD SECTION NUMBER	TITLE	NEW SECTION NUMBER
306-1.8	House Connection Sewer (Laterals) and Cleanouts	306-1.9

OLD SECTION NUMBER	TITLE	NEW SECTION NUMBER
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:

1. Phase I: W Palm Street between India Street and Union Street
2. Phase II: Columbia Street between W. Palm Street and Quince Street
3. Phase III: Union Street between W. Redwood Street and W. Palm Street

306-1.4.5 Water Pressure Test. To the City Supplement, Paragraph (2), DELETE in its entirety and SUBSTITUTE with:

2. 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

306-1.6 Basis of Payment for Open Trench Installations. To the City Supplement, ADD the following:

8. The payment for imported backfill when you elect to import material from a source outside the project limits and when authorized by the Engineer shall be included in the Bid item for "Imported Backfill". The price shall include the removal and disposal of unsuitable materials.

306-1.8.3 Polyurethane Lining. To the City Supplement, item 5, DELETE in its entirety.

306-1.9.2.5 Payment. To the City Supplement, ADD the following:

- c) Installation of backwater devices for replumbings when specified on the plans shall be included in the unit bid price for the replumbing work.

306-1.9.2.7 Payment. To the City Supplement, item c, DELETE in its entirety and SUBSTITUTE with the following:

- c) The payment for the 3 year contractor's extended warranty and the manufacturer's inspection, including the certification of the inspection, shall be included in the bid item for "Private Pump Extended Warranty (3 Year)".

306-20.8 Carrier Pipe. To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

Carrier pipe materials shall be approved by the Engineer. The Contractor shall use only HDPE. The Contractor shall furnish and install a structurally sound, leak-proof, fusible high density polyethelene pipe, for all piping identified for installation by horizontal directional drilling. The Contractor shall be responsible for the sizing of the carrier pipe to withstand all installation forces, curvature, and residual forces and final in place loading. The selected material shall have an inside diameter no less than stated on the drawings. Individual pipe lengths shall be assembled by butt-fusion unless otherwise specified.

SECTION 308 – LANDSCAPE AND IRRIGATION INSTALLATION

308-7 GUARANTEE. To the City Supplement, DELETE in its entirety.

308-7 PAYMENT. ADD the following:

1. Work related to tree maintenance shall be included in the Bid items as follows:
 - Tree Trimming (EA)
 - Root Pruning (EA)
 - Root Barrier (EA)

308-8 PAYMENT. To the City Supplement, DELETE in its entirety.

ADD:

SECTION 312 - PIPE FUSION FOR WATER MAINS

312-1 FUSION TECHNICIAN REQUIREMENTS.

1. Fusible Pressure PVC Pipe shall be butt-fused by qualified fusion technicians, as certified by the pipe supplier. Training records for qualified fusion technicians shall be available to the Engineer upon request. The fusion technician shall be fully qualified by the pipe supplier to install fusible Pressure PVC pipe of the type(s) and size(s) being used.

FUSION PROCESS.

1. Fusible pipe shall be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with these specifications and pipe supplier's recommendations.
2. Fusible PVC pipe shall be butt-fused by qualified fusion technicians, as certified by the pipe supplier.
3. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine.
4. The fusible pipe shall be installed without exceeding the recommended bending radius.
5. Where fusible pipe is installed by pulling in tension, the recommended safe pulling force, according to the pipe supplier, shall not be exceeded.
6. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process.
7. Fusion machines shall incorporate the following properties and elements:
 - a) **HEAT PLATE** – Heat plates shall be in good condition with no deep gouges or scratches within the pipe circle being fused. Plates shall be clean and free of any contamination. Heater controls shall properly function and cords and plugs shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused per the pipe supplier's recommendations.
 - b) **CARRIAGE** – Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.
 - c) **GENERAL MACHINE** – Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.
 - d) **DATALOGGER** – The current version of the pipe supplier's recommended and compatible software shall be used. Protective cases shall be utilized for the hand held wireless portion of the unit. Datalogger operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110 V power source shall be available to extend battery life.
8. Other equipment specifically required for the fusion process shall include the following:

- a) Pipe rollers shall be used for support of pipe to either side of the machine.
 - b) A weather protection canopy that allows full machine motion of the heat plate, fusion assembly, and carriage shall be provided for fusion in inclement and /or windy weather.
 - c) An infrared (IR) pyrometer for checking pipe and heat plate temperatures.
 - d) Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.
 - e) Facing blades specifically designed for cutting fusible PVC pipe.
9. Each fusion joint shall be recorded and logged by an electronic monitoring device (Datalogger) connected to the fusion machine. The fusion data logging and joint report shall be generated by software developed specifically for the fusion of fusible PVC pipe. The software shall include fusible HDPE pipe based dimensional data and fusible PVC pipe based interfacial pressure relationships. Data not logged by the Datalogger shall be logged manually and be included in the Fusion Technician's joint report.

312-3

FUSION JOINTS.

- 1. Unless otherwise specified, fusible pressure PVC pipe lengths shall be assembled in the field with butt-fused joints. You shall follow the pipe supplier's written instructions for this procedure. Joint strength shall be equal to the pipe as demonstrated by testing requirements. Fusion joints shall be completed as described in these specifications.
- 2. All external beads shall be removed prior to installation in accordance with the manufacturer's recommendation. The final pipe surfaces shall be smooth after bead removal. Internal beads need not be removed. Joints shall be made available for inspection by the Engineer before insertion.
- 3. PVC gasketed and push-on fittings and retainer glands shall be installed per the manufacturer's recommendations.

312-4

PIPE INSTALLATION.

- 1. The pipe, including the ends and joints, shall be protected against damage. Any pipe damaged during installation shall be replaced by you. Pipe shall be fused prior to insertion. Replacement pipe with gashes, nicks, abrasions, or any such physical damage which may have occurred during storage or handling shall not be used and shall be removed from the Site. You shall exercise care in handling the pipe and shall not drag the pipe on pavement.
- 2. During installation, comply with the following:
 - 1. Installation guidelines from the pipe supplier shall be followed for all installations.
 - 2. The fusible PVC pipe shall be installed in a manner so as not to exceed the recommended bending radius.

3. Where fusible PVC pipe is installed by pulling in tension, the recommended safe pulling force established by the pipe supplier shall not be exceeded.

312-5

PIPE PULL-BACK AND INSERTION.

1. You shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not over-deflect, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.
2. The pipe entry area shall be graded if needed to provide support for the pipe and to allow free movement into the bore hole. The pipe shall be guided into the bore hole to avoid deformation of or damage to the pipe.
3. The fusible pipe may be continuously or partially supported on rollers or other Engineer approved friction decreasing implement during joining and insertion, if the pipe is not over-stressed or critically abraded prior to or during installation.
4. Buoyancy modification shall be at your sole discretion and shall not exceed the pipe supplier's recommendations. Damage caused by buoyancy modifications shall be your responsibility.
5. Once pull-back operations have commenced, the operation shall continue without interruption until the pipe is completely pulled through the bore hole. Except for drill rod removal, pull-back operations shall not cease until the pipe has been completely installed to final position. During the pull-back operations, excessive pull-back force shall be reported to the Engineer.

312-6

PREPARATION PRIOR TO CONNECTIONS TO EXISTING PIPE SYSTEM.

1. Approximate locations of existing piping systems are shown on the Plans. Prior to making connections into existing piping systems, you shall:
 - a) Field verify locations, sizes, piping materials, and piping systems of the existing pipe.
 - b) Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown on the Plans.
 - c) Have installed all temporary pumps and/or pipes.
2. Unless otherwise approved, new piping systems shall be completely installed and successfully tested prior to making connections into existing pipe systems.

312-7

PIPE SYSTEM CONNECTIONS.

1. Pipe connections shall be installed per the applicable standards (207-29.3, Quality Assurance) and regulations as well as per the connection manufacturer's guidelines and as indicated on the Plans. Pipe connections to structures shall be installed per applicable standards and regulations as well as per the connection manufacturer's guidelines.

312-8**TAPPING FOR POTABLE AND NON-POTABLE WATER.**

1. Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or sleeves. Direct tapping shall not be permitted. Tapping shall be performed in accordance with the applicable sections for saddle tapping per Uni-Pub-8.
2. All connections requiring a larger diameter than that recommended by the pipe supplier shall be made with a pipe connection as specified and indicated on the Drawings.
3. Equipment used for tapping shall be made specifically for tapping PVC pipe.
 - a) Tapping bits shall be slotted "shell" style cutters specifically made for PVC pipe. "Hole saws" made for cutting wood, steel, ductile iron, or other materials shall be strictly prohibited.
 - b) Manually operated or power operated drilling machines may be used.
 - c) Taps may be performed while the pipeline is filled with water and under pressure (wet tap) or when the pipeline is not filled with water and not under pressure (dry tap).

312-9**HYDROSTATIC TEST FOR PRESSURE PIPE.**

1. Testing shall comply with 306-1.4.5, "Water Pressure Test" and all applicable jurisdictional building codes, statutes, standards, regulations, and laws.
 1. Hydrostatic and leakage testing for piping systems that contain mechanical jointing as well as fused PVC jointing shall comply with AWWA C605.
 2. A simultaneous hydrostatic and leakage test following installation with a pressure equal to 150% of the working pressure at point of test but not less than 100% of the normal working pressure at highest elevation shall be applied, unless otherwise approved by the engineer. The duration of the pressure test shall be for 2 hours.
 3. If hydrostatic testing and leakage testing are performed at separate times, follow procedures as outlined in AWWA C605.
 4. In preparation for pressure testing, the following parameters shall be followed:
 - a) All air shall be vented from the pipeline prior to pressurization. This may be accomplished with the use of the air relief valves or corporation stop valves, vent piping in the testing hardware or end caps, or any other method which adequately allows air to escape the pipeline at all high points. Venting may also be accomplished by "flushing" the pipeline in accordance with the parameters and procedures as described in AWWA C605.

312-10**DISINFECTION OF THE POTABLE WATER PIPE.**

1. After installation and after passing all required testing, the pipeline shall be disinfected prior to being put into service.

2. Unless otherwise directed by the Engineer, the pipeline shall be disinfected in accordance with 306-1.4.7, "Disinfection and Testing" and in accordance with AWWA C651.

312-11 GROUND MONITORING.

1. See 306-20.9, "Ground Monitoring".

312-12 PAYMENT.

1. The payment for pipe fusion Work shall be included in the linear foot Bid item for Water Main (Trenchless).
2. The payment for water service connections associated with fusible pressure PVC Pipe shall be included in the Work of the Water Main (Trenchless).

SECTION 500 – PIPELINE

500-1.1.1 General. To the City Supplement, item 1, subsection 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 of the Bid opening date, the three apparent low bidders shall submit the following:

- a) Contractor's Experience; past project documentation
- b) Manufacturer Certification
- c) 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).

500-1.6.3**Installation Procedures (ASTM F1216 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.
- e) 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.
- f) 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.
- g) 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.
- h) 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.
- i) 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.
- j) 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.
- k) 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.

- l) 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.
- m) 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 you shall correct the situation as approved by the Engineer.

500-1.6.5 **Acceptance.** Upon completion, you 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 if 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 Rehabilitation with Cleanout up to 7 Feet in Depth
Service Lateral Rehabilitation 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 inches. 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, you 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, you 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. You 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 Sealing 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 sealing into the lateral pipe. The inversion pressure shall be adjusted to fully invert the SLC sealing 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, the recommended pressure shall be 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 sealing has been exposed to the UV light or heat source or held in place for the time period specified by the manufacturer.
- e) You shall cool the hardened SLC sealing 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 final video 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 your expense in a manner mutually agreed upon by the manufacturer, City, and you.
- h) After the Work is completed, you shall provide the City with a video recording showing the completed Work including the restored conditions.

500-4.8

Clean-Up. Upon acceptance of the installation Work, you 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.

SECTION 700 – EXTENDED REVEGETATION, MAINTENANCE, AND MONITORING

700-1.7.2 Project Biologist. To the City Supplement, ADD the following:

The City will retain a qualified Project Biologist to perform biological monitoring work for this contract. You shall coordinate your activities and Schedule with the activities and schedules of the Project Biologist.

SECTION 703 – ENCOUNTERING OR RELEASING HAZARDOUS SUBSTANCES

703-20 PAYMENT. To the City Supplement, item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. The 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. Monitoring, Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazardous Waste (TON).
 - c. Loading, Transportation, and Disposal of soils containing RCRA Hazardous Waste (TON).
 - d. Monitoring of Petroleum Contaminated Soil (HR).
 - e. Testing, Sampling, Site Storage and Handling of Petroleum Contaminated Soil (TON).
 - f. Loading, Transportation, and Disposal of Petroleum Contaminated Soil (TON).
 - g. Monitoring, Testing, Sampling Site Storage and Handling of Soils Containing Non-RCRA Hazardous Waste (TON).
 - h. Loading, Transportation, and Disposal of Soils Containing Non-RCRA Hazardous Waste (TON).
 - i. Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Containerized RCRA Hazardous Waste (55 Gal DRUMS).
 - j. Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Containerized Non-RCRA Hazardous Waste (55 Gal DRUMS).
 - k. Testing, Sampling, Site Storage, Handling, Transportation and Recycling/Disposal of Universal Waste (EACH).

- l. Testing, Sampling, Site Storage, Handling, Transportation and Recycling/Disposal of Regulated Waste (TON).
- m. Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of RCRA Hazardous Waste contamination from the treatment of contaminated ground water (GAL).
- n. Testing, Sampling, Site Storage, Handling, Transportation, and Disposal of Non-RCRA Hazardous Waste contamination from the treatment of contaminated ground water (GAL).

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 an **Addendum to Mitigated Negative Declaration No. 255100 for Sewer and Water Group 701, Project No. 380583**, as referenced in the Contract **Appendix “A”**. You must comply with all requirements of the Addendum 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)

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

ADDENDUM TO MITIGATED NEGATIVE DECLARATION NO. 255100

WATER AND SEWER GROUP JOB 701 PROJECT
ADDENDUM TO MITIGATED NEGATIVE DECLARATION NO. 255100
(Project No. 380583)
AND
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

ADOPTED ON August 6, 2015

WHEREAS, on July 17, 2014, The City of San Diego Public Works Department submitted an application to the Development Services Department for a Public Project Assessment for the Water and Sewer Group Job 701 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 August 6, 2015; and

WHEREAS, the Deputy Director of the Development Services Department as designated by the City Manager considered the issues discussed in Addendum to Mitigated Negative Declaration No. 255100 (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 Subsequent Action 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: August 6, 2015

ATTACHMENT: Exhibit A: Mitigation Monitoring and Reporting Program

EXHIBIT A

MITIGATION MONITORING AND REPORTING PROGRAM SEWER AND WATER GROUP JOB 701 PROJECT PROJECT NO. 380583

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 (CSVSR). The CSVSR'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 CSV 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.

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.

APPENDIX B

FIRE HYDRANT METER PROGRAM

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 1 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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.)

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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 2 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

- 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.

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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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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 4 OF 10	EFFECTIVE DATE October 15, 2002
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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 Hydrant Meter (EXHIBIT A)

(For Office Use Only)

METER SHOP (619) 527-7449

NS REQ	FAC#
DATE	BY

Meter Information

Application Date	Requested Install Date:
------------------	-------------------------

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) Zip:	T.B.	G.B. (CITY USE)
Specific Use of Water:		
Any Return to Sewer or Storm Drain, if so, explain:		
Estimated Duration of Meter Use:		<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			

Fire Hydrant Meter Removal Request	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: \$ 936.00	Fees Amount: \$ 62.00
Meter Serial #	Meter Size: 05	Meter Make and Style: 6-7
Backflow #	Backflow Size:	Backflow 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

City of San Diego, Field Engineering Div., 9485 Aero Drive, SD CA 92123		Contractor's Name:	
Project Name:		Contractor's Address:	
Work Order No or Job Order No.			
City Purchase Order No.		Contractor's Phone #:	Invoice No.
Resident Engineer (RE):		Contractor's fax #:	Invoice Date:
RE Phone#:	Fax#:	Contact Name:	Billing Period: (to

Item #	Item Description	Contract Authorization				Previous Totals To Date		This Estimate		Totals to Date	
		Unit	Price	Qty	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount
1					\$ -		\$ -		\$ -	0.00%	\$ -
2					\$ -		\$ -		\$ -	0.00%	\$ -
3					\$ -		\$ -		\$ -	0.00%	\$ -
4					\$ -		\$ -		\$ -	0.00%	\$ -
5					\$ -		\$ -		\$ -	0.00%	\$ -
6					\$ -		\$ -		\$ -	0.00%	\$ -
7					\$ -		\$ -		\$ -	0.00%	\$ -
8					\$ -		\$ -		\$ -	0.00%	\$ -
9					\$ -		\$ -		\$ -	0.00%	\$ -
10					\$ -		\$ -		\$ -	0.00%	\$ -
11					\$ -		\$ -		\$ -	0.00%	\$ -
12					\$ -		\$ -		\$ -	0.00%	\$ -
13					\$ -		\$ -		\$ -	0.00%	\$ -
14					\$ -		\$ -		\$ -	0.00%	\$ -
15					\$ -		\$ -		\$ -	0.00%	\$ -
16					\$ -		\$ -		\$ -	0.00%	\$ -
17	Field Orders				\$ -		\$ -		\$ -	0.00%	\$ -
18					\$ -		\$ -		\$ -	0.00%	\$ -
	CHANGE ORDER No.				\$ -		\$ -		\$ -	0.00%	\$ -
					\$ -		\$ -		\$ -	0.00%	\$ -
					\$ -		\$ -		\$ -	0.00%	\$ -
Total Authorized Amount (including approved Change Order)					\$ -		\$ -		\$ -	Total Billed	\$ -

SUMMARY

A. Original Contract Amount	\$ -
B. Approved Change Order #00 Thru #00	\$ -
C. Total Authorized Amount (A+B)	\$ -
D. Total Billed to Date	\$ -
E. Less Total Retention (5% of D)	\$ -
F. Less Total Previous Payments	\$ -
G. Payment Due Less Retention	\$0.00
H. Remaining Authorized Amount	\$0.00

I certify that the materials
have been received by me in
the quality and quantity specified

Resident Engineer

Construction Engineer

Retention and/or Escrow Payment Schedule

Total Retention Required as of this billing (Item E)	\$0.00
Previous Retention Withheld in PO or in Escrow	\$0.00
Add'l Amt to Withhold in PO/Transfer in Escrow:	\$0.00
Amt to Release to Contractor from PO/Escrow:	

Contractor Signature and Date: _____

APPENDIX E
LOCATION MAP

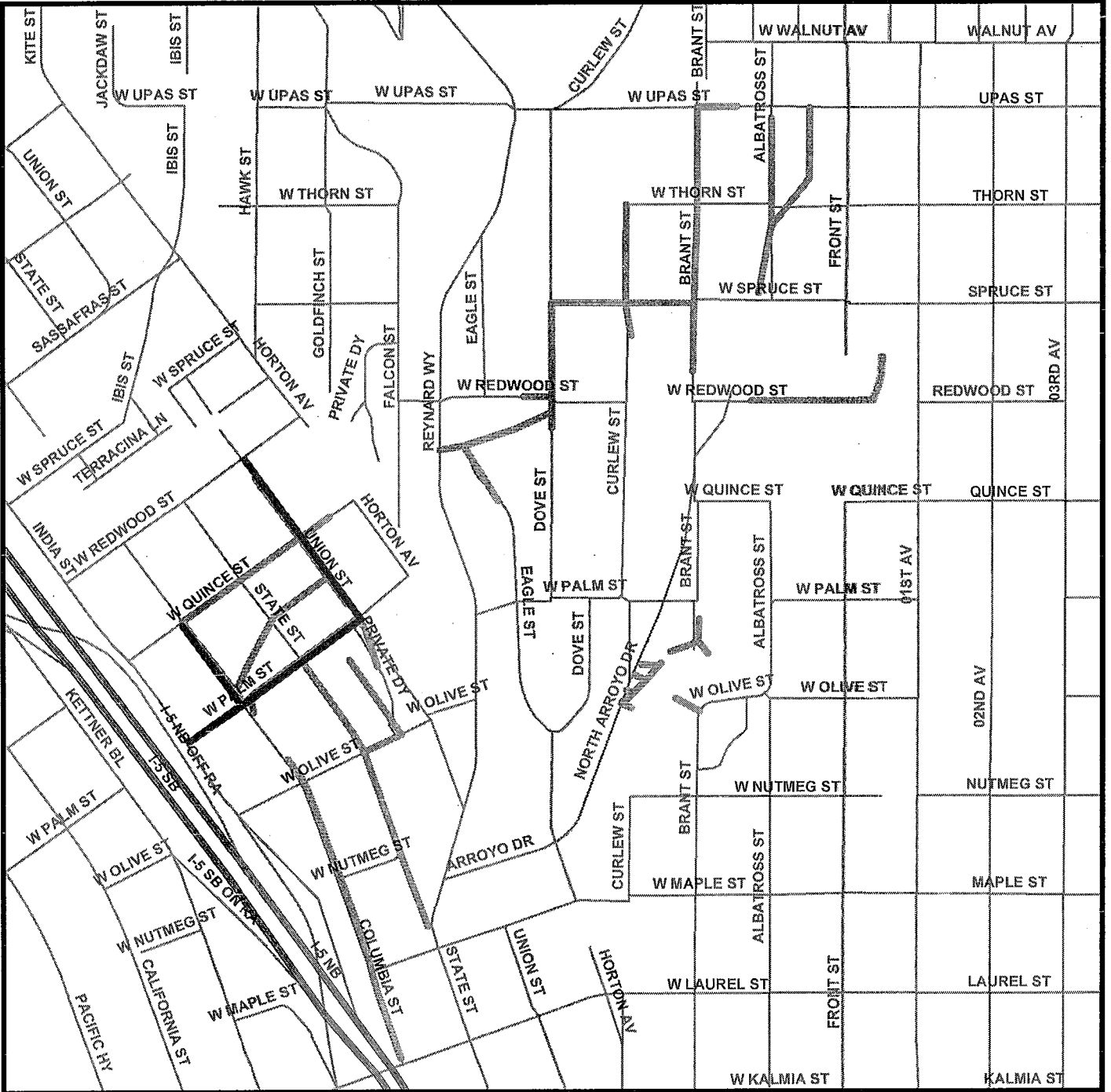
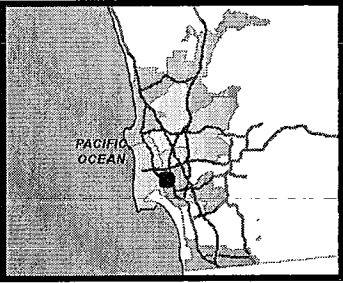
SEWER & WATER GROUP JOB 701

SENIOR ENGINEER
SHEILA BOSE
(619) 533-4698

PROJECT MANAGER
MERYL JIMENEZ
(619) 235-1977

PROJECT ENGINEER
NCIOLE MARIE SALEM
(619) 533-5235

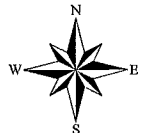
CONSTRUCTION PROJECT
INFORMATION LINE
(619) 533-4207



Legend

- WATER
- SEWER

0 0.0475 0.095 0.19 Miles



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APPENDIX F
ADJACENT PROJECTS

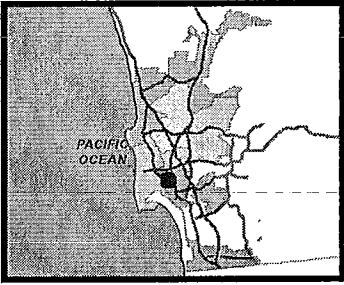
ADJACENT PROJECTS SEWER & WATER GROUP JOB 701

SENIOR ENGINEER
SHEILA BOSE
(619) 533-4698

PROJECT MANAGER
MERYL JIMENEZ
(619) 235-1977

PROJECT ENGINEER
NCIOLE MARIE SALEM
(619) 533-5235

CONSTRUCTION PROJECT
INFORMATION LINE
(619) 533-4207



Legend

- Proposed Water
- Proposed Sewer
- GS Streets - Overlay
- GS Streets - Slurry

0 0.0475 0.095 0.19 Miles



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APPENDIX G
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 H
SAMPLE 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

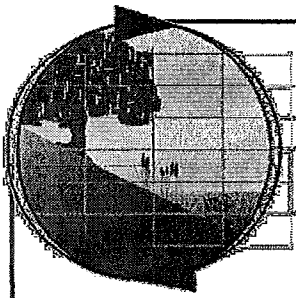
Visit: sandiego.gov/CIP



This information is available in alternative formats upon request.



APPENDIX I
BIOLOGICAL TECHNICAL REPORT



Merkel & Associates, Inc.

5434 Ruffin Road, San Diego, CA 92123

Tel: 858/560-5465 • Fax: 858/560-7779

e-mail: associates@merkelinc.com

November 7, 2014

M&A #09-088-42

Ms. Carrie Purcell
Engineering and Capital Projects Department
City of San Diego
600 B Street, Suite 800, MS 908A
San Diego, CA 9101-4501

Biological Technical Report
Sewer and Water Group 701 Spruce Canyon (Task No. 42, GJ 701) Project
Located in the City of San Diego (#WBS B-00452.02.02)

Dear Ms. Purcell,

Merkel & Associates, Inc. has prepared the following biological technical report for the City of San Diego, Engineering and Capital Projects Department. If you have any questions concerning this biological technical report, please do not hesitate to contact me at (858) 560-5465 or mtamburro@merkelinc.com.

Sincerely,

Mary Tamburro
Associate Biologist

Keith W. Merkel
Principal Consultant

INTRODUCTION

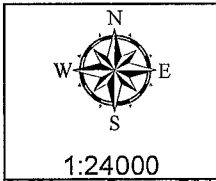
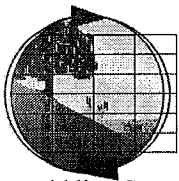
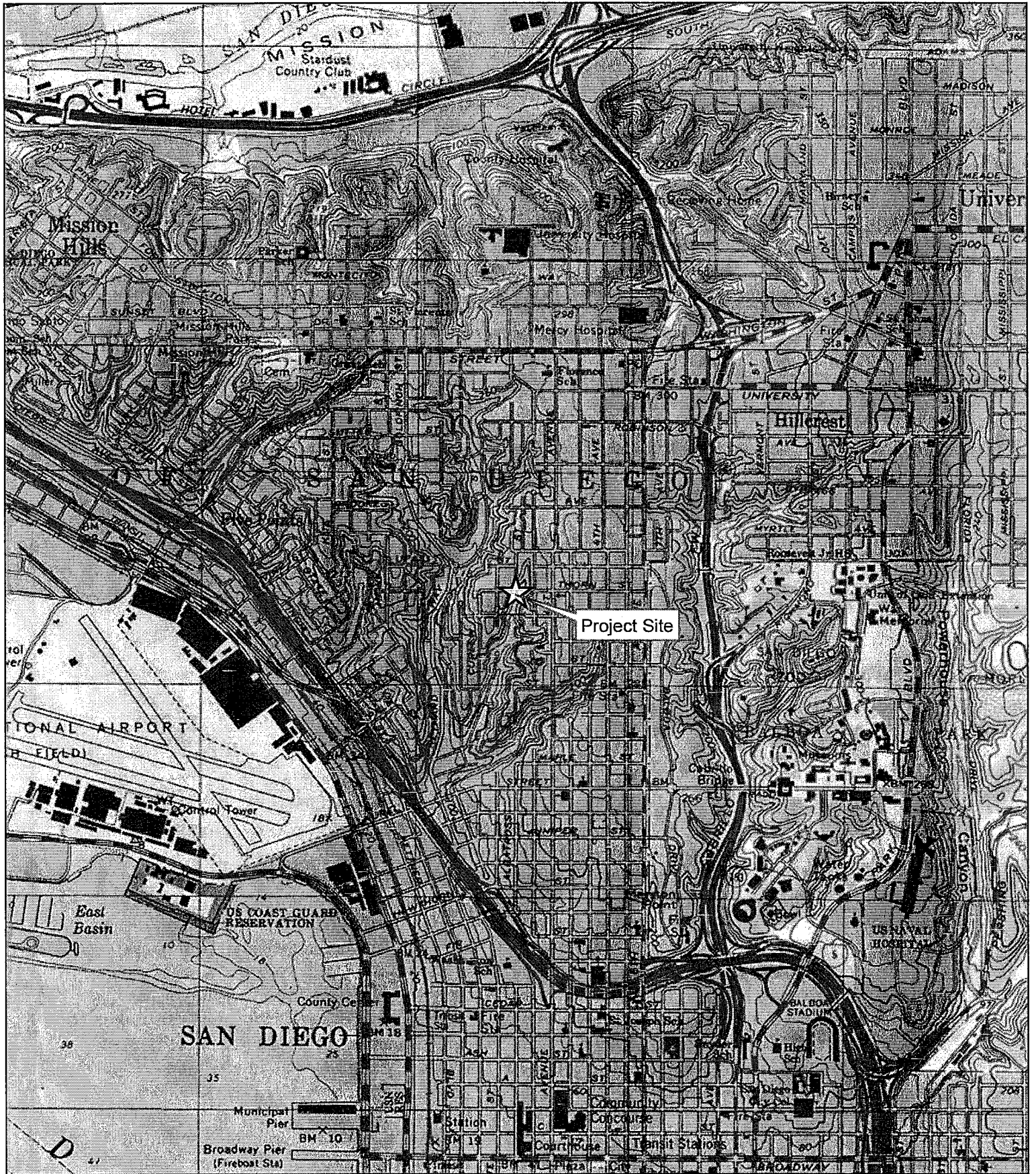
Merkel & Associates, Inc. (M&A) has prepared this biological survey letter report, written in accordance with the current City of San Diego (City) Biology Guidelines for Conducting Biological Surveys (2012a), for the proposed Sewer and Water Group 701 Spruce Canyon (Task No. 42, GJ 701) Project (Project). The purpose of this report is to document the existing biological conditions within the project study area; identify potential impacts to biological resources that could result from implementation of the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts pursuant to the California Environmental Quality Act (CEQA) and applicable federal, state, and local regulations and guidelines, including the City's Multiple Species Conservation Program (MSCP) Subarea Plan (1997), Biology Guidelines (2012a), Environmentally Sensitive Land Regulations (2012b), and Significance Determination Thresholds (2012a).

The project site is located in Council District 2, within the Uptown community and can be found on the Point Loma USGS 7.5-minute quadrangle map in unsectioned lands within Township 16S, Range 3W (Figure 1). The overall Sewer and Water Group 701 Project throughout the Uptown community will consist of replacement of existing water mains with 8-inch mains and sewer installation of up to approximately 11,450 linear feet of eight-inch sewer mains. This report addresses only the proposed sewer improvement work within Spruce Canyon, a small portion of the larger overall project. The proposed work within Spruce Canyon is located on City owned land, road right of ways, open space designated land, and private property along the bottom of the canyon. The proposed project site is not located within or adjacent to the City's Multiple Species Conservation Program Multi- Habitat Planning Area (MHPA).

The undated construction plans (37501-D), which are at 60% design completion, show the alignment and profiles of the proposed sewer improvements. Pipe bursting and pipeline abandonment will be used in Spruce Canyon.

Pipe bursting through the manholes in the canyon will require launching and or receiving pits, approximately 10-foot wide by 20-foot long temporary impact areas, at Manholes (MH) 49, 50, 52, and 53. A new MH (51) will be installed between MH 50 and MH 52, resulting in a 10-foot wide by 20-foot long temporary impact area at that location. A small portion of pipeline will be abandoned in place and two manhole covers will be removed, resulting in minimum surface and subsurface disturbance. Abandonment of sewer main and manhole will follow Section 306-5 of the City's Greenbook and Whitebook where the sewer will be monitored for 48 hours to ensure zero flow. Upon confirmation the sewer will be filled completely with Controlled Low Strength Material or sand to include up to one foot from the top of the manhole with the ring and cover being removed. Only hand tools and foot access are proposed for the abandonment activities to avoid and/or minimize any vegetation impacts. Vehicle access exists from MH 48 to MH 49 via a mulched access road under the eucalyptus canopy at the end of North Arroyo Drive and an existing footpath extends from MH 49 to MH 53. Access to MH 51 and 52 is via Albatross Street and access to the pipeline and MHs to be abandoned is via 1st Street. All staging for this project will take place within the mulched vehicular access road at the end of North Arroyo Drive.

Construction will only occur outside of the general avian breeding season (which runs from January 15 through September 15, annually). Within 90 days of the completion of construction, the project will revegetate exposed graded, disturbed and eroded soils within the project area. This project will implement best management practices required in Sections 7-10.7.2, 700-1.2-4, and 701-13.9.1 of the City's White Book: <http://www.sandiego.gov/publicworks/pdf/whitebook120627.pdf>.



Project Vicinity Map
 Sewer and Water Group 701 Spruce Canyon
 (Task No. 42, GJ 701) Project
 Source: USGS 7.5' Point Loma, CA Quadrangle

Figure 1

METHODS AND SURVEY LIMITATIONS

LITERATURE AND DATA REVIEW

Historical and currently available biological literature and data pertaining to the study area were reviewed prior to initiation of the field investigation. This review included examination of: 1) aerial photography for the project site (Bing Maps 2012, Microsoft Corporation); 2) regional vegetation data for the project vicinity (SanGIS 2010); 3) geological substrates and soil types mapped on the project site (SanGIS 2003 and 2002, respectively); and 4) California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) and U.S. Fish and Wildlife Service (USFWS) special status species records for the project vicinity (CDFW 2014 and USFWS 2014a, respectively).

SURVEY DATES, TIMES, AND CONDITIONS

M&A biologists conducted a general biological survey and jurisdictional wetland delineation within the project study area (Table 1). The study area included a buffer area of approximately 100 feet beyond all proposed project elements.

Table 1. Summary of Survey Dates, Times, Conditions, and Staff

Date	Time	Weather Conditions ¹	Biologist	Survey
July 23, 2014	0932-1350	Weather: 5%-0% cc Wind: 0-2BS Temperature: 78°F-82°F	Mary C. Tamburro & Brandon L. Stidum	General Biological Survey & Jurisdictional Wetland Delineation

¹ cc = cloud cover; mph = miles per hour; F = Fahrenheit

GENERAL BIOLOGICAL SURVEY

Existing vegetation types were delineated onto a 1" = 100' scale, color aerial photograph (Air Photo USA, 2007). The vegetation types were classified according to the Holland (1986) code classification system as modified by Oberbauer (2008) and were mapped in accordance with the City's current biological resource mapping requirements (2012). A list of detectable flora and fauna species were recorded in a field notebook. Plant identifications were either resolved in the field or later determined through verification of voucher specimens, and wildlife species were determined through direct observation (aided by binoculars), identification of songs, call notes and alarm calls, or by detection of sign (e.g., burrows, tracks, scat, etc.). In addition, directed searches for sensitive species with a potential to occur onsite were conducted within the study area, and any other potential occurrences were assessed in the field based on the existing biological conditions. A raptor nesting survey was also conducted to determine the presence and location of any active nests of raptor species. Photographs of the project study area were taken to record the biological resources present, and data collected from the survey were digitized into current Geographical Information System (GIS) Environmental Systems Research Institute (ESRI) software platforms.

The scientific and common names utilized for the floral and faunal resources were noted according to the following scientific nomenclature: flora, Rebman and Simpson (2006); butterflies, Klein/San Diego Natural History Museum (2002); amphibians and reptiles, Crother et al. (2001 and 2003); birds, American Ornithologists' Union (1998 and 2010); and mammals, San Diego Natural History

Museum (undated), which uses Wilson and Reeder (2005) for species names and Hall (1981) for subspecies.

DELINEATION OF JURISDICTIONAL WETLANDS AND OTHER WATERS

M&A conducted a delineation of jurisdictional wetlands and waters within the proposed project study area. The delineation was conducted for the project site using the routine onsite determination methods noted in the U.S. Army Corps of Engineers' (ACOE) *Wetland Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008), hereafter referred to as the "Arid West Supplement". The delineation included non-wetland federally regulated waters as well as waters of the state.

Evidence supporting jurisdictional determinations was recorded on field data forms and depicted in photographs of the data points. Wetland habitats and jurisdictional waterways were recorded using a Thales Mobile Mapper hand-held Global Positioning System (GPS) unit with real-time submeter accuracy and plotted onto a 1" = 200' scale, color aerial map (Air Photo USA, 2007) of the project site, with waterway widths noted to provide true jurisdictional dimensions. Data collected from the delineation were digitized into current GIS ESRI software platforms. Information on the overall delineation process and regulatory jurisdictions may be found in the Arid West Supplement, as well as federal, state, and local enacting legislation, or through guidance provided by judicial interpretation, solicitors opinions, and regulatory guidance issued to jurisdictional agencies.

Wetland Parameters

Prior to conducting the delineation, the project site was evaluated to identify potential jurisdictional wetlands and/or waterways on the project site, and their connection to off-site hydrological resources. In addition, the overall landforms, slopes, soils, and climatic/hydrological conditions present on the project site were assessed. Data points were then taken in areas that were visually determined to best represent the characteristics of each potential wetland community type and/or jurisdictional resource identified on the project site, as well as in areas where the presence of a wetland and/or jurisdictional resource was uncertain. The ACOE routine on-site determination methods require the presence of three parameters to define an area as a wetland (e.g., hydrophytic vegetation, hydric soils, and wetland hydrology). At each data point location, the area was first assessed to determine if normal environmental conditions were present. Some wetland indicators of one or more of the parameters can be periodically lacking due to normal seasonal or annual variations in environmental conditions (i.e., problem areas) or effects of recent human activities or natural events (i.e., atypical situations). Each data point was then evaluated for indicators of each of the wetland parameters.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as "the community of macrophytes that occurs in areas where inundation and soil saturation is either permanent, or of sufficient frequency and duration to exert a controlling influence on the plant species present" (ACOE 2008, Section 2). For the purposes of this delineation, five levels of wetland indicator status were used to assess the presence of hydrophytic vegetation, based on the most current *National Lists of Plant Species that Occur in Wetlands* (USFWS 1988): species classified as 1) obligate wetland plants (OBL) [plants that occur almost always (estimated probability >99%) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1%) in non-wetlands]; 2) facultative wetland plants (FACW) [plants that occur usually (estimated probability >67% to 99%) in wetlands, but also occur (estimated

probability 1% to 33%) in non-wetlands]; 3) facultative plants (FAC) [plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands]; 4) facultative upland plants (FACU) [plants that occur sometimes (estimated probability 1% to <33%) in wetlands, but occur more often (estimated probability >67% to 99%) in non-wetlands]; and 5) obligate upland plants [plants that occur rarely (estimated probability <1%) in wetlands, but occur almost always (estimated probability >99%) in non-wetlands under natural conditions] (Environmental Laboratory 1987, Table 1). Hydrophytic vegetation was determined to be present if any one of the following three indicator tests were satisfied, as generally applied in the following sequence: 1) the Dominance Test (Indicator 1), where “more than 50% of the dominant plant species across all strata were rated OBL, FACW, or FAC”; 2) the Prevalence Test (Indicator 2), where there were indicators of hydric soils and wetland hydrology present, and the prevalence index was 3.0 or less, which is a weighted-average wetland indicator status of all plant species by abundance (percent cover); and/or 3) the Plant Morphological Adaptations Test (Indicator 3), where there were indicators of hydric soils and wetland hydrology present, and either the Dominance Test (Indicator 1) or Prevalence Test (Indicator 2) were satisfied after reconsideration of the indicator status of certain plant species that exhibited morphological adaptations for life in wetlands.

Hydric Soils

Hydric soils are defined as “a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part” (ACOE 2008, Section 3). For the purposes of this delineation, the hydric soil indicators described in the Arid West Supplement and *National Technical Committee for Hydric Soils (NTCHS) Field Indicators of Hydric Soils in the United States* (USDA NRCS 2006) were used to assess the presence of hydric soils. Soil test pits were dug to the depth needed to document the soil chroma index using the Munsell® Soil Color Charts (Munsell® Color 2000), as well as additional hydric soil indicators. The soil was determined to be hydric if one or more hydric soil indicators were present.

Wetland Hydrology

Wetland hydrology is indicated by the presence of surficial or sub-surficial hydrologic characteristics long enough during the growing season to show that the presence of water has an overriding influence on the characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively; thus, for an area to be defined as a wetland, periodic inundation or saturation of soils during the growing season must be determined to be present (ACOE 2008, Section 4). For the purposes of this delineation, the wetland hydrology indicators described in the Arid West Supplement were used to assess the presence of wetland hydrology. Wetland hydrology was determined to be present if one or more primary indicators, or two or more secondary indicators were observed.

Jurisdiction of Wetlands and Waterways

The extent of jurisdictional boundaries was determined according to the ACOE, CDFW, Regional Water Quality Control Board(s) (RWQCB) [under the State Water Resources Control Board (SWRCB)], and City of San Diego definitions of wetlands, navigable waters, and non-wetland waters of the U.S./streambed (NWW). The following text describes each agency’s jurisdiction.

U.S. Army Corps of Engineers

The ACOE has regulatory authority to issue permits for 1) the discharge of dredged or fill material in “waters of the U.S.” under section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344), and 2) work and placement of structures in “navigable waters of the U.S.” under sections 9 and 10 of the Rivers and Harbors Act (RHA) (33 U.S.C 401).

The term “navigable waters of the U.S.” is defined in 33 CFR Part 328.4 as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.”

The term “waters of the U.S.” is defined in 33 CFR Part 328.3(a) as:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- (2) All interstate waters and wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams, (including intermittent streams), mudflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;
- (4) All impoundments of waters otherwise defined as waters of the U.S. under the definition;
- (5) Tributaries of waters identified in (a) (1) through (4) of this section;
- (6) The territorial seas;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section; and
- (8) Waters of the U.S. do not include prior converted cropland.

“Wetlands” are defined in 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Thus, all three parameters (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to classify an area as an ACOE jurisdictional wetland under normal circumstances.

The limits of jurisdiction in non-tidal waters of the U.S. [33 CFR 328.4(c)] extend to the limits of the wetlands or adjacent wetlands. Non-tidal waters of the U.S. that lack one or two of the wetland parameters may still be jurisdictional under the ACOE as non-wetland waters of the U.S. In the absence of wetlands or adjacent wetlands, the limits of jurisdiction in non-tidal waters of the U.S. extend to the ordinary high water mark (OHWM), which is defined in 33 CFR 328.3(e) as, “that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

The regulatory purview of the USACOE under Section 404 of the CWA has been restricted in recent years by rulings of the U.S. Supreme Court. These have included principal rulings under *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers et al.* (2001) and the 2006 ruling in *Rapanos v. U.S.* and *Carabell v. U.S.* (hereafter referred to as *Rapanos*). Under the

2006 court ruling in *Rapanos* addressing the jurisdictional scope of “waters of the U.S.”, addressing the jurisdictional scope of “waters of the U.S.”, no single opinion commanding a majority of the Court was issued. As a consequence, the U.S. Environmental Protection Agency (USEPA) and USACOE subsequently issued a joint memorandum addressing guidance on determining jurisdiction of “waters of the U.S.”

The memorandum, intended to address rulings in *SWANCC* and *Rapanos*, states that the agencies will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to, but which do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in, and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream TNWs; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

Key to the application of this guidance is a formalized oversight process involving both the USACOE and the EPA in the adoption of an Approved Jurisdictional Determination (AJD). The intent of this formal process is to ensure consistency in the manner in which the agencies interpret the rulings and guidance at all levels. To institute the program by which jurisdictional determinations are made, the USACOE issued RGL 08-02 on the subject of Jurisdictional Determinations (EPA and ACOE 2008). Of importance in this guidance is the distinction between an applicant’s request for a Preliminary Jurisdictional Determination (PJD) or an AJD. If a PJD is requested from the USACOE, the determination will be inclusive of all features that have historically been regulated by the USACOE under Section 404 of the CWA and Sections 9 and 10 of the Rivers and Harbors Act (i.e., pre-*SWANCC* and *Rapanos*). The PJD excludes exempted jurisdictional waters, but not those excluded by court ruling interpretations. The AJD provides a more thorough evaluation of issues of isolation, adjacency, and significant nexus as contemplated by the courts and excludes those areas

from USACOE regulation that fail to meet the necessary litmus tests of the court decision and the agencies' implementation guidance.

California Department of Fish and Wildlife

Under section 1602 of the California Fish and Game Code, the CDFW has regulatory authority over any proposed activity that may substantially modify a river, stream, or lake. The CDFW regulates alterations of lakes or streambeds through the development of a Streambed Alteration Agreement (Agreement) under the Lake and Streambed Alteration Program (LSA). Unlike the ACOE process, the Agreement is not a discretionary permit, but rather an Agreement developed between an applicant and the CDFW. This Agreement may include conditions of mitigation, impact reduction, or avoidance measures. These measures are subject to acceptance by the applicant or may be countered with alternative measures. If an Agreement cannot be reached between the CDFW and applicant, an arbitration process exists.

The breath of jurisdiction under the CDFW differs from the ACOE in that a "streambed" is not limited to the OHWM, but rather encompasses the entire width of the streambed, from bank to bank, regardless of the water level. CDFW regulatory authority under section 1602 of the Fish and Game Code extends not only to the bed and bank of streams or lakes, but also to "adjacent riparian habitats" that are supported by a river, stream, or lake, regardless of the riparian area's federal wetland status. For practical purposes of defining "adjacent riparian habitats", these habitats include the extent of the canopy for stream-associated vegetation that is rooted within, and dependent on the jurisdictional streambeds, as well as all adjacent hydrophytic vegetation. In some instances, small disjunctions between the stream course and adjacent riparian stands may occur where prior disturbance has occurred to fragment the riparian corridor. Adjacent riparian habitat does not include isolated trees or groves, or other wetland vegetation types in absence of proximate streambeds or lakes. Section 1602 does not extend to isolated wetlands and waters such as small ponds not located on a drainage, wet meadows, vernal pools, or tenajas.

State Water Resource Control Board/Regional Water Quality Control Board

For waters of the State that are federally regulated under the CWA, the SWRCB [through its RWQCBs] must provide state water quality certification pursuant to section 401 of the CWA for activities requiring a federal permit or license, which may result in discharge of pollutants into waters of the U.S. Where no federal jurisdiction exists over waters of the State, the SWRCB (through its RWQCBs) retains regulatory authority to protect water quality through provisions of the Porter-Cologne Water Quality Control Act.

Waters of the State include both surface and groundwater, and are not restricted by geographic features. Like other state definitions, the SWRCB defines waters of the state as having any of the features of hydrophytic vegetation, hydric soils, or wetland hydrology. Impacts to waters of the State are regulated through either the CWA section 401 water quality certification process or through the issuance of waste discharge requirements (WDRs) by either the SWRCB or the appropriate RWQCB.

City of San Diego

The City regulates wetlands, considered sensitive biological resources under the Environmentally Sensitive Lands Regulations (ESL), San Diego Land Development Code, Chapter 14, Division 1, Section 143.0101 *et seq.*, and the Open Space Residential (OR-1-2) Zone, SDLDC, Chapter 13, Division 2, Section 131.0201 *et seq.* These guidelines are the baseline biological standards for

processing Neighborhood Development Permits, Site Development Permits, and Coastal Development Permits issued pursuant to the ESL.

The City defines wetlands in the San Diego Land Development Code, Chapter 11, Article 3, Division 1, Section 113.0103 *et seq.* (amended 2012), as areas characterized by any of the following conditions:

1. All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;
2. Areas that have hydric soils or wetland hydrology, and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events, or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats;
3. Areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands; or
4. Areas mapped as wetlands on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).

Furthermore, according to the ESL, seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages), but do not support wetland dependent vegetation, would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or is lacking due to past human activities.

The City's intention for the above definitions are to "differentiate for the purposes of delineating wetlands, between naturally occurring wetlands and wetlands intentionally created by human actions from areas with wetland characteristics unintentionally resulting from human activities in historically non-wetland areas. With the exception of wetlands created for the purpose of providing wetland habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating wetland characteristics, which are artificially created, are not considered wetlands by this definition" (San Diego Municipal Code Section 113.0103).

Wetland Functions and Values

Based on the wetland delineation, wetland functions and values were visually assessed for any wetlands identified onsite. Wetland functions can be defined as the physical, chemical, and biological characteristics of a wetland. The physical and chemical functions and values of a wetland are determined based on the wetland width, slope, substrate, hydrology characteristics, and habitat type/floral constituents. These functions and values typically include groundwater recharge, flood flow alteration, streambed stabilization, sediment/toxicant retention, nutrient transformation, and production export. The biological functions and values of a wetland typically include wildlife habitat (i.e., breeding, foraging) and cover.

GENERAL SURVEY LIMITATIONS

Biological inventories are generally subject to various survey limitations. Depending on the season and time of day during which field surveys are conducted, some species may not be detected due to temporal species variability. The biological surveys conducted for this project were performed during daylight hours in summer, thus, some potential wintering species or nocturnal species may not

have been detected; however, based on the literature review performed, as well as knowledge of species-specific habitat requirements, it is anticipated that any additional species potentially present on the project site can be fairly accurately predicted, and that the surveys conducted were sufficient in obtaining a thorough review of the biological resources present on the project site.

SURVEY RESULTS

PHYSICAL CHARACTERISTICS

The project site is located along the bottom of Spruce Canyon in a residential area of the Uptown community between Interstate-5 and State Route 163 and approximately 2 miles south of San Diego River/Mission Valley area (Figure 1). Spruce Canyon is situated in a north-south direction and consists of relatively flat canyon floor with gently sloping to steep slopes of non-native vegetation leading to the surrounding urban development on all sides. An unnamed drainage occurs along the bottom of the canyon with three smaller tributaries along the canyon slopes feeding into it, two from the east and one from the west. The main drainage is assumed to drain into a culvert within private property in the community south of the canyon which likely drains into San Diego Bay further downstream.

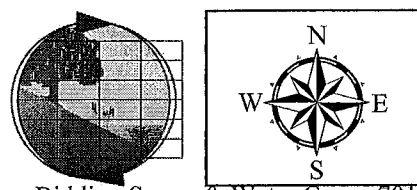
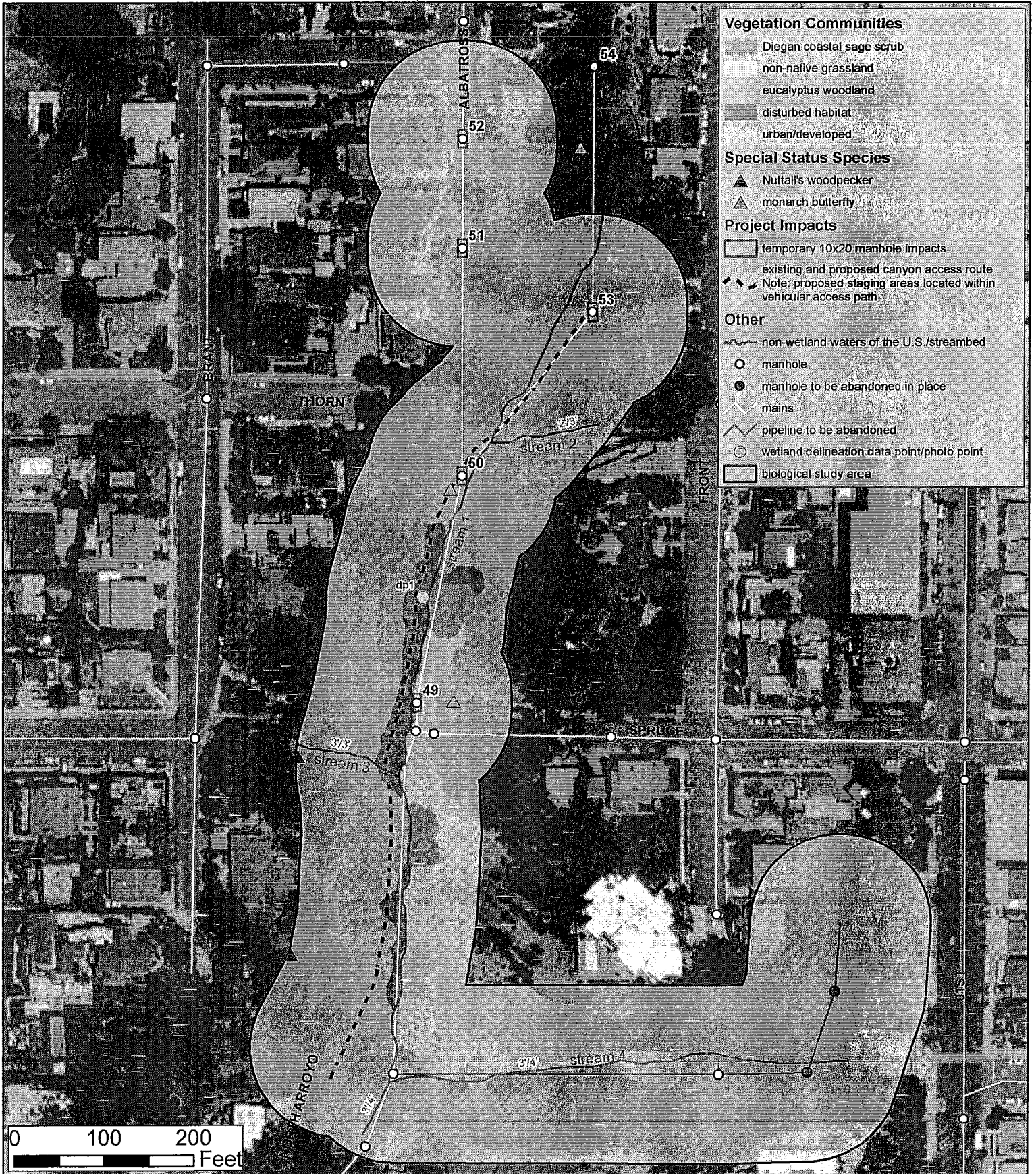
The elevation ranges within the project study area from approximately 256 feet above mean sea level (MSL) at the top of the canyon within the residential backyards to 138 feet above MSL at the bottom of the canyon. The soils within the project study area are mapped as Gaviota fine sandy loam with 30 to 50 percent slopes (SanGIS 2002). The regional climate is characterized as temperate, semi-arid Mediterranean, with hot, dry temperatures in the late summer/early autumn and cooler, wet winters. Most of the annual precipitation falls between December and March, with annual rainfall levels totaling approximately 9–13 inches (USDA-NRCS 2006).

The project site is not located within or adjacent to the City's MSCP Multi-Habitat Planning Area (MHPA). The project site is not located within federally designated critical habitat for any listed species (USFWS 2013b).

BIOLOGICAL RESOURCES

Botanical Resources-Flora

Five vegetation types were identified within the project study area during the biological survey conducted by M&A on July 23, 2014 (Figure 2; Table 2). The project study area consists of an approximately 100-foot mapping buffer from the proposed project alignment(s). These identified vegetation types are considered upland habitats (i.e., City MSCP Tier II, IIIB, and IV).



Biological Resources Map
 Sewer and Water Group 701 Spruce Canyon
 (Task No. 42, GJ 701) Project

Figure 2

Table 2. Habitats/Vegetation Communities within Project Study Area

Vegetation Type	Holland/ Oberbauer Code	MSCP Wetland/Upland Tier Habitat Type	Total Area (acres)
Diegan Coastal Sage Scrub	32500	Upland, Tier II	0.1
Non-native Grassland	42200	Upland, Tier IIIB	1.1
Eucalyptus Woodland	79100	Upland, Tier IV	5.7
Disturbed Habitat	11300	Upland, Tier IV	0.3
Urban/Developed Land	12000	Upland, Tier IV	2.3
Total:			9.5

A description of each habitat type is summarized below and a complete list of the floral species observed on the project site during the biological survey has been included with this report in Appendix 1.

Diegan Coastal Sage Scrub

Three relatively small fragments of the study area were identified as Diegan coastal sage scrub. These areas are surrounded by non-native vegetation and adjacent to the main drainage onsite. This habitat is moderately disturbed due to the close proximity to residential development and the non-native species composition. Although small, these areas appear to be a remnant of larger historic Diegan coastal sage scrub elements with non-native vegetation encroaching from all sides. This habitat is composed almost entirely of lemonadeberry (*Rhus intergrifolia*), with laurel sumac (*Malosma laurina*) and a single acacia (*Acacia* sp.) also being present within one of the fragments.

The Diegan coastal sage scrub onsite is presumed to support low wildlife value due to the low diversity of native species composition, encroachment of non-native habitat on all sides, small size, and fragmented distribution within this urban canyon. California towhee (*Melospiza crissalis*), western scrub-jay (*Aphelocoma californica*), and bushtit (*Psaltriparus minimus*) are common bird species typically found in coastal sage scrub that were observed in this habitat during the recent biological survey. It should be noted that while Diegan coastal sage scrub habitat is considered suitable nesting habitat for the federally-listed threatened coastal California gnatcatcher (*Poliophtila californica californica*), the relatively small and disjunct habitat patches within the study area are without connectivity to larger areas of sage scrub habitat and therefore gnatcatcher are not expected to occur in this canyon. Mammals that may potentially occur in this habitat and canyon include common and urban tolerant species such as striped skunk (*Mephitis mephitis holzneri*), and coyote (*Canis latrans clepticus*). Potential common reptiles present in this habitat include the western fence lizard (*Sceloporus occidentalis*) and the San Diego alligator lizard (*Elgaria multicarinata webii*).

Non-native Grassland

An area of non-native grassland habitat occurs on the eastern slope and portions of the canyon bottom (Figure 2). This habitat is dominated by non-native species such as ripgut brome (*Bromus diandrus*) and Russian thistle (*Salsola tragus*) with wild oats (*Avena* sp.), crystalline iceplant (*Mesembryanthemum crystallinum*), and other weedy species being present during the recent biological survey. Due to the limited size and non-native composition, this habitat is expected to have a low habitat value. Common avian species such as black phoebe (*Sayornis nigricans*) and sign of the common mammal valley pocket gopher (*Thomomys bottae*) were detected.

Eucalyptus Woodland

The majority of the study area is composed of eucalyptus woodland habitat (Figure 2). This habitat is dominated by several eucalyptus species (*Eucalyptus* sp.) with exotic ornamental and fruit trees such as Canary Island palm (*Phoenix canariensis*), mission olive (*Olea europea*), mulberry (*Morus* sp.) and several other species being present. It should be noted that the canopy has a closed structure only within the northern and eastern extents of the study area but most of the canopy is very open. There is a sparse understory throughout comprised mostly of non-native grasses, other annuals and ornamental shrubs such as jade (*Crassula ovata*) and the occasional native laurel sumac or lemonadeberry. Due to the non-native composition and extremely open nature of the canopy, this habitat is expected to have a lower habitat value than most woodland habitats. Additionally, the trees within this habitat are not expected to provide potential raptor nesting habitat predominately due to the lack of structure/canopy found in typical raptor nest trees. No nests were detected during the general biological survey. Common avian species such as the western scrub-jay and pacific slope flycatcher (*Empidonax difficilis*) were seen utilizing this habitat.

Disturbed Habitat

There is a mulched access road and walking path that follows the main drainage along the bottom of the canyon. This area was mapped as disturbed habitat. Occasional weedy annuals, such as rigput brome and Russian thistle were detected within these areas.

Urban/Developed

Portions of the project area where homes or paved streets are present were mapped as urban/developed. These areas are restricted to the upper edges of the canyon.

ZOOLOGICAL RESOURCES-FAUNA

A total of 33 faunal species were observed and/or detected within the proposed project study area during the M&A 2014 biological survey. The majority of these species are common and widespread species that typically occur within upland and urban habitats; however, two sensitive fauna were also detected and/or observed and are further discussed below. A complete list of fauna species observed by M&A during the surveys is provided in Appendix 2.

RARE, THREATENED, ENDANGERED, ENDEMIC AND/OR SENSITIVE OR MSCP-COVERED SPECIES

Sensitive species are those considered sensitive by the City or any state or federal agency. For the purposes of this report, species listed as endangered or threatened under the federal Endangered Species Act (ESA) and California Endangered Species Act (CESA); species designated as California Special Concern species or Fully Protected species by the CDFW; and species listed as MSCP narrow endemics by the City (1997) are considered “sensitive”. Species considered rare by the California Native Plant Society (CNPS) (2011) or as Special Plants or Animals in the CNDDB (2011a and b), may be considered “sensitive” if they meet the CEQA Guidelines §15380 (Title 14, Chapter 3, Article 20) definition for “endangered, rare or threatened species”.

Sensitive Flora

No sensitive floral species were identified within the project study area during the biological survey. No focused rare plant surveys were conducted onsite. No City narrow endemics were identified onsite or have at least a moderate potential to occur within the project study area predominately due to the lack of suitable habitat and/or soils. Similarly, no other sensitive plant species have at least a

moderate potential to occur within the project study area predominately due to a lack of suitable habitat, soils, and/or conditions.

Appendix 3 provides an evaluation of the potential for sensitive floral species to occur within the study area based on historical records, suitable habitat, soils, topography, and/or elevation.

Sensitive Fauna

Two sensitive fauna species were observed during the M&A biological survey conducted onsite: Nuttall's woodpecker (*Picoides nuttallii*) (CNDDDB Special Animal) and monarch butterfly (CNDDDB Special Animal, County of San Diego Group 2 species) (Figure 2). Two Nuttall's woodpeckers were observed foraging within the project study area during the recent biological survey. A limited amount of nesting habitat for this species occurs onsite. Several monarch butterflies were seen flying about the study area and surrounding canyon. No milkweed, the host plant for the monarch, was detected within the study area.

No other potential sensitive faunal species are expected to have at least a moderate potential to occur within the project site. As discussed earlier, although a few patches of Diegan coastal sage scrub occurs in the project area, there is no suitable habitat for coastal California gnatcatcher in the project canyon and thus gnatcatcher is not expected to occur onsite.

Appendix 3 provides a complete listing of the sensitive wildlife species identified during the biological surveys or evaluated for the potential to occur onsite primarily based on suitable habitat.

JURISDICTIONAL WETLANDS AND NON-WETLAND RESOURCES

No wetlands were identified within the biological study area. Onsite jurisdictional resources consist of four non-wetland waters of the U.S./streambed considered jurisdictional under ACOE, RWQCB, and CDFW (Figure 2). A determination of potential ACOE jurisdiction is established by a significant nexus of wetlands or other waters to traditional navigable waters (TNW). Discussions pertaining to these resources' hydrophytic vegetation, soils, hydrology, jurisdictional assessments, and wetland buffers are provided below. Evidence supporting jurisdictional assessments is provided on wetland field data forms and depicted in photographs of the data points (Appendices 4 and 5, respectively).

Non-wetland Waters of the U.S./Streambed

Drainages that possessed the physical characteristics of a streambed, with a discernible bed and bank and evidence of supporting wetland hydrology but lacking hydrophytic vegetation and/or hydric soils were mapped as non-wetland waters of the U.S./streambed, when such waters possessed a significant nexus to a TNW. Four potential non-wetland waters of the U.S./Streambed (herein referred to as "streams") were identified within the Project study area (Figure 2). These streams are discussed below.

Stream 1

Stream 1 is the main ephemeral stream running in a north south direction along the bottom of Spruce canyon, throughout the Project study area. The majority of the stream is an eroding cobble and debris-lined channel that runs along the relatively flat bottom of the canyon beneath the eucalyptus canopy. Note the majority of the trees are rooted outside of the stream.

The OHWM of this drainage is an average of 3 feet with a top of bank average width of 4 feet for the majority of the stream within the study area. As the drainage continues south, the channel depth increases slightly where it disappears into private property south of the project area and is presumed to flow via culvert into the San Diego Bay, a TNW.

Due to this presumed connection to a TNW, Stream 1 would likely be jurisdictional waters under ACOE and would likely be regulated by the RWQCB for water quality with jurisdiction limited to the OHWM. The CDFW would also likely assert its jurisdictional authority to regulate the bed and bank of this feature. The City of San Diego would not likely take jurisdiction over this stream since it lacks wetland vegetation.

Stream 2

Stream 2 is a smaller ephemeral tributary that drains in an east-west direction into Stream 1. It is a steep narrow channel that presumably only flows associated with rain events and conveys runoff into the main stream that carries water through the bottom of the canyon.

The OHWM of this drainage is an average of 2 feet and the top of bank average width of 3 feet for the entire length of the drainage.

Due to this connection to Stream 1 which has a presumed connection to a TNW, Stream 2 would likely be jurisdictional waters under ACOE and would likely be regulated by the RWQCB for water quality with jurisdiction up the OHWM. The CDFW would also likely assert its jurisdictional authority to regulate the bed and bank of this feature. The City of San Diego would not likely take jurisdiction over this stream since it lacks wetland vegetation.

Stream 3

Stream 3, is a small ephemeral tributary that originates in a 1-foot cement culvert on the west wall of Spruce canyon and drains in a west-east direction into Stream 1. It is a steep eroded channel that only flows associated with rain events and conveys runoff into the main stream that carries water through the bottom of the canyon.

The OHWM and the top of bank of this drainage average 3 feet for the entire length of the drainage.

Due to this connection to Stream 1 which has a presumed connection to a TNW, Stream 3 would likely be jurisdictional waters under ACOE and would likely be regulated by the RWQCB for water quality with jurisdiction up the OHWM. The CDFW would also likely assert its jurisdictional authority to regulate the bed and bank of this feature. The City of San Diego would not likely take jurisdiction over this stream since it lacks wetland vegetation.

Stream 4

Stream 4 is another small ephemeral tributary that originates in the residential development, most likely from street runoff, above the canyon and drains in an east-west direction into Stream 1. It is a steep, narrow, incised channel that only flows associated with rain events and conveys runoff into the main stream that carries water through the bottom of the canyon.

The OHWM of this drainage is an average of 3 feet and the top of bank average width of 4 feet for the entire length of Stream 4.

Due to this connection to Stream 1, which has a presumed connection to a TNW, Stream 4 would likely be jurisdictional waters under ACOE and would likely be regulated by the RWQCB for water quality with jurisdiction up the OHWM. The CDFW would also likely assert its jurisdictional authority to regulate the bed and bank of this feature. The City of San Diego would not likely take jurisdiction over this stream since it lacks wetland vegetation.

Table 3. Summary of Jurisdictional Resources Present within the Project Study Area

Jurisdictional Resources	Total Acreage Onsite	ACOE/CDFW/RWQCB	RWQB/CDFW
Non-wetland water of the U.S./streambed	0.17	0.13	0.04

WILDLIFE CORRIDORS

Spruce Canyon is an isolated urban canyon that offers no direct connectivity to other large contiguous open habitats. The drainage system along the bottom of the canyon is directed downstream through large culverts under a large residential development and presumably drains into San Diego Bay to the south. Due to the lack of connectivity to large core open space/natural areas, Spruce Canyon is not expected to provide a regional linkage for maintaining population viability and preserving biological diversity for a wide range of wildlife including large mammals with large home ranges (e.g., mountain lion, mule deer); thus, Spruce Canyon is not expected to function as a regional wildlife corridor.

Spruce Canyon likely acts as a local wildlife corridor due to its proximity to other urban canyons; however, there is no direct connection with these other canyons. Spruce Canyon topography and wildlife habitat provides coverage, foraging and breeding opportunities to a variety of common species and to a lesser extent sensitive bird and butterfly species. Spruce Canyon and the unnamed stream along the bottom of the canyon likely facilitates wildlife movement for native and migratory wildlife species within the canyon, provides potential native wildlife nursery sites, and may act as a stepping stone corridor for avian species.

PROJECT IMPACT ANALYSIS

CEQA THRESHOLDS OF SIGNIFICANCE

State CEQA Guidelines §15065 (a) (Title 14, Chapter 3, Article 5) states, “A project may have a significant effect on the environment” if:

- “The project has the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.”
- “The project has possible environmental effects which are individually limited but cumulatively considerable.”

The following impact analysis identifies potential impacts to biological resources that could result from implementation of the proposed project based on the undated City project plans received via email from the City on July 24, 2014. In addition, the City has developed Significance Determination Thresholds (2011) and Biology Guidelines (2012) under CEQA; therefore, applicable mitigation measures for significant project impacts are recommended in accordance with these City guidelines.

PROJECT CEQA IMPACTS AND SIGNIFICANCE

Direct Impacts

CEQA guidelines §15358 define a “direct impact or primary effect” as “effects which are caused by the project and occur at the same time and place” that can produce a temporary or permanent biologically significant, “physical change” in the environment.

Vegetation Community Direct Impacts

The proposed Sewer and Water Group 701 Spruce Canyon (Task No. 42, GJ 701) Project proposes pipe bursting through the manholes in the canyon that will require launching and or receiving pits. The estimated temporary impact areas for these pits would be 10-foot wide by 20-foot long at Manholes (MH) 49, 50, 52, and 53. A new MH 51 will be installed between MH 50 and MH 52, resulting in an estimated temporary impact area of 10-foot wide by 20-foot long at that location. Pipeline abandonment activities and removal of two manhole covers will have minimum surface/subsurface disturbance at both ends of the main. Existing vehicle and foot paths will be used for access and staging and therefore no vegetation impacts from access or staging are proposed. Standard Best Management Practices (BMPs) would be utilized to control and avoid inadvertent potential impacts to habitat during project construction. The proposed project would result in impacts to Tier IIIB (i.e., non-native grassland) and Tier IV habitats (i.e., eucalyptus woodland, disturbed habitat, urban/developed) (Table 4, Figure 2).

Based on the City’s Significance Determination Guidelines under CEQA, revised version (2012a), project impacts to Tier IIIB habitats less than 0.1 acre and Tier IV habitats in general are not considered significant under CEQA and therefore do not require mitigation.

Table 4. Quantitative Summary of Proposed Project Habitat Impacts and Mitigation

Vegetation Community	MSCP Wetland/ Upland Tier Habitat Type	Total Onsite (acres)	Total Proposed Impacts* (acres)	Applicable Mitigation Ratios	Applicable Required Mitigation Acreage
Diegan coastal sage scrub	II	0.1	0.0	n/a	0.0
Non-native grassland	IIIB	1.1	<0.1 (0.003)	none	0.0
Eucalyptus woodland	IV	5.7	<0.1 (0.01)	none	0.0
Disturbed habitat	IV	0.3	<0.1 (0.002)	none	0.0
Urban/Developed	IV	2.3	<0.1 (0.01)	none	0.0

Total:	9.5	<0.1 (0.03)	-	0.0
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*Proposed project impacts are located outside of the MHPA.

Sensitive Species Direct Impacts

The project proposes to construct all project elements outside of the general avian breeding season (January 15 through September 15) and thus would avoid any potential impacts to breeding sensitive avian species, including Nuttall’s woodpecker, which were identified to be present within the study area. In addition, the project does not propose to impact potential sensitive species habitat or any native habitat, but rather would be restricted predominately to the non-native vegetation that is not expected to support any sensitive species observed during the biological survey.

No impacts to sensitive species, including those impacts that would be considered significant under CEQA would occur as a result of the proposed project.

Jurisdictional Wetlands and Waterways Direct Impacts

The proposed project has been designed to avoid impacts to jurisdictional resources within the project study area. However, the impacts are within close proximity to these resources. Standard BMPs (i.e., silt fencing, wattling, etc.) would be utilized to control and avoid inadvertent potential impacts to down slope and adjacent jurisdictional resources during project construction. In addition, based on the City of San Diego Standard Specifications for Public Works Construction (section 700 1.2- 700 1.4 and 701-13.9.1), construction crews will be made aware of the limits of grading and the sensitive nature of adjacent jurisdictional resources, and standard Best Management Practices (BMPs) will be utilized to avoid inadvertent impacts to sensitive resources during project construction. Similarly, the proposed work should be conducted outside the rainy season and/or when the site conditions are dry. Where existing vehicle and foot access paths cross jurisdictional non-wetland resources, steel plates or boards may be required to avoid altering the bed and bank at each crossing. Therefore, no non-wetland waters of the U.S./streambed would be impacted by the proposed project as depicted in Figure 2 and summarized in Table 5.

Table 5. Summary of Jurisdictional Resources Impacts within the Project Study Area

Jurisdictional Resources	Total acreage onsite	Proposed Impacts (acres)
Non-wetland waters of the U.S/ Streambed <i>(ACOE/CDFW/RWQCB jurisdictional)</i>	0.12	0.0
Total:	0.17	0.0

Wildlife Corridor Direct Impacts

Due to the relatively small scale of the Project, location within an urban canyon with close proximity to existing residences, and timing (i.e., daylight hours) of the proposed project impacts, the project is not expected to significantly impact a wildlife corridor or alter the local movement of wildlife, and thus would not be considered significant under CEQA.

Indirect Impacts

CEQA guidelines §15358 define an “indirect impact or secondary effect” as “effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably

foreseeable” that can produce a temporary or permanent biologically significant, “physical change” in the environment.

Based on the City of San Diego Standard Specifications for Public Works Construction (section 700 1.2- 700 1.4 and 701-13.9.1), construction crews will be made aware of the limits of grading and the sensitive nature of onsite natural habitats, and standard Best Management Practices (BMPs) will be utilized to avoid inadvertent impacts to sensitive habitats and/or resources during project construction. Similarly, §142.0411 of the City’s Municipal Code (Chapter 14, Article 2, Division 4), requires all disturbed, graded, and/or cleared areas that will not be permanently paved or covered by structures will be revegetated within 90 days of the completion of disturbance, with native or naturalized plant species to provide erosion control and ensure that additional non-native plant species are not introduced into the MHPA.

The Revegetation Plan for this project outlining the planting and erosion control details can be found in Appendix 6.

It is expected that the proposed project would implement the above specifications and practices and therefore, no potential significant indirect impacts under the City’s Significance Determination Thresholds are anticipated would occur from the project.

Cumulative Impacts

CEQA guidelines §15355 define cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts”. The MSCP was designed to compensate for the loss of biological resources throughout the program’s region; therefore, projects that conform to the MSCP would not result in a cumulatively considerable impact for those biological resources adequately covered by the program. The aforementioned direct and indirect impacts resulting from the proposed project would therefore not be cumulatively considerable if the project mitigation measures are implemented to ensure conformance to the MSCP Subarea Plan and Biology Guidelines.

PROJECT IMPACTS UNDER THE MIGRATORY BIRD TREATY ACT (MBTA)/CDFG CODE

The study area has the potential to be utilized by regionally common migratory birds and raptors that are not designated as special status species under CEQA, but are protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503 and 3513.

Under the MBTA, it is unlawful, except as permitted by the USFWS, to “take, possess, transport, sell, purchase, barter, import, or export all species of birds protected by the MBTA, as well as their feathers, parts, nests, or eggs. Take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR 10.12).” It is important to note that “take” as defined under the federal MBTA is not synonymous with “take” as defined under the federal ESA. The MBTA definition of “take” lacks a “harm and harassment” clause comparable to “take” under the ESA, thus, the MBTA authority does not extend to activities beyond the nests, eggs, feathers, or specific bird parts (i.e., activities or habitat modification in the vicinity of nesting birds that do not result in “take” as defined under the MBTA are not prohibited).

Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit the “take, possession, or destruction of bird nests or eggs.” Section 3503 states: “It is unlawful to take, possess,

or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Section 3513 states: “It is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.”

The project proposes to avoid the general avian breeding season (January 15 through September 15) and thus would avoid impacts to active bird and/or raptor nests protected under the federal MBTA and/or California Fish and Game Code Sections 3503 and 3513.

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APPENDIX 1. FLORA SPECIES OBSERVED ON-SITE

Habitat Types:

S	=	Diegan Coastal Sage Scrub
N	=	Non-native Grassland
E	=	Eucalyptus Woodland
U	=	Urban Developed
D	=	Disturbed

* = Denotes non-native flora species.

Scientific Name	Common Name	Habitat
GYMNOSPERMS		
Cupressaceae - Cypress Family		
<i>Hesperocyparis</i> sp.	cypress	E
Pinaceae - Pine Family		
<i>Pinus</i> sp.	pine	E
DICOTYLEDONS		
Aizoaceae – Fig-Marigold Family		
* <i>Carpobrotus edulis</i> (L.) N. E. Br.	freeway iceplant	N, D, E
* <i>Mesembryanthemum crystallinum</i> L.	crystalline iceplant	N, D
Anacardiaceae - Sumac Family		
<i>Malosma laurina</i> (Nutt.) Abrams	laurel sumac	S, E
<i>Rhus integrifolia</i> (Nutt.) Brewer & S. Watson	lemonadeberry	S, E
* <i>Schinus molle</i> L.	Peruvian pepper tree	E
Apiaceae - Carrot Family		
* <i>Foeniculum vulgare</i> Miller	fennel	D
Asteraceae - Sunflower Family		
* <i>Erigeron bonariensis</i> L.	flax-leaf fleabane	N, D, E
* <i>Glebionis coronaria</i> (L.) Spach	garland, crown daisy	N, D
* <i>Lactuca serriola</i> L.	prickly lettuce	N, D
* <i>Sonchus oleraceus</i> L.	common sow thistle	N, E
Bignoniaceae - Bignonia Family		
* <i>Jacaranda mimosifolia</i> D. Don	jacaranda	E
Brassicaceae - Mustard Family		
* <i>Hirschfeldia incana</i> (L.)Lagr.-Fossat	short-pod mustard	N, D, E
* <i>Raphanus sativus</i> L.	wild radish	N, D
Cactaceae - Cactus Family		
<i>Cylindropuntia prolifera</i> (Engelm.) F. M. Knuth	coast cholla	S
* <i>Opuntia ficus-indica</i> (L.) Miller	mission prickly pear, Indian-fig	N
<i>Opuntia littoralis</i> (Engelm.) Cockerell	coast prickly-pear	S
Chenopdiaceae – Goosefoot Family		
* <i>Chenopodium album</i> L.	lamb's quarters	N, D, E, S
* <i>Salsola tragus</i> L.	Russian thistle, tumbleweed	N, S, E

Scientific Name	Common Name	Habitat
Crassulaceae - Stonecrop Family		
* <i>Aeonium haworthii</i> Salm-Dyck	haworth's aeonium	N, E
* <i>Crassula ovata</i> (Mill.) Druce	jadeplant	N, E
Cucurbitaceae - Gourd Family		
<i>Marah macrocarpus</i> (E. Greene) E. Greene var. <i>macrocarpus</i>	manroot, wild-cucumber	N, S, E
Euphorbiaceae - Spurge Family		
* <i>Ricinus communis</i> L.	castor-bean	N, E
Fabaceae - Pea Family		
* <i>Acacia cyclops</i> G. Don	cyclops acacia	E
* <i>Acacia longifolia</i> (Andrews) Willd.	Sydney golden/ golden wattle	E
* <i>Acacia</i> sp.	acacia	S, E
* <i>Senna didymobotrya</i> (Fresen.) H. Irwin & Barneby	African senna	E
Fagaceae - Oak Family		
<i>Quercus agrifolia</i> Neé var. <i>agrifolia</i>	coast live oak, encina	E
Geraniaceae - Geranium Family		
* <i>Pelargonium x hortorum</i> L. Bailey	zonal geranium	E
Moraceae - Mulberry Family		
* <i>Morus</i> sp.	mulberry	E
Myrtaceae - Myrtle Family		
* <i>Eucalyptus camaldulensis</i> Dehnh.	red gum, river red gum	E
* <i>Eucalyptus citriodora</i> Hook.	lemon-scented gum	E
* <i>Eucalyptus</i> sp.	eucalyptus	E
Oleaceae - Olive Family		
* <i>Olea europea</i> L.	mission olive	E
Polygonaceae - Buckwheat Family		
<i>Eriogonum fasciculatum</i> Benth. var. <i>fasciculatum</i>	coastal California buckwheat	S
* <i>Rumex crispus</i> L.	curly dock	N
Rosaceae - Rose Family		
<i>Heteromeles arbutifolia</i> (Lindley) M. Roemer	toyon, Christmas berry	S, E
* <i>Prunus ilicifolia</i> (Nutt.) Walp. ssp. <i>lyonii</i> (Eastw.) P. H. Raven	Catalina island cherry	E
* <i>Prunus persica</i> (L.) Batsch	peach	E
* <i>Rubus armeniacus</i> Focke	Himalayan blackberry	E
Rutaceae - Rue Family		
<i>Citrus</i> sp.	orange tree	E

Scientific Name	Common Name	Habitat
Solanaceae - Nightshade Family		
* <i>Solanum americanum</i> Miller	white nightshade	E
Tropaeolaceae - Nasturtium Family		
* <i>Tropaeolum majus</i> L.	garden nasturtium	N
MONOCOTYLEDONS		
Agavaceae – Century Plant Family		
* <i>Agave attenuata</i>	agave	E
<i>Yucca schidigera</i> K.E. Ortgies	Mojave yucca	E
Arecaceae - Palm Family		
* <i>Phoenix canariensis</i> Chabaud	Canary Island palm	E
* <i>Washingtonia robusta</i> H. Wendl.	Mexican fan palm	E
Asphodelaceae – Asphodel Family		
* <i>Aloe x schoenlandii</i> Baker	aloe	E
Poaceae - Grass Family		
* <i>Avena sp.</i>	wild oat	N, E, S
*Bambuseae tribe	ornamental bamboo	E, U
* <i>Brachypodium distachyon</i> (L.) P. Beauv.	purple falsebrome	N, D
* <i>Bromus diandrus</i>	ripgut brome	N, D
* <i>Cynodon dactylon</i> (L.)Pers.	Bermuda grass	N, E, D
* <i>Ehrharta erecta</i> Lam.	panic veldt grass	N, E
* <i>Festuca perennis</i> (L.) Columbus & J.P. Sm.	Italian ryegrass	N, D
* <i>Hordeum murinum</i> L. ssp. <i>leporinum</i> (Link) Arcang.	hare barley	N, D
MAGNOLIIDS-PIPERALES		
Lauraceae - Laurel Family		
* <i>Persea americana</i> Mill.	avocado	E

APPENDIX 2. FAUNA SPECIES OBSERVED OR DETECTED ON-SITE

Habitat Types:

S	=	Diegan Coastal Sage Scrub
N	=	Non-native Grassland
E	=	Eucalyptus Woodland
U	=	Urban Developed
D	=	Disturbed
FO	=	fly over

* = denotes introduced species

Abundance Codes (birds only):

A = Abundant: Almost always encountered in moderate to large numbers in suitable habitat and the indicated season.

C = Common: Usually encountered in proper habitat at the given season.

U = Uncommon: Infrequently detected in suitable habitat. May occur in small numbers or only locally in the given season.

R = Rare: Applies to species that are found in very low numbers.

“Numbers” indicate the number of individuals observed during the field survey work.

Status Codes (birds only):

M = Migrant: Uses the site for brief periods of time, primarily during the spring and fall months.

R = Year-round resident: Probable breeder on-site or in the vicinity.

S = Spring/summer resident: Probable breeder on-site or in the vicinity unless combined with transient status.

T = Transient: Uses site irregularly in summer but unlikely to breed. Not a true migrant and actual status often poorly known.

W = Winter visitor: Does not breed locally.

V = Casual vagrant: Not expected; out of normal geographic or seasonal range and by definition rare.

Common Name	Scientific Name	Habitat	Abundance	Status
BUTTERFLIES				
Papilionidae (Swallowtails)				
unidentified swallowtail	<i>Papilio</i> sp.	E		
Pieridae (Whites and Sulfurs)				
cabbage white	<i>Pieris rapae</i>	A		
unidentified sulphur	Subfamily Coliadinae	A		
Lycaenidae (Gossamer-wing Butterflies)				
unidentified blue	Subfamily Polyommatainae	E, N		
Nymphalidae (Brushfoots)				
mourning cloak	<i>Nymphalis antiopa</i>	E		
monarch	<i>Danaus plexippus</i>	All		
REPTILES				
Phrynosomatidae				
western fence lizard	<i>Sceloporus occidentalis</i>	S, N, E		
BIRDS				
western gull	<i>Larus occidentalis</i>	FO	A	R, T
Psittacidae (Parrots)				
red-crowned parrot	<i>Amazona viridigenalis</i>	FO	U	R
red-masked parakeet	<i>Aratinga erythrogenys</i>	FO	U	R
Trochilidae (Hummingbirds)				
Anna's hummingbird	<i>Calypte anna</i>	S, N, E, U	C	R
<i>Selasphorus</i> hummingbird	<i>Selasphorus</i> sp.	S, E	C	M, R
Picidae (Woodpeckers and Wrynecks)				
Nuttall's woodpecker	<i>Picoides nuttallii</i>	E	C	R
Tyrannidae (Tyrant Flycatchers)				
Pacific-slope flycatcher	<i>Empidonax difficilis</i>	E	C	M, S
black phoebe	<i>Sayornis nigricans</i>	All	C	R
Cassin's kingbird	<i>Tyrannus vociferans</i>	E	C	R, M
Corvidae (Jays, Magpies, and Crows)				
western scrub-jay	<i>Aphelocoma californica</i>	E	C	R
American crow	<i>Corvus brachyrhynchos</i>	FO	A	R
Hirundinidae (Swallows)				

Common Name	Scientific Name	Habitat	Abundance	Status
barn swallow	<i>Hirundo rustica</i>	FO	U	M, W, S
Aegithalidae (Bushtit)				
bushtit	<i>Psaltriparus minimus</i>	E	C	R
Troglodytidae (Wrens)				
house wren	<i>Troglodytes aedon</i>	N, E	C	M, W, S
Mimidae (Mockingbirds and Thrashers)				
northern mockingbird	<i>Mimus polyglottos</i>	U	C	R
Parulidae (Warblers)				
orange-crowned warbler	<i>Oreothlypis celata</i>	S, N, E	C	M, W, S
Emberizidae (Sparrows, Blackbirds and Relatives)				
California towhee	<i>Melospiza crissalis</i>	All	C	R
Icteridae (Blackbirds, Meadowlarks, Orioles, and Relatives)				
hooded oriole	<i>Icterus cucullatus</i>	E	C	M, S
Fringillidae (Finches)				
house finch	<i>Haemorhous mexicanus</i>	All	A	R
lesser goldfinch	<i>Spinus psaltria</i>	E, U	C	M, R
MAMMALS				
Didelphidae (American Opossums and Opossums)				
Virginia opossum	<i>Didelphis virginiana</i>	E		
Sciuridae (Squirrels)				
California ground squirrel	<i>Spermophilus beecheyi nudipes</i>	S, N		
Geomyidae (Pocket Gophers)				
Valley or Botta's pocket gopher	<i>Thomomys bottae</i>	S, N		
Canidae (Coyotes, Dogs, Foxes, Jackals, and Wolves)				
feral/domestic dog	<i>Canis familiaris</i> ¹	All		
coyote	<i>Canis latrans clepticus</i>	S, N, E, D		
Procyonidae (Cacomistle, Coatis, Raccoons, and Relatives)				
raccoon	<i>Procyon lotor psora</i>	N		

¹Nomenclature from:

Oklahoma State University Department of Animal Science. 2000. Scientific Names of Domestic Animals. Available from:

Common Name	Scientific Name	Habitat	Abundance	Status
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<http://www.ansi.okstate.edu/resource-room/general/all/scientificnames.htm>.

American Ornithologists' Union, et al. 1998. Check-list of North American Birds, 7th ed. American Ornithologists' Union, Washington D.C.

_____. 2012. Fifty-third Supplement to the American Ornithologists' Union *Check-list of North American Birds* [Internet]. Auk 129(3):573-588. Available from: <http://www.aou.org/>.

APPENDIX 3. OCCURRENCE OR POTENTIAL OF SPECIAL STATUS SPECIES ON THE PROJECT SITE

Key to abbreviations:

Federal Endangered Species Act (ESA)

FE = Federally-listed as Endangered

FT = Federally-listed as Threatened

FPE = Federally proposed for listing as Endangered

FPT = Federally proposed for listing as Threatened

FPD = Federally proposed for delisting

FC = Federal candidate species

SC = Species of concern

Delisted species are monitored for 5 years

California Endangered Species Act (CESA)

SE = State-listed as Endangered

ST = State-listed as Threatened

SCE = State candidate for listing as Endangered

SCT = State candidate for listing as Threatened

SCD = State candidate for de-listing

SR = California Rare Species

California Natural Diversity Database (CNDDB)

SP = Special Plant

SA = Special Animal

California Department of Fish and Wildlife (DFW)

SSC = Species of Special Concern

FP = California fully protected species

WL = Watch List

U.S. Forest Service (USFS)

S = Sensitive

California Rare Plant Rank (CRPR)

List 1A = Plants presumed extinct in California

List 1B = Plants rare, threatened, or endangered in California and elsewhere

List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere

List 3 = Plants about which more information is needed (a review list)

List 4 = Plants of limited distribution (a watch list)

Threat level

0.1-Seriously threatened in California (high degree/immediacy of threat)

0.2-Fairly threatened in California (moderate degree/immediacy of threat)

0.3-Not very threatened in California (low degree/immediacy of threats/ no current threats known)

Multiple Species/Habitat Conservation Program (MSCP)/(MHCP)

NE = Narrow Endemic

CS = Covered Species

CP = Critical Population

County of San Diego

Plant List A = Plants rare, threatened or endangered in California and elsewhere

Plant List B = Plants rare, threatened or endangered in California but more common elsewhere

Plant List C = Plants which may be quite rare, but need more information to determine their true rarity status

Plant List D = Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal Group 1 = Animals rare, threatened or endangered in California and elsewhere

Animal Group 2 = Animals rare, threatened or endangered in California but more common elsewhere

Scientific Name Common Name	Sensitivity Codes and Status ^{1,2}	Habitat Preferences/Requirements ³	Verified On-Site	Potential To Occur On-Site	Factual Basis for Determination of Occurrence Potential
PLANTS					
<i>Ferocactus viridescens</i> coast barrel cactus	CNDDDB: SP CRPR: 2.1 MSCP: CS MHCP: CS Cnty of SD List: B	Native succulent; optimal habitat for this cactus appears to be sage scrub hillsides; often at the crest of slopes and growing among cobbles; occasionally is found on the periphery of vernal pools and mima mound topography; blooming period May-June.	No	Not expected	Although a historical record occurs within this area, the habitat onsite is not ideal and this conspicuous perennial species was not observed during the biological survey.
INVERTEBRATES					
<i>Danaus plexippus</i> monarch butterfly	CNDDDB: SA Cnty of SD Group: 2	This species occurs throughout North America, and migrates to wintering sites in central Mexico and along the California coast generally from August to October (Opler et al. 2006). This butterfly utilizes open habitats including fields, meadows, weedy areas, marshes, and roadsides. Caterpillar host plants include milkweeds (<i>Asclepius</i> sp.), and adult nectaring resources include a variety of flowers. In southern California, this butterfly may breed year round.	Observed; several individuals observed during the biological survey.	-	-
BIRDS					
<i>Picoides nuttallii</i> Nuttall's woodpecker	CNDDDB ⁴ : SA	Year-round resident; typically uses a mix of deciduous riparian and adjacent oak habitats, but is also using urban landscaping. Nests in tree cavities; breeds from late Mar to early July.	Observed; two individuals were detected foraging in the eucalyptus woodland during the biological survey.	-	-

Scientific Name Common Name	Sensitivity Codes and Status ^{1,2}	Habitat Preferences/Requirements ³	Verified On-Site	Potential To Occur On-Site	Factual Basis for Determination of Occurrence Potential
<i>Polioptila californica californica</i> coastal California gnatcatcher	ESA: FT DFG: SSC CNDDDB: SA MSCP: NE (Cnty of SD only); CS MHCP: CS Cnty of SD Group: 1	Year-round resident in coastal areas below 500 m (1,500 ft); prefers coastal sage scrub habitat that is dominated by <i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i> and <i>Artemisia californica</i> as well as open chaparral.	No	Not expected	No historical records for this species occur within this canyon or any of the small canyons in the immediate vicinity. Although small patches of coastal sage scrub habitat exist within the biological study area, they are not large enough to sustain breeding gnatcatchers.
MAMMALS					
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	CNDDDB: SA DFW: SSC Cnty of SD Group: 2	Nocturnal species that is known in San Diego County only as a summer resident; roosts in caves, mines and buildings and is primarily a nectar feeder.	No	Low	Historical record for this species occurs to the east in Balboa Park; nesting habitat is not ideal, but the study area could be used for nectaring.

¹References for Sensitivity Codes and Status: County 1997, Ogden et al. 1998, AMEC 2003a, County 2009b and d, CDFW 2011b-d

²California Natural Diversity Database Special Plants/Animals = A general term that refers to all taxa inventoried by the CDFW CNDDDB, regardless of their legal or protection status; these taxa include species, subspecies, or varieties that fall into one of the above categories and/or one or more of the following categories: 1) Taxa officially listed or proposed for listing under the federal and/or state ESA; 2) Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the CEQA Guidelines, which may include California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) Lists 1 and 2, and some List 3 plants; 3) Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), or U.S. Forest Service (USFS) Sensitive (S) Species; 4) Taxa considered SSC by the CDFW; 5) Taxa listed by the CNPS; 6) Taxa that are biologically rare, very restricted in distribution, declining throughout their range but are not currently threatened with extirpation, or have a critical, vulnerable stage in their life cycle that warrants monitoring; 7) Populations in California that may be peripheral to the major portion of a taxon's range, but are threatened with extirpation in California; 8) Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, vernal pools, etc.); and 8) In addition to the above taxa, those taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or non-governmental organization (NGO) [e.g., The World Conservation Union (IUCN) Conservation Dependent (CD), Critically Endangered (CR), Data Deficient (DD), Endangered (EN), Least Concern (LC), Near Threatened (NT), Vulnerable (V) species; California Department of Forestry and Fire Protection (CDF) Sensitive (S) species; National Marine Fisheries Service (NMFS) Species of Concern (SC); American Fisheries Society (AFS) Endangered (EN), Threatened (TH), Vulnerable (VU) species; Xerces Society (XERCES) Critically Imperiled (CI), Data Deficient (DD), Imperiled (IM), Vulnerable (VU) invertebrate species; USFWS Birds of Conservation Concern (BCC); American Bird Conservancy (ABC) U.S. Watch List of Birds of Conservation Concern (WLBCC); Marine Mammal Commission (MMC) Marine Mammal Species of Special Concern (SSC); and The Western Bat Working Group (WBWG) High (H), Low-Medium (LP), Medium (M), Medium-High (MH) Priority species].

³References for Habitat Preferences/Requirements: (plants) Reiser 2001, County 2009d, CNPS 2010; (butterflies) Faulkner and Klein 2004, Opler 2006; (amphibians and reptiles) Stebbins 2003, CDFW 2010a; (birds) AOU Birds of North America On-line 2010 and CDFW 2010a; (mammals) CDFW 2010a.

**APPENDIX 4. WETLAND DELINEATION DATA FORMS
(JULY 23, 2014)**

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Sewer and Water Group 701 Spruce Cnyn. Proj. City/County: San Diego Sampling Date: 8/23/14
 Applicant/Owner: City of San Diego State: CA Sampling Point: 1
 Investigator(s): Mary Tamburro/Brandon Stidum Section, Township, Range: Unsectioned,
 Landform (hillslope, terrace, etc.) Canyon bottom Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR-C Lat: -117.166 Long: 32.7391 Datum: NAD 83
 Soil Map Unit Name: Gaviota fine sandy loam with 30 to 50 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This sampling point is not found within a wetland. (OHWM 3 ft, TOB 4 ft)	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>N/A</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. -				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>5 foot</u>)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>28</u> x 5 = <u>140</u> Column Totals: <u>30</u> (A) <u>148</u> (B) Prevalence Index = B/A = <u>4.9</u>
1. <i>Opuntia indica-ficus</i>	15	Y	NI	
2.				
3.				
4.				
	<u>15</u>	= Total Cover		
Herb Stratum (Plot size: <u>5 foot</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Test is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. <i>Stipa miliacea</i>	5	Yes	NI	
2. <i>Rafanus sativus</i>	5	Yes	NI	
3. <i>Avena barbata</i>	3	No	NI	
4. <i>Ricinus communis</i>	2	No	FACU	
5.				
6.				
7.				
8.				
	<u>15</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>N/A</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. -				
2.				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>85</u> % Cover of Biotic Crust <u>0</u>				
Remarks: NI = Not Indicator species. Those species not found on the Arid West National Wetland Plant Species list are assumed to be upland species. <p style="text-align: center;">No hydrophytic vegetation present.</p>				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	0	0	7.5YR3/3	10	-	-	Sandy loam	Refusal at 8in. mostly debris and

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

No evidence of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 0
 Water Table Present? Yes No Depth (inches): 0
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Secondary indicators of hydrology evident.

**APPENDIX 5. WETLAND DELINEATION PHOTO POINTS
(JULY 23, 2014)**

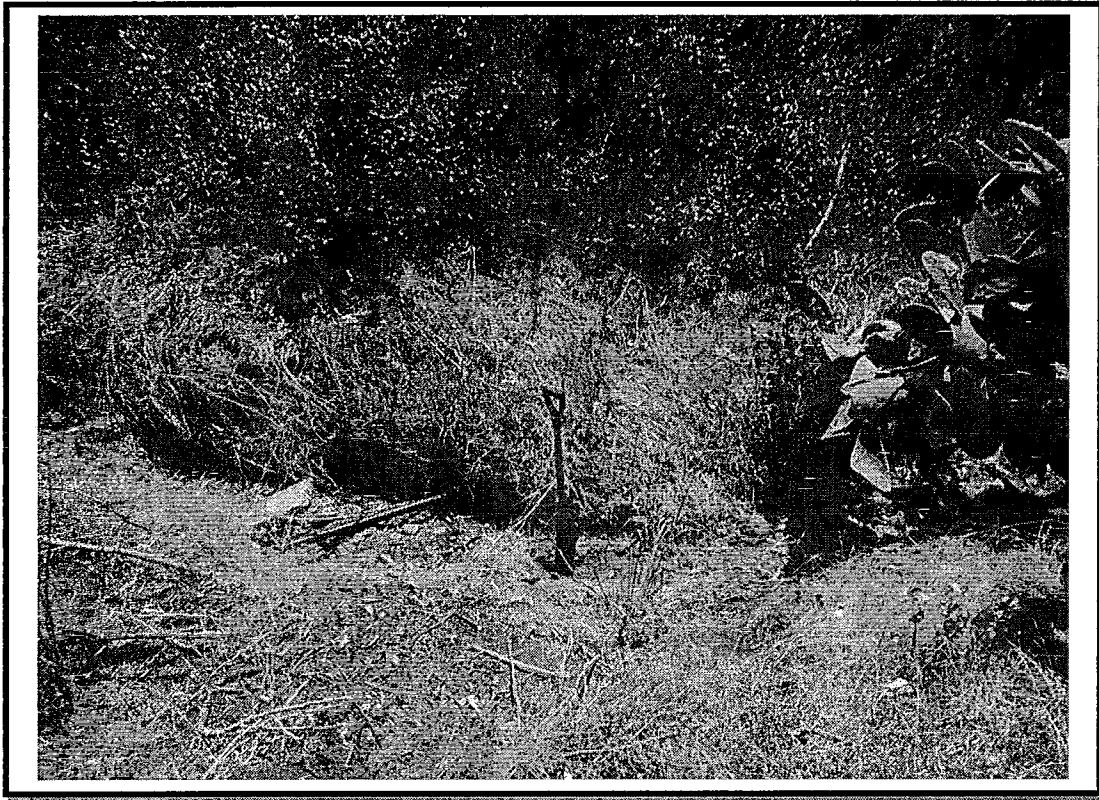


Photo Point 1. Photo of Data Point 1, found within Stream 1. Photo directed northeast and taken July 23, 2014. This data point is not found within a wetland.



Photo Point 2. Southern reach of Stream 1, directed south. Note the mulched vehicle access path running parallel along the western side of the stream.

APPENDIX 6. REVEGETATION PLAN

...M 2 MONTHS MAINTENANCE AND MONITORING PERIOD. ANY ABOVE-GROUND EROSION CONTROL MEASURES SUCH AS SLOPE STABILIZATION, CHANNEL BANK REPAIR, VEGETATION SITE PRIOR TO AND FOLLOWING THE REVEGETATION INSTALLATION, AND UNTIL THE END OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD.

AREAS WITHIN 10-FEET OF THE REVEGETATION AREA SHALL BE REMOVED OR TREATED WITH HERBICIDE PRIOR TO ANY REVEGETATION ACTIVITIES FOR THE PROJECT. NON-NATIVE SPECIES TO BE IDENTIFIED BY THE PROJECT BIOLOGIST FOLLOWING ACCEPTANCE OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD BY CITY REPRESENTATIVE AND PROJECT BIOLOGIST. WEEDS WILL BE FLAGGED IN ADVANCE BY THE PROJECT BIOLOGIST. THE APPLICANT'S LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST REGARDING IDENTIFICATION AREAS THAT MUST BE REMOVED PRIOR TO PLANTING AND HYDROSEEDING. TREES THAT ARE CURRENTLY ON SITE MUST BE IN A SERVICEABLE CONDITION PRIOR TO THE RESTORATION IMPLEMENTATION AND SHOULD REMAIN IN PLACE. IF THEY ARE DEGRADED HOWEVER, REMOVE THEM FROM THE AREA, AND SHALL REMAIN UNTIL VEGETATION HAS BEEN ESTABLISHED. HYDROSEEDING SHALL BE COMPLETED A MINIMUM OF 1/4"-1/2" PRIOR TO HYDROSEEDING.

IRRIGATION SEASON TO DECREASE DEPENDENCY ON SUPPLEMENTAL IRRIGATION. PROJECT BIOLOGIST SHALL RECOMMEND TEMPORARY IRRIGATION MEASURES AS NEEDED AND DEPENDING ON CONDITIONS APPROVED BY RE AND PROJECT BIOLOGIST) SHALL BE PROVIDED BY THE CONTRACTOR FOR A PERIOD SUFFICIENT TO ESTABLISH PLANT MATERIALS AND TO PROVIDE VEGETATIVE COVER ADJUSTED WHEN WARRANTED BY SITE CONDITIONS. PROJECT BIOLOGIST AND CONTRACTOR SHALL MONITOR SOIL MOISTURE TO DETERMINE SUCCESS AND ANY ADDED REQUIREMENTS REQUIRED UP TO 3 TIMES PER WEEK UNTIL PLANT MATERIALS NATURALIZE TO NATIVE SITE CONDITIONS. IRRIGATION PATTERN THAT AVOIDS RUNOFF, SEEPAGE, AND OVERSPRAY ONTO ADJACENT PROPERTIES, NON-IRRIGATED AREAS, OR ADJACENT NATIVE OR NON-NATIVE VEGETATION. IRRIGATION RATE AND THE PERCOLATION RATE OF THE SOIL. IRRIGATION SHALL BE APPROPRIATE TO THE NEEDS OF THE PLANT MATERIALS. OVERWATERING, AS EVIDENCED BY SOGGY SOILS, STANDING WATER, RUNOFF, OR OTHER SIMILAR CONDITIONS SHALL BE

LANDSCAPED AREAS WITHIN THE PROJECT REVEGETATION AREA. THE SEED SHALL BE INSTALLED VIA HYDROSEED METHODS, UNLESS OTHERWISE DIRECTED BY THE PROJECT BIOLOGIST. TABLES. IF MINIMUM % PURE LIVE SEED COUNT CANNOT BE MET CONTRACTOR TO COORDINATE AND OBTAIN WRITTEN APPROVAL FROM THE PROJECT BIOLOGIST FOR ALTERNATIVE METHODS. CONTRACTOR TO PROVIDE EVIDENCE THAT THE SEED IS NOT AVAILABLE AND NOTIFY THE CITY REPRESENTATIVE AND THE PROJECT BIOLOGIST FOR ALTERNATIVE METHODS.

LANDSCAPED AREAS WITHIN THE 0.01 - ACRE REVEGETATION AREA THAT IS DEVOID OF VEGETATION. HYDROSEEDING APPROVED AND THAT THE SITE HAS BEEN PROPERLY PREPARED. HYDROSEEDING RATE: 2,500 POUNDS PER ACRE OR AS DIRECTED BY THE PROJECT BIOLOGIST. HYDROSEEDING RATE: 1,000 POUNDS PER ACRE, OR AS DIRECTED BY THE PROJECT BIOLOGIST. HYDROSEEDING RATE: 500 POUNDS PER ACRE, OR AS DIRECTED BY THE PROJECT BIOLOGIST. HYDROSEEDING RATE: 250 POUNDS PER ACRE OR AS DIRECTED BY THE PROJECT BIOLOGIST. HYDROSEEDING SHALL BE APPLIED AT A MINIMUM RATE OF 1,200 POUNDS PER ACRE, OR AS DIRECTED BY THE PROJECT BIOLOGIST. HYDROSEEDING EQUIPMENT SHALL BE A SLURRY MIX SYSTEM TO SUSPEND AND HOMOGENEOUSLY MIX THE SLURRY. THE SLURRY MIX SHALL BE DYED GREEN. THE EQUIPMENT MUST HAVE A PUMP CAPABLE OF APPLYING SLURRY

START OF 25 MONTHS MAINTENANCE AS WELL AS ACCEPTANCE FOLLOWING THE MAINTENANCE PERIOD IS DETERMINED BY CITY REPRESENTATIVE IN CONSULTATION WITH PROJECT BIOLOGIST. MAINTENANCE PERIOD SHALL BE LESS THAN 25 MONTHS (TABLE 2). THE REVEGETATED AREA SHALL BE MAINTAINED BY THE PERMITTEE UNTIL FINAL APPROVAL BY THE CITY. THE MAINTENANCE PERIOD BEGINS ON THE FIRST DAY OF THE DETERMINATION OF THE CITY REPRESENTATIVE. CORRECTIVE ACTION INCLUDING BUT NOT LIMITED TO RE-SEEDING AND THE REPAIR OF ANY SOIL EROSION OR SLOPE SLIPPAGE, IN CONSULTATION WITH THE PROJECT BIOLOGIST. WEEDING SHALL BE DONE AT LEAST ONCE MONTHLY THROUGHOUT THE 25 MONTHS OF MAINTENANCE. CONTRACTOR SHALL OBTAIN A PESTICIDE RECOMMENDATION FROM A CA LICENSED PESTICIDE ADVISOR PRIOR TO APPLICATION.

WEEDING SHALL BE DONE AT LEAST ONCE MONTHLY THROUGHOUT THE 25 MONTHS OF MAINTENANCE. CONTRACTOR SHALL OBTAIN A PESTICIDE RECOMMENDATION FROM A CA LICENSED PESTICIDE ADVISOR PRIOR TO APPLICATION. WEEDING SHALL BE DONE AT LEAST ONCE MONTHLY THROUGHOUT THE 25 MONTHS OF MAINTENANCE. CONTRACTOR SHALL OBTAIN A PESTICIDE RECOMMENDATION FROM A CA LICENSED PESTICIDE ADVISOR PRIOR TO APPLICATION.

WEEDING SHALL BE DONE AT LEAST ONCE MONTHLY THROUGHOUT THE 25 MONTHS OF MAINTENANCE. CONTRACTOR SHALL OBTAIN A PESTICIDE RECOMMENDATION FROM A CA LICENSED PESTICIDE ADVISOR PRIOR TO APPLICATION.



TABLE 2: SUMMARY AND SCHEDULE FOR MAINTENANCE, MONITORING, AND REPORTING FOR PROJECT

PERIOD	ACTIVITY FOR PROJECT BIOLOGIST/CONTRACTOR	BIOLOGIST SITE VISIT FREQUENCY	SUBMITTALS/CHECKLIST	REPORTING FREQUENCY
REVEGETATION INSTALLATION	PROJECT BIOLOGIST WILL BE RESPONSIBLE FOR MONITORING/LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE.	AS NEEDED OR AT LEAST ONCE EVERY TWO WEEKS.	SITE OBSERVATION REPORTS (S.O.R.) PREPARED BY THE BIOLOGIST (BASED ON THE REVEGETATION PLAN CRITERIA)	AT SUCCESSFUL INSTALLATION (AS DETERMINED BY THE PROJECT BIOLOGIST)
120 DAY PEP	PROJECT BIOLOGIST WILL BE RESPONSIBLE FOR MONITORING/LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE.	MONTHS 1 & 2 - BIWEEKLY, MONTHS 3 & 4 - AT LEAST ONCE A MONTH	S.O.R.'S PREPARED BY THE BIOLOGIST (BASED ON THE REVEGETATION PLAN CRITERIA)	AT THE END OF PEP**
25-MONTH LONG TERM MAINTENANCE & MONITORING	PROJECT BIOLOGIST WILL BE RESPONSIBLE FOR MONITORING/LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE.	EVERY 3 MONTHS	S.O.R.'S PREPARED BY THE BIOLOGIST (BASED ON THE REVEGETATION PLAN CRITERIA)	EVERY 3 MONTHS YEAR 1** 25 MONTHS**

NOTE: IF 25 MONTH SUCCESS CRITERIA ARE NOT MET, THE M&M PROGRAM WILL BE EXTENDED AS REQUIRED, QUARTERLY MAINTENANCE AND MONITORING WITH YEARLY REPORTING SHALL CONTINUE AS NEEDED.
** PEP, 1 YEAR AND 25 MONTH FINAL REPORT(S) REQUIRED TO INCLUDE ABOVE INFORMATION.

HYDROSEED SEED PALETTE (0.01 ACRE)

Species	Common Name	Density Lbs./Acre	Minimum % PLS*
<i>Acmispon alaber var. alaber</i>	coastal deerweed	4	54
<i>Artemisia californica</i>	California sagebrush	4	7.5
<i>Bromus caryinatus</i> "Cucamonga"	Cucamonga brome	4	85
<i>Eriogonum fasciculatum</i>	flat-top buckwheat	4	24
<i>Trifolium tridentatum</i>	tomcat clover	8	6.5
<i>Vulpia microstachys</i>	small fescue	4	85
TOTAL:		28 Lbs./Acre	

* PURE LIVE SEED

HYDROSEED SLURRY COMPONENTS

Product	Lbs./Acre
Cellulose Fiber Mulch	2,500
Hydropost Compost	2,000
Humate Tri-C Organic Soil Conditioner	500
SoilBuster Pelletized Calcium Sulfate Gypsum Alternative	1,200
Super Tack	200

APPENDIX J
GEOTECHNICAL REPORT

Geotechnical Engineering Evaluation Report

**City of San Diego
Sewer & Water Group 701 - Task 15GT01
San Diego, California**

**Prepared for:
City of San Diego
Public Works Department
525 B Street, Suite 750 (MS 908A)
San Diego, CA 92101**

March 4, 2016

Project No.: 160037.2

March 4, 2016
Project No. 160037.2

Ms. Nicole Salem
City of Huntington Beach
City of San Diego
Public Works Department
525 B Street, Suite 750 (MS 908A)
San Diego, CA 921012000 Main Street
Huntington Beach, California

Subject: Geotechnical Engineering Evaluation Report
City of San Diego
Sewer & Water Group 701 - Task 15GT01
San Diego, California

Dear Ms. Salem,

In accordance with your request and authorization, we are presenting the results of our geotechnical engineering evaluation for the above-referenced project in the City of San Diego, California. The purpose of this investigation has been to evaluate the subsurface conditions at the site and to provide geotechnical engineering recommendations for the Sewer & Water Group 701 project.

Please note that the recommendations presented within the report are based on assumptions stated herein. Should conditions encountered during development differ from those assumed in our analyses, or should the proposed development change, our recommendations may need to be modified accordingly.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned.

Respectfully submitted,

TWINING, INC.

Andres Bernal, R.C.E. 62366, G.E. 2715
Senior Geotechnical Engineer

Richard S. Hazen, P.G. 4371, C.E.G. 1712
Principal Engineering Geologist

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Appendices

- Appendix A - Field Exploration
- Appendix B - Laboratory Testing

1. INTRODUCTION

This report presents the results of our geotechnical engineering evaluation performed for the Sewer & Water Group 701 project, located in the Uptown area of the city of San Diego, California (Figure 1, Project Location Map). The purpose of this study has been to evaluate subsurface conditions and provide geotechnical recommendations related to the design and construction of the proposed sewer and water lines.

2. SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Based on our review of construction plans provided by the city, the Sewer & Water Group 701 project consists of trenchless installation of water pipeline on Palm Street from the intersection with State Street to West Palm Street. The approximate trenchless installation length is 82 feet and the approximate surface elevations on Palm Street range from 194 feet to 215 feet above mean sea level. The invert elevations will be on the order of five to 18 feet below ground surface (bgs).

Additional work for this project includes tunneling for 4- and 6-inch PVC sewer replumbs at the following property locations:

- 1105 West Quince Street
- 1107-1111 West Quince Street
- 2955-2961 Columbia St
- 921 West Palm, 2874 Union St, 2920 Union St (near trenchless work)
- 2846 , 2866, 2874 Union St
- 2742 Brant Street
- 2850, 2860-2862, 2829, 2839, 2811, 2855, 2863-2865 State St
- 2819-2825 State St
- 615 W. Redwood St
- 2820 Brant St
- 3066 Dove St
- 3130 1st Ave, 3138-3146 1st Ave, 3102 1st Ave

The proposed sewer lines are anticipated to be installed through trenchless methods (jack and bore) at depths of 5 to 15 feet below the existing grade. The approximate boring locations and location of the proposed sewer and water lines are presented on Figure 2, Boring Location Map. The surface conditions at the boring locations consisted of asphalt and concrete paved street sections.

3. SCOPE OF SERVICES

Our scope of services for this project consisted of the following:

- We reviewed readily available background data, including project plans provided by the City of San Diego, in-house geotechnical data, geotechnical literature, geologic maps, topographic maps relevant to the subject sites.
- We discussed the project with City of San Diego representatives and selected nine sites for our subsurface investigation. We performed a geotechnical reconnaissance to observe the general surface conditions at the proposed sites and to select boring locations. After the boring locations were delineated, Underground Service Alert was notified of the planned locations a minimum of 48 hours prior to excavation.

- We prepared traffic control plans and obtained encroachment permits from the City of San Diego.
- We obtained boring permits from the San Diego County Department of Environmental Health (DEH).
- We performed a subsurface evaluation including the excavation, logging, and sampling of eight 8-inch diameter exploratory borings. The borings were advanced to approximate depths ranging from 11 to 22½ feet bgs. We obtained samples of earth materials from the borings and transported them to our in-house laboratory for observation and testing.
- We performed laboratory testing on selected samples of earth materials in order to evaluate the geotechnical engineering properties of the on-site soils. Laboratory tests included in-situ moisture content and dry density, grain-size analysis, direct shear and corrosivity evaluation.
- We compiled and analyzed the data collected from our site reconnaissance, subsurface evaluation, and laboratory testing. Specifically, our analyses included the following:
 - Evaluation of general subsurface conditions and description of types, distribution, and engineering characteristics of subsurface materials;
 - Evaluation of current and historical groundwater conditions at the site and potential impact on design and construction;
 - Evaluation of project feasibility and suitability of on-site soils for fill support;
 - Development of general recommendations for earthwork, including requirements for placement of compacted fill; and,
 - Provision of recommendations for temporary excavations.
- We prepared this report that presents the work performed and data acquired and summarize our conclusions and geotechnical recommendations for the design and construction of the proposed improvements.

4. FIELD EXPLORATION AND LABORATORY TESTING

4.1. Field Exploration

The subsurface conditions were evaluated by advancing eight 8-inch diameter, hollow-stem auger borings at various project locations. We were not able to perform the boring at 2955-2961 Columbia Street due to the USA markout of sewer and water lines under the street section and the presence overhead electric lines on both sides of the street. The approximate locations of the exploratory borings are shown on Figure 2, Boring Location Map. The logs of borings are presented in Appendix A, Field Exploration.

The borings were advanced to approximate depths ranging from 11 to 22½ feet below existing grades using a CME-55 truck-mounted drill rig. Driven samples of the soil were obtained using a modified California split spoon sampler. The samplers were driven using a 140-pound, automatic-drop hammer falling approximately 30 inches. The blow counts were recorded, and the materials encountered in the borings were logged by our field personnel. The recorded blow counts are included on the boring logs in

Appendix A. Upon completion of drilling, the borings were backfilled by the drilling subcontractor using soil derived from the cuttings and capped with high strength rapid set cement grout.

4.2. Laboratory Testing

Laboratory tests were performed on selected samples obtained from the borings in order to aid in the soil classification and to evaluate the engineering properties of the foundation soils. The following tests were performed:

- In-situ moisture and density;
- Sieve analyses Atterberg limits;
- Direct shear; and
- Corrosivity evaluation.

The moisture content and density data are presented on the boring logs in Appendix A. The remaining laboratory test results are presented in Appendix B. Details of the laboratory testing program are also included in Appendix B.

5. GEOLOGY AND SUBSURFACE CONDITIONS

Our findings regarding regional and site geology, and groundwater conditions are provided in the following sections.

5.1. Regional Geologic Setting

The project area is located in the western San Diego County portion of the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California (Norris and Webb, 1990). The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks, and Cretaceous igneous rocks of the southern California batholith. The portion of the province in San Diego County that includes the project area consists generally of Quaternary-age surficial deposits, underlain by Tertiary- and Cretaceous-age sedimentary rocks.

5.2. Site Geology and Subsurface Conditions

Geologic units encountered during our subsurface evaluation include undocumented fill material, very old paralic deposits, unit 10 (map symbol Qvop10) previously labeled as Lindavista Formation, and early to late Pleistocene-age San Diego Formation (map symbol Tsd). The local geology is presented in Figure 3. The following sections provide generalized descriptions of the materials encountered. Detailed descriptions are provided in Appendices A and B.

921 West Palm Street: Earth materials encountered in Boring B-1 included fill consisting of damp, very dense, silty sand with coarse gravel extending to 6 feet depth bgs underlain by San Diego Formation materials consisting of damp to moist, weakly to very weakly cemented, silty sandstone transitioning to sandy siltstone at the maximum exploratory depth of 22½ feet bgs. Groundwater was not encountered during drilling.

1111 West Quince Street: Earth materials encountered in Boring B-2 included very old paralic deposits consisting of moist, very dense silty sand extending to 7 feet depth bgs underlain by San Diego Formation materials consisting of moist, moderately to very weakly cemented, silty

sandstone transitioning to sandy siltstone at 12 feet depth bgs and extending to the maximum exploratory depth of 19½ feet bgs. Groundwater was not encountered during drilling.

2839 State Street: Earth materials encountered in Boring B-3 included very old paralic deposits consisting of moist, very dense silty sand with some fine to coarse gravel extending to 5 feet depth bgs underlain by San Diego Formation materials consisting of damp to wet, strongly to weakly cemented, silty sandstone with few gravel extending to the maximum exploratory depth of 19 feet bgs. Groundwater was not encountered during drilling.

2866 Union Street: Earth materials encountered in Boring B-4 included fill consisting of damp, dense, silty sand with few coarse gravel and cobbles extending to 6 feet depth bgs underlain by very old paralic deposits consisting of damp, very dense, silty sand with some few coarse gravel and cobbles to 12½ feet bgs followed by San Diego Formation materials consisting of damp, weakly cemented, silty sandstone to the maximum exploratory depth of 13½ feet bgs. Groundwater was not encountered during drilling.

2742 Brant Street: Earth materials encountered in Boring B-5 included very old paralic deposits consisting of moist, silty sand extending to 3 feet depth bgs underlain by San Diego Formation materials consisting of moist to wet, weakly cemented, silty sandstone transitioning to sandy siltstone at 13 feet depth bgs and extending to the maximum exploratory depth of 19 feet bgs. Groundwater was not encountered during drilling.

2820 Brant Street: Earth materials encountered in Boring B-6 included San Diego Formation materials consisting of damp, weakly cemented, silty sandstone transitioning to siltstone at 5 feet depth bgs and extending to the maximum exploratory depth of 13½ feet bgs. Groundwater was not encountered during drilling.

3130 First Avenue: Earth materials encountered in Boring B-7 included very old paralic deposits consisting of moist, very dense silty sand with some coarse gravel extending to the maximum exploratory depth of 10.8 feet bgs. Groundwater was not encountered during drilling.

615 West Redwood Street: Earth materials encountered in Boring B-8 included San Diego Formation materials consisting of damp to wet, very weakly to weakly cemented, silty sandstone transitioning to sandy siltstone at 15 feet depth bgs and extending to the maximum exploratory depth of 19 feet bgs. Groundwater was not encountered during drilling.

5.3. Groundwater

As indicated above, groundwater was not encountered in any of the soil borings. According to our review of previous geotechnical exploration in the general vicinity of the project site, the groundwater level is located at a depth of more than 100 feet below existing grades. Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions, and may change over time as a consequence of seasonal and meteorological fluctuations and activities by humans at this and nearby sites.

6. DESIGN RECOMMENDATIONS

6.1. General

Based on the results of the field exploration, laboratory testing, and engineering analyses, it is our opinion that the proposed construction is feasible from a geotechnical standpoint, provided that the

recommendations in this report are incorporated into the design plans and are implemented during construction. The following sections present our conclusions and recommendations pertaining to the geotechnical engineering design for this project.

6.2. Site Preparation

Excavation bottoms should be observed and accepted by the geotechnical engineer or engineering geologist prior to construction of the sewer line and fill placement. Unstable excavation bottoms may require additional removal to expose competent, non-yielding subgrade soil.

The on-site soil can be replaced as engineered backfill for the sewer line. The sewer line should be supported on the existing subgrade soil, or engineered fill. Engineered fill should be placed in 8- to 12-inch-thick loose lifts and compacted to at least 90 percent of the maximum dry density, as determined by ASTM D 1557. We recommend that the upper 2 feet of the compacted fill below the pavement section be compacted to at least 95 percent of the maximum dry density as determined by ASTM D 1557.

Vegetation, debris, organics, and oversized materials greater than 6 inches in maximum dimension should be sorted from the on-site soil and disposed offsite prior to placing compacted fill. If imported fill materials are needed on the site, they should have a very low expansion potential (expansion index not greater than 40). Proposed import materials should be evaluated and approved by the geotechnical engineer prior to use at the site.

6.3. Excavation Characteristics

The results of our field exploration indicate that the project alignment is underlain by fill, very old paralic deposits, and San Diego Formation sandstone and siltstone. Excavations in fill and very old paralic deposits should generally be feasible with heavy-duty earth working equipment in good working condition. Loose caving and/or sloughing conditions are anticipated in fill and very old paralic deposits. Gravel and cobbles should be anticipated in fill and alluvium. Strongly cemented zones and concretions are anticipated when excavating in materials of the very old paralic deposits and Torrey Sandstone. Excavations in these materials will entail the use of heavy ripping or rock breakers.

6.4. Temporary Excavations

Temporary, unsurcharged excavation sides may be sloped back at an inclination of 1.5:1 (horizontal: vertical). Personnel from Twining, Inc. should observe the excavation so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

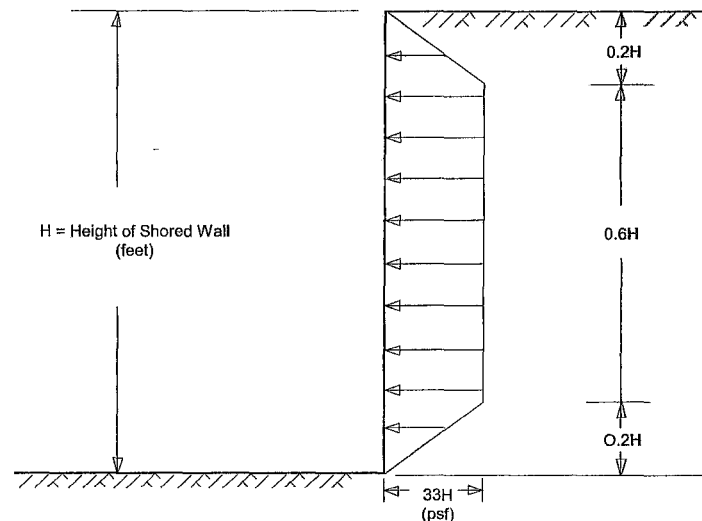
Where sloped excavations are created, the tops of the slopes should be barricaded so that vehicles and storage loads do not encroach within 10 feet of the tops of the excavated slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. Twining, Inc. should be advised of such heavy vehicle loadings so that specific setback requirements can be established. If the temporary construction slopes are to be maintained during the rainy season, berms are recommended to be graded along the tops of the slopes in order to prevent runoff water from entering the excavation and eroding the slope faces.

We anticipate that temporary, shallow excavations with vertical side slopes less than 4 feet high will generally be stable. All shallow excavations should be performed in accordance with CalOSHA requirements. Vertical excavations greater than 4 feet high will require temporary shoring/shielding of

the subgrade soils. Design recommendations for temporary shoring are presented in the following section.

6.5. Lateral Pressures for Temporary Shoring

Tied-back or braced shoring is anticipated during construction and should be designed to resist a trapezoidal distribution of lateral earth pressure. The recommended pressure distribution, for the case where the grade is level behind the shoring, is illustrated in the following diagram with the maximum pressure equal to $33H$ in psf, where H is the height of the shored wall in feet.



Any surcharge (live, including traffic, or dead load) located within a 1:1 (horizontal:vertical) plane drawn upward from the base of the shored excavation, including adjacent structures, should be added to the lateral earth pressures. The lateral contribution of a uniform surcharge load located immediately behind the temporary shoring may be calculated by multiplying the vertical surcharge pressure by 0.35. Lateral load contributions of surcharges located at a distance behind the shored wall may be provided once the load configurations and layouts are known. As a minimum, a 250 psf vertical uniform surcharge is recommended to account for nominal construction and/or traffic loads.

Due to the presence of perched groundwater near the bottom of proposed deepest excavations, shoring should be designed to allow for the relief of hydrostatic pressure (i.e., weep holes and/or spacing between temporary shoring elements). The contractor should be prepared to dewater excavations using temporary sumps and sump pumps as needed. The method of dewatering during construction should be reviewed by the geotechnical engineer.

6.6. Lateral Pressures for Thrust Blocks

Thrust restraint for buried pipelines may be achieved by transferring the thrust force to the soil outside the pipe through a thrust block. Thrust blocks should be backfilled with granular backfill material, compacted as outlined in this report. Thrust blocks may be designed using lateral passive earth pressure according to the equation presented below:

$$P_p = 200 (D^2 - d^2) \text{ lb/ft, where}$$

P_p is the passive soil resistance per foot of width
 d is the depth to the top of the thrust block

D is the depth to the bottom of the thrust block

6.7. Pavement Reconstruction

Trench excavations in existing pavement areas may involve replacement of pavements at the completion of work. In general, pavement repair should conform to the material thicknesses and compaction requirements of the adjacent pavement section. Subgrade and aggregate base materials should be compacted to 95 percent relative compaction as evaluated by ASTM D 1557. Asphalt concrete (AC) should be compacted to 95 percent relative compaction as evaluated by ASTM D1561 (Hveem density). Actual pavement reconstruction should conform to the requirements of the City of San Diego.

6.8. Corrosivity

Laboratory testing was performed on representative samples of near-surface soil to evaluate soil pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content. The soil pH and electrical resistivity tests were performed in general accordance with CT 643. Chloride content tests were performed in general accordance with CT 422. Sulfate testing was performed in general accordance with CT 417. The laboratory test results are presented in Appendix B. The pH values of the tested samples ranged 7.3 to 9.7. The electrical resistivity values ranged from 1,600 ohm-centimeters to 3,500 ohm-centimeters. The chloride contents ranged from 32 ppm to 332 ppm. The sulfate contents ranged from 0.008 percent and 0.016 percent by weight (i.e., 78 ppm to 156 ppm). Based on the laboratory test results, ACI 318, and Caltrans (2012) corrosion criteria, the project sites would not be classified as corrosive, which is defined as having earth materials with an electrical resistivity of less than 1,000 ohm-centimeters, more than 500 ppm chlorides, more than 0.10 percent sulfates (i.e., 1,000 ppm), or a pH of 5.5 or less.

6.9. Concrete Placement

Concrete in contact with soil or water that contains high concentrations of soluble sulfates can be subject to chemical deterioration. Laboratory testing indicated a sulfate content of approximately 0.008 percent and 0.016 percent percent for the tested samples (i.e., 200 ppm and 1,170 ppm). According to American Concrete Institute (ACI) 318, the potential for sulfate attack is negligible for water-soluble sulfate contents in soil less than 0.10 percent by weight (i.e., less than 1,000 ppm). Therefore, the site soils may be considered to have negligible potential for sulfate attack. Due to the potential for variability of soils, we recommend using Type II/V cement for concrete structures in contact with soil, and a water-cement ratio of no more than 0.45.

7. DESIGN REVIEW AND CONSTRUCTION MONITORING

Geotechnical review of plans and specifications is of paramount importance in engineering practice. The poor performance of many structures has been attributed to inadequate geotechnical review of construction documents. Additionally, observation and testing of the subgrade will be important to the performance of the proposed development. The following sections present our recommendations relative to the review of construction documents and the monitoring of construction activities.

7.1. Plans and Specifications

The design plans and specifications should be reviewed by Twining, Inc. prior to bidding and construction, as the geotechnical recommendations may need to be reevaluated in the light of the

actual design configuration and loads. This review is necessary to evaluate whether the recommendations contained in this report and future reports have been properly incorporated into the project plans and specifications. Based on the work already performed, this office is best qualified to provide such review.

7.2. Construction Monitoring

Site preparation, removal of unsuitable soils, assessment of imported fill materials, fill placement, and other site grading operations should be observed and tested, as appropriate. The substrata exposed during the construction may differ from that encountered in the test excavations. Continuous observation by a representative of Twining, Inc. during construction allows for evaluation of the soil conditions as they are encountered, and allows the opportunity to recommend appropriate revisions where necessary.

8. LIMITATIONS

The recommendations and opinions expressed in this report are based on Twining, Inc.'s review of readily available background documents, on information obtained from field explorations, and on laboratory testing. In the event that any of our recommendations conflict with recommendations provided by other design professionals, we should be contacted to aid in resolving the discrepancy.

Due to the limited nature of our field explorations, conditions not observed and described in this report may be present on the site. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation and laboratory testing can be performed upon request. It should be understood that conditions different from those anticipated in this report may be encountered during grading operations (for example, the extent of removal of unsuitable soil) and that additional effort may be required to mitigate them.

Site conditions, including groundwater elevation, can change with time as a result of natural processes or the activities of man at the subject site or at nearby sites. Changes to the applicable laws, regulations, codes, and standards of practice may occur as a result of government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Twining, Inc. has no control.

Twining, Inc.'s recommendations for this site are, to a high degree, dependent upon appropriate quality control of subgrade preparation, fill placement, and construction. Accordingly, the recommendations are made contingent upon the opportunity for Twining, Inc. to observe grading operations for the proposed construction. If parties other than Twining, Inc. are engaged to provide such services, such parties must be notified that they will be required to assume complete responsibility as the geotechnical engineer and engineering geologist of record for the geotechnical phase of the project by concurring with the recommendations in this report and/or by providing alternative recommendations.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Twining, Inc. should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report has been prepared for the exclusive use by the city of Huntington Beach and its agents for specific application to the proposed project. Land use, site conditions, or other factors may change over time, and additional work may be required with the passage of time. Based on the intended use of this report and the nature of the project, Twining, Inc. may require that additional work be performed and that

an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release Twining, Inc. from all liability resulting from the use of this report by any unauthorized party.

Twining, Inc. has endeavored to perform its evaluation using the degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical professionals with experience in this area under similar circumstances. No other warranty, either expressed or implied, is made as to the conclusions and recommendations contained in this report.

9. SELECTED REFERENCES

ASTM International, 2010, ASTM Volume 04.08, Soil and Rock (I): D 420 - D 5876: dated March, 1830 pp.

ASTM International, 2010, ASTM Volume 04.09, Soil and Rock (II): D 5877 - latest: dated March, 1532 pp.

California Buildings Standards Commission, 2013, 2013 California Building Code, California Code of Regulations, Title 24, Part 2.

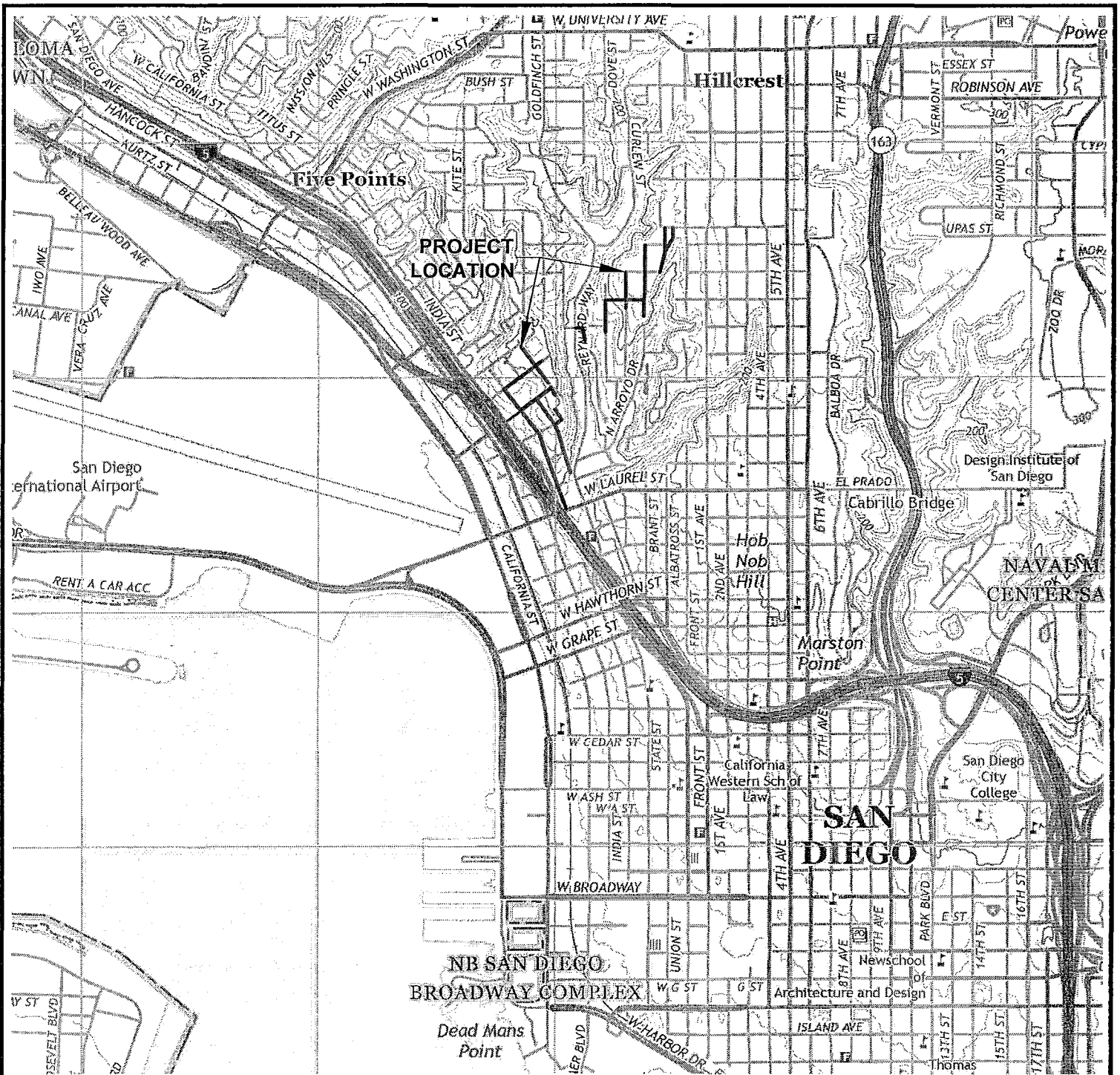
City of San Diego, 2008, Seismic Safety Study, Sheet 17.

Kennedy, M.P., and Tan, S.S., 2008, Geologic Map of the San Diego 30' x 60' Quadrangle, California Geological Survey, Scale 1:100,000.

Public Works Standards, Inc., 2009, The "Greenbook" Standard Specifications for Public Works Construction.

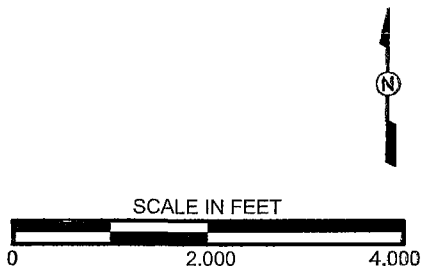
U.S. Department of Transportation, Federal Highway Administration, "Geotechnical Engineering Circular No.4, Ground Anchors and Anchored Systems," dated June 1999.

FIGURES



APPROXIMATE PROJECT COORDINATES
 LATITUDE: 32.736°N
 LONGITUDE: 117.169°W

REFERENCE: UNITED STATES GEOLOGICAL SURVEY (2016)



PROJECT LOCATION MAP

Sewer and Water Group 701
 City of San Diego Public Works
 San Diego, California

PROJECT NO.
160037.2


REPORT DATE
March 2016

FIGURE 1



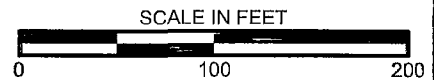
LEGEND



B-1
TD=22.5'
 APPROXIMATE LOCATION OF BORING
 TOTAL DEPTH IN FEET

 APPROXIMATE LOCATION OF PROPOSED
 SEWER MAIN INSTALLATION

 APPROXIMATE LOCATION OF PROPOSED
 WATER MAIN INSTALLATION



REFERENCE: GOOGLE EARTH (2016)



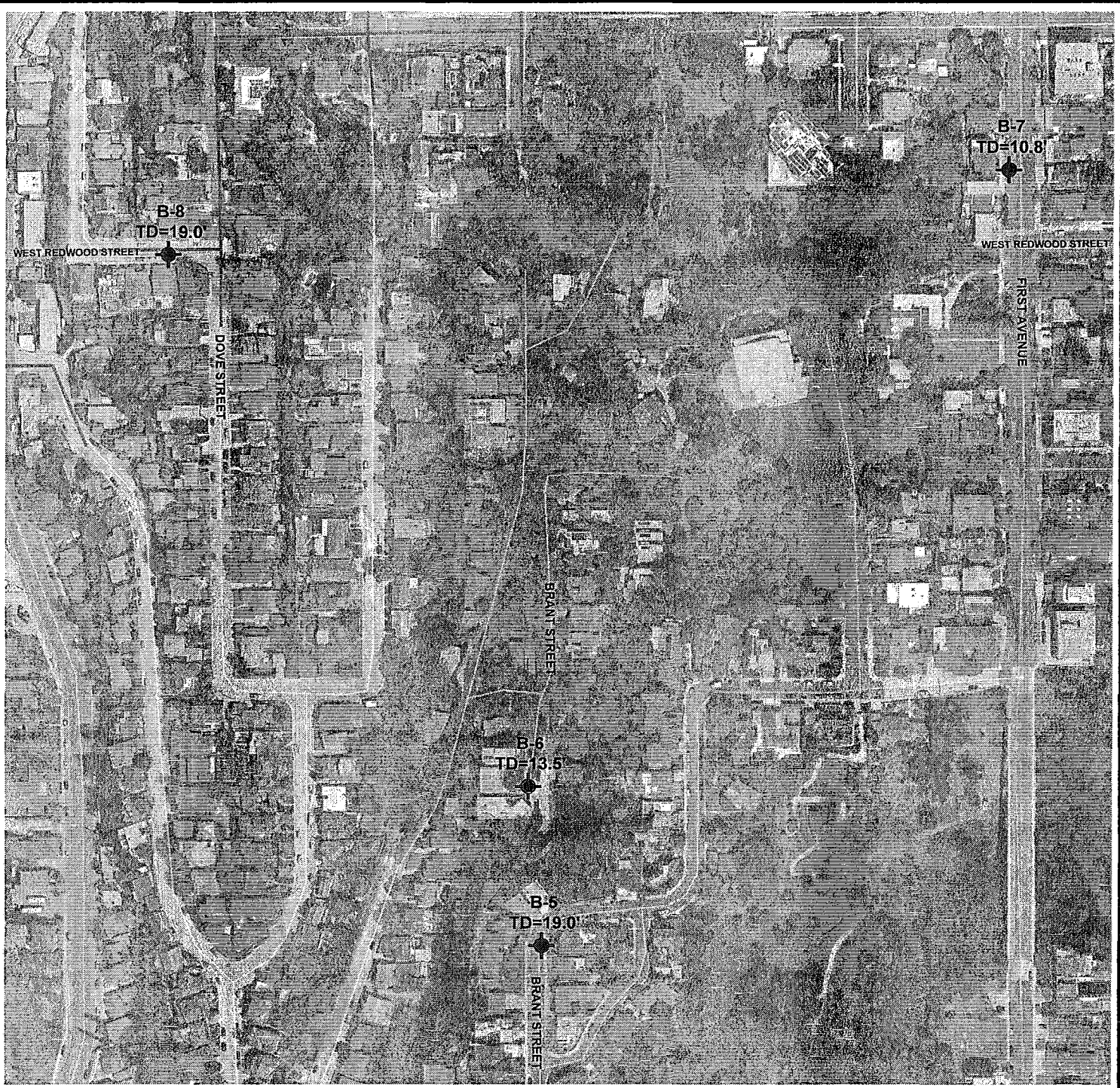
BORING LOCATION MAP

Sewer and Water Group 701
 City of San Diego Public Works
 San Diego, California



PROJECT NO.
160037.2


REPORT DATE
March 2016

FIGURE 2A

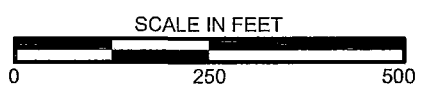



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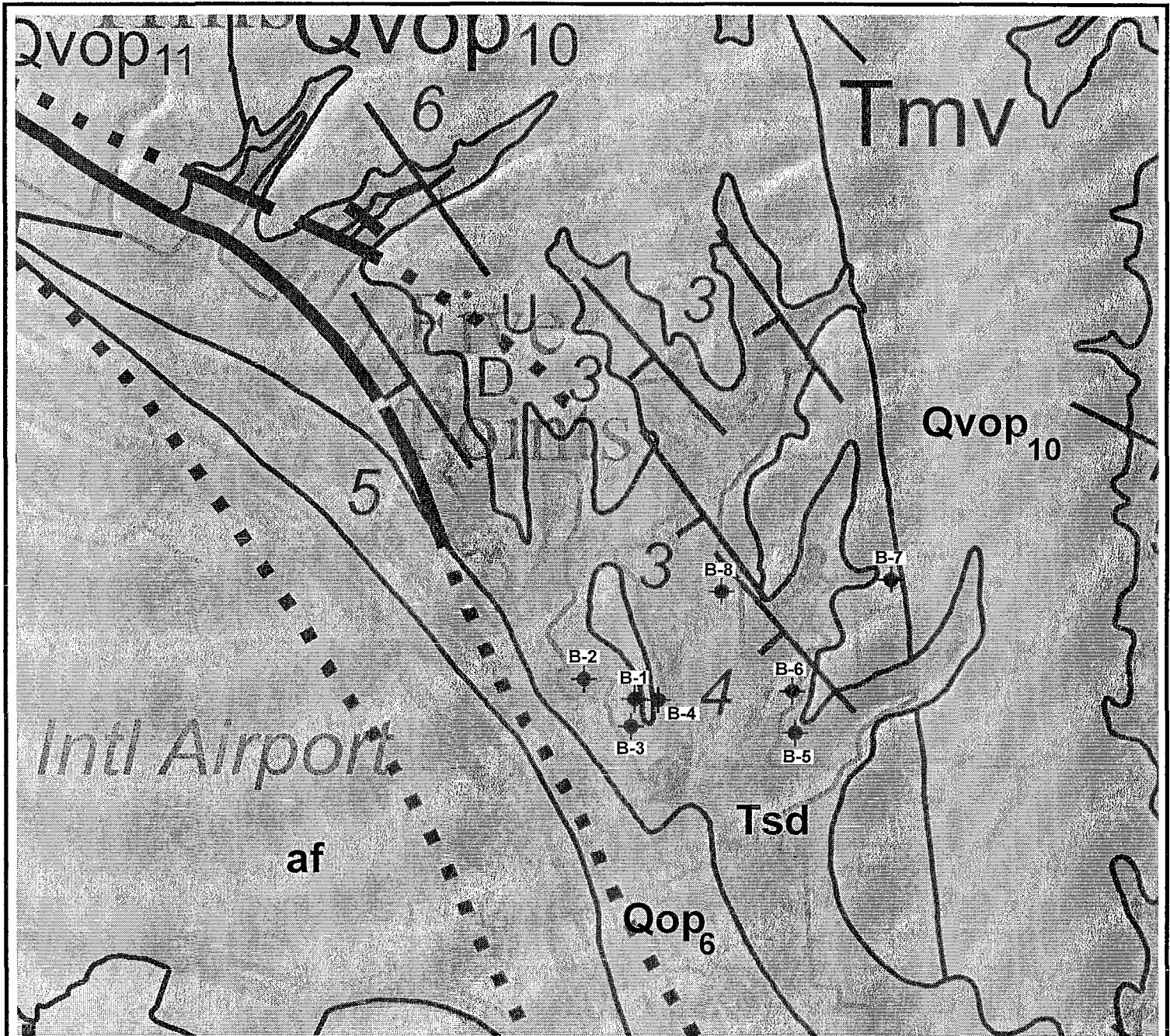


B-1
TD=22.5'
 APPROXIMATE LOCATION OF BORING
 TOTAL DEPTH IN FEET


 APPROXIMATE LOCATION OF PROPOSED
 SEWER MAIN INSTALLATION

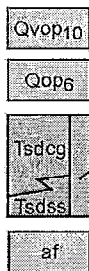
REFERENCE: GOOGLE EARTH (2016)



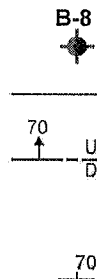
	BORING LOCATION MAP		
	Sewer and Water Group 701 City of San Diego Public Works San Diego, California		
	PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE 2B



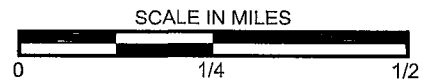
LEGEND



Qvop10 VERY OLD PARALIC DEPOSITS - UNIT 10
 Qop6 OLD PARALIC DEPOSITS - UNIT 6
 Tsdcg Tsd SAN DIEGO FORMATION
 Tsdss
 af ARTIFICIAL FILL



B-8 APPROXIMATE BORING LOCATION
 CONTACT-BETWEEN GEOLOGIC UNITS, DOTTED WHERE CONCEALED.
 70 U D FAULT - SOLID WHERE ACCURATELY LOCATED; DASHED WHERE APPROXIMATELY LOCATED; DOTTED WHERE CONCEALED. U=UPTHROWN BLOCK, D=DOWNTHROWN BLOCK. ARROW AND NUMBER INDICATED DIRECTION AND ANGLE OF DIP TO FAULT PLANE
 70 STRIKE AND DIP OF BEDS - INCLINED



REFERENCE: CALIFORNIA GEOLOGICAL SURVEY (2008)

REGIONAL GEOLOGIC MAP

Sewer and Water Group 701
 City of San Diego Public Works
 San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE 3



APPENDIX A FIELD EXPLORATION

Appendix A Field Exploration

General

The subsurface exploration program for the proposed project included drilling and logging eight 8-inch diameter exploratory borings. The 8-inch diameter exploratory borings were advanced using a truck-mounted CME-75 hollow-stem-auger drill rig. The borings reached depths of approximately 11 to 22½ feet below existing grades.

Drilling and Sampling

The Boring Logs are presented in Figures A-2 through A-9. An explanation of these logs is presented in Figure A-1. The Boring Logs describe the earth materials encountered, samples obtained, and show the field and laboratory tests performed. The log also shows the boring number, drilling date, and the name of the logger and drilling subcontractor. The borings were logged by a Twining, Inc. engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Drive and bulk samples of representative earth materials were obtained from the borings.

A California modified sampler was used to obtain drive samples of the soil encountered. This sampler consists of a 3-inch outside diameter (O.D.), 2.4-inch inside diameter (I.D.) split barrel shaft that is driven a total of 18-inches into the soil at the bottom of the boring. The soil was retained in brass rings for laboratory testing. Additional soil from each drive remaining in the cutting shoe was usually discarded after visually classifying the soil. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs.

Disturbed samples were obtained using a Standard Penetration Sampler (SPT). This sampler consists of a 2-inch O.D., 1.4-inch I.D. split barrel shaft that is advanced into the soil at the bottom of the drilled hole a total of 18 inches. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs. Soil samples obtained by the SPT were retained in plastic bags.

Both the California modified and the SPT sampler were driven by an automatic-trip hammer weighing 140 pounds at a drop height of approximately 30 inches.

UNIFIED SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</small>	GRAVEL AND GRAVELLY SOILS <small>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</small>	CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS <small>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</small>	CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SM	SILTY SANDS, SAND - SILT MIXTURES
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</small>	SILTS AND CLAYS <small>LIQUID LIMIT LESS THAN 50</small>		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS <small>LIQUID LIMIT GREATER THAN 50</small>		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS	
			CH	INORGANIC CLAYS OF HIGH PLASTICITY	
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

COARSE-GRAINED SOILS

FINE-GRAINED SOILS

Relative Density	SPT (blows/ft)	Relative Density (%)	Consistency	SPT (blows/ft)
Very Loose	<4	0 - 15	Very Soft	<2
Loose	4 - 10	15 - 35	Soft	2 - 4
Medium Dense	10 - 30	35 - 65	Medium Stiff	4 - 8
Dense	30 - 50	65 - 85	Stiff	8 - 15
Very Dense	>50	85 - 100	Very Stiff	15 - 30
			Hard	>30

NOTE: SPT blow counts based on 140 lb. hammer falling 30 inches

LABORATORY TESTING ABBREVIATIONS

ATT	Atterberg Limits
C	Consolidation
CORR	Corrosivity Series
DS	Direct Shear
EI	Expansion Index
GS	Grain Size Distribution
K	Permeability
MAX	Moisture/Density (Modified Proctor)
O	Organic Content
RV	Resistance Value
SE	Sand Equivalent
SG	Specific Gravity
TX	Triaxial Compression
UC	Unconfined Compression

Sample Symbol	Sample Type	Description
	SPT	1.4 in I.D., 2.0 in. O.D. driven sampler
	California Modified	2.4 in. I.D., 3.0 in. O.D. driven sampler
	Bulk	Retrieved from soil cuttings
	Thin-Walled Tube	Pitcher or Shelby Tube



EXPLANATION FOR LOG OF BORINGS

Sewer and Water Group 701
San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A-1

STANDARD LOG EXPLANATION 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT 3/3/16

DATE DRILLED 2/11/16 LOGGED BY AM BORING NO. B-1
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 201 +(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
									SM	ASPHALT CONCRETE: 4 inches FILL Silty SAND, yellowish-brown, damp, very dense, fine-grained -- trace gravel -- orange-brown, very dense, coarse-grained gravel up to 3" in diameter
196	5			50/5"						
				50/2"	5.7	115.6				SAN DIEGO FORMATION (Tsd) Silty SANDSTONE, reddish-brown, damp, very dense, trace gravel, weakly cemented, moderate iron oxide staining
191	10			50/5"						-- same
				50/6"	10.3	118.5	CORR			-- medium to dark brown, moist, fine- to medium-grained sand
186	15			40			SA			-- reddish-brown, dense
				76/9"	9.1	109.5	DS			-- very dense, damp
181	20						SA	xxxxxx		Sandy SILTSTONE, light grayish brown, moist, medium dense, very weakly cemented
				28						Total Depth = 22.5 feet Backfilled on 2/11/2016 in accordance with SDC DEH requirements. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
176	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/2/16



LOG OF BORING

Sewer and Water Group 701
 921 West Palm Street
 San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A - 2

DATE DRILLED 2/11/16 LOGGED BY AM BORING NO. B-2
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 174 +(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										ASPHALT CONCRETE: 4 inches PORTLAND CEMENT CONCRETE: 6 inches VERY OLD PARALIC DEPOSITS (Qvop10) Silty SAND, yellowish-brown, moist, very dense, fine-grained
169	5			61					SM	-- reddish-brown, some marine fossils
				58	14.5	103.1				SAN DIEGO FORMATION (Tsd) Silty SANDSTONE, grayish-brown, dense, moderately cemented
164	10			32						-- light brown
				84	17.4	100.4	DS			Sandy SILTSTONE, light brown, moist, very dense, very weakly cemented -- light grayish-brown layer
159	15			25			SA, CORR			-- less sand, medium dense
				27	24.1	93.9				-- trace clay, wet
154	20									Total Depth = 19.5 feet Backfilled on 2/11/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
149	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/2/16



LOG OF BORING

Sewer and Water Group 701
 1111 West Quince Street
 San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A - 3

DATE DRILLED 2/11/16 LOGGED BY AM BORING NO. B-3
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 191 +(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										PORTLAND CEMENT CONCRETE: 9 inches
									SM	VERY OLD PARALIC DEPOSITS (Qvop) Silty SAND, reddish-brown, moist, very dense, fine- to medium-grained, some gravel up to 3-inch diameter -- orange-brown, few fine gravel
186	5			50/5"	12.8	85.5				SAN DIEGO FORMATION (Tsd) Silty SANDSTONE, orange-brown, damp, strongly cemented -- some fine gravel up to 1-inch diameter
				50/4"						-- interlayered reddish-brown weakly- to moderately-cemented siltstone -- grayish-brown, some fine gravel
181	10			50/5"	13.9	104.2				-- patchy iron-oxide staining, moist -- reddish-brown, some fine gravel
				50/6"						-- grayish-brown with patchy iron oxide staining, interlayers of moderately-cemented reddish-brown sandstone
176	15			80/9"	15.5	95.8	DS			-- becomes finer, interlayers of moderately-cemented reddish-brown sandstone
				50/5"	15.9	115.4				-- reddish-brown, wet, fine- to coarse-grained, few gravel
171	20									Total Depth = 19.0 feet Backfilled on 2/11/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
166	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/2/16



LOG OF BORING

Sewer and Water Group 701
 2839 State Street
 San Diego, California

PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE A - 4
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DATE DRILLED 2/11/16 LOGGED BY AM BORING NO. B-4
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 196 ±(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										PORTLAND CEMENT CONCRETE: 6 inches
									SM	FILL Silty SAND, medium brown, damp, dense, fine- to medium-grained, few coarse gravel up to 3-inch diameter -- 6-inch diameter cobble encountered -- same
191	5						SA			
				50/5"			CORR		SM	VERY OLD PARALIC DEPOSITS (Q _{vop10}) Silty SAND, reddish-brown, damp, very dense -- same
186	10			50/6"						-- no recovery, large 3-inch diameter rock in tip of sampler -- difficult drilling, cobble encountered
				50/5"	7.3	99.9	SA			SAN DIEGO FORMATION (T _{sd}) Silty SANDSTONE, light brown with rust colored staining, damp, fine-grained, weakly cemented Total Depth = 13.5 feet Backfilled on 2/11/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
181	15									
176	20									
171	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/2/16



LOG OF BORING

Sewer and Water Group 701
 2866 Union Street
 San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A - 5

DATE DRILLED 2/10/16 LOGGED BY AM BORING NO. B-5
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 195 +(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										ASPHALT CONCRETE: 10 inches
									SM	VERY OLD PARALIC DEPOSITS (Qvop10) Silty SAND, reddish-brown, moist, fine- to medium-grained, some gravel
190	5			88/9"			SA			SAN DIEGO FORMATION (Tsd) Silty SANDSTONE, yellowish-brown, moist, very dense, fine-grained, few gravel, interlayer of lean clay -- weakly cemented, iron oxide staining -- reddish-brown, moist, some gravel, large rock in sampler
				76/11"	9.1	125.8				-- medium brown
185	10			29						
				38	21.9	97.0	DS			Sandy SILTSTONE, yellowish-brown, wet, weakly cemented
180	15			18			CORR			-- grades to gray SILTSTONE
				24			SA			
175	20									Total Depth = 19.0 feet Backfilled on 2/10/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
170	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/2/16



LOG OF BORING

Sewer and Water Group 701
 2742 Brant Street
 San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A - 6

DATE DRILLED 2/10/16 LOGGED BY AM BORING NO. B-6
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 134 ±(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										PORTLAND CEMENT CONCRETE: 6 inches
										SAN DIEGO FORMATION (Tsd) Silty SANDSTONE, damp, yellowish-brown, fine-grained, weakly cemented
129	5			42			SA, CORR			SILTSTONE, yellowish-brown with gray staining, moist, dense, weakly cemented
				88/11"	15.4	103.6	DS			-- very dense
124	10			34			SA			
				50/5"	11.8	97.3				-- damp, some fine-grained sand
119	15									Total Depth = 13.5 feet Backfilled on 2/10/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
114	20									
109	25									

BORING LOG - 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/2/16



LOG OF BORING

Sewer and Water Group 701
 2820 Brant Street
 San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A - 7

DATE DRILLED 2/10/16 LOGGED BY AM **BORING NO.** B-7
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 252 +(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										ASPHALT CONCRETE: 7 inches
										PORTLAND CEMENT CONCRETE: 6 inches
									SM	VERY OLD PARALIC DEPOSITS (Q _{vop10}) Silty SAND with gravel, reddish-brown, moist, very dense, fine- to coarse-grained, some gravel up to 3-inches in diameter -- difficult drilling
247	5	⊗		50/6"	8.2	109.7	CORR			-- damp, large rock in sampler -- grades to medium-brown
242	10	⊗		50/3"			SA			-- same, mottled with green chlorite
237	15									Total Depth = 10.8 feet Backfilled on 2/10/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
232	20									
227	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/2/16



LOG OF BORING

Sewer and Water Group 701
 3130 First Avenue
 San Diego, California

PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE A - 8
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DATE DRILLED 2/10/16 LOGGED BY AM BORING NO. B-8
 DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) NE
 DRILLING METHOD 8" Hollow Stem DRILLER Baja Exploration SURFACE ELEVATION (ft.) 142 +(MSL)

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOWS / FOOT	MOISTURE (%)	DRY DENSITY (pcf)	ADDITIONAL TESTS	GRAPHIC LOG	U.S.C.S. CLASSIFICATION	DESCRIPTION
		Bulk	Driven							
										PORTLAND CEMENT CONCRETE: 8 inches
										SAN DIEGO FORMATION (Tsd) Silty SANDSTONE, medium brown, damp, fine-grained, very weakly cemented
137	5			6						-- loose, patchy iron oxide staining, weakly laminated
				47	7.3	99.6				-- yellowish-brown, dense, decreasing iron oxide staining
132	10			29						-- medium dense
				50/6"	10.0	95.3	DS			-- very dense
127	15			41			SA, CORR	XXXXXXXXXXXX		SILTSTONE, yellowish-brown, moist, dense, weakly cemented
				88/10"	8.6	92.4		XXXXXXXXXXXX		-- damp, very dense
122	20									Total Depth = 19.0 feet Backfilled on 2/10/2016. Groundwater not encountered during drilling. Borehole patched with rapid set concrete.
117	25									

BORING LOG 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/2/16



LOG OF BORING

Sewer and Water Group 701
615 West Redwood Street
San Diego, California

PROJECT NO.
160037.2

REPORT DATE
March 2016

FIGURE A - 9

APPENDIX B LABORATORY TESTING

Appendix B Laboratory Testing

Laboratory Moisture Content and Density Tests

The moisture content and dry densities of selected driven samples obtained from the exploratory borings were evaluated in general accordance with the latest version of ASTM D2937. The test results are presented on the logs of the exploratory borings in Appendix A and also summarized in Table B-1.

**Table B-1
Laboratory Moisture Content and Dry Density**

Boring No.	Depth (feet)	Moisture Content (%)	Dry Unit Weight (pcf)
B-1	7.5	5.7	115.6
B-1	12.5	10.3	118.5
B-1	17.5	9.1	109.5
B-2	7.5	14.5	103.1
B-2	12.5	17.4	100.4
B-2	18.0	24.1	93.9
B-3	5.0	12.8	85.5
B-3	10.0	13.9	104.2
B-3	15.0	15.5	95.8
B-3	18.0	15.9	115.4
B-4	12.5	7.3	99.9
B-5	7.5	9.1	125.8
B-5	12.5	21.9	97.0
B-6	7.5	15.4	103.6
B-6	12.5	11.8	97.3
B-7	5.0	8.2	109.7
B-8	7.5	7.3	99.6
B-8	12.5	10.0	95.3
B-8	17.5	8.6	92.4

Sieve Analyses

The grain-size distribution of selected soil samples was evaluated in general accordance with ASTM C136/C117. Test results are presented on Figures B-1 through B-11.

Direct Shear Test

Direct shear tests were performed on selected relatively undisturbed soil samples in general accordance with ASTM D3080 to evaluate the shear strength characteristics of the materials. The samples were inundated during shearing to represent adverse field conditions. Test results are presented on Figures B-12 through B-17.

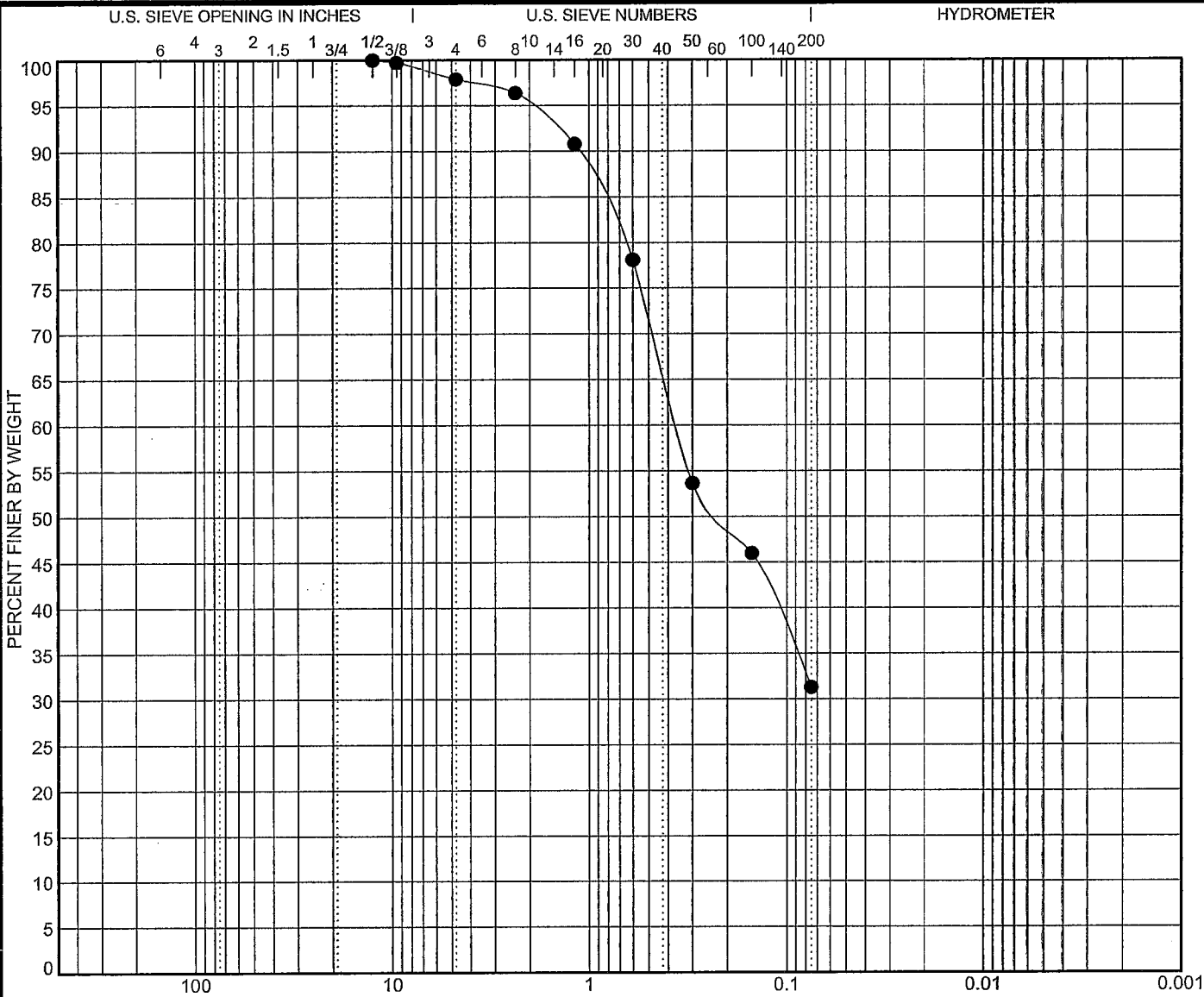
Corrosivity

Soil pH and resistivity tests were performed by Anaheim Test Laboratories on representative soil samples in accordance with the latest version of California Test Method 643. The chloride content of the selected sample was evaluated in accordance with the latest version of California Test Method 422. The sulfate content of the selected

sample was evaluated in accordance with the latest version of California Test Method 417. The test results are presented on Table B-3.

**Table B-3
Corrosivity Test Results**

Boring No.	Depth (feet)	pH	Water Soluble Sulfate (ppm)	Water Soluble Chloride (ppm)	Minimum Resistivity (ohm-cm)
B-1	12.5	7.5	156	136	2,700
B-2	15	7.6	99	37	3,500
B-4	7.5	7.8	107	332	1,600
B-5	15	7.3	91	32	2,400
B-6	5	8.9	78	247	2,200
B-7	5	6.9	86	106	1,600
B-8	15	9.7	95	37	3,200



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-1 at 15 ft	Silty SANDSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
12.5	0.359	0.215			2.1	66.6	31.3	

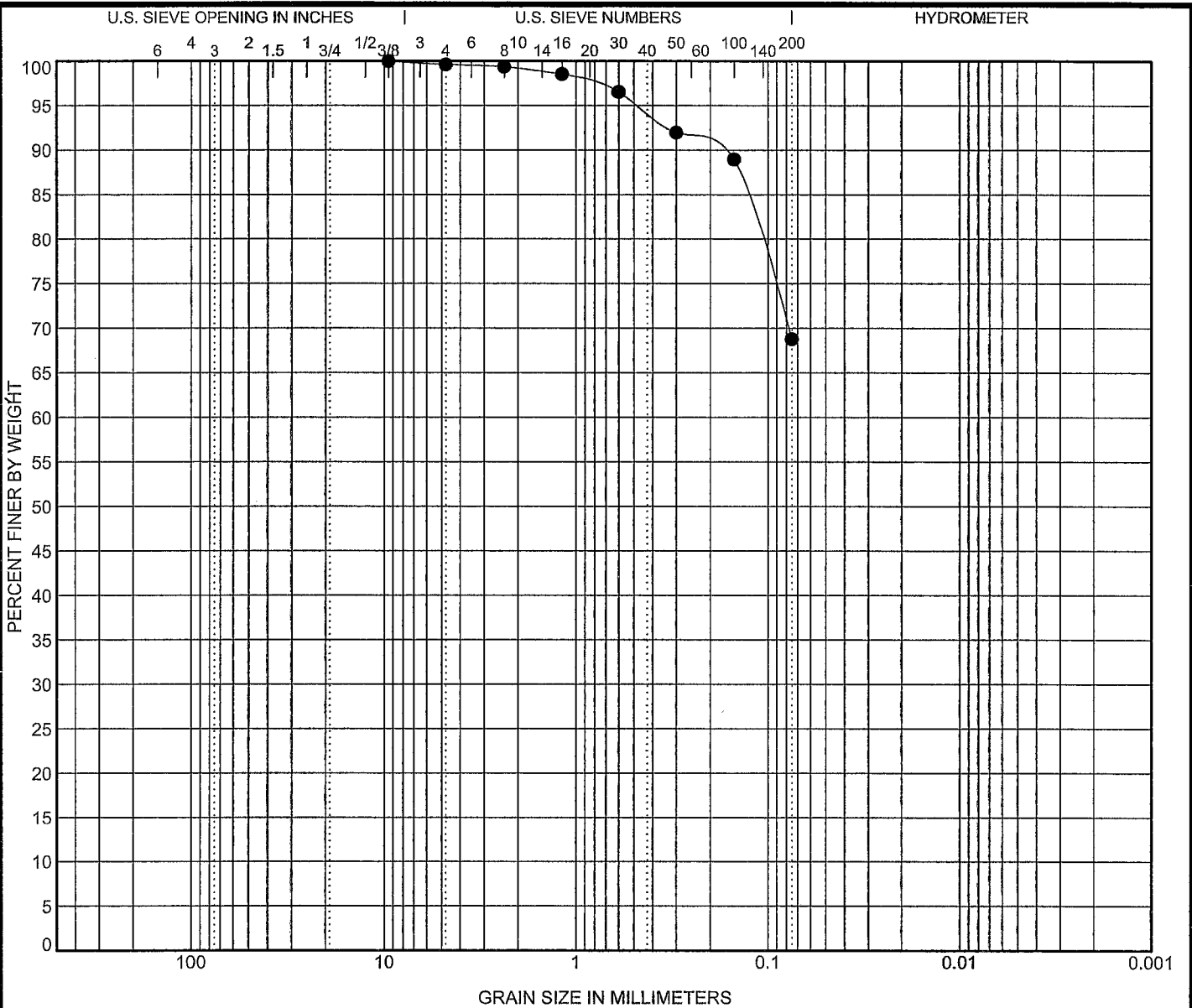


GRAIN SIZE DISTRIBUTION

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PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE B-1
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GRAIN SIZE: 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-1 at 21 ft	Sandy SILTSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
9.5					0.4	30.8	68.8	

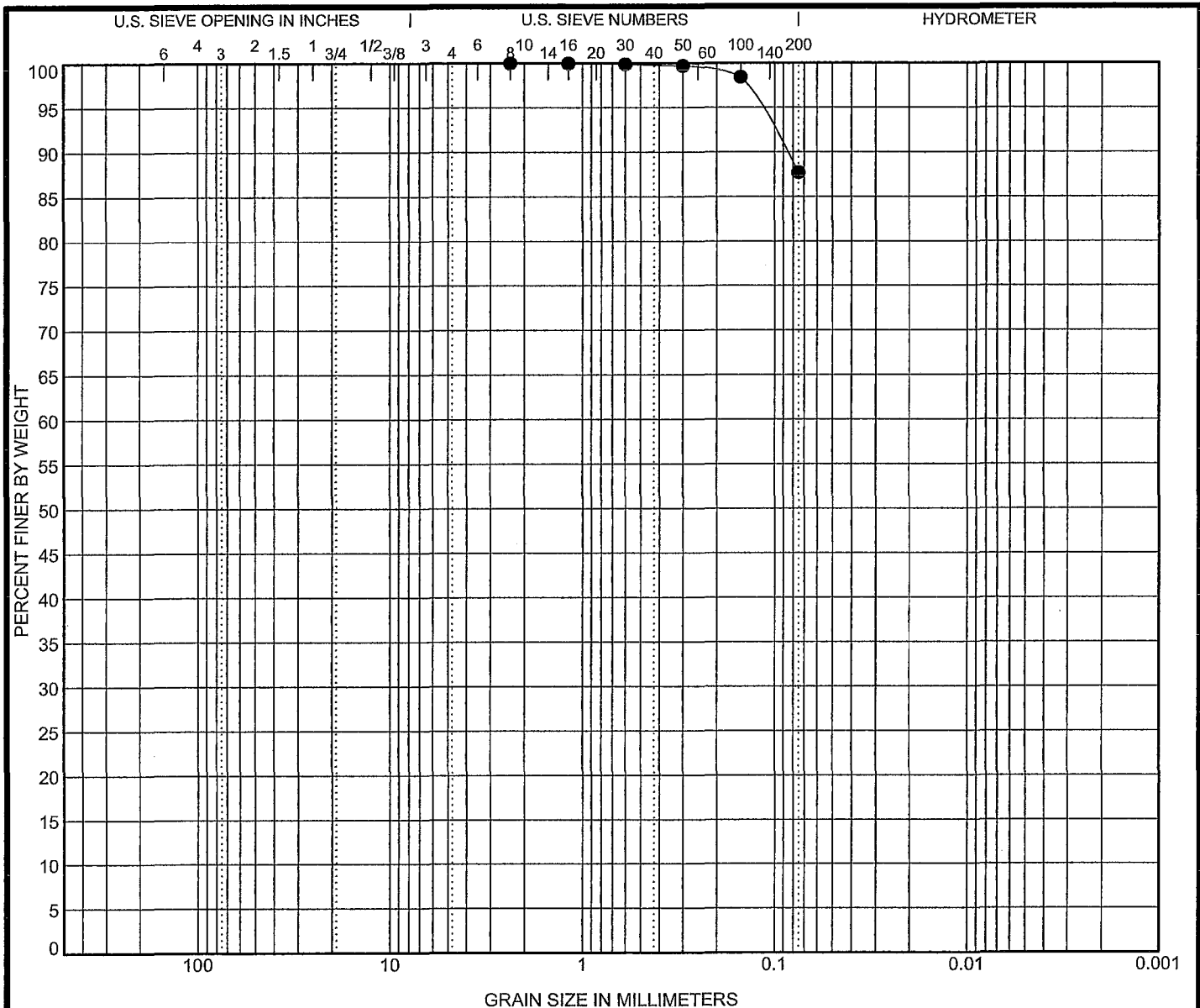
GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



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PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE B-2
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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-2 at 15 ft	SILTSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
2.36					0.0	12.3	87.7	



GRAIN SIZE DISTRIBUTION

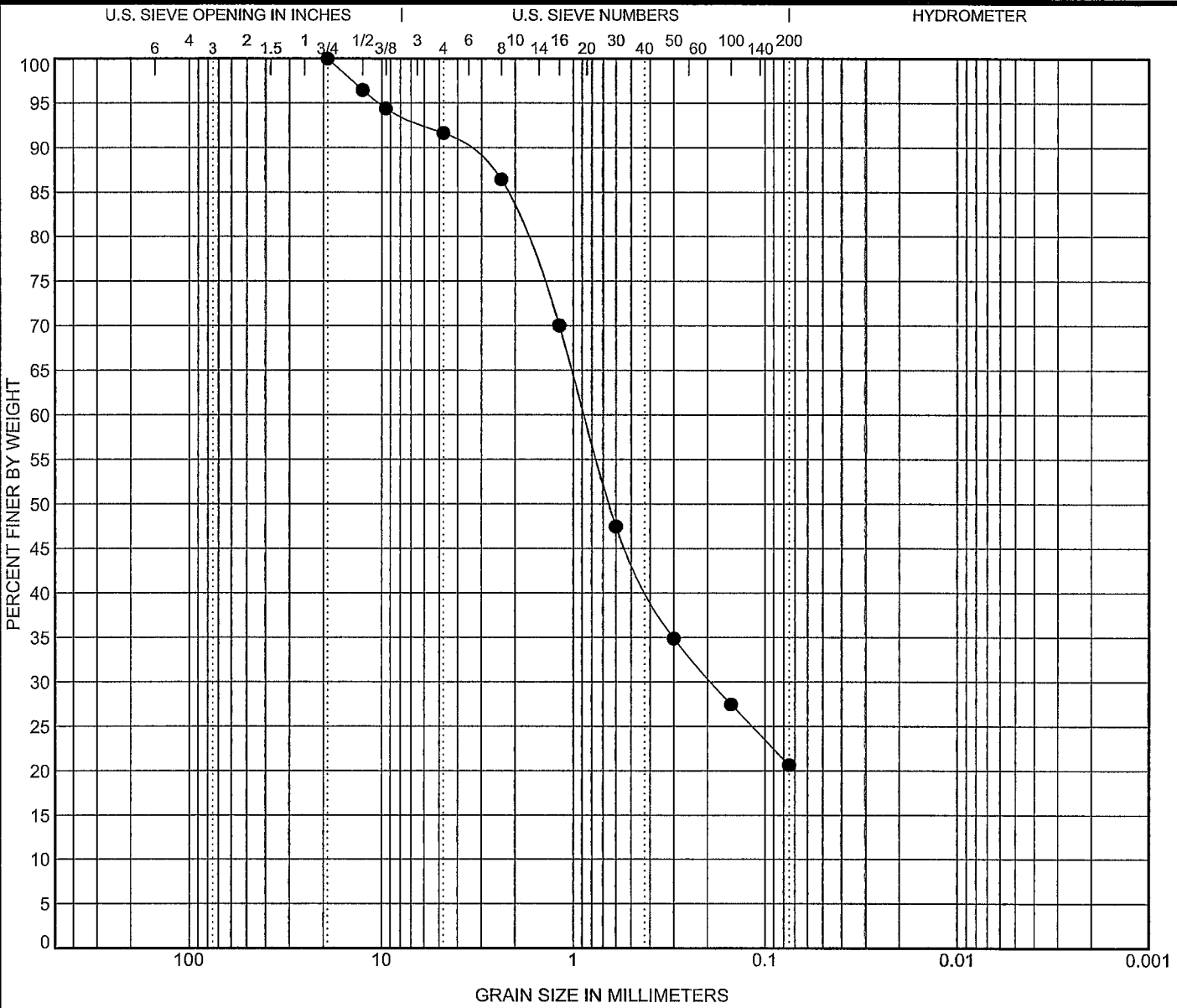
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160037.2

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March 2016

FIGURE B- 3

GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT 3/1/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-4 at 5 ft	Silty SAND							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
19	0.873	0.647	0.19		8.3	71.0	20.7	

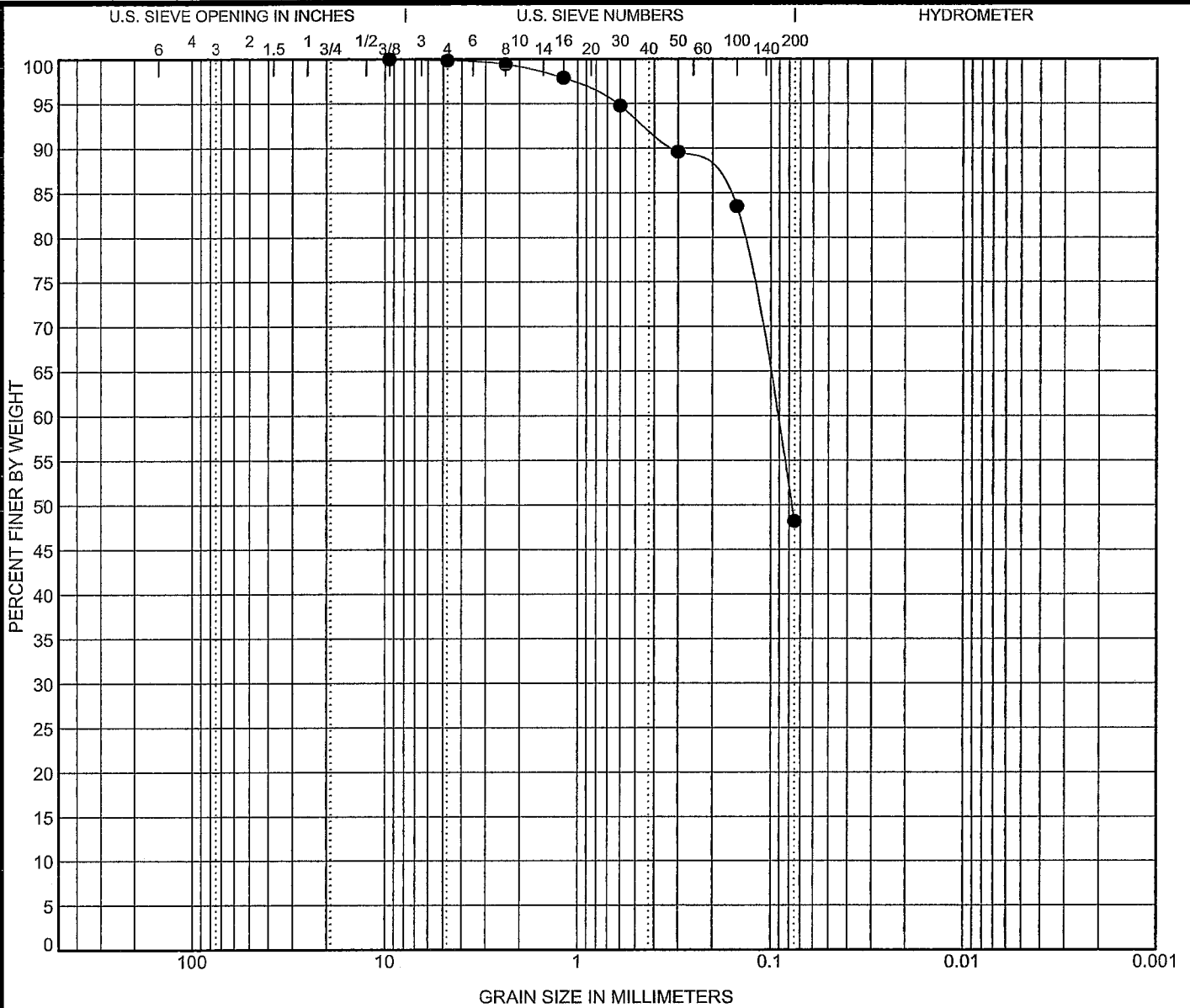


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GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location		U.S.C.S. Classification						Cc	Cu
● B-4 at 12.5 ft		Silty SANDSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay	
9.5	0.095	0.078			0.1	51.6	48.2		



GRAIN SIZE DISTRIBUTION

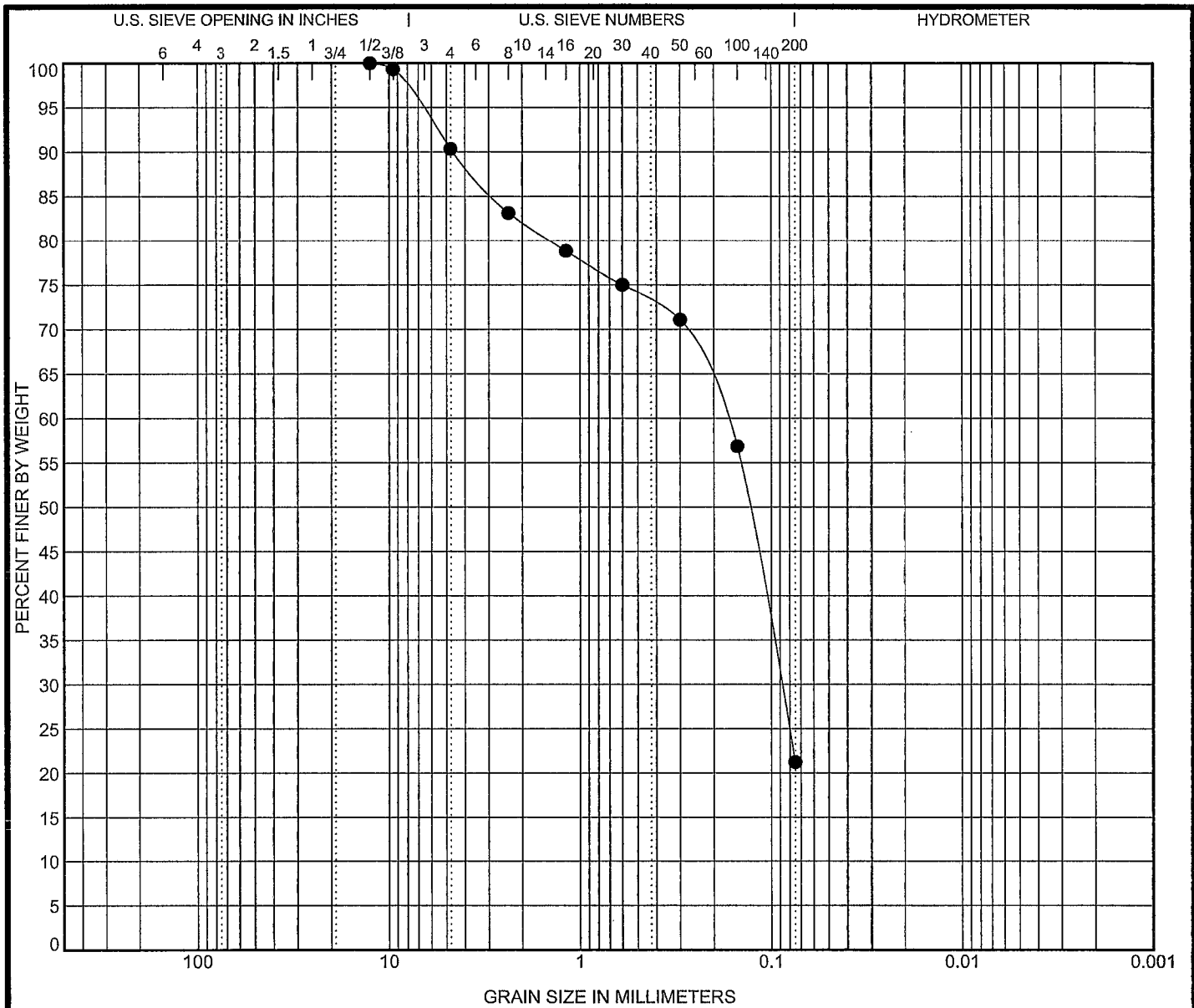
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March 2016

FIGURE B- 5

GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS, GDT, 3/1/16

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-5 at 5 ft	Silty SANDSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
12.5	0.175	0.131	0.089		9.6	69.1	21.3	



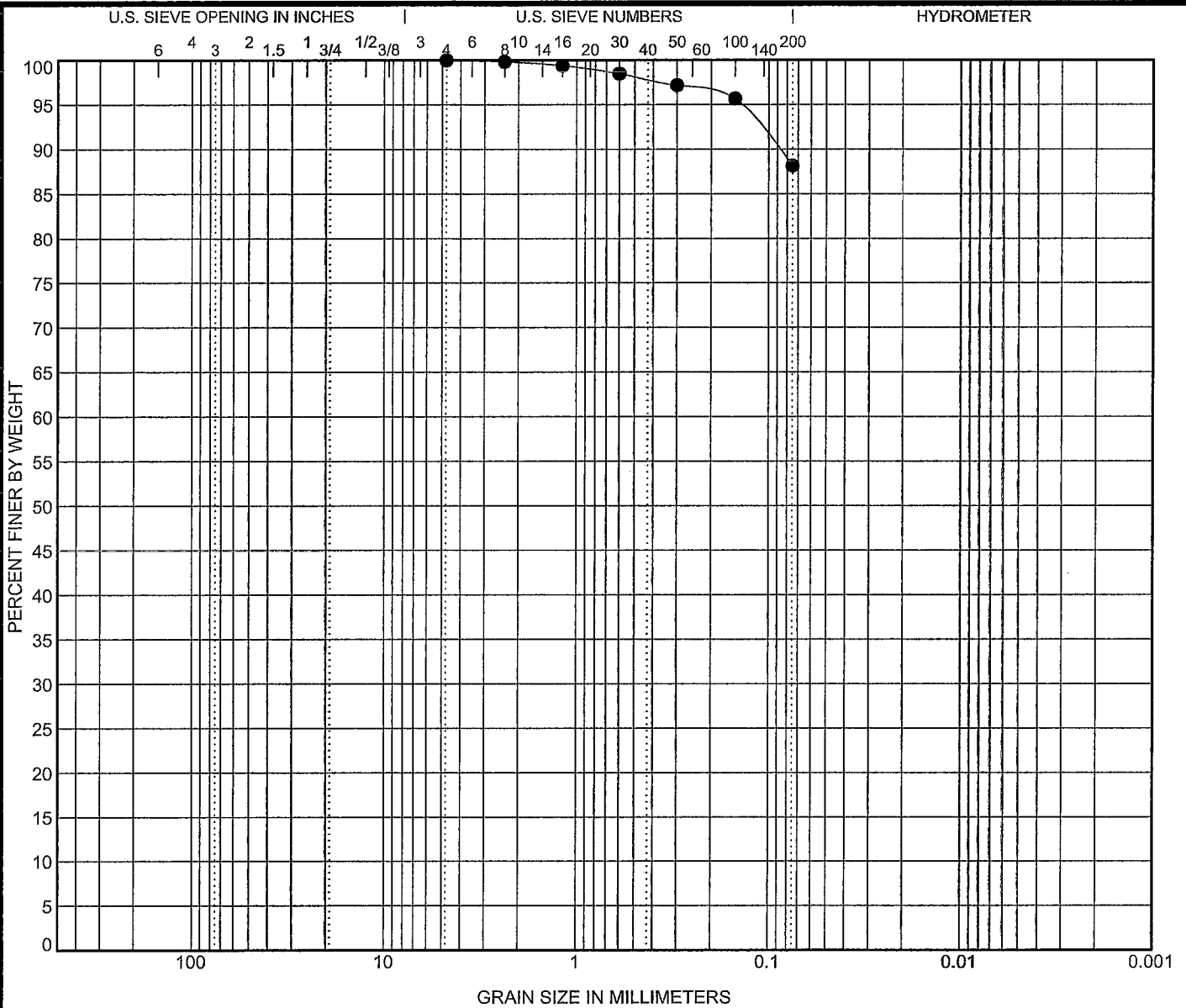
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FIGURE B-6



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-5 at 17.5 ft	SILTSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
4.75					0.0	11.8	88.2	



GRAIN SIZE DISTRIBUTION

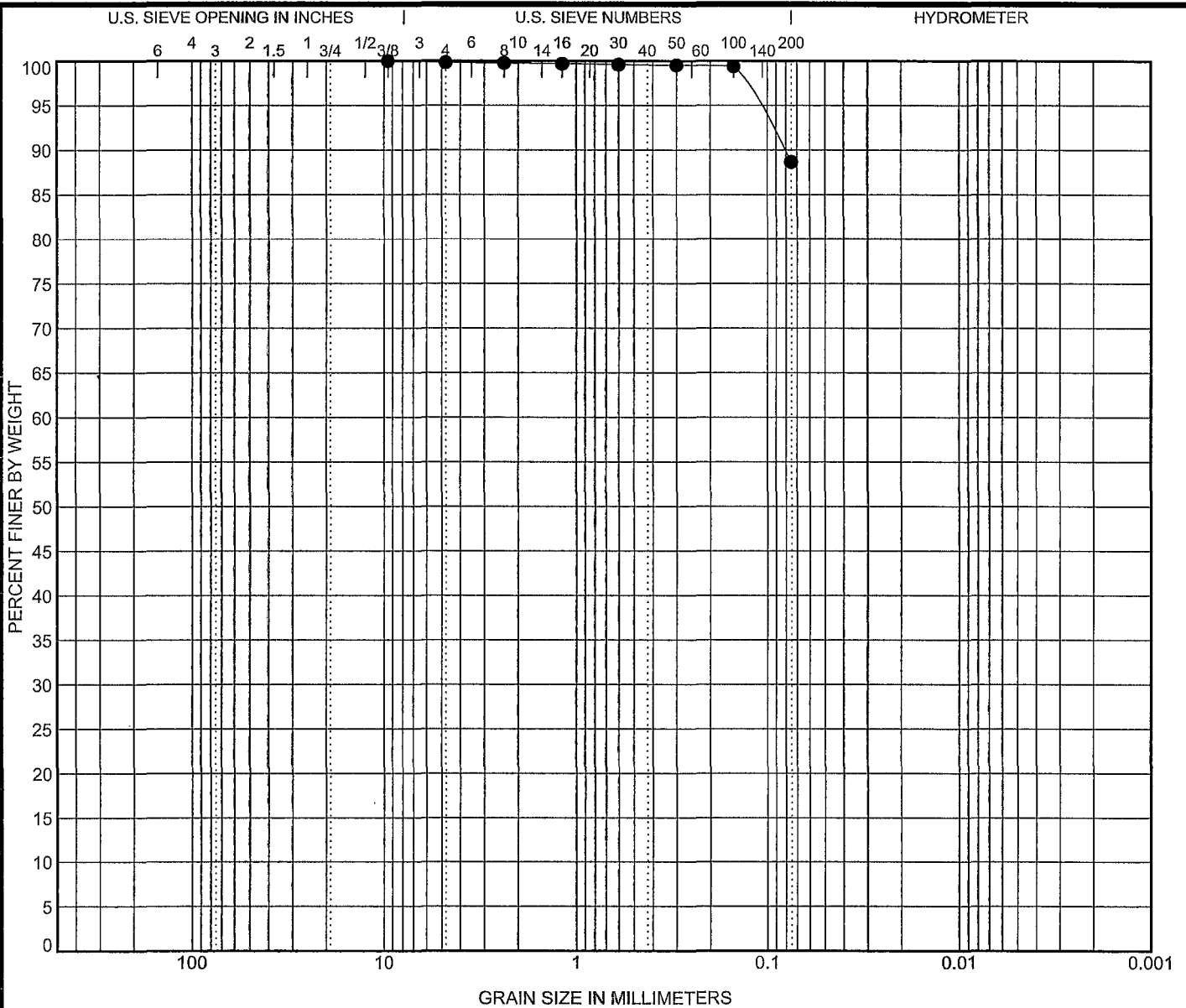
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March 2016

FIGURE B-7

GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-6 at 5 ft	SILTSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
9.5					0.2	11.2	88.7	



GRAIN SIZE DISTRIBUTION

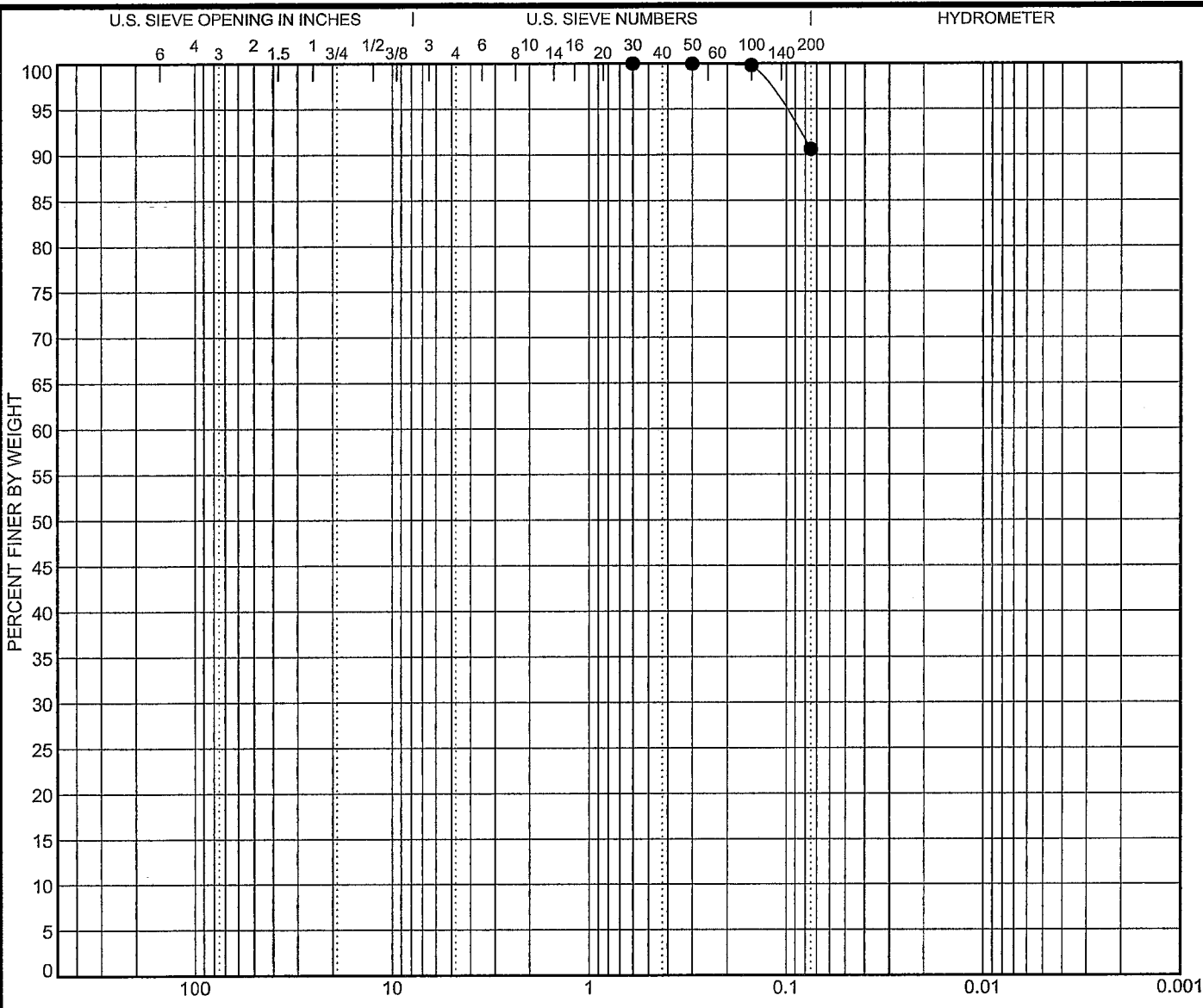
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FIGURE B- 8

GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/1/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-6 at 10 ft	SILTSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
0.6					0.0	9.4	90.6	

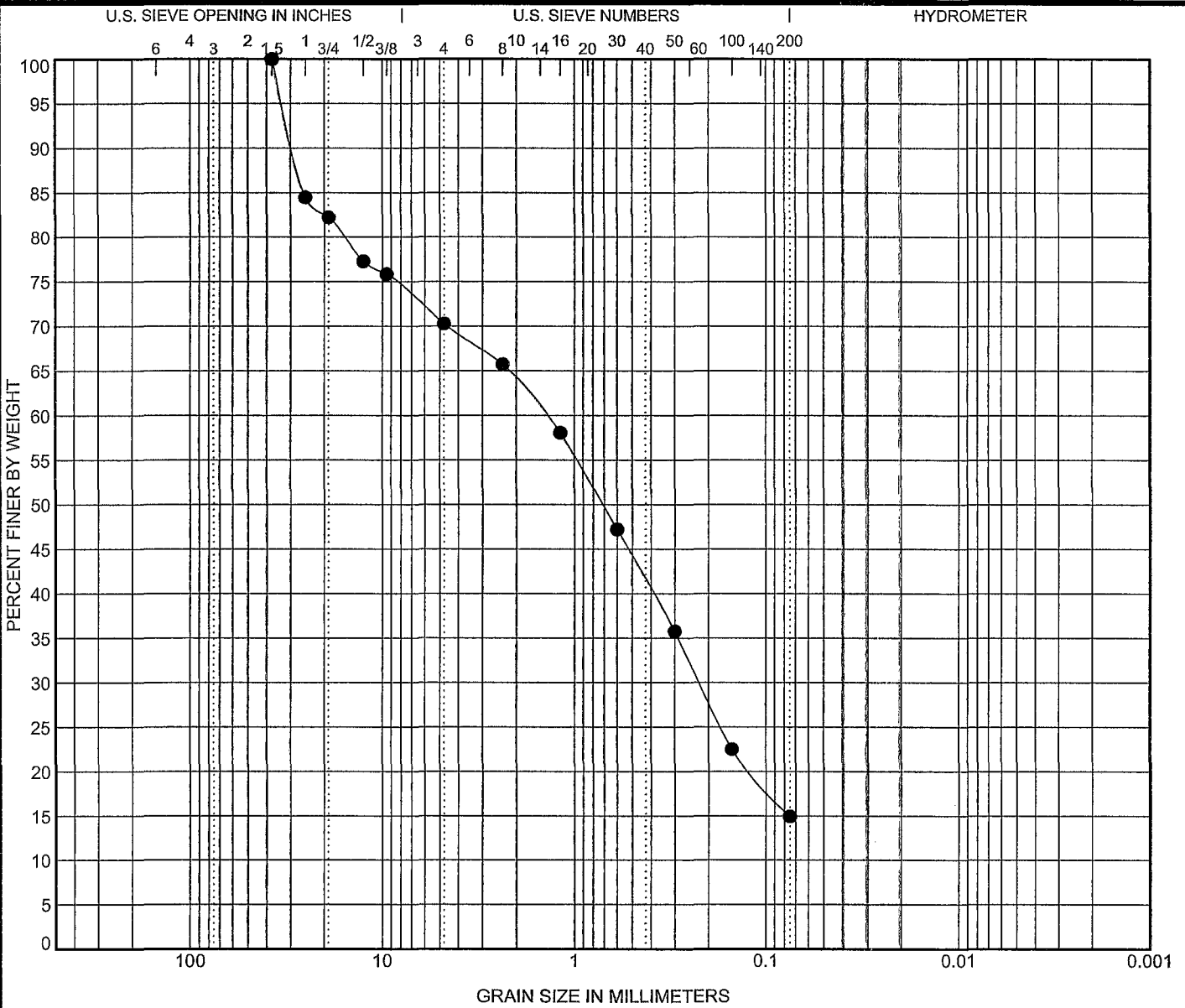
GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



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PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE B- 9
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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-7 at 10 ft	Silty SAND							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
37.5	1.402	0.712	0.222		29.7	55.3	15.0	

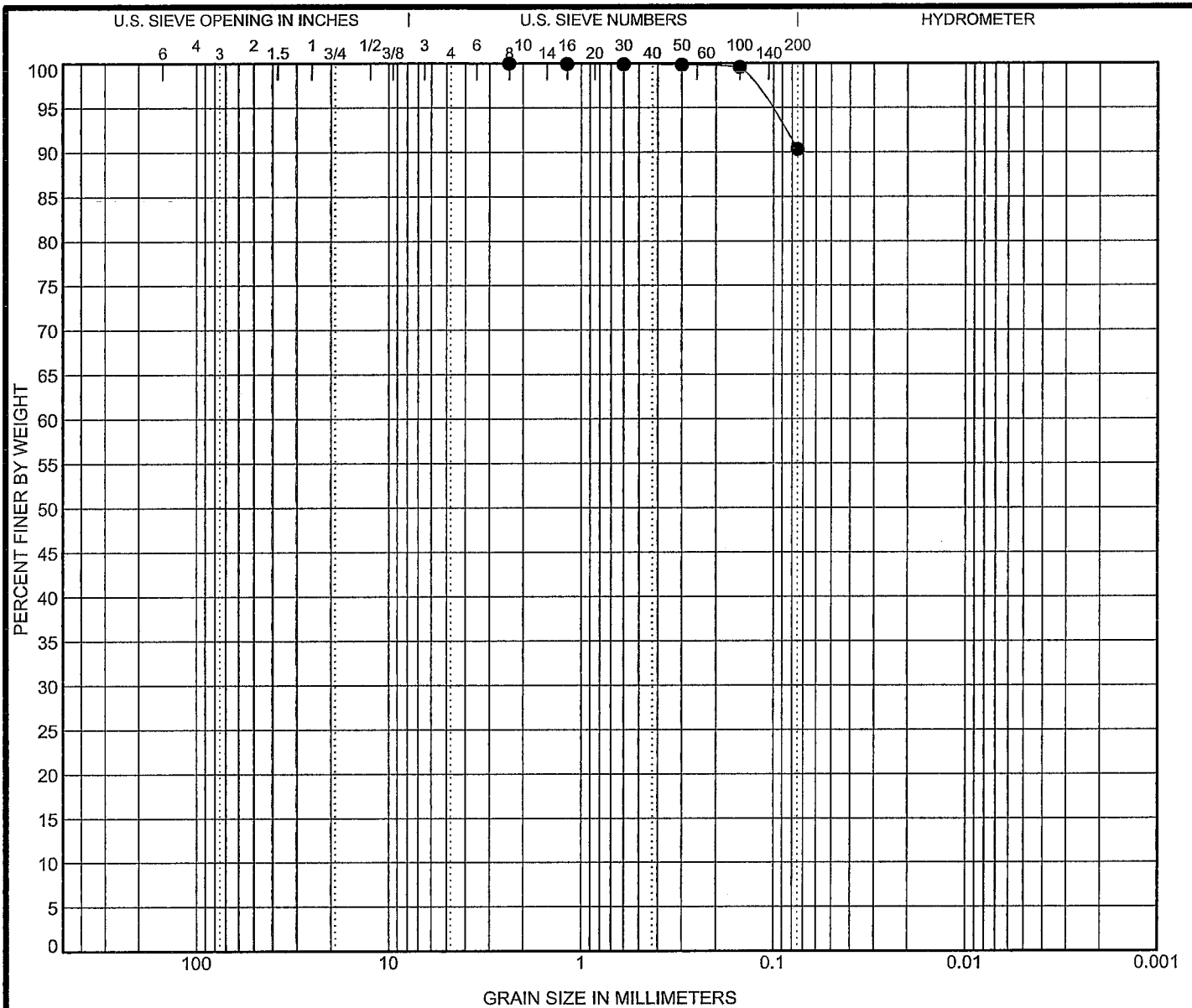
GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/1/16



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PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE B- 10
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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	U.S.C.S. Classification						Cc	Cu
● B-8 at 15 ft	SILTSTONE							
D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	%Gravel	%Sand	%Silt	%Clay
2.36					0.0	9.6	90.4	

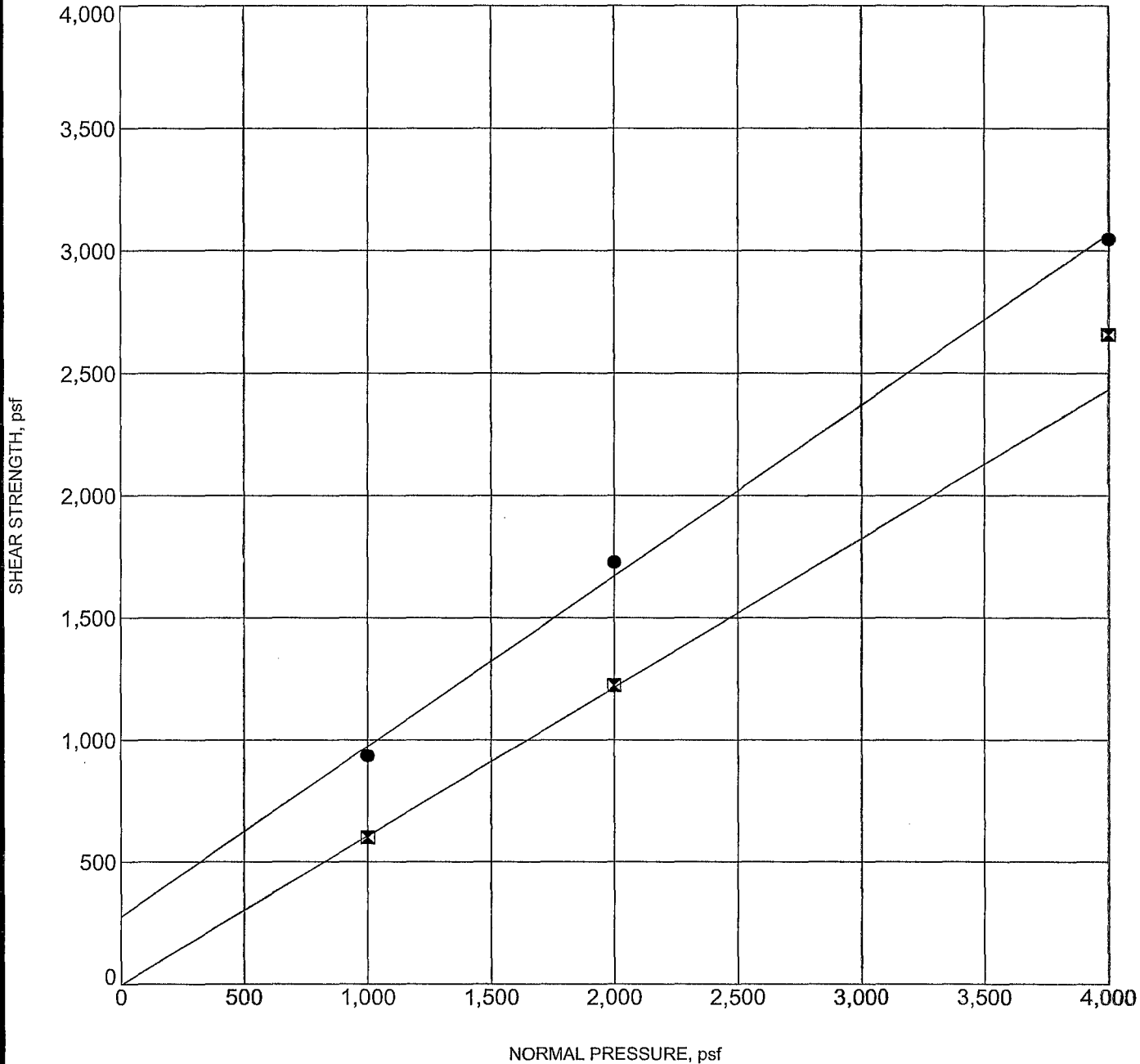


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PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE B- 11
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GRAIN SIZE 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



Boring No.: B-1
Sample Depth (ft): 17.5
Sample Description: Silty SANDSTONE
Strain Rate (in./min): 0.005
Dry Density (pcf): 109.5

Shear Strength Parameters
Peak ● **Ultimate** ✕
Cohesion, C (psf): 275 0
Friction Angle, ϕ (deg): 35 31
Initial Moisture (%): 9.1
Final Moisture (%): 18.4



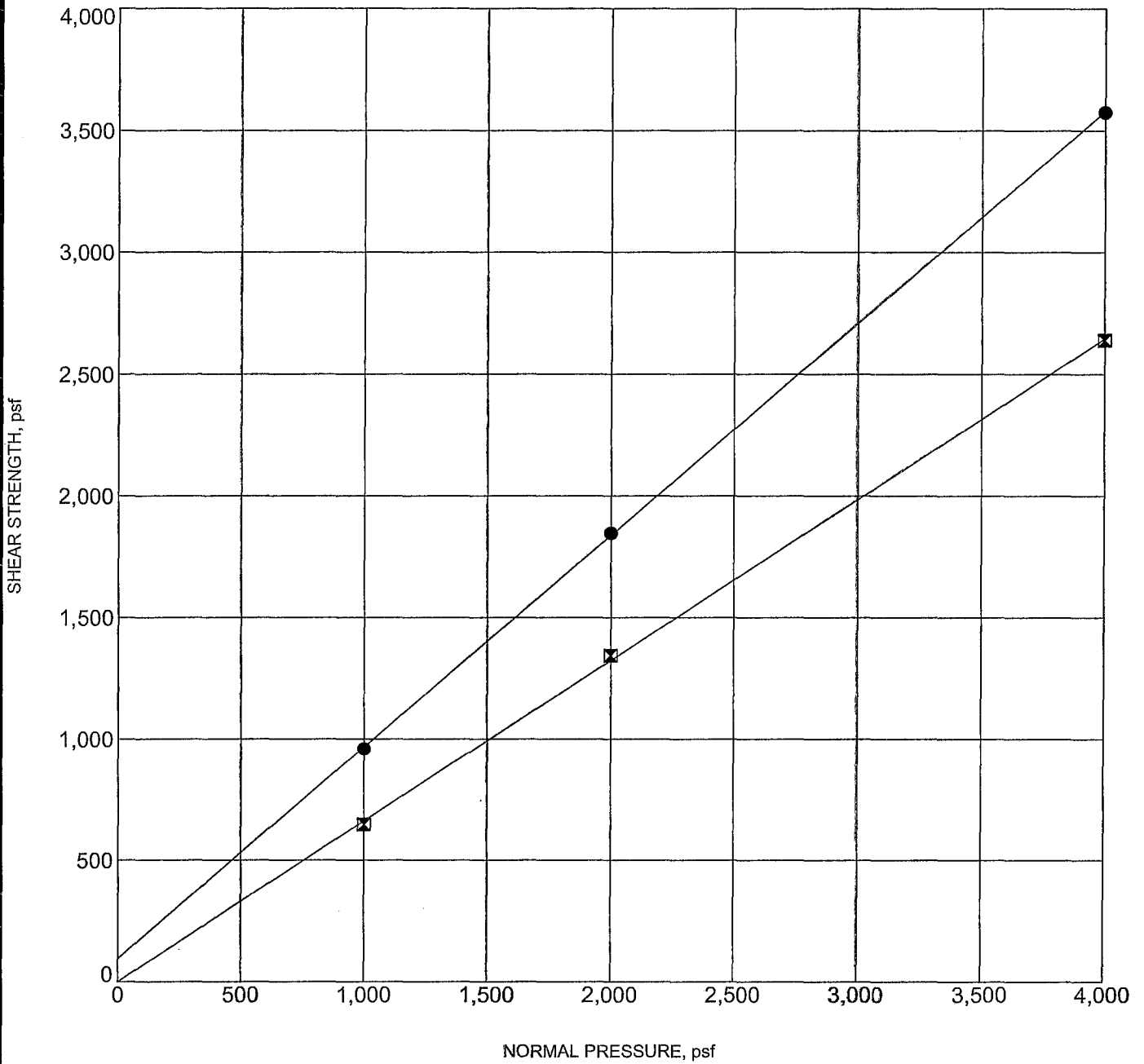
DIRECT SHEAR TEST

Sewer and Water Group 701
 City of San Diego Public Works
 San Diego, California

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 160037.2

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FIGURE B-12



Boring No.: B-2
Sample Depth (ft): 12.5
Sample Description: Sandy SILTSTONE
Strain Rate (in./min): 0.005
Dry Density (pcf): 100.4

Shear Strength Parameters
Peak —●— **Ultimate** —✕—
Cohesion, C (psf): 100 0
Friction Angle, ϕ (deg): 41 33
Initial Moisture (%): 17.4
Final Moisture (%): 28.0



DIRECT SHEAR TEST

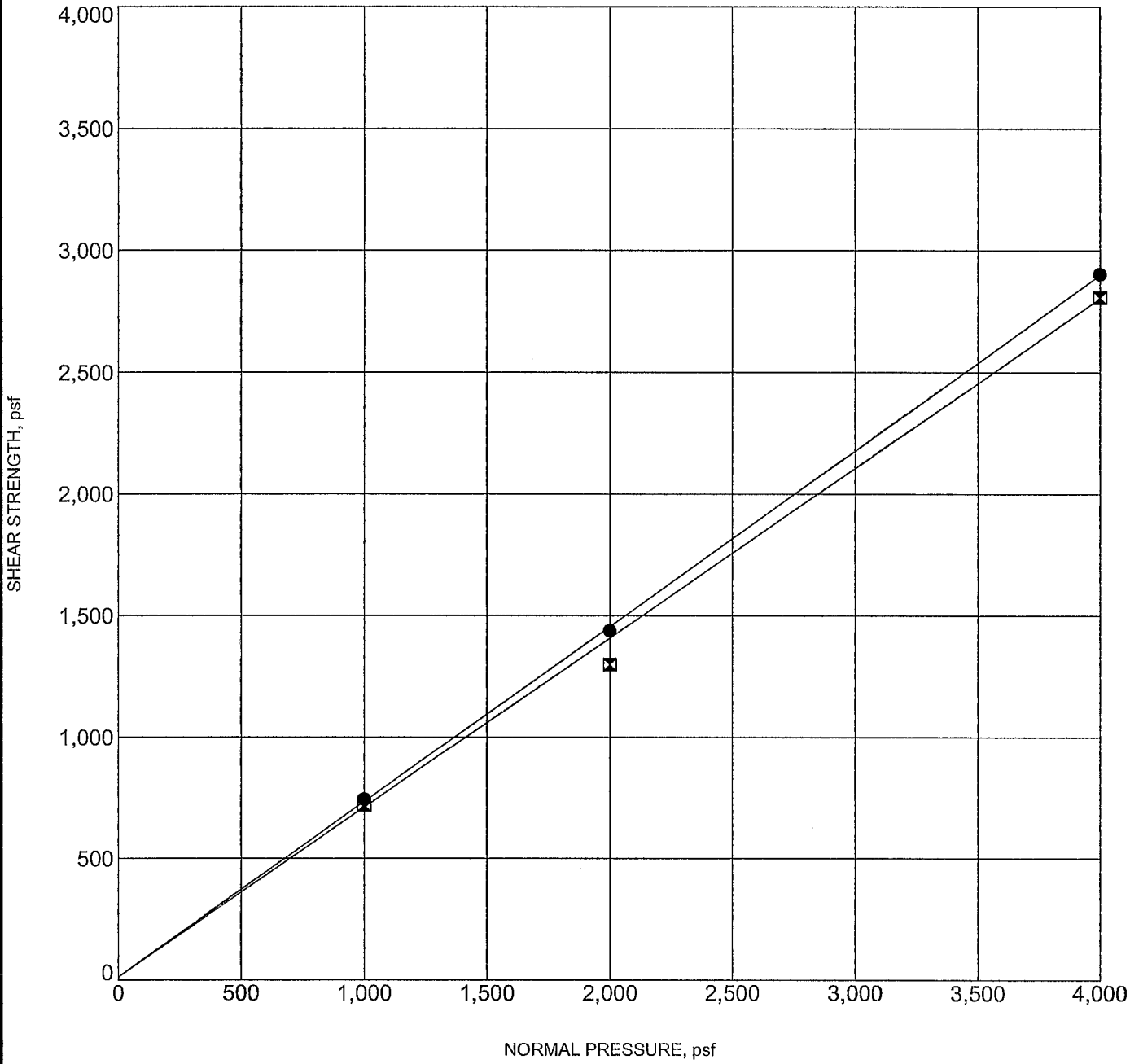
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 San Diego, California

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 160037.2

REPORT DATE
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FIGURE B-13

DIRECT SHEAR 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/1/16



DIRECT SHEAR, 160037.2 - SEWER GROUP 701.GPJ, TWINING LABS.GDT, 3/1/16

Boring No.: B-3
Sample Depth (ft): 15
Sample Description: Silty SANDSTONE
Strain Rate (in./min): 0.005
Dry Density (pcf): 95.8

Shear Strength Parameters
Peak ● **Ultimate** ✕
Cohesion, C (psf): 10 10
Friction Angle, Ø (deg): 36 35
Initial Moisture (%): 15.5
Final Moisture (%): 23.4



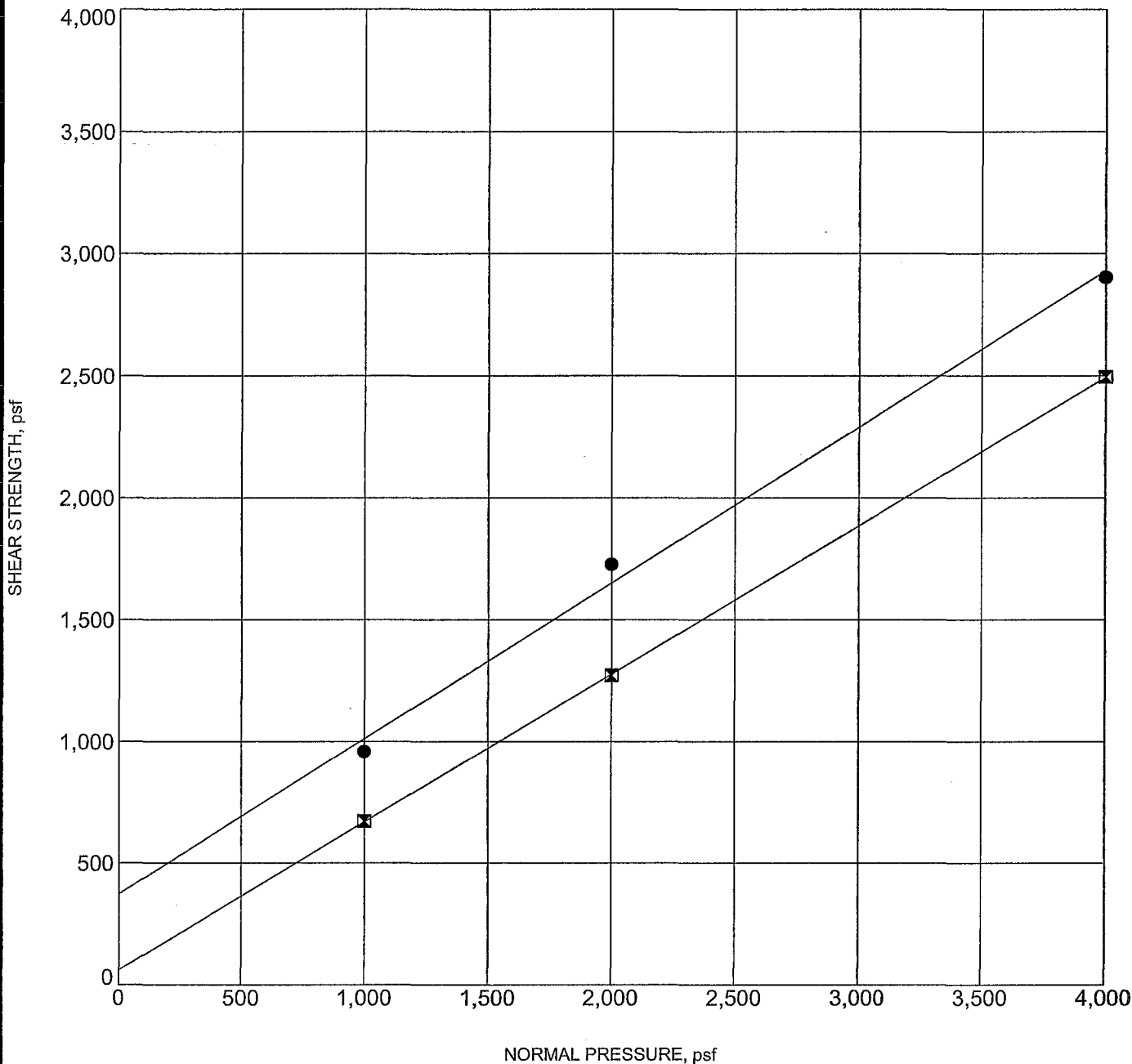
DIRECT SHEAR TEST

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 San Diego, California

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160037.2

REPORT DATE
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FIGURE B-14



Boring No.: B-5
Sample Depth (ft): 12.5
Sample Description: SILTSTONE
Strain Rate (in./min): 0.005
Dry Density (pcf): 97.0

Shear Strength Parameters
Peak —●— **Ultimate** —□—
Cohesion, C (psf): 370 60
Friction Angle, ϕ (deg): 33 31
Initial Moisture (%): 21.9
Final Moisture (%): 25.4

DIRECT SHEAR 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



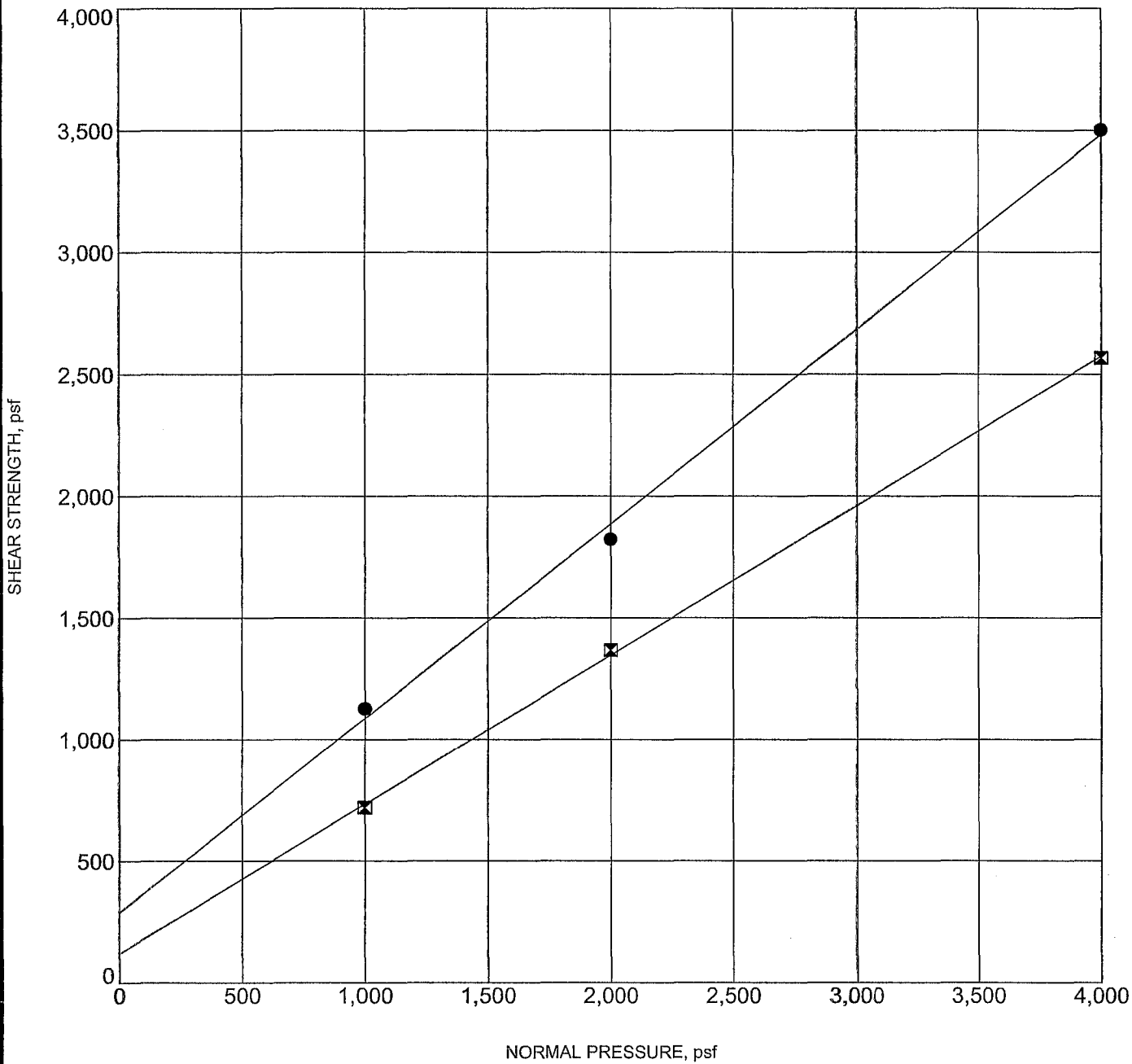
DIRECT SHEAR TEST

Sewer and Water Group 701
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 San Diego, California

PROJECT NO.
 160037.2

REPORT DATE
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FIGURE B-15



Boring No.: B-6
Sample Depth (ft): 7.5
Sample Description: SILTSTONE
Strain Rate (in./min): 0.005
Dry Density (pcf): 103.6

Shear Strength Parameters
Peak —●— **Ultimate** —✕—
Cohesion, C (psf): 290 120
Friction Angle, ϕ (deg): 39 32
Initial Moisture (%): 15.4
Final Moisture (%): 24.6

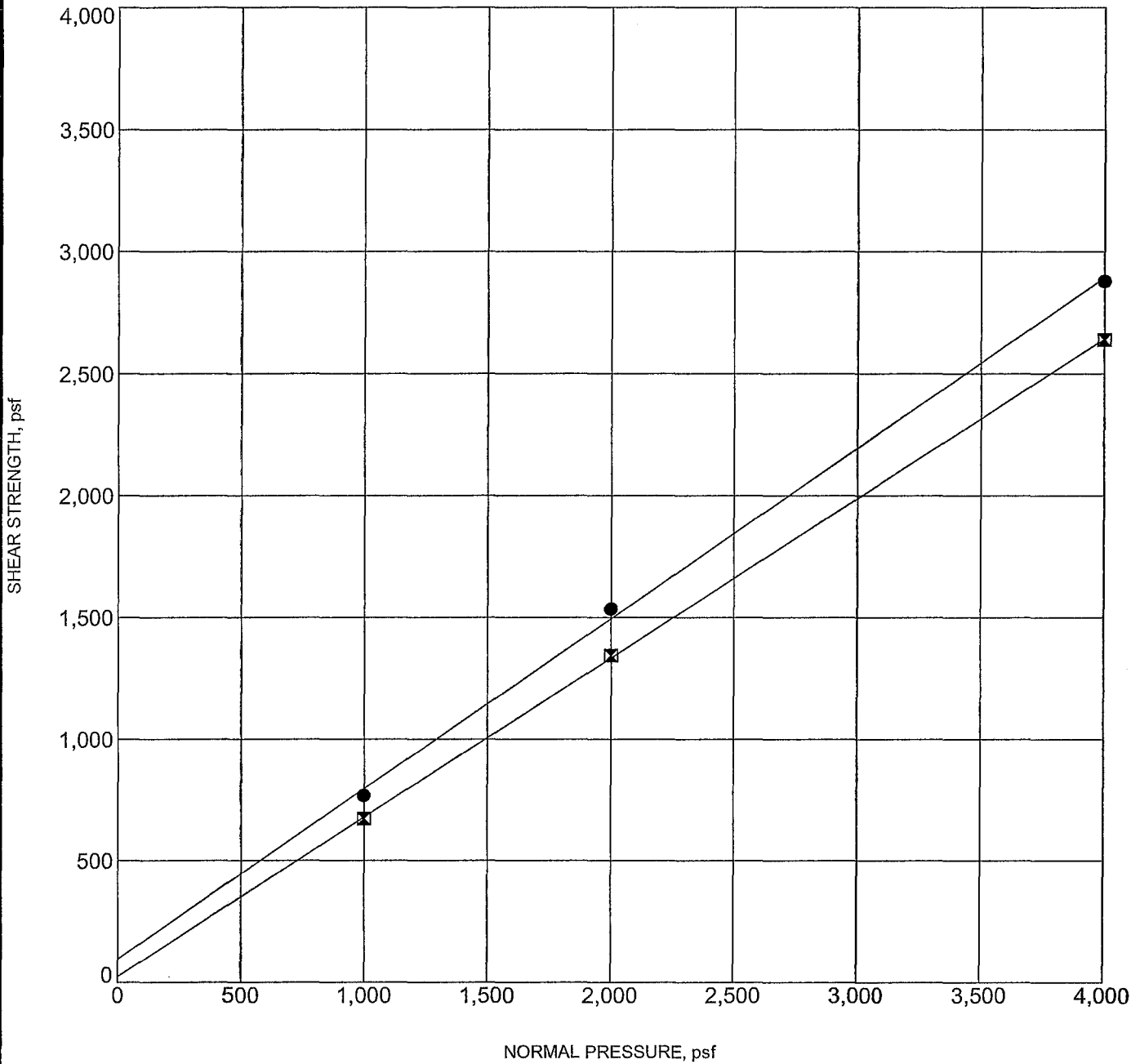


DIRECT SHEAR TEST

Sewer and Water Group 701
 City of San Diego Public Works
 San Diego, California

PROJECT NO. 160037.2	REPORT DATE March 2016	FIGURE B-16
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DIRECT SHEAR: 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16



DIRECT SHEAR 160037.2 - SEWER GROUP 701.GPJ TWINING LABS.GDT 3/1/16

Boring No.: B-8
Sample Depth (ft): 12.5
Sample Description: Silty SANDSTONE
Strain Rate (in./min): 0.005
Dry Density (pcf): 95.3

Shear Strength Parameters

Peak —●— Ultimate —✕—
Cohesion, C (psf): 100 25
Friction Angle, ϕ (deg): 35 33
Initial Moisture (%): 10.0
Final Moisture (%): 29.8



DIRECT SHEAR TEST

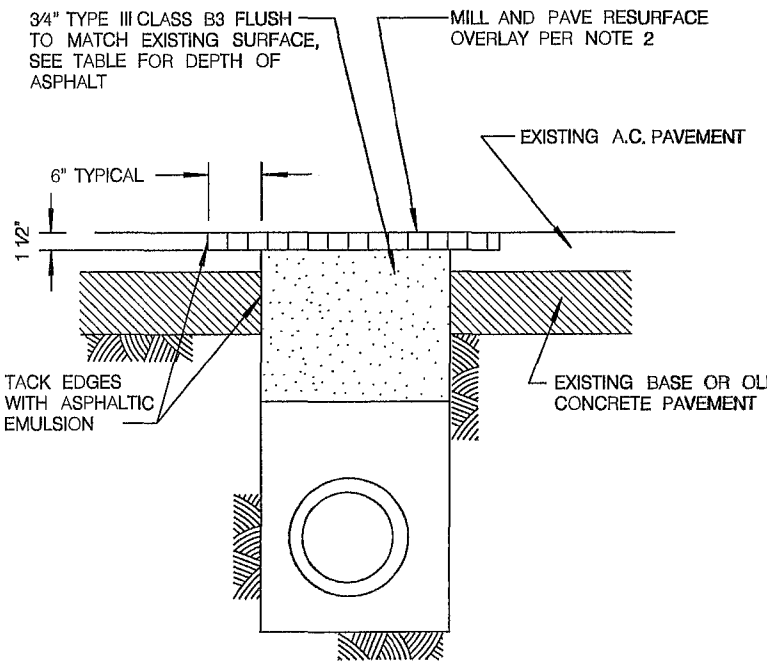
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 City of San Diego Public Works
 San Diego, California

PROJECT NO.
160037.2

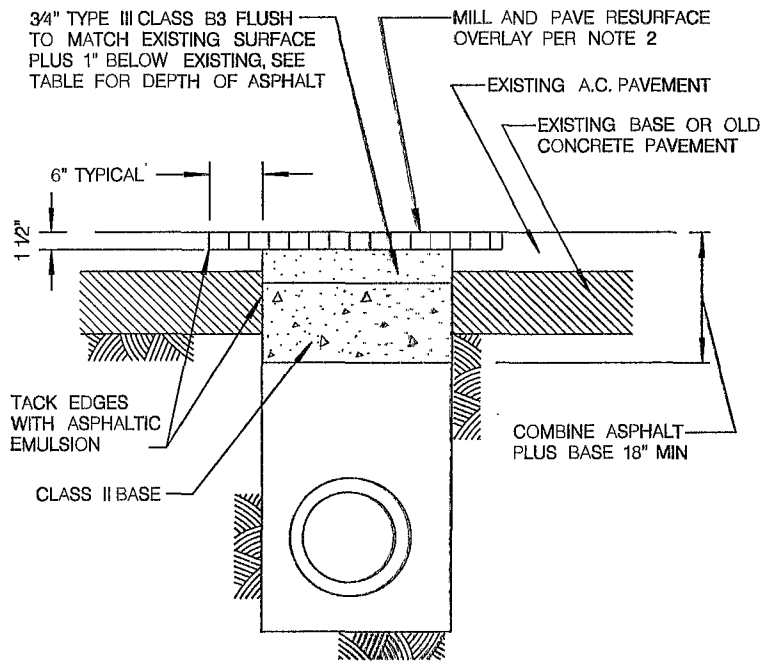
REPORT DATE
March 2016

FIGURE B-17

APPENDIX K
ADDITIONAL AND REVISED STANDARD DRAWINGS



TYPE 1



TYPE 2

	TYPE 1	TYPE 2
	ASPHALT	ASPHALT PLUS BASE
MIX DESIGN	3/4" TYPE III CLASS B3	3/4" TYPE III CLASS B3 PLUS CLASS II BASE
ALLEYS	8.0"	ASPHALT THICKNESS TO EQUAL
LOCAL THROUGH 4 LANE COLLECTORS	10.0"	EXISTING PLUS 1", MIN 4" TO MAX 9".
MAJOR	12.0"	COMBINED ASPHALT PLUS BASE 18" MIN.

NOTES:

1. ANY STREET TRENCH 7 FEET IN WIDTH OR GREATER AND LONGER THAN 100 FEET IN OVERALL LENGTH SHALL BE RECONSTRUCTED WITH THE PAVEMENT SECTION FOR THE STREET CLASSIFICATION PER SCHEDULE "J" (SDG-113).
2. ASPHALT TRENCH CAPS IN STREETS NOT RECEIVING A FULL WIDTH OVERLAY PRIOR TO ACCEPTANCE SHALL BE MILLED AS SHOWN AND RESURFACED WITH 1 1/2" TYPE III CLASS C2 ASPHALT NO LESS THAN 30 DAYS AFTER INITIAL ASPHALT PLACEMENT.
3. WHEN DIRECTED BY CITY ENGINEER OR SHOWN ON THE PLANS, CONCRETE PER SDG-108 (NOTE #5) MAY BE PLACED; A 1/8" - 1/4" WEARING SURFACING OF TYPE III CLASS F ASPHALT CONCRETE WILL BE REQUIRED.

REVISION	BY	APPROVED	DATE
ORIGINAL		J.P. CASEY	1/24/89
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	4/13
UPDATED	BB	J. NAGELVOORT	1/14

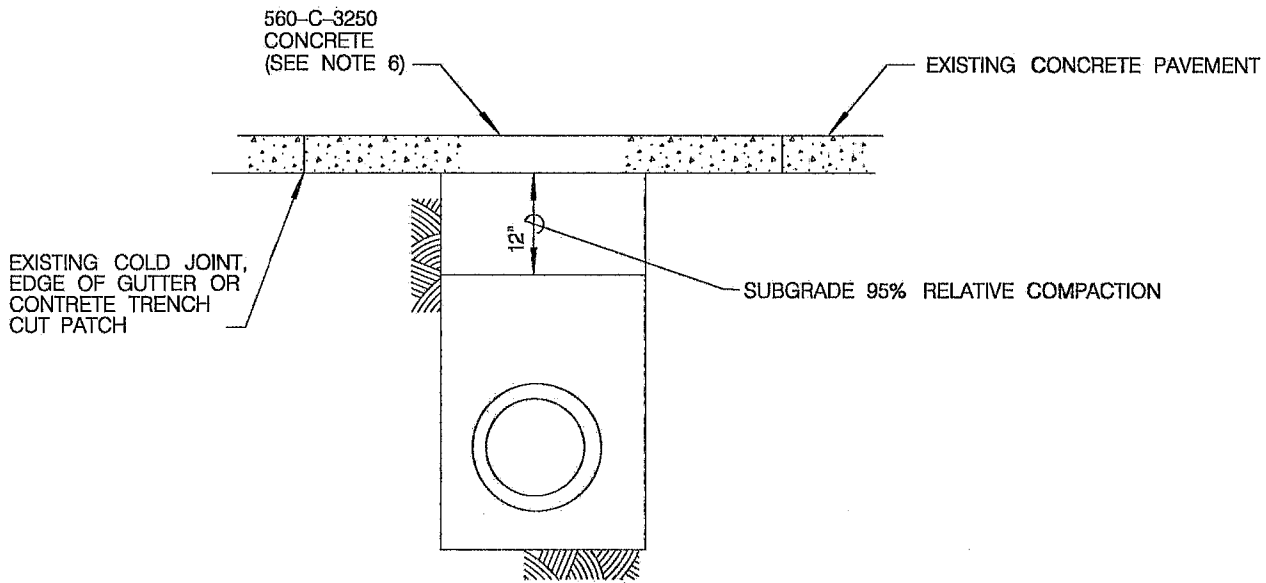
CITY OF SAN DIEGO - STANDARD DRAWING

**TRENCH RESURFACING FOR ASPHALT
CONCRETE SURFACED STREETS**

RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

Chung 1/30/14
COORDINATOR R.C.E. 3523 DATE

DRAWING NUMBER **SDG-107**

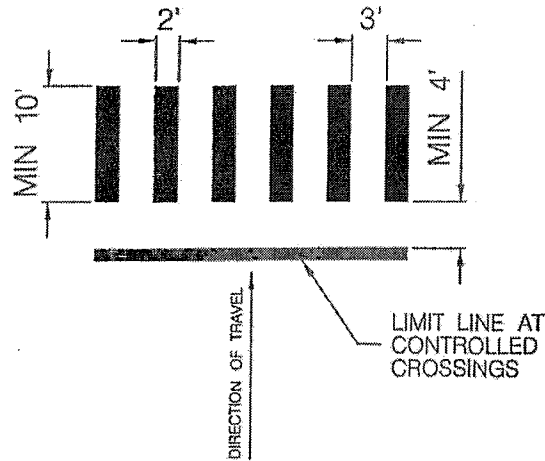


NOTES

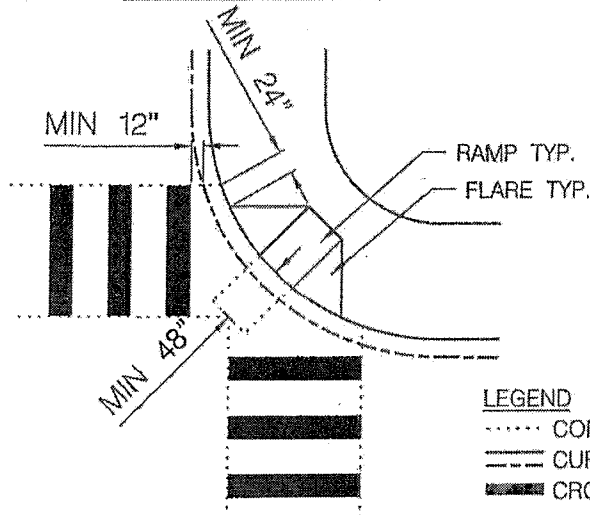
1. EXISTING CONCRETE PAVEMENT SHALL BE REMOVED, CONCRETE PAVEMENT RESTORATION SHALL EXTEND TO THE FULL WIDTH OF THE CONCRETE PANEL (BETWEEN COLD JOINTS OR COLD JOINT TO EDGE OF GUTTER) AROUND THE PERIMETER OF THE EXCAVATION. FOR CONCRETE PAVEMENT WITH EXISTING TRENCH CUT PATCHING, CONCRETE PAVEMENT RESTORATION SHALL INCLUDE, AS PART OF THE RESTORATION, THE EXISTING TRENCH CUT PATCHES IF THOSE PATCHES ARE WITHIN 4 FEET OF THE CONCRETE PANEL TO BE REPLACED.
2. PRIOR TO PLACING CONCRETE, PAVEMENT EDGES SHALL BE TRIMMED TO NEAT HORIZONTAL AND VERTICAL LINES.
3. UNLESS OTHERWISE SPECIFIED, CONCRETE TRENCH COVER SHALL BE A MINIMUM OF 5 1/2" FOR ALLEYS, 7" FOR LOCAL THROUGH FOUR LANE COLLECTOR STREETS AND 9" THICK FOR ALL MAJOR OR GREATER STREET CLASSIFICATIONS.
4. ANY STREET TRENCH 7 FEET IN WIDTH OR GREATER AND LONGER THAN 100 FEET IN LENGTH SHALL BE RECONSTRUCTED WITH THE PAVEMENT SECTION FOR THE STREET CLASSIFICATION PER SCHEDULE "J" (SDG-113). STREET TRENCH SECTIONS 7 FEET IN WIDTH OR GREATER BUT LESS THAN 100 FEET IN OVERALL LENGTH SHALL BE RESURFACED TO A THICKNESS OF 1" GREATER THAN REQUIRED BY NOTE 3 ABOVE.
5. 560-C-3250 CONCRETE TREATED WITH A MINIMUM 2% CALCIUM CHLORIDE SOLUTION IN ACCORDANCE WITH 201-1 OR 650-CW-4000 (WO CC) CONCRETE MAY BE OPENED TO TRAFFIC 3 DAYS AFTER IT IS PLACED. 650-CW-4000 CONCRETE TREATED IN SAME MANNER (WCC) MAY BE OPENED TO TRAFFIC 24 HOURS AFTER IT IS PLACED. CONCRETE SPECIFIED BY ALTERNATE CLASS OR OTHERWISE CONTAINING FLY ASH IS NOT ALLOWED.
6. IN FOUR-LANE MAJOR OR GREATER STREETS, AN APPROVED SET ACCELERATING ADMIXTURE SUCH AS CALCIUM CHLORIDE, SHALL BE USED IN THE CONCRETE.

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO - STANDARD DRAWING	RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE
ORIGINAL		J.CASEY	01/09		<i>CA Bunge</i>
UPDATED	KA	J. NAGELVOORT	01/12	TRENCH RESURFACING FOR PCC SURFACED STREETS	COORDINATOR R.C.E.56523
UPDATED	BB	J. NAGELVOORT	01/14		DATE
UPDATED	BB	J. NAGELVOORT	03/15		
				DRAWING NUMBER	SDG-108

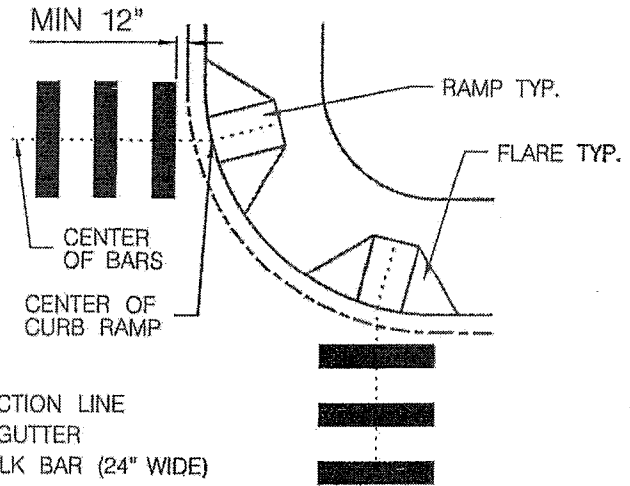
TYPICAL CONTINENTAL CROSSWALK MARKINGS



SINGLE RAMP CORNER



DUAL RAMP CORNER



LEGEND

- CONSTRUCTION LINE
- CURB & GUTTER
- █ CROSSWALK BAR (24" WIDE)

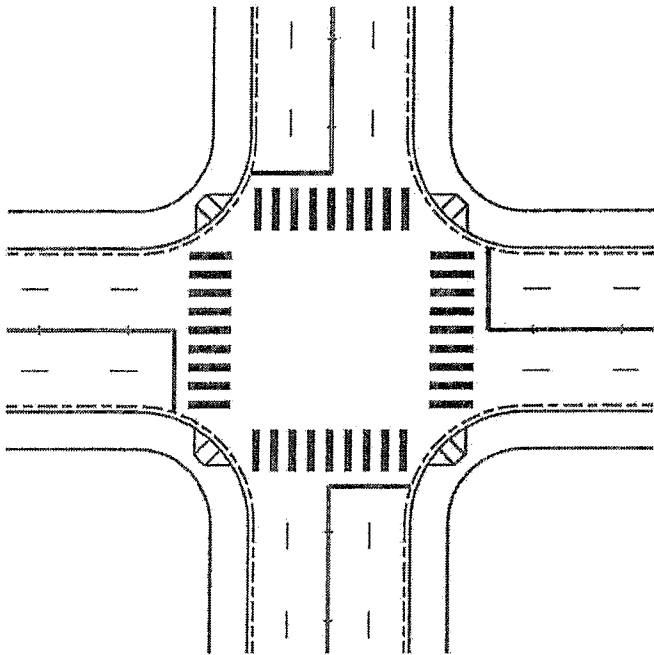
GENERAL NOTES:

1. ALL MARKED CROSSWALKS SHALL HAVE CONTINENTAL MARKINGS UNLESS APPROVED OTHERWISE.
2. MARKED CROSSWALK LOCATIONS CONSISTING OF BRICK PAVERS OR OTHER DECORATIVE PAVING SHALL BE PROVIDED WITH A LIMIT LINE ONLY.
3. SIGNALIZED INTERSECTIONS SHALL BE PROVIDED WITH A MARKED CROSSWALK ACROSS EACH LEG WHERE PEDESTRIANS ARE PERMITTED TO CROSS.
4. CONTINENTAL CROSSWALK MARKINGS SHALL BE ALIGNED PARALLEL TO THE DIRECTION OF VEHICULAR TRAVEL.
5. LIMIT LINES SHALL BE INSTALLED A MINIMUM OF 4 FEET IN ADVANCE OF MARKED CROSSWALKS FOR THE APPROACH LANES AT ALL CONTROLLED CROSSINGS.
6. MARKED CROSSWALKS SHOULD BE A MINIMUM OF 10 FEET IN WIDTH. PLACEMENT OF CONTINENTAL CROSSWALKS SHALL COMPLY WITH ACCESSIBILITY REGULATIONS PER THE MOST RECENT VERSION OF AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
7. THE CROSSWALK BETWEEN A DUAL RAMP CORNER AND A SINGLE RAMP CORNER SHALL BE AT LEAST 10 FEET WIDE AND SATISFY THE MINIMUM OF 2 FEET BEYOND THE FLARE REQUIREMENT FOR THE SINGLE RAMP.
8. CONTINENTAL CROSSWALK BARS SHALL BE UNIFORM WITHIN THE SAME CROSSING. NO PARTIAL BARS SHALL BE INSTALLED.
9. A CROSSWALK BAR SHALL BE CENTERED IN THE CENTER OF THE CROSSING.
10. CROSSWALK MARKINGS SHALL BE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA-MUTCD) RETROREFLECTIVITY COMPLIANT AND SKID RESISTANT.

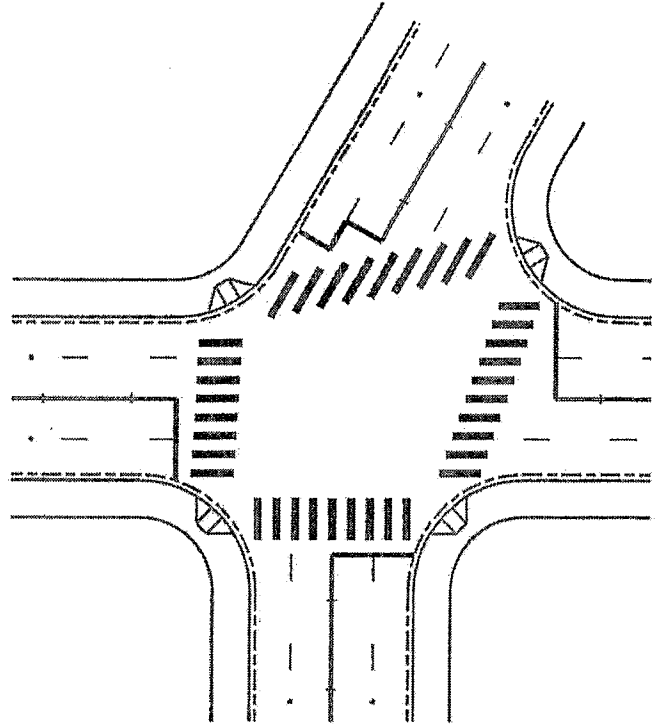
SHEET 1 OF 3

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO - STANDARD DRAWING	RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE
ORIGINAL	JF	J. NAGELVOORT	02/15		<i>Chung</i> 2/5/2015 COORDINATOR P.C.E. 66523 DATE
				CONTINENTAL CROSSWALK MARKINGS LAYOUT AND NOTES	DRAWING NUMBER SDM-116

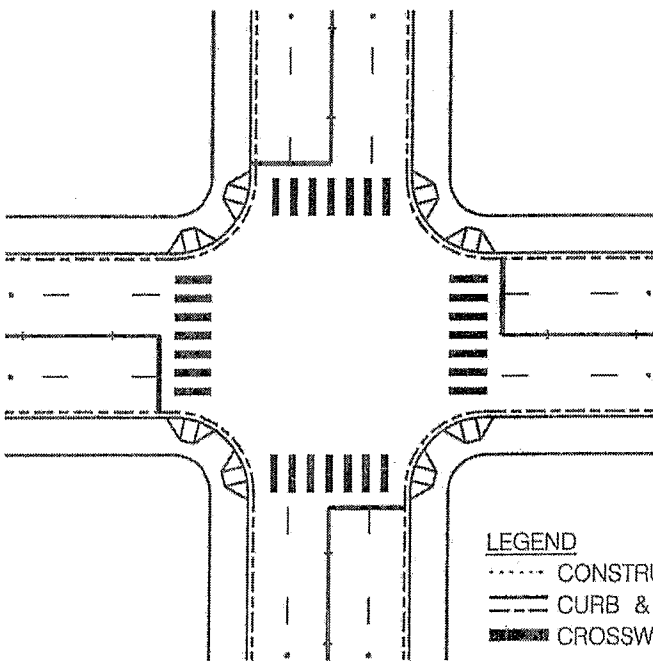
CASE 1 – SINGLE RAMP ORTHOGONAL



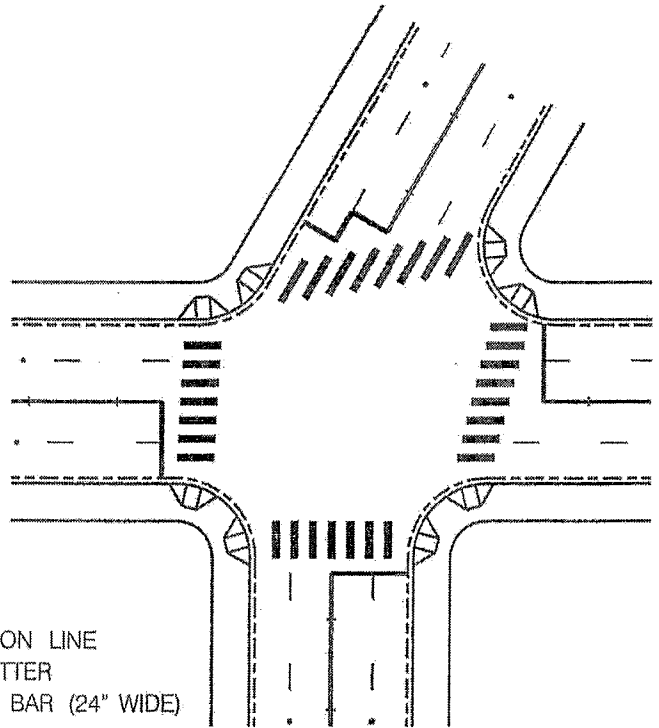
CASE 2 – SINGLE RAMP SKEWED



CASE 3 – DUAL RAMP ORTHOGONAL



CASE 4 – DUAL RAMP SKEWED



- LEGEND**
- CONSTRUCTION LINE
 - CURB & GUTTER
 - ▨ CROSSWALK BAR (24" WIDE)

SHEET 2 OF 3

REVISION	BY	APPROVED	DATE
ORIGINAL	JF	J. NAGELVOORT	02/15

CITY OF SAN DIEGO – STANDARD DRAWING

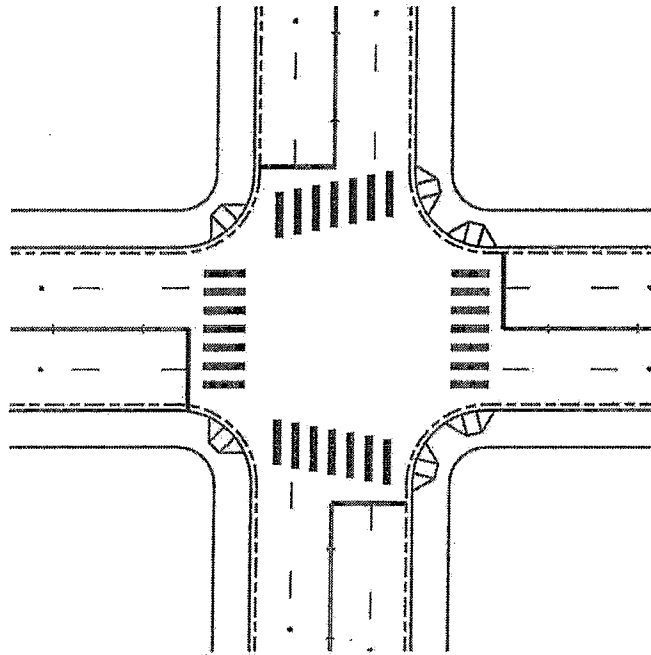
**CONTINENTAL CROSSWALK
MARKINGS LAYOUT AND NOTES**

RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

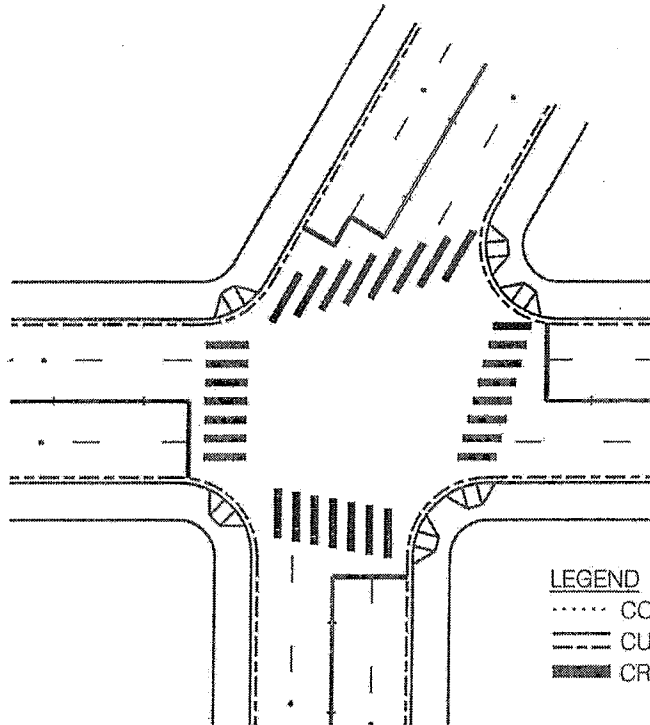
CR Dunge 2/5/2015
COORDINATOR R.C.E. 66523 DATE

DRAWING NUMBER **SDM-116**

CASE 5 - DUAL AND SINGLE RAMP ORTHOGONAL



CASE 6 - DUAL AND SINGLE RAMP SKEWED



LEGEND

- CONSTRUCTION LINE
- CURB & GUTTER
- █ CROSSWALK BAR (24" WIDE)

SHEET 3 OF 3

REVISION	BY	APPROVED	DATE
ORIGINAL	JF	J. NAGELVOORT	02/15

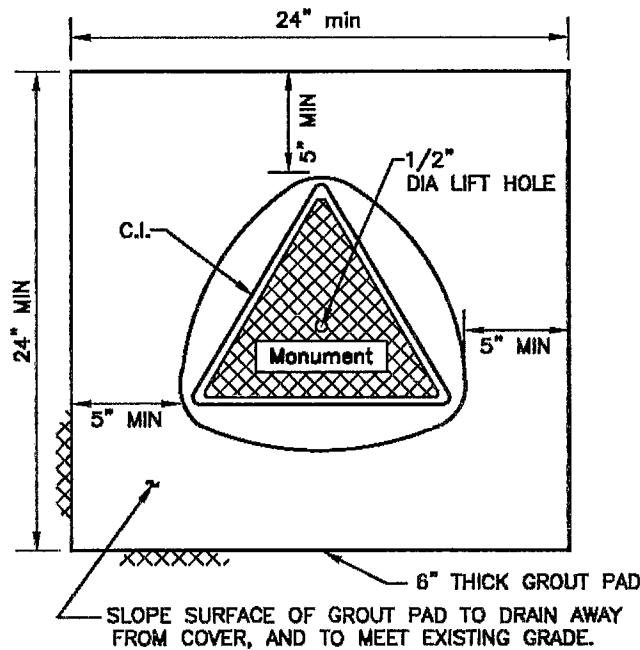
CITY OF SAN DIEGO - STANDARD DRAWING

CONTINENTAL CROSSWALK MARKINGS LAYOUT AND NOTES

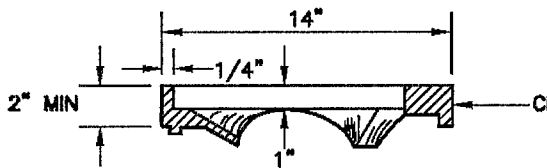
RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE.

C. Brugia 2/5/2015
 COORDINATOR R.E. 68523 DATE

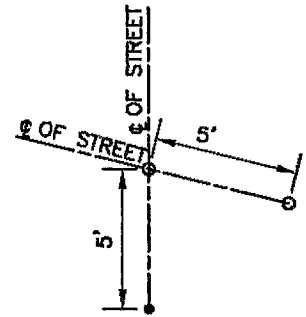
DRAWING NUMBER **SDM-116**



PLAN-IN UNPAVED AREA

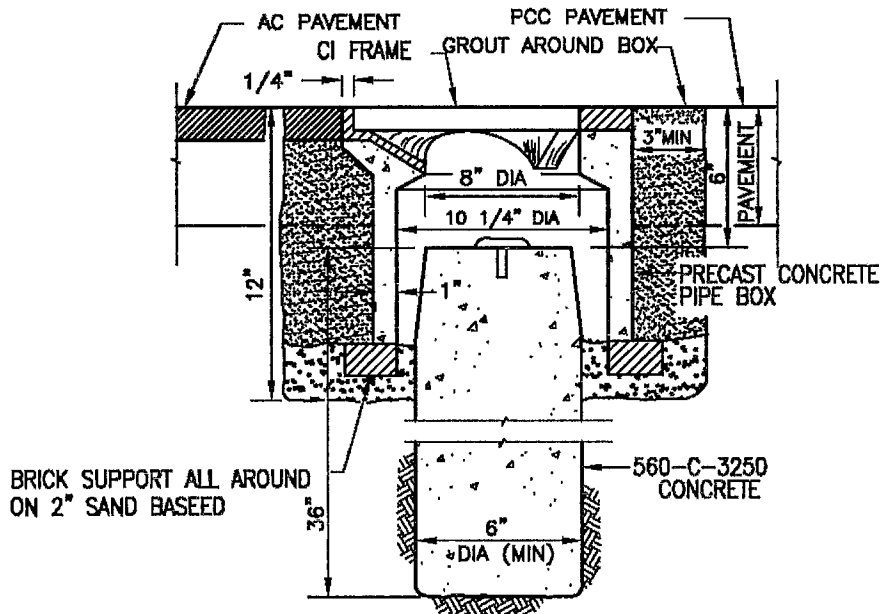


RISER RING



ALTERATION LOCATION OF MONUMENT. TIE DISTANCES SHOWN ON FINAL SUB-DIVISION MAP IF ALTERNATE LOCATION IS USED

LOCATION OF STREET SURVEY MONUMENT



TYPICAL MONUMENT SECTION IN PAVED AREA

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03
Reviewed		T. Stanton	04/06
Delete Metric		D. Gerschoffer	05/12
Note 4 Rev		D. Gerschoffer	02/14

SAN DIEGO REGIONAL STANDARD DRAWING

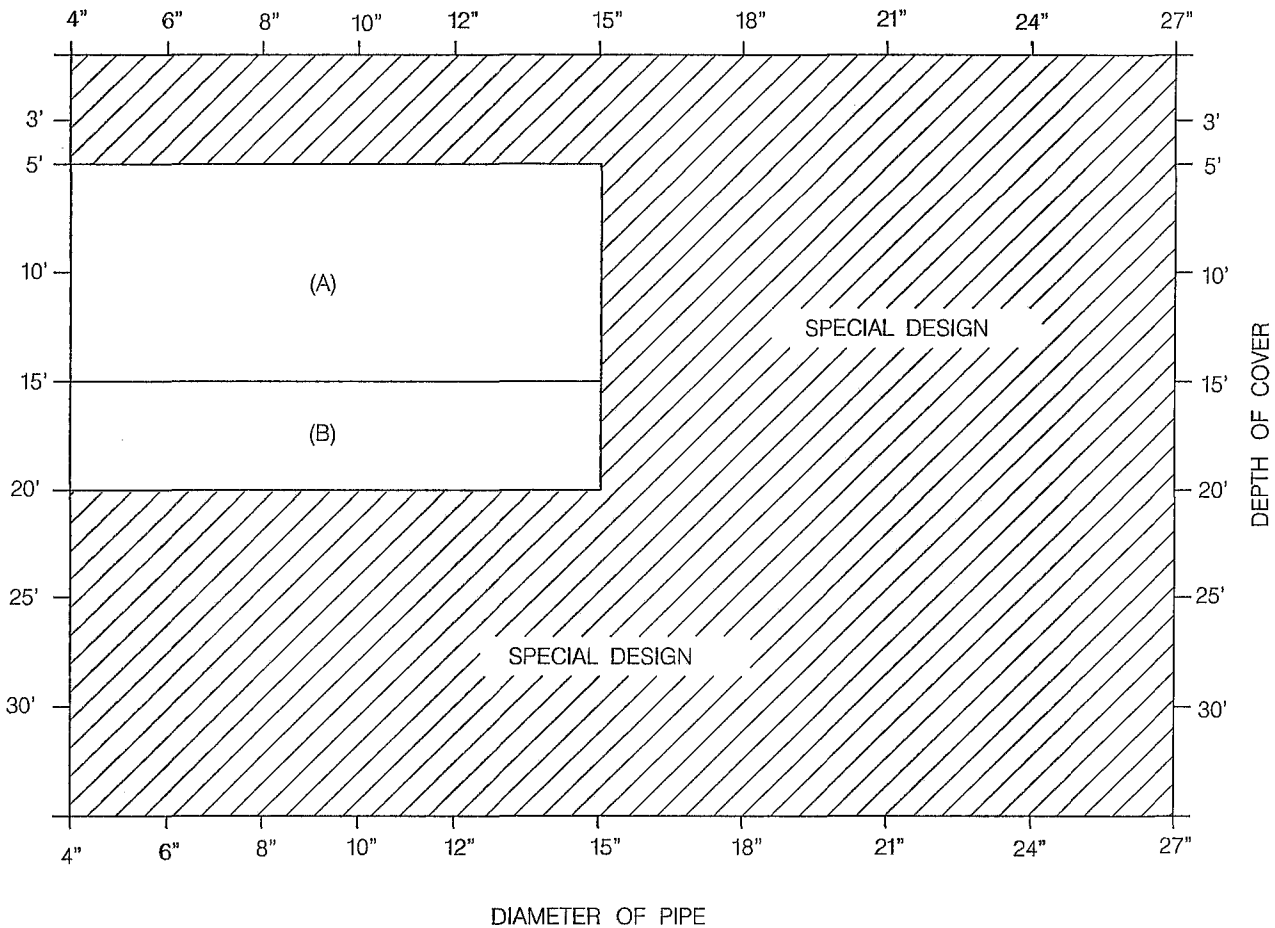
STREET SURVEY MONUMENT

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 7/26/2015

Chairperson R.C.E. 19246 Date

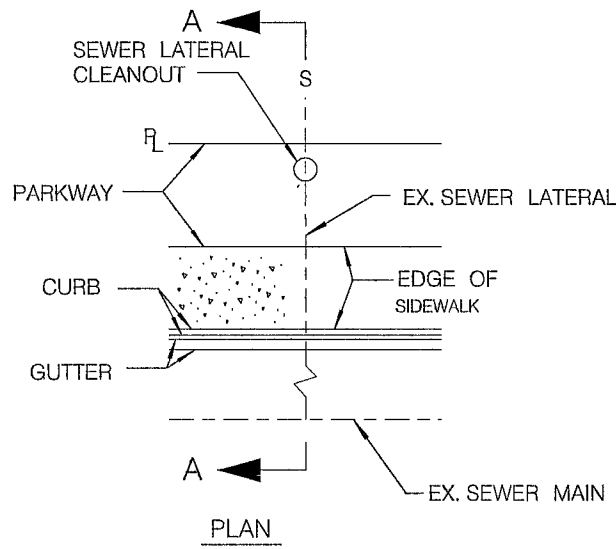
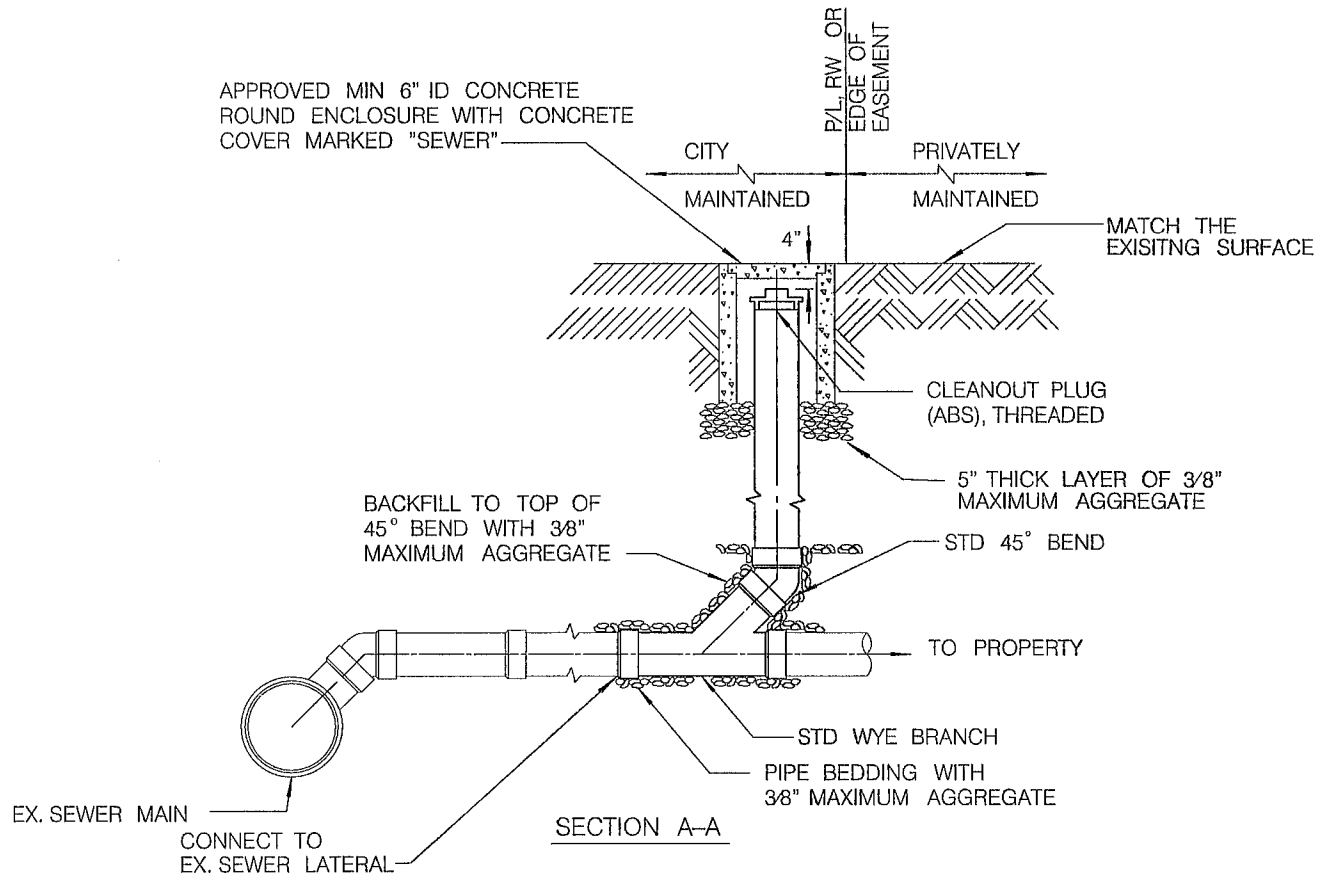
DRAWING NUMBER **M-10**



- (A) SDR - 35 OR PIPE STIFFNESS OF 46 PSI PER ASTM D2412
- (B) SDR - 35 IF SOIL REPORT SUBSTANTIATES THE ASSUMPTIONS IN NOTE 1, OTHERWISE USE SDR-26, IN LIEU OF THE SOIL REPORT

- NOTE:
1. THIS STANDARD DRAWING SHALL BE USED ONLY WHERE EXISTING SOIL CONDITIONS ARE STABLE. STABLE SOIL IS DEFINED AS STANDARD PENETRATION TEST BLOW COUNT EQUAL TO OR GREATER THAN 13 BLOWS PER FOOT OR SHEAR STRENGTH GREATER THAN 750 PSF. OBTAINED FROM UNCONFINED COMPRESSION TEST.
 2. STANDARD DESIGN ASSUMPTION: $K_b = .110, D_L = 1.0, E' = 750 \text{ psi}$
 $W_c = \text{PRISM LOAD @ } W = 125 \text{ LB/FT}^3$
 3. SEE PIPE BEDDING AND TRENCH BACKFILL DRAWING.
 4. INSTALLATIONS IN GROUND WATER SHALL REQUIRE A SPECIAL DESIGN.
 5. DESIGN REF.: ASCE MANUALS AND REPORTS ON ENGINEERING PRACTICE - NO. 60 "GRAVITY SANITARY SEWER DESIGN AND CONSTRUCTION."

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO - STANDARD DRAWING	RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE
ORIGINAL		J. MUELLER	6-15-83		
UPDATED		J. CASEY	8-26-86		
UPDATED		J. CASEY	11-8-88		
UPDATED	KA	J. NAGELVOORT	01/12		
PERMISSIBLE DEPTH OF COVER FOR PVC PIPE				COORDINATOR	R.C.E. 56523
Bidding Sewer & Water Group 701				DRAWING NUMBER	SDS-101
				13014 DATE	
				224 Page	



NOTES:

1. RISER AND CLEANOUT PLUG SHALL BE SAME DIAMETER AS SEWER LATERAL.
2. CLEANOUT SHALL BE LOCATED WITHIN CITY RIGHT OF WAY, BEHIND THE SIDEWALK.

REVISION	BY	APPROVED	DATE
DETAIL	SS	A. OSKOUJ	12/03
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	BB	J. NAGELVOORT	07/15

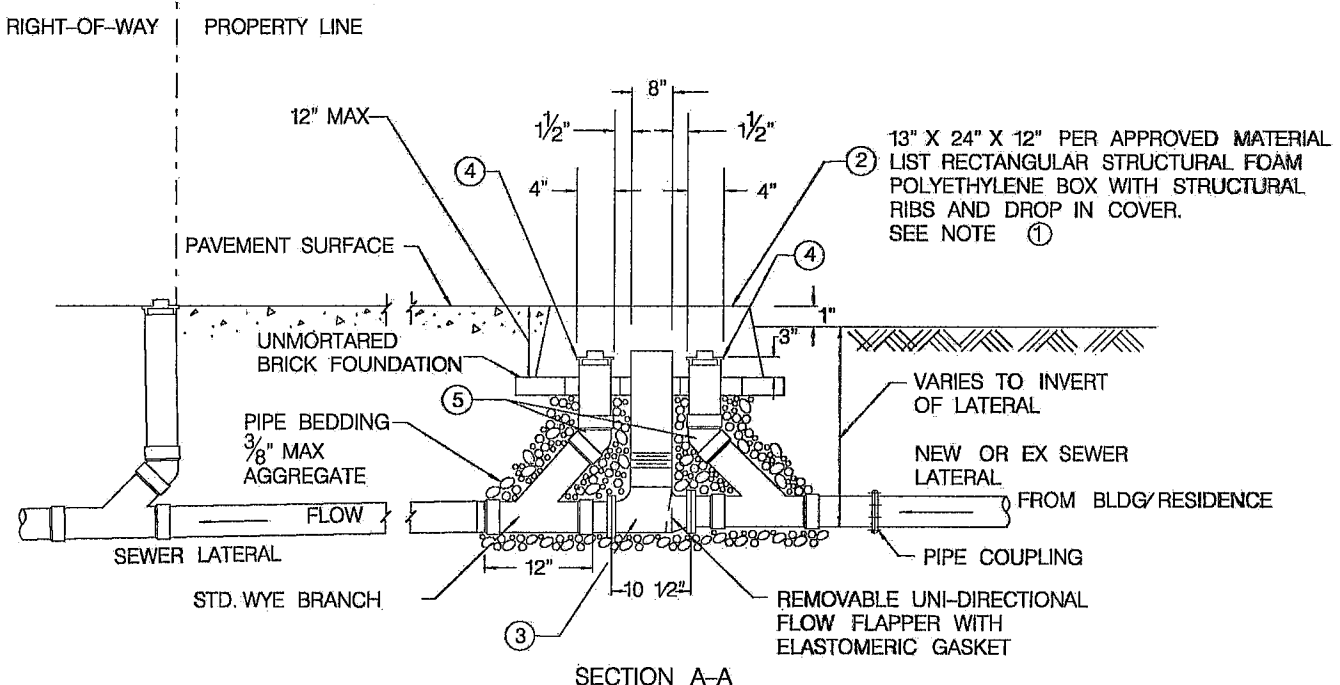
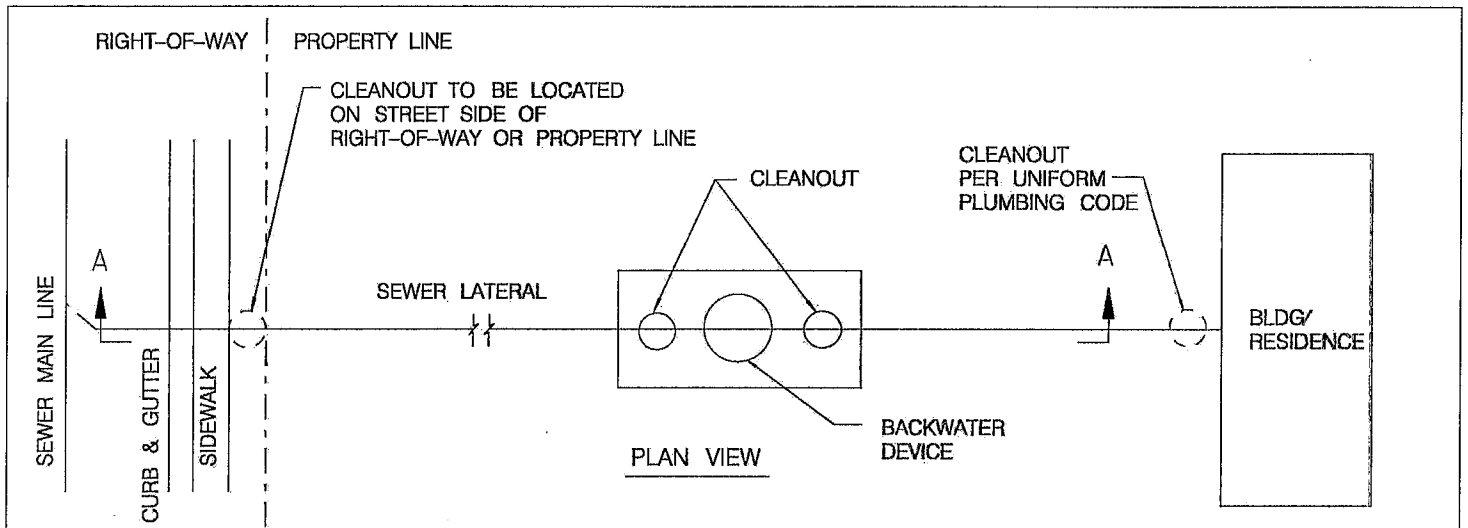
CITY OF SAN DIEGO - STANDARD DRAWING

SEWER LATERAL CLEANOUT

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

ADunger 7/21/15
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDS-103**

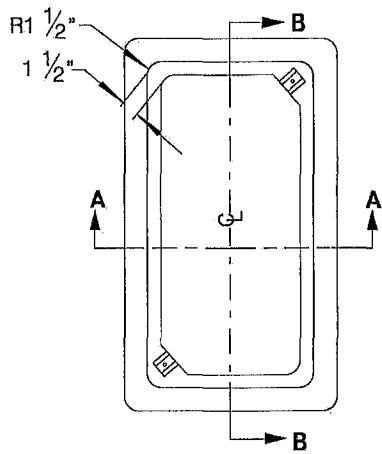


NOTES:

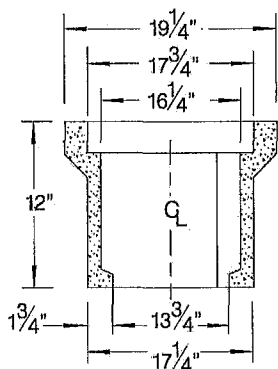
- ① WHEN BACKWATER DEVICE IS INSTALLED IN THE DRIVEWAY, SEE PAGE 2
- ② INSTALL VALVE BOX SO THAT IT IS FLUSH WITH PAVEMENT SURFACE OR 1" ABOVE FINISH GRADE (SOIL SURFACE).
- ③ PVC BACKWATER DEVICE AND ATTACHED PARTS SHALL BE PER THE CALIFORNIA PLUMBING CODE (CPC).
- ④ CLEANOUT PLUG (ABS) THREADED.
- ⑤ STANDARD 45° BEND.
- ⑥ THE BACKWATER DEVICE SHALL BE LOCATED AS CLOSE TO THE STRUCTURE AS REASONABLY POSSIBLE TO MINIMIZE THE DEPTH OF THE BACKWATER DEVICE.

SHEET 1 OF 2

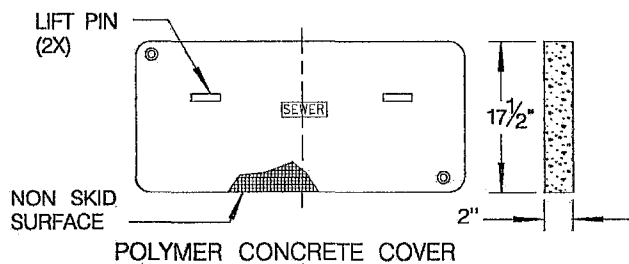
<small>REVISION</small>	<small>BY</small>	<small>APPROVED</small>	<small>DATE</small>	CITY OF SAN DIEGO - STANDARD DRAWING	<small>RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE</small>
<small>DETAIL</small>	CS	A. OSKOU	12/03		<i>CAJungca</i>
<small>UPDATED</small>	KA	J. NAGELVOORT	01/12		7/15/14
<small>UPDATED</small>	BB	J. NAGELVOORT	07/14		COORDINATOR R.C.E. 56523 DATE
4" BACKWATER DEVICE					<small>DRAWING NUMBER</small> SDS-104



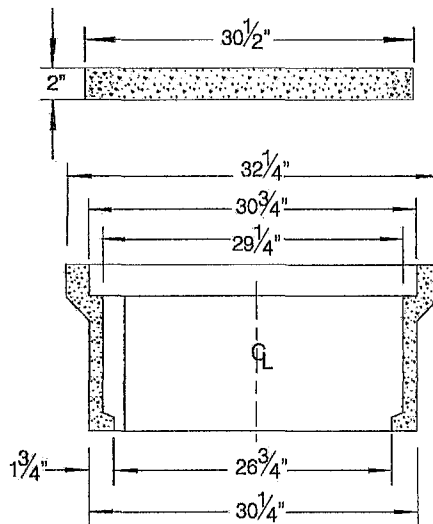
TOP VIEW



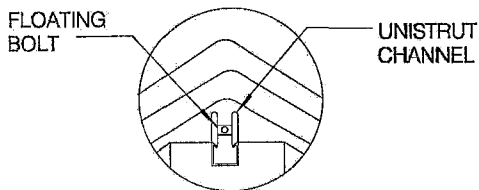
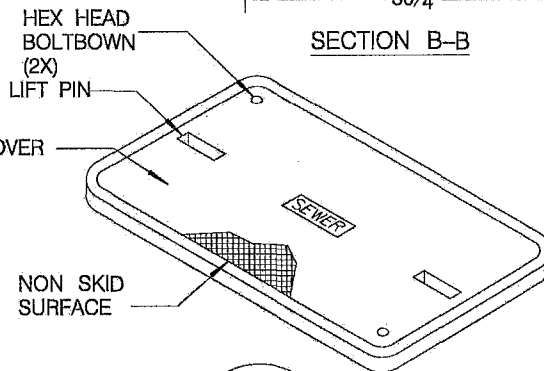
SECTION A-A



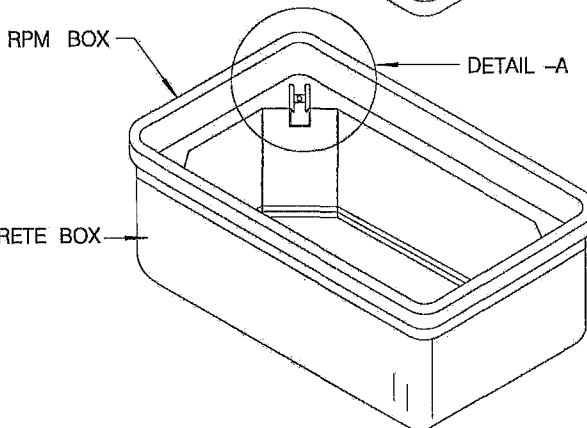
POLYMER CONCRETE COVER



SECTION B-B



DETAIL -A



NOTE:

1. THE BOX & COVER IS 10K LOAD RATED.

SHEET 2 OF 2

REVISION	BY	APPROVED	DATE
DETAIL	SS	A. OSKOUI	12/03
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	BB	J. NAGELVOORT	07/14

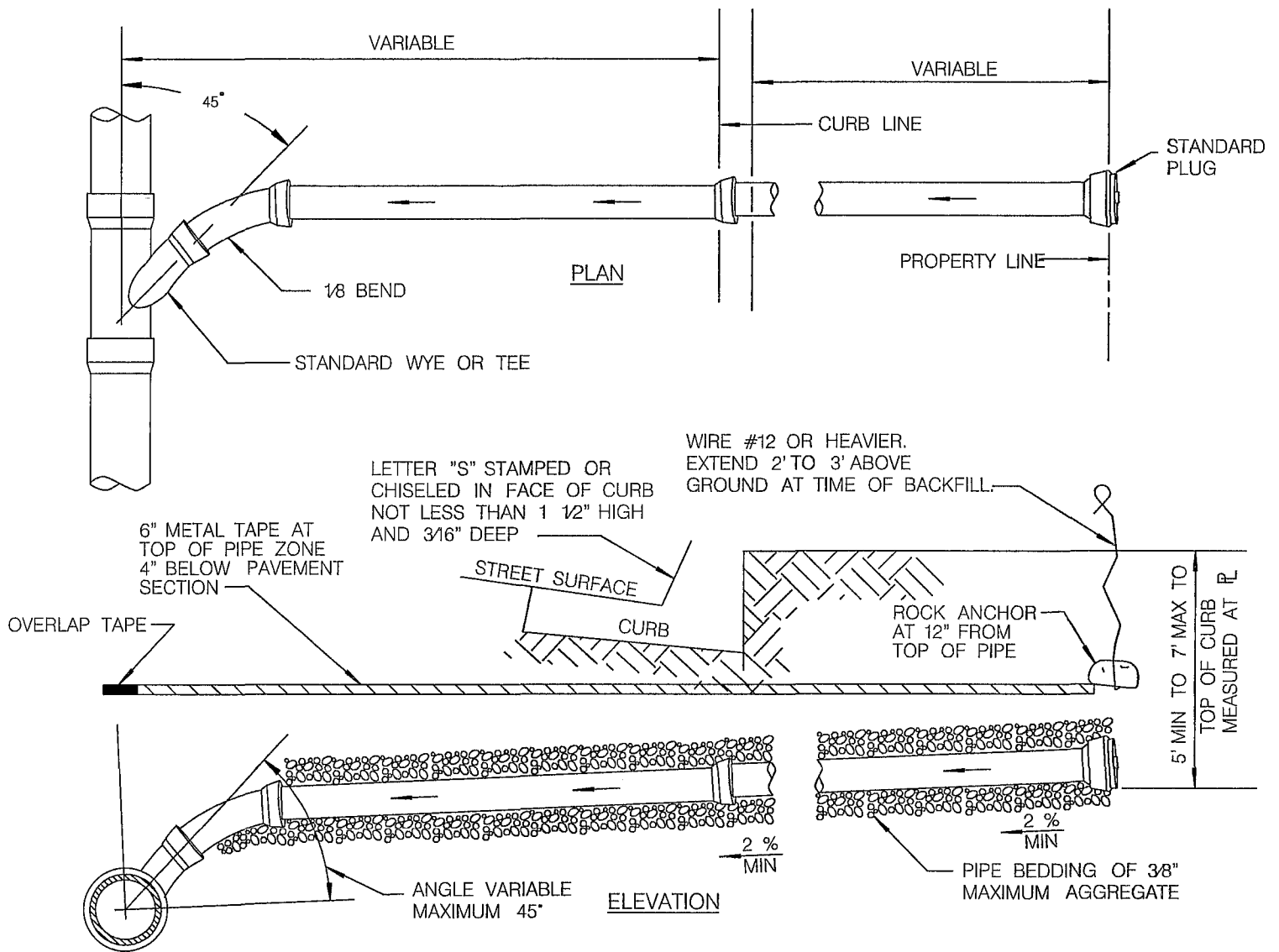
CITY OF SAN DIEGO - STANDARD DRAWING

4" BACKWATER DEVICE

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

C. Dunning 7/15/14
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDS-104**



NOTES

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. ALL JOINTS ON SEWER LATERAL PIPE SHALL BE COMPRESSION TYPE OR APPROVED SOLVENT WELD.
3. LATERAL SHALL EXTEND TO PROPERTY LINE UNLESS SHOWN OTHERWISE ON PLANS
4. DO NOT TAP HOLE AND INSERT LATERAL PIPE DIRECTLY INTO MAIN. ALL CONNECTIONS SHALL BE MADE USING A SADDLE OR WYE CUT IN.
5. SEWER LATERAL SHALL HAVE 6" METAL TAPE WITH GREEN LETTERING INDICATING "SEWER" INSTALLED ABOVE THE ALIGNMENT OF THE NON-METALLIC PIPE FROM SEWER MAIN TO PROPERTY LINE.

DETAIL SHOWING THE MANNER OF CONNECTING OPPOSITE LATERALS TO A SEWER MAIN. TWO CONNECTIONS SHALL NOT BE MADE IN THE SAME LENGTH OF PIPE.

LEGENDS ON PLANS



REVISION	BY	APPROVED	DATE
DETAIL	JP	A. OSKOU	12/03
UPDATED	KA	J. NAGELVOORT	01/12

CITY OF SAN DIEGO - STANDARD DRAWING

**HOUSE CONNECTION
(SEWER LATERAL)**

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

M. Ortega

12/9/13

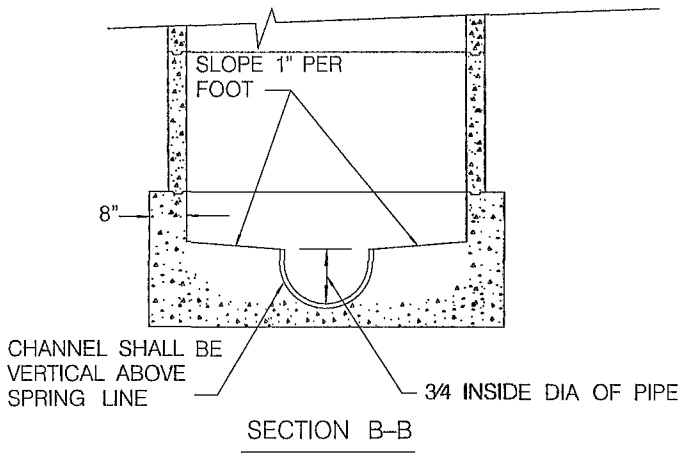
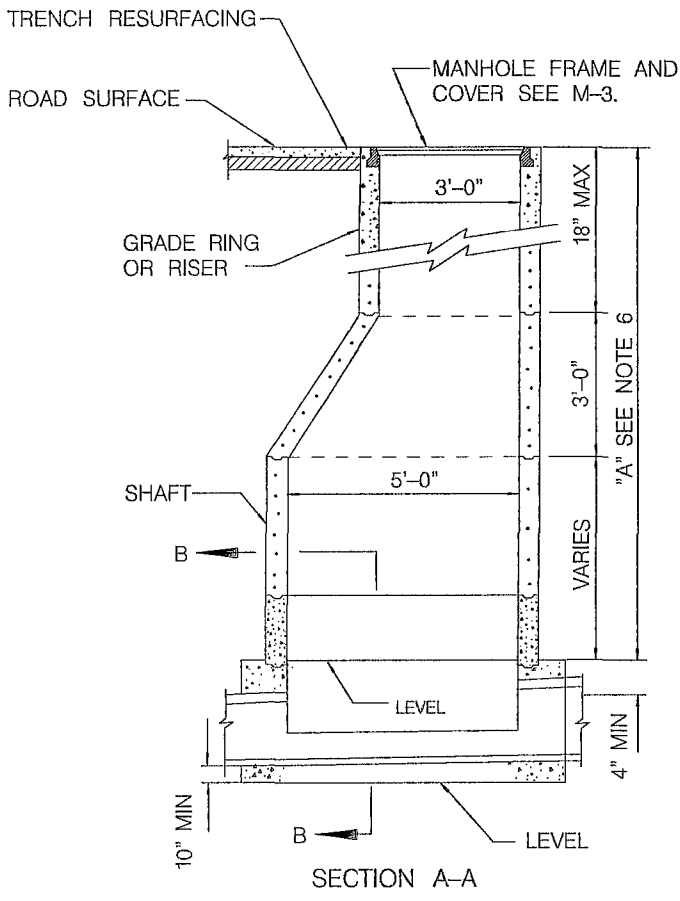
COORDINATOR

R.C.E.

DATE

DRAWING NUMBER

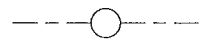
SDS-105



NOTES:

1. MANHOLE FRAME AND ALL JOINTS SHALL BE SET IN CLASS "C" MORTAR.
2. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478.
3. VERTICAL WALL OF CONE SHALL BE ON THE UPSTREAM SIDE OF THE MANHOLE.
4. CONCRETE BASE SHALL BE 560-C-3250.
5. APPROVED WATER STOP REQUIRED FOR PLASTIC PIPE CONNECTORS.
6. PRECAST SECTIONS SHALL BE USED WITHIN DIMENSION "A" AS REQUIRED, IN ORDER OF PREFERENCE LISTED:
 - A) CONE (NOTCHED FOR PIPE IF DIMENSION "A" IS LESS THAN 3'.)
 - B) 6" TO 18" OF 3' DIAMETER GRADE RINGS AND/OR RISERS.
 - C) 5' DIAMETER SHAFT VARIABLE HEIGHT.
7. FLEXIBLE PIPE JOINTS SHALL BE REQUIRED WITHIN 12" OF INSIDE FACE OF MANHOLE, EXCEPT FOR PLASTIC PIPE.
8. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
9. PRIOR APPROVAL OF PRECAST BASE IS REQUIRED BY THE ENGINEER.
10. MANHOLES SERVING 18" DIAMETER PIPE AND LARGER SHALL USE PRECAST RISERS LINED WITH WHITE PVC SHEETS IMBEDDED WITH LOCKING EXTENSIONS TO THE CONCRETE WALL THE BASE AND ALL REMAINING EXPOSED CONCRETE SHALL BE COATED WITH AN APPROVED POLYURETHANE COATING.

LEGEND ON PLANS



REVISION	BY	APPROVED	DATE
DETAIL	SS	A. OSKOUJ	12/03
UPDATE	KA	J. NAGELVOORT	01/12
UPDATE	GB	J. NAGELVOORT	07/15

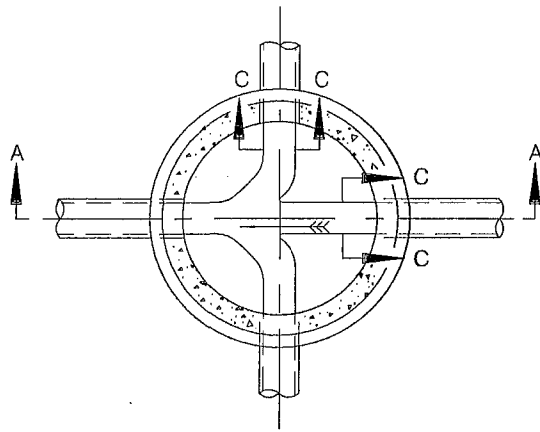
CITY OF SAN DIEGO - STANDARD DRAWING

MANHOLE 5' X 3' DIAMETER

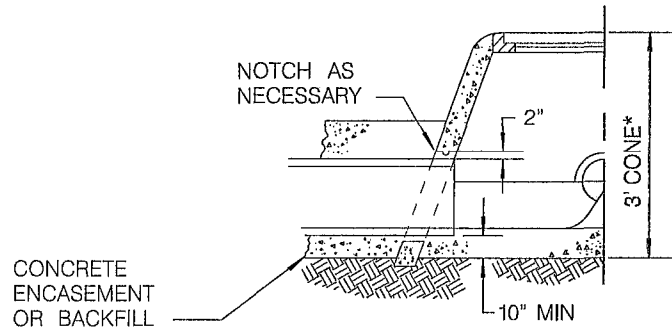
RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

CDunger 7/21/15
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDS-106**

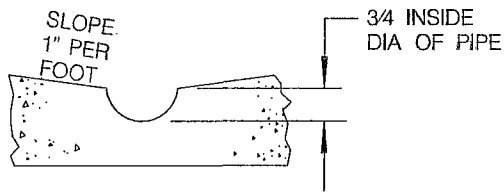


SECTION B-B



* EITHER CONCENTRIC OR ECCENTRIC CONE MAY BE USED

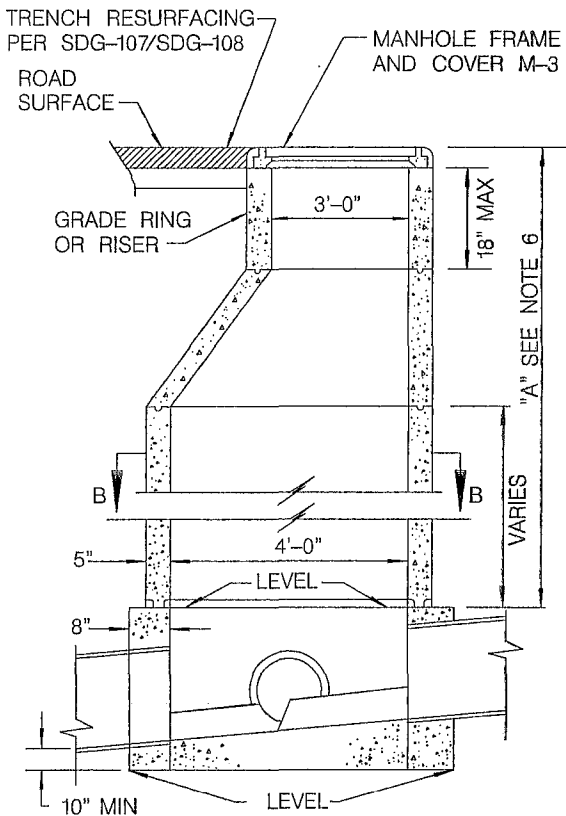
HALF SECTION SHALLOW MANHOLE



SECTION C-C

NOTES

1. ALL RISER JOINTS SHALL BE EPOXY MORTARED.
2. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478.
3. VERTICAL WALL OF CONE SHALL BE ON THE UPSTREAM SIDE OF THE MANHOLE.
4. CONCRETE BASE SHALL BE 560-C-3250.
5. APPROVED WATER STOP REQUIRED FOR PLASTIC PIPE CONNECTIONS.
6. PRECAST SECTIONS SHALL BE USED WITHIN DIMENSION "A" AS REQUIRED, IN ORDER OF PREFERENCE LISTED:
 - A) CONE (NOTCHED FOR PIPE IF DIMENSION "A" IS LESS THAN 3').
 - B) 3" TO 18" OF 3' GRADE RINGS AND RISERS.
 - C) 4' DIAMETER SHAFT VARIABLE HEIGHT.
7. FLEXIBLE PIPE JOINTS SHALL BE REQUIRED WITHIN 12" OF INSIDE FACE OF MANHOLE, EXCEPT FOR PLASTIC PIPE.
8. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
9. PRIOR APPROVAL OF PRECAST BASE IS REQUIRED BY THE ENGINEER.



SECTION A-A

LEGEND ON PLANS



REVISION	BY	APPROVED	DATE
DETAIL	JP	A. OSKOU	12/03
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	GB	J. NAGELVOORT	07/15

CITY OF SAN DIEGO - STANDARD DRAWING

**MANHOLE 4' X 3' DIAMETER
(FOR 15" MAXIMUM DIAMETER PIPE)**

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

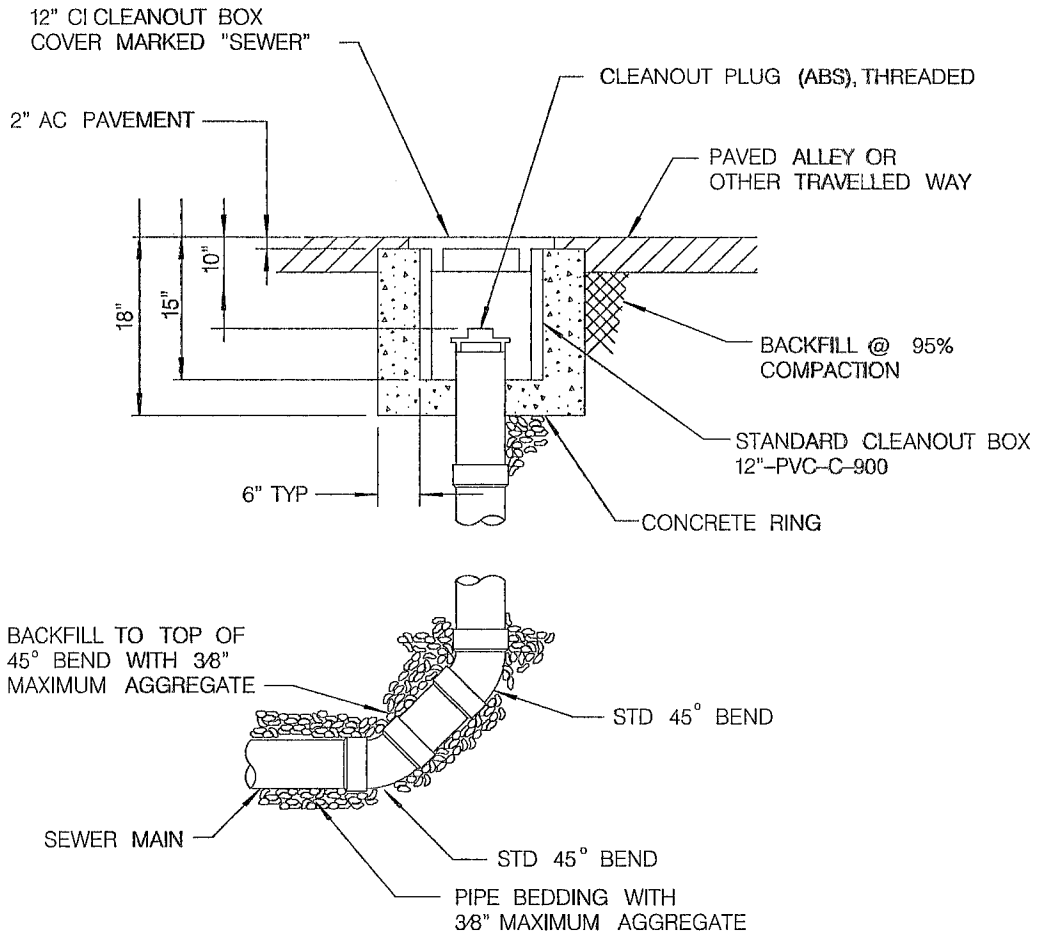
Chung
COORDINATOR

7/21/15
DATE

DRAWING
NUMBER

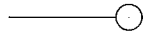
SDS-107

R.C.E. 56523



NOTES:

1. REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE.
2. CLEANOUTS TO BE INSTALLED AT THE END OF MAINS WHERE INDICATED ON THE PLANS.
3. CLEANOUT PIPE TO BE SAME SIZE AND MATERIAL AS SEWER (MAX DIA. 8")
4. BACKFILL TO TOP OF 45° BEND WITH 3/8" CRUSHED ROCK.
5. LATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST.



LEGEND ON PLANS

REVISION	BY	APPROVED	DATE
ORIGINAL	BB	J. NAGELVOORT	05/15
UPDATED	BB	J. NAGELVOORT	07/15

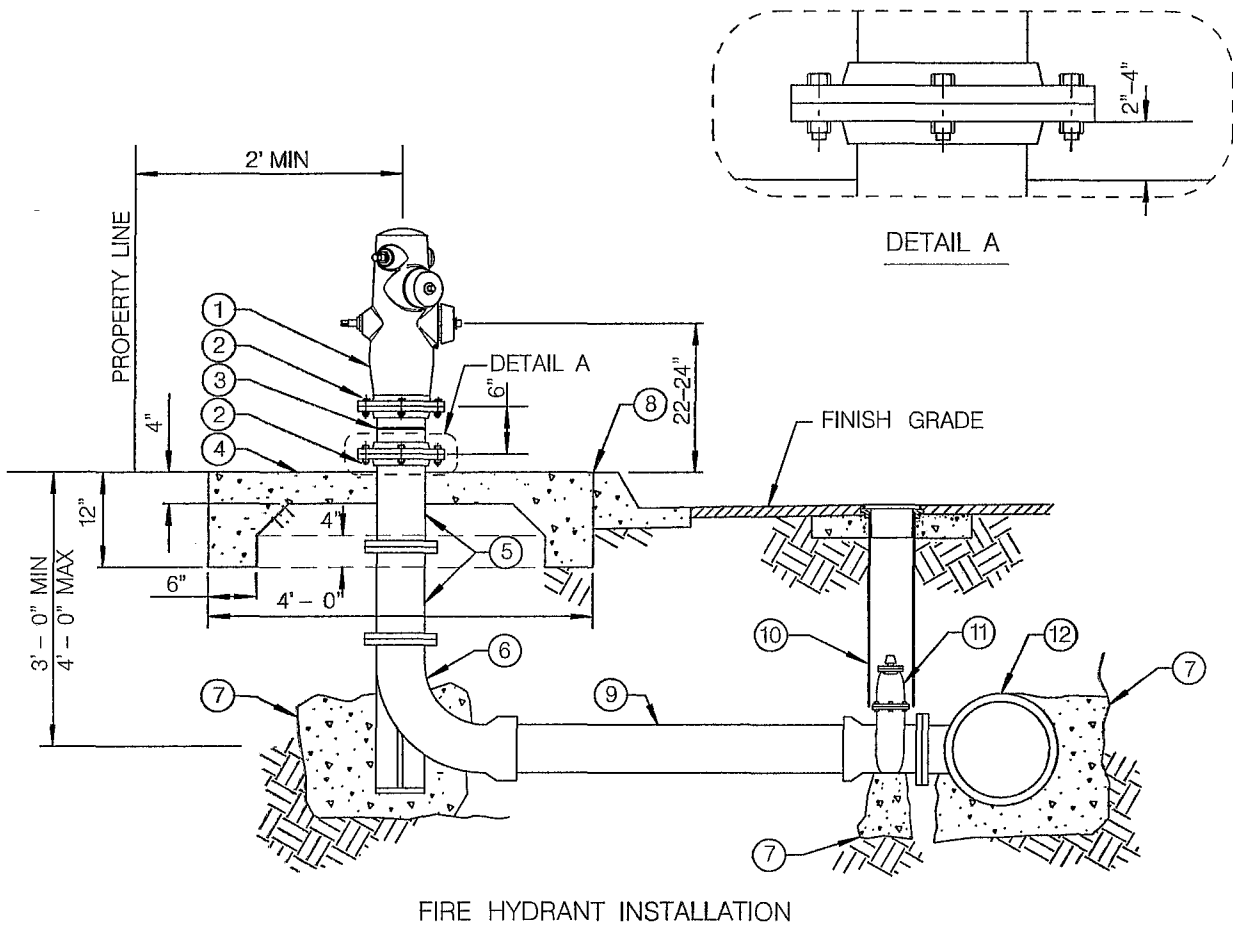
CITY OF SAN DIEGO - STANDARD DRAWING

SEWER MAIN CLEANOUT

RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

Chungga 7/21/15
COORDINATOR R.C.E. 56523 DATE

DRAWING
NUMBER **SDS-121**

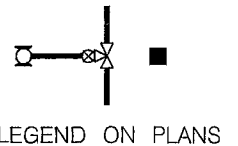


FIRE HYDRANT INSTALLATION

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1	6" WET BARREL FIRE HYDRANT	5	6" CAST IRON EXTENSION NON-GROOVED SPOOL - AS REQUIRED (F, F)
2	.75" X 3.5" MIN HEX HEAD BREAKAWAY (SHEAR) BOLTS AND NUTS (ASTM A307) SHALL BE 3/4" NC THREAD. HEX HEAD ON TOP OF FLANGES (ALL)	6	6" LONG RADIUS DI BASE ELBOW (F, PO /MJ)
3	6" CAST IRON BREAKAWAY SPOOL WITH 0.25"-V (SINGLE OR DOUBLE) BREAK OFF GROOVE	7	CONCRETE THRUST BLOCK
4	4' X 4' X 4" THICK CONCRETE PAD WITH 6" X 12" DEEP THICKENED EDGE AROUND PERIMETER OF CONCRETE PAD	8	COLD JOINT STRIP
		9	PIPE - 6" C-900 PVC
		10	GATE WELL WITH CAP
		11	6" GATE VALVE (F/MJ, F)
		12	TEE - SIZE X 6" (MJ, MJ, F)

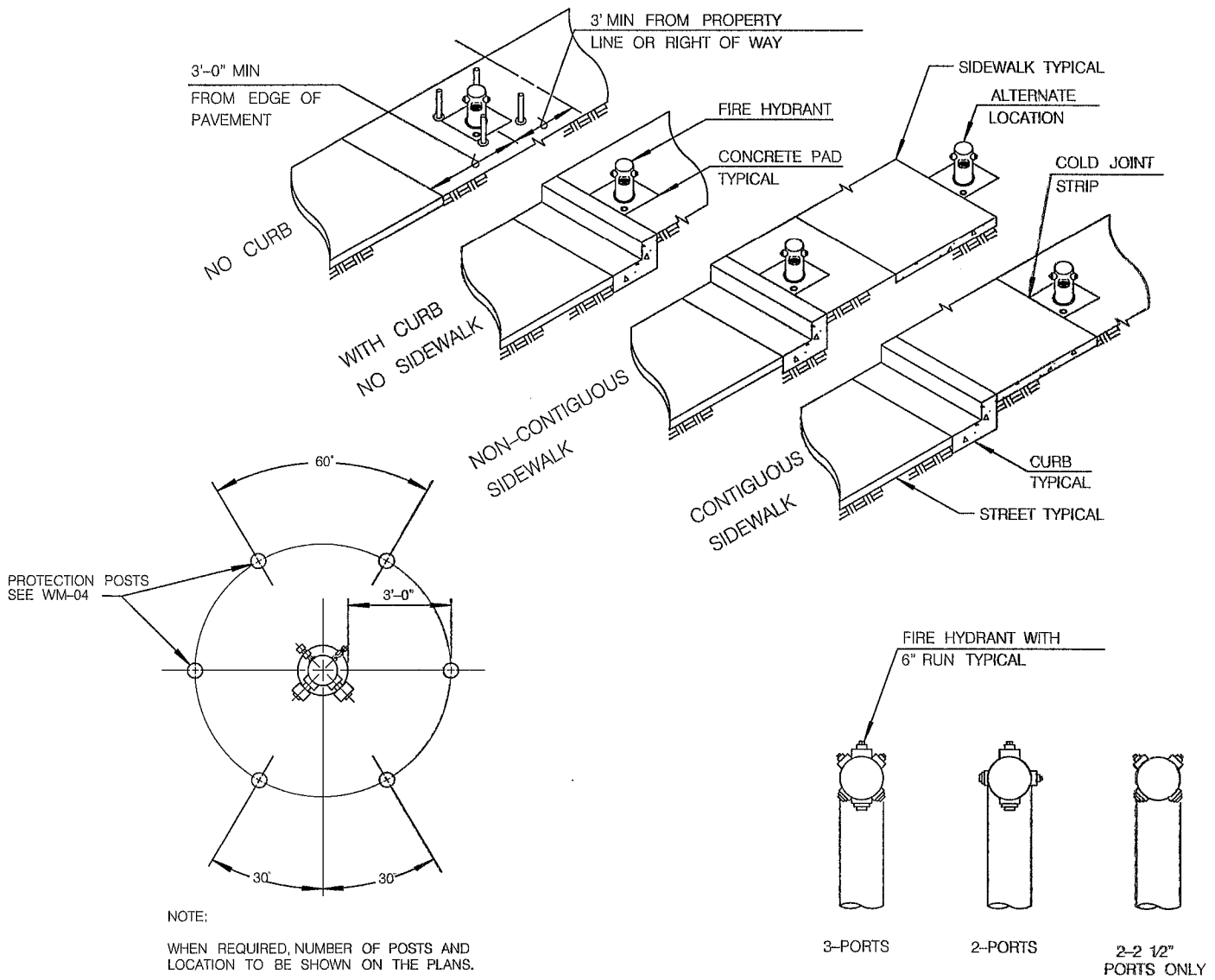
NOTES:

- NUMBER OF OUTLETS SHALL BE AS SHOWN ON THE PLANS.
- CONNECT TO BASE OF THE HYDRANT WITH SHEAR BOLTS INSTALLED WITH HEX HEAD ON TOP OF THE FLANGE. (31/64" DIAMETER HOLE 2" DEEP IN BOLTS, GALVANIZED AFTER BORING)



SHEET 1 OF 3

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO - STANDARD DRAWING	RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE	
ORIGINAL	KA	J. NAGELVOORT	01/12		<i>Chavez</i>	9/9/2013
UPDATED	KA	J. NAGELVOORT	08/13		COORDINATOR	R.C.E. 56523 DATE
				FIRE HYDRANT INSTALLATION	DRAWING NUMBER	SDW-104
e-Bidding Sewer & Water Group 701						232 Page



NOTE:

WHEN REQUIRED, NUMBER OF POSTS AND LOCATION TO BE SHOWN ON THE PLANS.

PROTECTION POSTS

PORT ORIENTATION

FIRE HYDRANT LOCATIONS AND PORT ORIENTATION

NOTES:

- 1) LOCATE FIRE HYDRANT AS SHOWN ABOVE OR AS DIRECTED BY THE ENGINEER.
- 2) FIRE HYDRANTS SHALL BE INSTALLED WITH THE LARGEST PORT PERPENDICULAR TO THE STREET.
- 3) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE CURB OR SIDEWALK, A COLD JOINT STRIP SHALL BE INSTALLED.
- 4) CONCRETE APRON SHALL BE REQUIRED WHERE THE FIRE HYDRANT IS INSTALLED IN AN UNPAVED LOCATION. THE APRON SHALL BE 4" THICK 520-C-2500 CONCRETE.
- 5) WHEN DISTANCE FROM THE FIRE HYDRANT TO THE TOP OR TOE OF THE SLOPE OR WALLS IS LESS THAN 2', SPECIAL HYDRANT INSTALLATION DETAIL SHALL BE SHOWN ON THE PLANS.
- 6) THE DISTANCE FROM THE FACE OF THE CURB TO THE CENTERLINE OF THE FIRE HYDRANT SHALL BE 2 1/2' MINIMUM.

SHEET 2 OF 3

REVISION	BY	APPROVED	DATE
ORIGINAL	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	08/13

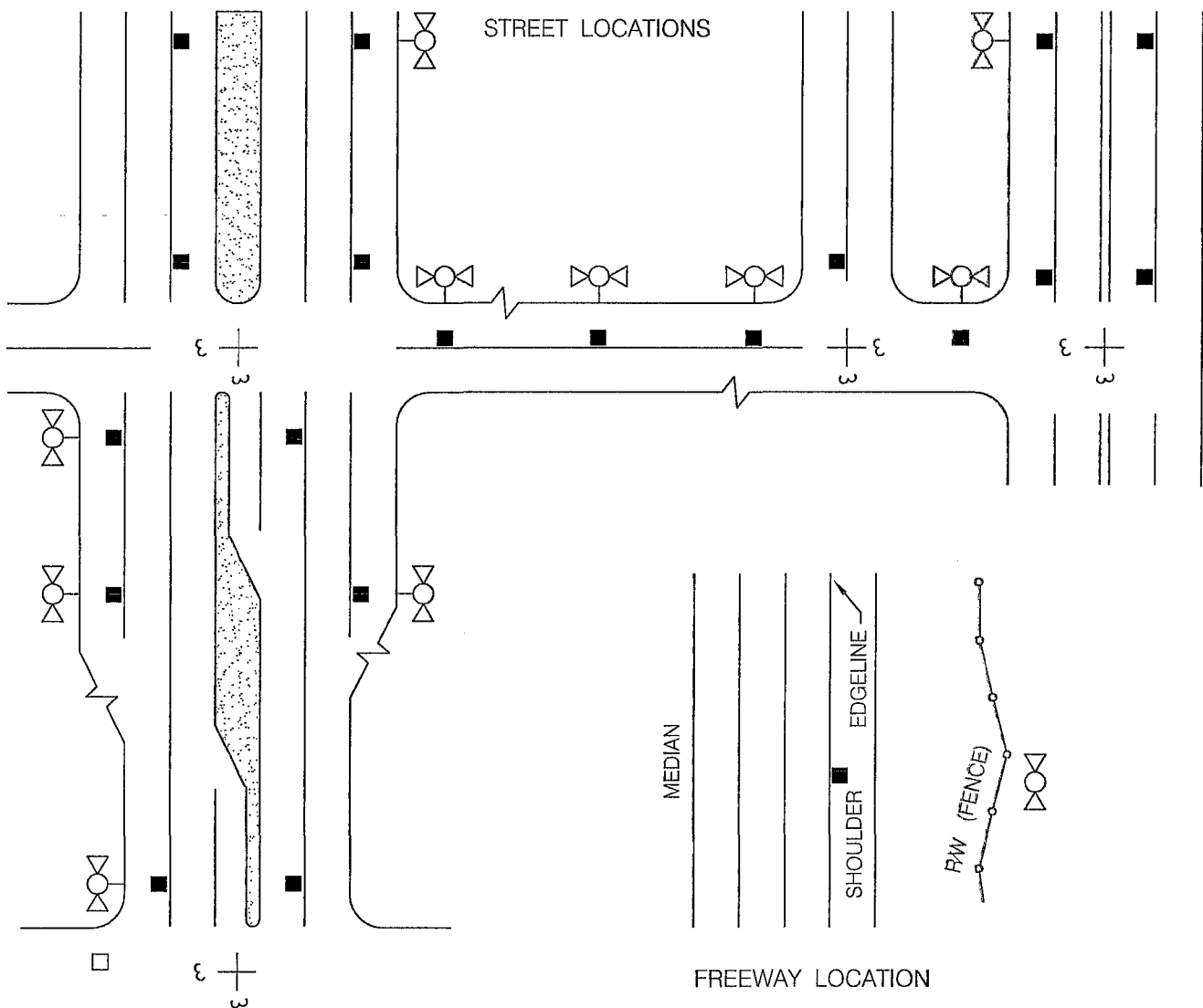
CITY OF SAN DIEGO – STANDARD DRAWING

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

Chung 9/9/2013
 COORDINATOR R.C.E. 56523 DATE

**FIRE HYDRANT
 INSTALLATION**

DRAWING NUMBER **SDW-104** 233 | Page

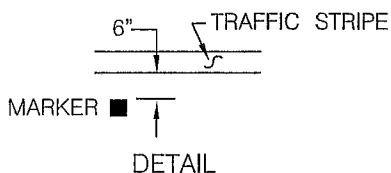


MARKERS - SHALL BE BLUE 2-WAY STIMSONITE LIFELITE 88AB OR EQUAL.

ADHESIVE - AN AMPLE AMOUNT OF 2 (A&B) EPOXY OR EQUAL.

SURFACES - CLEAN AND DRY TO INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.

INSTALL MARKERS WITH REFLECTIVE SURFACES FACING ONCOMING VEHICLES AND OFFSET 2" FROM LANE LINES TOWARD FIRE HYDRANT.



FIRE HYDRANT MARKERS

NOTES

1. FIRE DEPARTMENT WILL PROVIDE LOCATION(S) FOR ALL MARKERS IN PRD'S COMMERCIAL LOTS AND OTHER AREAS OUTSIDE OF PUBLIC RIGHT OF WAY.
2. MARKERS SHALL BE INSTALLED AT THE NEW AND RELOCATED HYDRANTS AND WITHIN ALL RESURFACING PROJECTS.
3. FOR STREETS WITHOUT LANE LINES OR STREETS WITH RAISED PAVEMENT MARKERS AND NO PAINTED LANE LINES, INSTALL MARKERS 6" FROM CENTERLINE OR EXISTING MARKERS.

SHEET 3 OF 3

CITY OF SAN DIEGO - STANDARD DRAWING

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

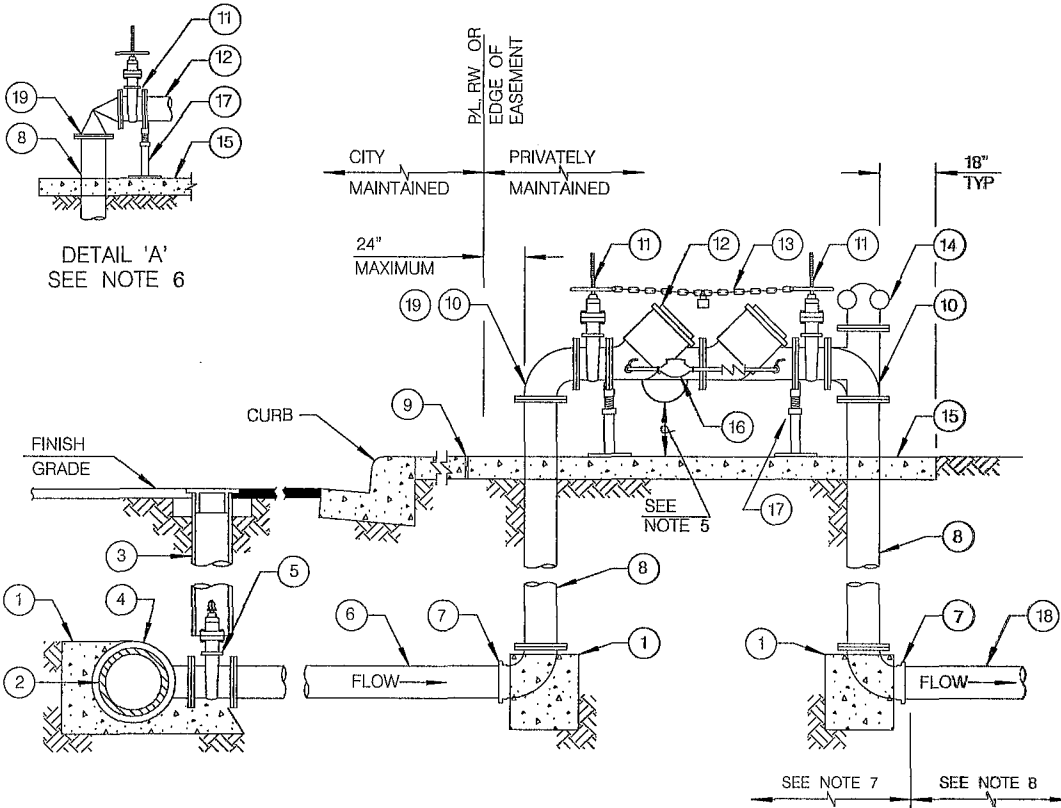
CR 9/9/2013

COORDINATOR R.C.E. 56523 DATE

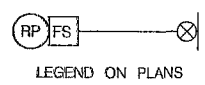
**FIRE HYDRANT
INSTALLATION**

DRAWING NUMBER **SDW-104** 234 | Page

REVISION	BY	APPROVED	DATE
ORIGINAL	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	08/13



DETAIL 'A'
SEE NOTE 6



LEGEND ON PLANS

SEE NOTES ON SHEET 2

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	CONCRETE THRUST BLOCK SEE SDW-151	⑫	APPROVED REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) SEE NOTE 3
②	WATER MAIN	⑬	CHAIN WITH KNOX LOCK SEE NOTE 3, SHEET 2 OF 2
③	GATE WELL WITH CAP SEE SDW-153	⑭	FLANGED TEE WITH "FDC" SEE NOTE 3, SHEET 2 OF 2
④	SIZE x SIZE MJ/FLG x FLG TEE	⑮	CONCRETE SLAB MINIMUM 4" THICK x 36" WIDE x AS REQUIRED
⑤	FLG x MJ/FLG RWGV	⑯	3/4" BYPASS, METER & RP ASSEMBLY
⑥	C-900 PVC PIPE	⑰	ADJUSTABLE VALVE SUPPORT
⑦	MJ x FLG 90° BEND	⑱	PVC OR DI PIPE SEE NOTE 8, SHEET 2 OF 2
⑧	FLANGED DUCTILE IRON PIPE		
⑨	COLD JOINT STRIP		
⑩	FLANGED 90° BEND, SEE NOTE 6, SHEET 2 OF 2		
⑪	FLANGED OS&Y RWGV WITH HAND WHEEL		

SHEET 1 OF 2

REVISION	BY	APPROVED	DATE
ORIGINAL*	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	8/13
UPDATED	FG	J. NAGELVOORT	07/15

CITY OF SAN DIEGO - STANDARD DRAWING

BACKFLOW PREVENTER FOR 4" AND LARGER FIRE SERVICE

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

Chungga 7/2V/15
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDW-105**

NOTES:

- 1) INSTALL WARNING / IDENTIFICATION TAPE.
- 2) LOCATE BACKFLOW PREVENTION ASSEMBLY IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION, REPAIR, AND USE.
- 3) TAMPER SWITCH, AUTOMATIC RESET, CHAIN WITH KNOX LOCK, AND FIRE DEPARTMENT CONNECTION ("FDC") SHALL BE AS REQUIRED BY THE FIRE DEPARTMENT.
- 4) BALL VALVE TEST COCKS AND DETECTOR ASSEMBLY SHALL BE PROVIDED AND LOCATED PER THE MANUFACTURES RECOMMENDATIONS AND CITY STANDARDS.
- 5) INSTALL FIRE SERVICES SO THAT THE DISTANCE BETWEEN THE BOTTOM OF THE RELIEF DIAPHRAGM AND THE CONCRETE SLAB OR FINISH GRADE IS 12" MINIMUM AND 24" MAXIMUM.
- 6) INSTALL A PRESSURE REDUCING VALVE UPSTREAM OF THE FIRST 90 BEND WHEN SYSTEM STATIC PRESSURE EXCEEDS 150 PSI OR WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER.
- 7) INSTALL PIPE AND RELATED APPURTENANCES IN THIS AREA PER THE CITY REQUIREMENTS.
- 8) INSTALL PIPE AND RELATED APPURTENANCES IN THIS AREA AS REQUIRED BY THE FIRE DEPARTMENT.
- 9) ABOVE GROUND APPURTENANCES SHALL BE PAINTED AND IDENTIFIED AS CALLED FOR BY THE FIRE DEPARTMENT.
- 10) TESTING SHALL BE CONDUCTED AS REQUIRED BY THE PUBLIC UTILITIES DEPARTMENT CROSS CONNECTION CONTROL UNIT.
- 11) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.



LEGEND ON PLANS
SHEET 2 OF 2

REVISION	BY	APPROVED	DATE
ORIGINAL*	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	8/13
UPDATED	FG	J. NAGELVOORT	07/15

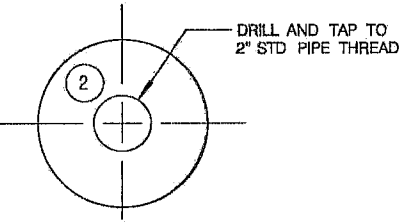
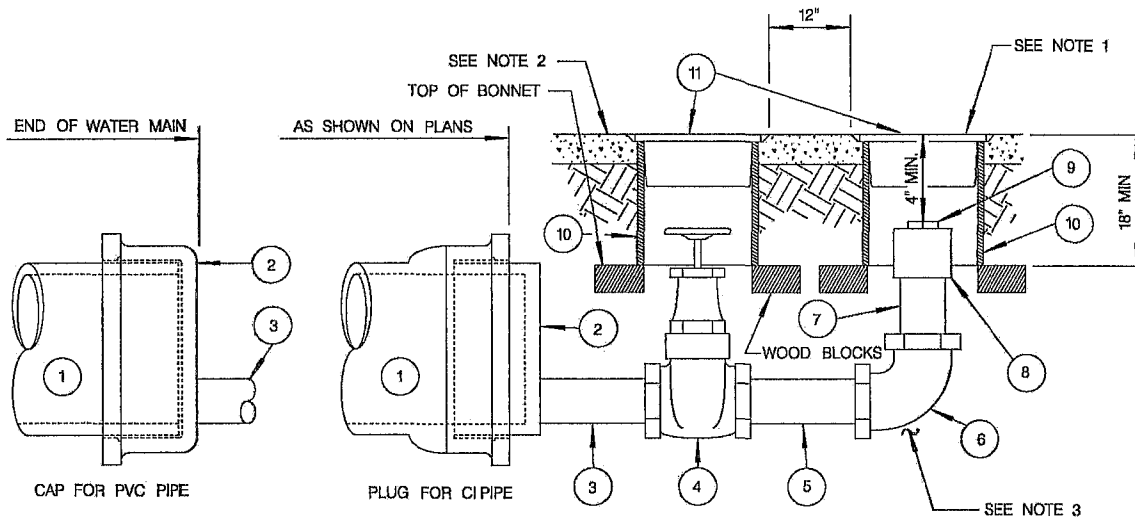
CITY OF SAN DIEGO – STANDARD DRAWING

BACKFLOW PREVENTER FOR 4" AND LARGER FIRE SERVICE

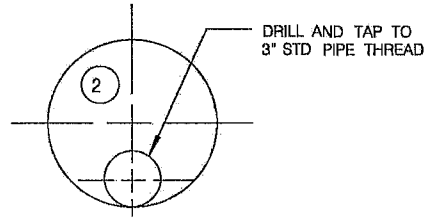
RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

Chung 7/21/15
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDW-105**



CONCENTRIC PLUG DRILLED FOR 2" BLOW-OFF FOR 3"-8" MAINS



ECCENTRIC PLUG DRILLED FOR 3" BLOW-OFF FOR 10"-20" MAINS

NOTES:

1. SET TO FINISH GRADE
2. PROVIDE CONCRETE PADS.
3. PROVIDE THRUST BLOCKS.
4. REFER TO OTHER CITY STANDARD DRAWINGS FOR MORE MORE DETAILS.

SCHEDULE			
ITEM		SIZE AND DESCRIPTION	
1	WATER MAIN	3" - 8" INCL.	10" - 20" INCL.
2	CAST IRON PLUG OR CAP	MAIN SIZE X 2"	MAIN SIZE X 3"
3	Brass Nipple	2" X 8"	3" X 8"
4	BRONZE GATE VALVE WITH BRONZE WHEEL-SCREW ENDS	2"	3"
5	Brass Nipple	AS NEEDED	AS NEEDED
6	BRASS 90° EL	2"	3"
7	BRASS RISER	2" X VARIABLE TO GRADE MINUS 4"	3" X VARIABLE TO GRADE MINUS 4"
8	BRASS COUPLING THREAD	2"	3"
9	BRASS PLUG	2"	3"
10	STEEL CASING FOR GATE VALVE AND RISER	8" X VARIABLE TO GRADE MINUS 3/4"	8" X VARIABLE TO GRADE MINUS 3/4"
11	GATE WELL CAP AND CAN SEE SDW-153	8"	8"

REVISION	BY	APPROVED	DATE
ORIGINAL		J. MUELLER	9-3-83
NOTES	AO	F. BELOCK	04-96
NOTES	SM	A. OSKOUJ	12-03
NOTES	JS	A. OSKOUJ	12-06
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	12/12

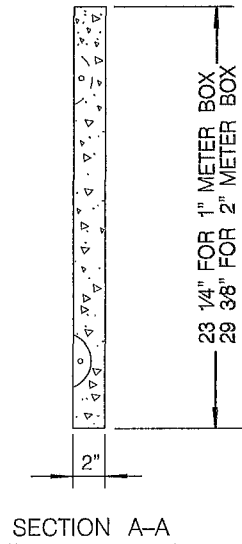
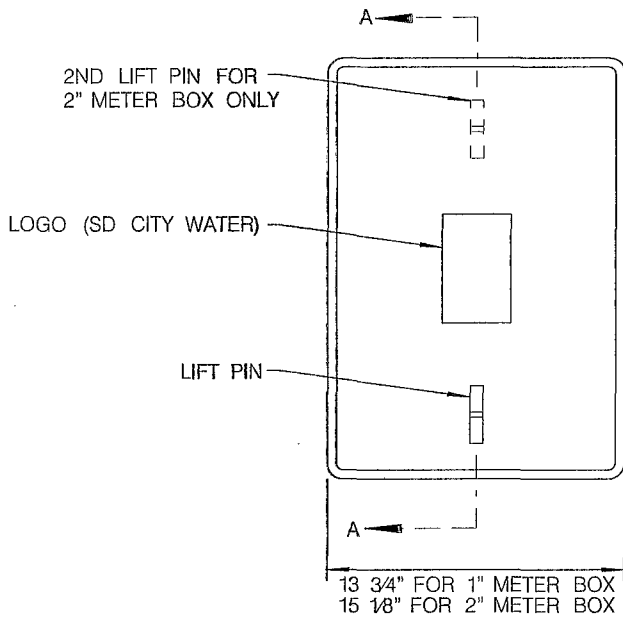
CITY OF SAN DIEGO - STANDARD DRAWING

**BLOW-OFF ASSEMBLIES
AT THE END OF
PVC AND CAST IRON MAINS**

RECOMMENDED BY THE CITY OF SAN DIEGO
REGIONAL STANDARDS COMMITTEE

J. Nagelvoort 12/17/2012
COORDINATOR R.C.E. 65271 DATE

DRAWING NUMBER **SDW-106** 237 | Page



SOLID COVER FOR TRAVELED WAY

NOTES:

1. LID SHALL WITHSTAND AASHTO H-20 (ASTM 857).
2. LID SHALL HAVE NON-SKID SURFACE.

SHEET 1 OF 2

REVISION	BY	APPROVED	DATE
ORIGINAL	SS	A. OSKOUI	12/03
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	BB	J. NAGELVOORT	06/14

CITY OF SAN DIEGO – STANDARD DRAWING

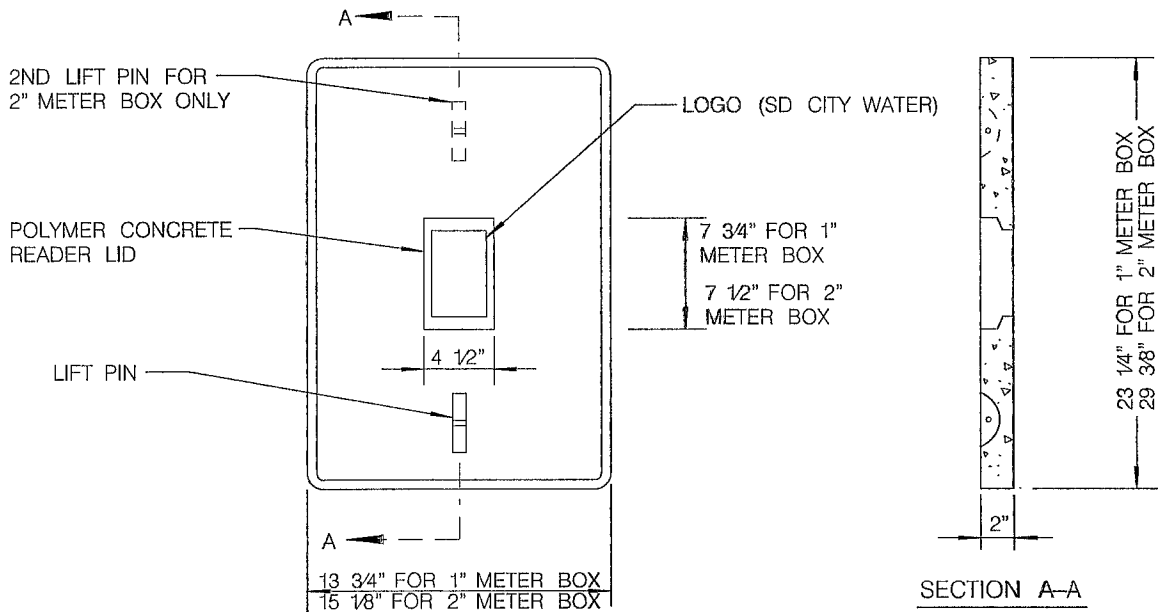
METER BOX POLYMER CONCRETE COVER

RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

R. C. E. 56523 6/23/2014

COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDW-136**



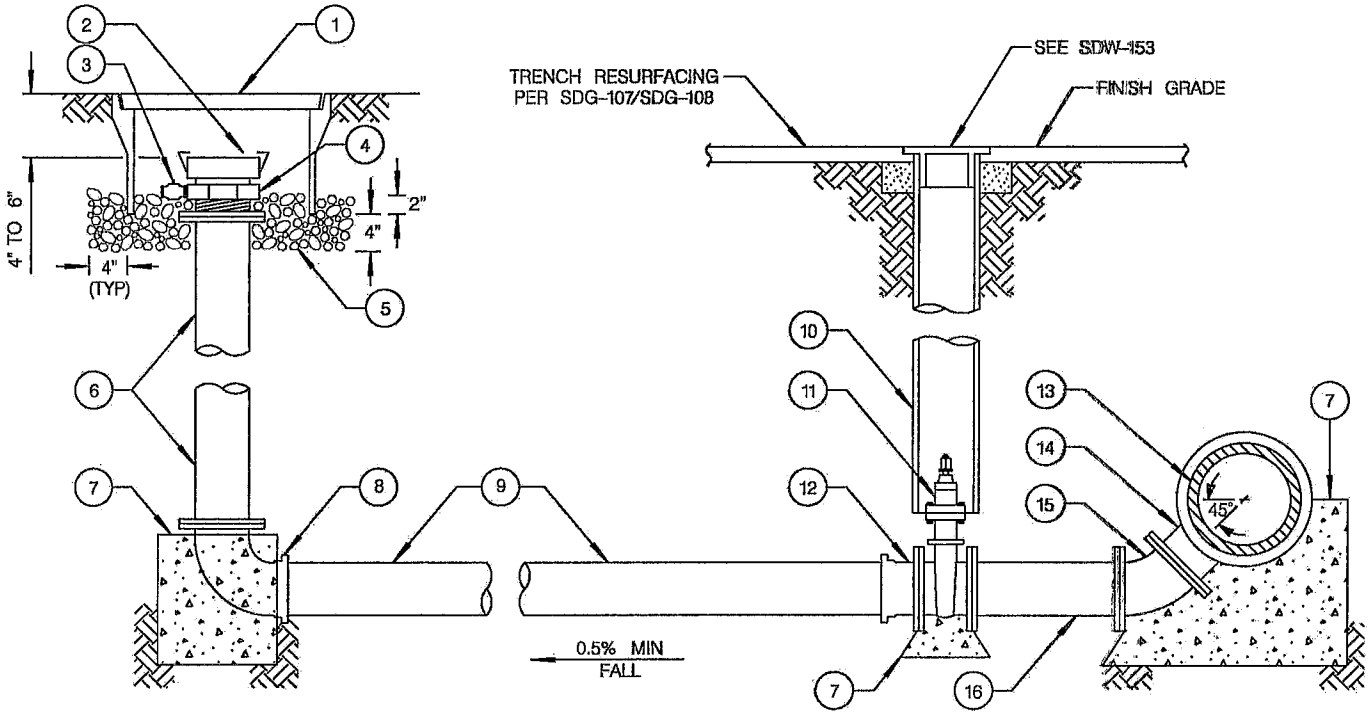
DROP IN COVER (OUTSIDE TRAVELLED WAY)

NOTES:

1. LID SHALL WITHSTAND AASHTO H-10 (ASTM C857-85).
2. LID SHALL HAVE NON-SKID SURFACE.
3. IF LID IS MANUFACTURED BY CDR, READER SHALL BE 6" X 9".

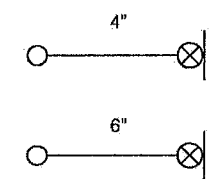
SHEET 2 OF 2

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO – STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL	SS	A. OSKOUI	12/03		<i>Chungga</i>
UPDATED	KA	J. NAGELVOORT	01/12	METER BOX POLYMER CONCRETE COVER	COORDINATOR R.C.E. 56523
UPDATED	BB	J. NAGELVOORT	06/14		DATE
					DRAWING NUMBER



NOTES:

- 1) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- 2) LOCATE METER BOX
- 3) INSTALL WARNING / IDENTIFICATION TAPE
- 4) FOR BLOW-OFF INSTALLATION AT END OF MAIN SEE OTHER STANDARD DRAWINGS
- 5) BLOW-OFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SPECIFICATIONS
- 6) 45° BEND SHALL BE USED FOR MAINS UP TO 30°, 90° BEND SHALL BE USED FOR MAINS IN EXCESS OF 30° AS DIRECTED BY THE ENGINEER
- 7) CAM & GROOVE ADAPTER SHALL BE DRILLED AND TAPPED AS REQUIRED FOR THE PRESSURE PET COCK



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	POLYMER METER BOX WITH LID 17" x 30", SEE NOTE 2	8	4" OR 6" FLG x MJ/PO 90° BEND
2	4" OR 6" CAM & GROOVE ADAPTER x MIPT WITH LOCKING DUST CAP, SEE NOTE 7	9	USE DUCTILE IRON OR PVC C900
3	1/4" PRESSURE PET COCK	10	VALVE WELL FRAME AND COVER (SEE SDW-153, SDW-154)
4	4" OR 6" FLANGED COMPANION x FIPT	11	4" OR 6" FLG x MJ/PO/FLG RWGV
5	3/8" ROCK 4" TO 6" DEEP	12	4" OR 6" FLG x MJ/PO ADAPTER (IF REQUIRED)
6	4" OR 6" FLG DI PIPE x REQUIRED LENGTH (MAXIMUM OF 2 SPOOLS)	13	WATER MAIN
7	CONCRETE THRUST BLOCK SEE SDW-151	14	SIZE x 4" OR 6" MJ/PO/FLG x FLG TEE
		15	4" OR 6" FLANGED 45° BEND
		16	4" OR 6" x 24" FLG DISPOOL

REVISION	BY	APPROVED	DATE
ORIGINAL*	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	12/12

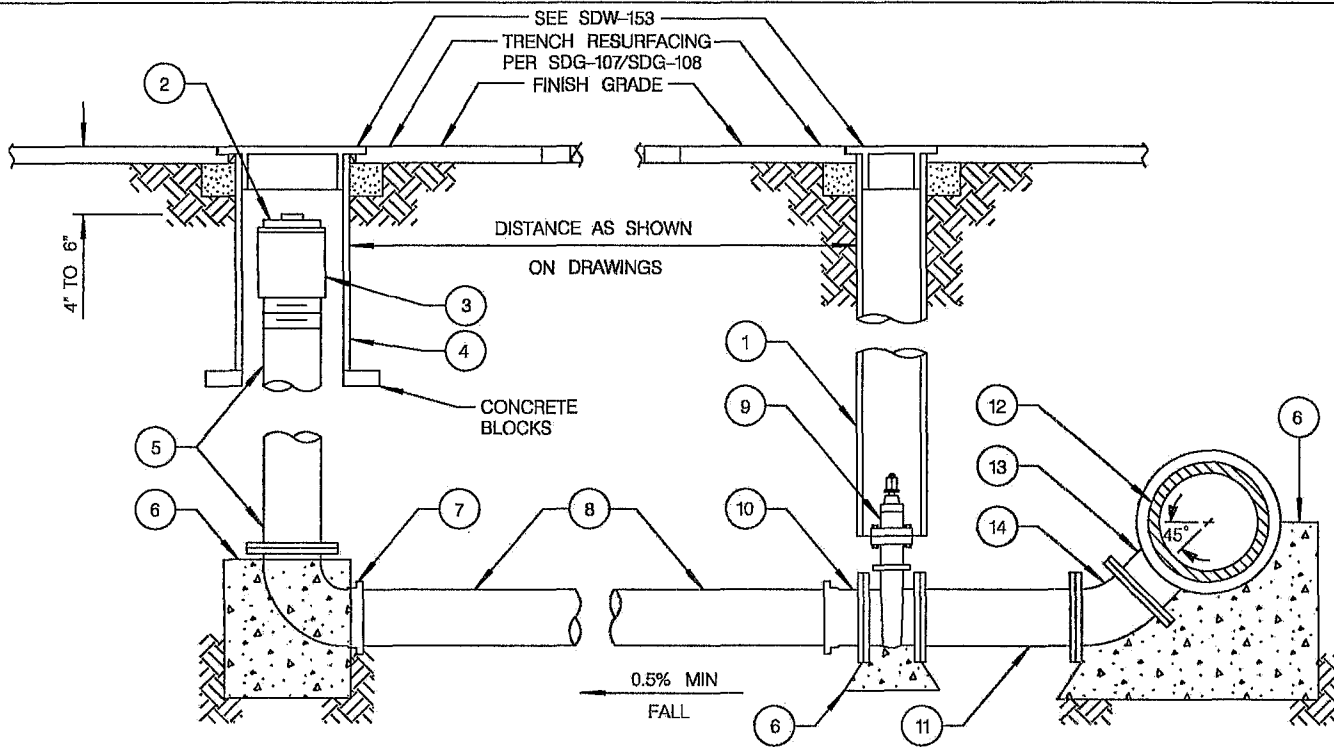
CITY OF SAN DIEGO – STANDARD DRAWING

**4" & 6" BLOW-OFF
INSTALLATION TYPE A**

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

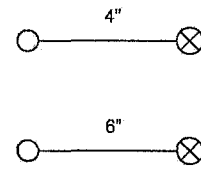
John Nagelvoort
12/17/2012
COORDINATOR R.C.E. 65271 DATE

DRAWING NUMBER **SDW-144** 240 | Page



NOTES:

- 1) FOR BLOW-OFF INSTALLATION AT END OF MAIN SEE OTHER STANDARD DRAWINGS
- 2) BLOW-OFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SPECIFICATIONS
- 3) ON STEEL MAINS USE WELD ON COUPLINGS, ON DUCTILE IRON MAINS USE DUCTILE IRON SERVICE SADDLES (INSULATING BUSHINGS ARE REQUIRED)
- 4) 45° BEND SHALL BE USED FOR MAINS UP TO 30°. 90° BEND SHALL BE USED FOR MAINS IN EXCESS OF 30° AS DIRECTED BY THE ENGINEER



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	GATE WELL WITH CAP SEE SDW-153 OR SDW-154	8	DUCTILE IRON OR C-900 PVC
2	GALVANIZED IRON PLUG	9	4" OR 6" FLG x MJ / PO / FLG RWGV
3	GALVANIZED IRON COUPLING, THREADED	10	4" OR 6" FLG x MJ / PO ADAPTER (IF REQUIRED)
4	10" STEEL GATE WELL WITH CAP	11	4" OR 6" x 24" FLG DISPOOL
5	4" OR 6" FLG DI PIPE x REQUIRED LENGTH (MAXIMUM OF 2 SPOOLS)	12	WATER MAIN
6	CONCRETE THRUST BLOCK SEE SDW-151	13	SIZE x 4" OR 6 MJ / PO / FLG x FLG TEE
7	FLANGE x FLANGE x 90° BEND	14	4" OR 6" FLANGED 45° BEND, SEE NOTE 4

REVISION	BY	APPROVED	DATE
ORIGINAL*	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	12/12

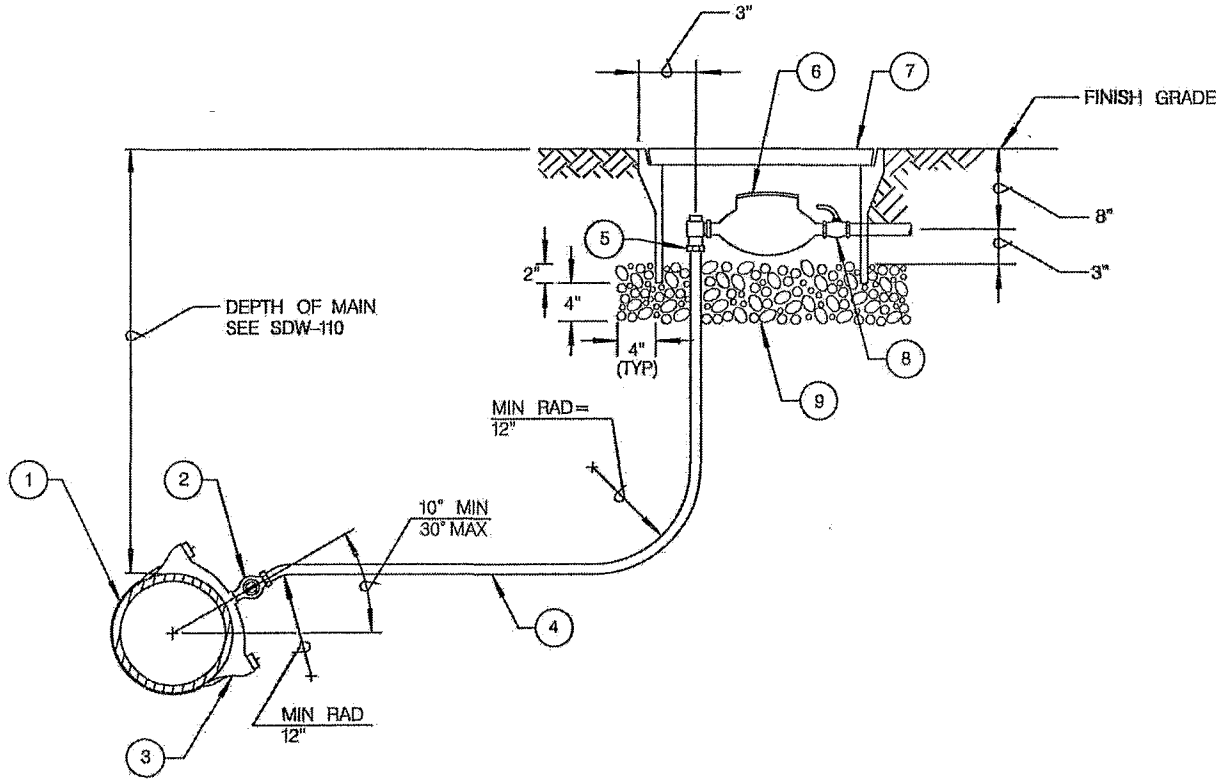
CITY OF SAN DIEGO - STANDARD DRAWING

**4" & 6" BLOW-OFF INSTALLATION
IN STREET TYPE B**

RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

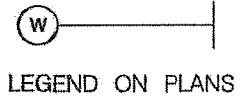
J. Nagelvoort
COORDINATOR R.C.E. 65271 DATE
12/17/2012

DRAWING NUMBER **SDW-145**



NOTES:

- 1) INSTALL CORPORATION STOP WITH KEY IN THE SIDE POSITION
- 2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB, OR FINISH GRADE
- 3) LOCATE METER BOX
- 4) INSTALL WARNING / IDENTIFICATION TAPE
- 5) ONLY APPROVED BRASS MECHANICAL COUPLING DEVICES ALLOWED FOR TYPE K COPPER PIPE.
- 6) ON STEEL MAINS USE WELD ON COUPLINGS, ON DUCTILE IRON MAINS USE DUCTILE IRON SERVICE SADDLES (INSULATING BUSHINGS ARE REQUIRED)
- 7) BRONZE PIPE SADDLES ARE REQUIRED FOR ALL TAPS INTO POLYVINYL CHLORIDE (PVC) WATER MAIN. TOP TAPS ARE NOT PERMITTED.



ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	WATER MAIN	6	WATER METER FURNISHED & INSTALLED BY THE CITY
2	1" BRONZE CORPORATION STOP	7	METER BOX WITH LID, #37: 28" x 18"
3	SIZE x 1" BRONZE SERVICE SADDLE DOUBLE STRAP	8	CUSTOMER SHUT-OFF VALVE (LOCKABLE) FURNISHED AND INSTALLED BY THE CITY
4	USE COPPER TUBING TYPE (K) SOFT FOR 1" SERVICES ONLY. NO INTERMEDIATE JOINTS PERMITTED WITHIN THE FIRST 60' FROM THE MAIN FOR LENGTHS LONGER THAN 60 FEET USE FLARE JOINT UNION OR LOK-PAC FITTINGS WITH LOCKING CLAMP AND STAINLESS STEEL BOLT ONLY. NO SWEAT JOINTS ARE ALLOWED	9	3/8" ROCK, 4" TO 6" DEEP
5	BRONZE ANGLE METER STOP WITH LOCKWING DEVICE AND METER COUPLING ATTACHED. *FURNISH AND INSTALL BRONZE PROPERTY VALVE. USE SPACER FOR METER*		

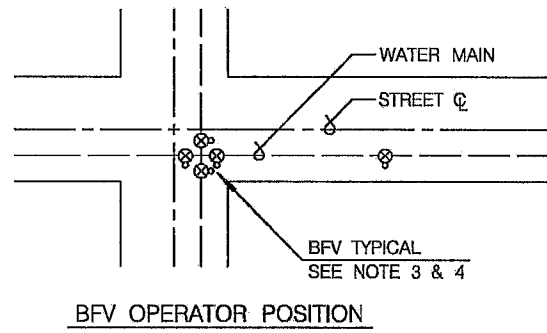
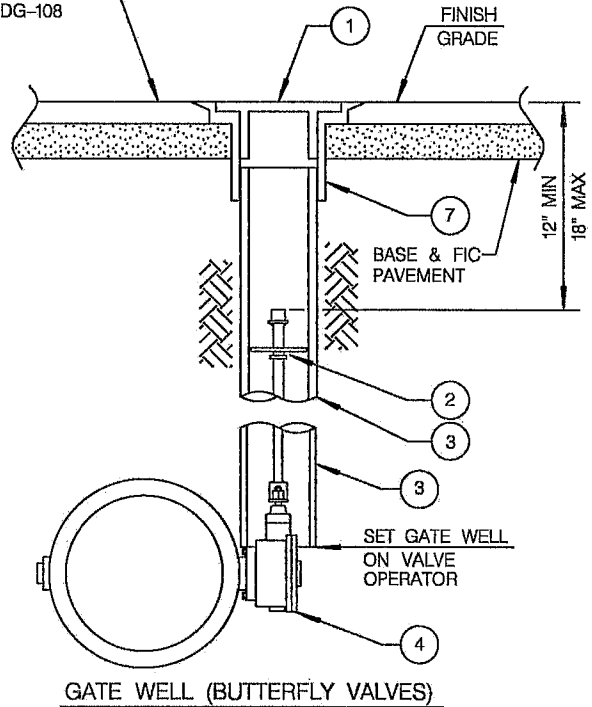
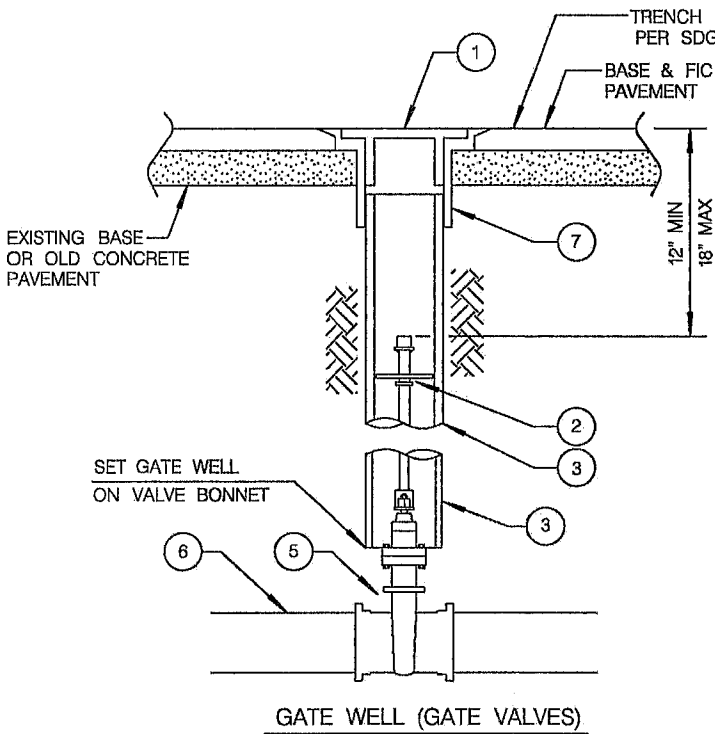
REVISION	BY	APPROVED	DATE
ORIGINAL*	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	03/13

CITY OF SAN DIEGO - STANDARD DRAWING

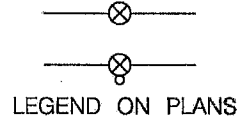
RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE
H. H. H. H. 3/01/13
 COORDINATOR R.C.E. 65271 DATE

1" WATER SERVICE INSTALLATION

DRAWING NUMBER **SDW-150** 42 | Page

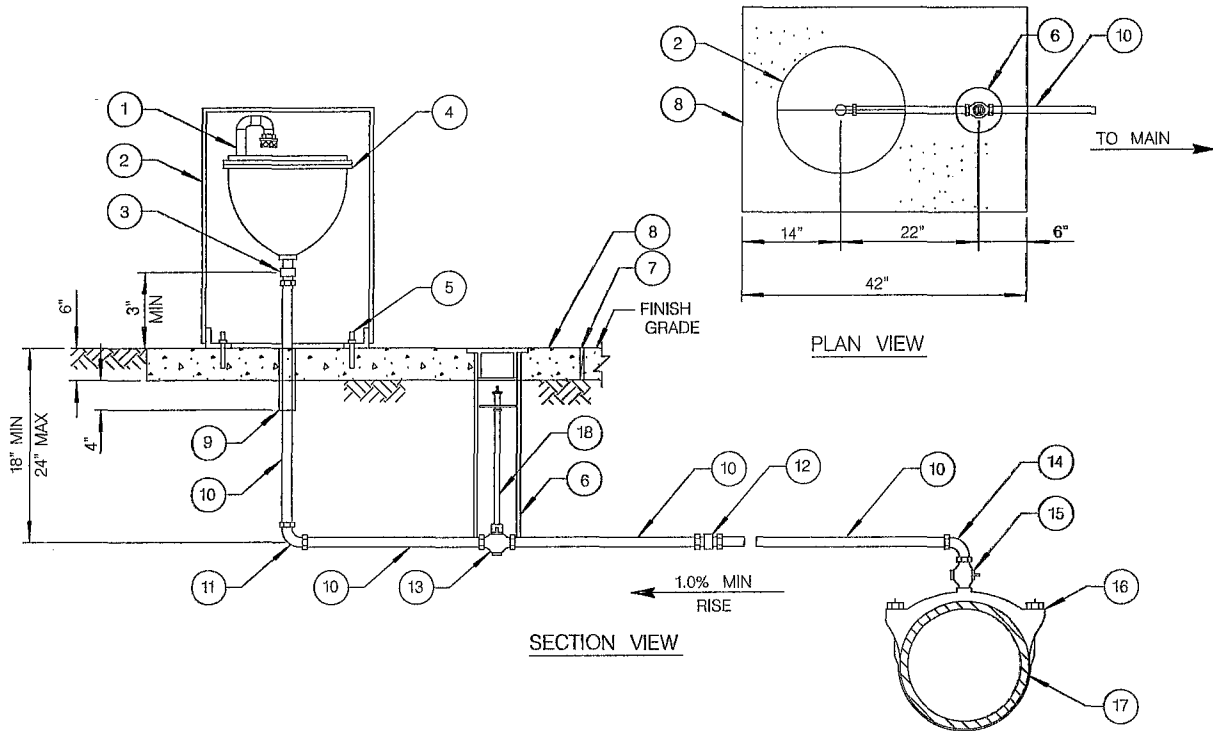


- NOTES:
- 1) VALVES DEEPER THAN 6' REQUIRE A VALVE STEM EXTENSION
 - 2) EXTENSION STEMS SHALL NOT BE ATTACHED/BOLTED TO OPERATING NUT
 - 3) GATE WELL AND CAP SHALL BE SET SO THAT NO MORE THAN TWO 1" ADJUSTMENT RINGS ARE USED
 - 4) BFV OPERATORS TO BE LOCATED TO THE CURBLINE SIDE OF WATER MAIN
 - 5) BFV'S INSTALLED AT CROSSES OR TEES REQUIRE A FLANGED DUCTILE IRON SPOOL TO BE INSTALLED BETWEEN THE FITTING AND VALVE IN ACCORDANCE WITH THE SPECIFICATIONS
 - 6) FOR INLINE VALVE ANCHOR BLOCK INSTALLATION
 - 7) VALVE WELL FRAME SHALL BE SET TO SLOPE OF STREET



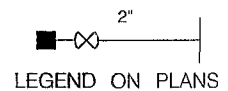
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	GATE WELL WITH CAP	⑤	RESILIENT WEDGE GATE VALVE
②	VALVE STEM EXTENSION SEE NOTES 1 & 2	⑥	WATER MAIN
③	8" OD x 1/8" STEEL CASING x REQUIRED LENGTH GATE WELL SEE NOTE 6	⑦	1/8" THICK, 8 5/8" OD CAST IRON RISER RING PER SDRW-104
④	BUTTERFLY VALVE		

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO - STANDARD DRAWING	RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE
ORIGINAL*	KA	J. NAGELVOORT	01/12		
UPDATED	KA	J. NAGELVOORT	12/12	GATE WELL CAP & CAN INSTALLATION FOR VALVES 4" AND LARGER	 COORDINATOR R.C.E. 65271 DATE 12/17/2012
e-Bidding Sewer & Water Group 701					



NOTES:

1. NO DIPS OR LOW SPOTS WILL BE ALLOWED IN INSTALLATION.
2. LOCATE ENCLOSURE.
3. INSTALL IDENTIFICATION TAPE.
4. AIR & VACUUM INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE SHOWN ON THE PLANS.
5. ON STEEL MAINS USE WELD ON COUPLINGS, ON DUCTILE IRON MAINS USE DUCTILE IRON SERVICE SADDLES (INSULATING BUSHINGS ARE REQUIRED).

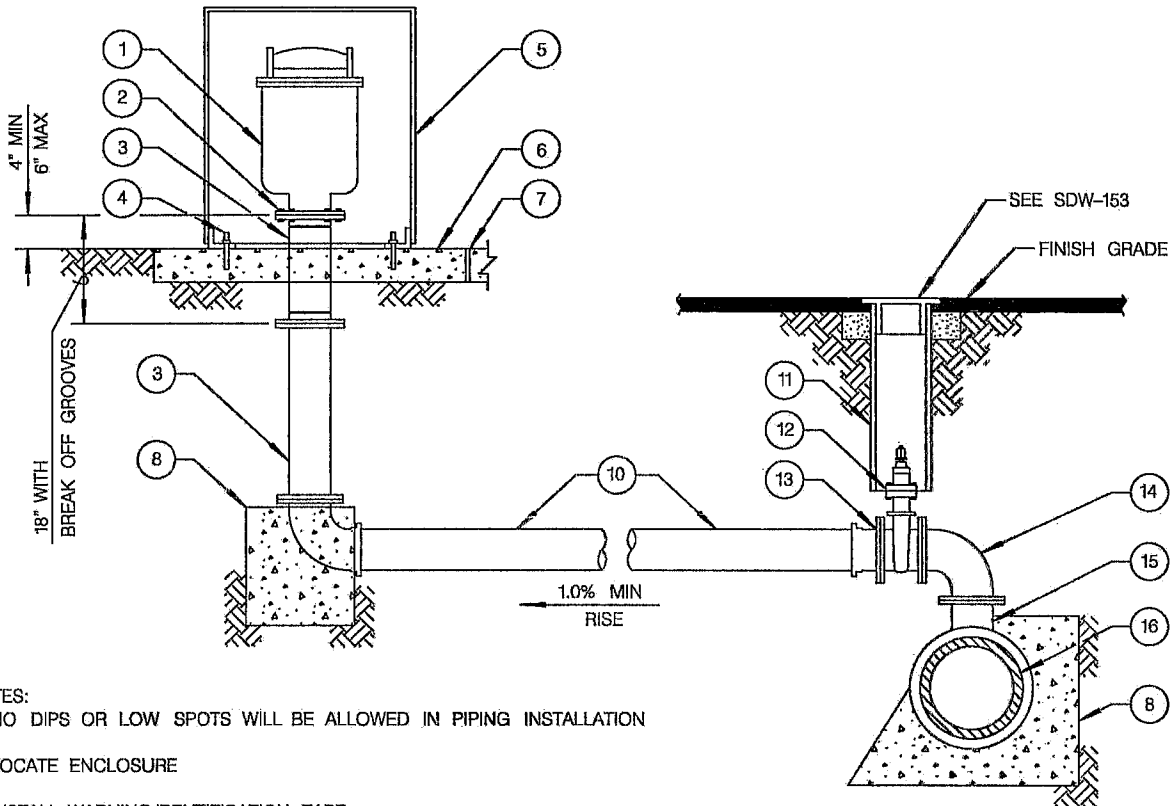


ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	2" PVC SCH 80 CLOSE NIPPLE & 2-SCH 80 STREET ELLS& INSECT SCREEN	9	2" X 12" BLACK FOAM SLEEVE
2	APPROVED VALVE ENCLOSURE	10	COPPER TUBING
3	2" MIPT X COMPRESSION ADAPTER	11	90° ELL (NO SWEAT, NO GLUED JOINTS ALLOWED)
4	2" AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE	12	2" BRONZE COMPRESSION COUPLING COPPER TO COPPER (IF REQUIRED)
5	1/2" X 3" STAINLESS STEEL DROP-IN ANCHORS (3 EA @120° APART)	13	2" COMP BALL VALVE W/TEE HEAD
6	8", 3/8" STEEL GATE CASING WELL WITH CAP	14	2" 90° BRONZE FIPT X COMP ELL
7	COLD JOINT STRIP	15	2" BRONZE MIPT X MIPT CORPORATION STOP
8	3'-6" X 2'-6" X 6" THICK CONCRETE SLAB	16	SIZE X 2" SERVICE SADDLE
		17	WATER MAIN
		18	VALVE STEM EXTENSION

REVISION	BY	APPROVED	DATE	CITY OF SAN DIEGO - STANDARD DRAWING	RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE
ORIGINAL*	KA	J. NAGELVOORT	01/12		<i>Chungpa</i> 90314
UPDATED	KA	J. NAGELVOORT	09/13		COORDINATOR R.C.E. 56523 DATE
UPDATED	BB	J. NAGELVOORT	09/14		DRAWING NUMBER SDW-159

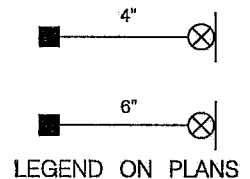
**2" AUTOMATIC COMBINATION
AIR RELEASE & AIR/ VACUUM VALVE
INSTALLATIONS**

DRAWING NUMBER **SDW-159**



NOTES:

- 1) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 2) LOCATE ENCLOSURE
- 3) INSTALL WARNING/IDENTIFICATION TAPE
- 4) BREAK-AWAY BOLTS SHALL BE 5/8" x 3" WITH 3/8" HOLE DRILLED IN THE SHAFT OF THE BOLT. INSTALL WITH HEX HEAD ON TOP OF THE FLANGE.
- 5) AIR & VACUUM VALVES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SPECIFICATIONS



ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	4" OR 6" AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE ASSEMBLY	10	4" OR 6" C-900 PVC PIPE
2	BREAK-AWAY BOLTS, SEE NOTE 4	11	GATE WELL WITH CAP
3	4" OR 6" FLANGED 8-BOLT DUCTILE IRON PIPE x REQ'D LENGTH (MAX OF 2 SPOOLS)	12	4" OR 6" FLG x MJPO/FLG RWGV
4	5/8" x 3" STAINLESS STEEL DROP-IN ANCHORS (3 EA @ 120" APART)	13	4" OR 6" FLG x MJPO ADAPTER (IF REQUIRED)
5	VALVE ENCLOSURE	14	4" OR 6" FLANGE 90° BEND
6	42" x 42" x 6" THICK CONCRETE SLAB	15	SIZE x 4" OR 6" MJPO/FLG x FLG TEE
7	COLD JOINT STRIP	16	WATER MAIN
8	CONCRETE THRUST/ANCHOR BLOCK		
9	4" OR 6" FLG x MJPO 90° BEND		

REVISION	BY	APPROVED	DATE
ORIGINAL*	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	12/12

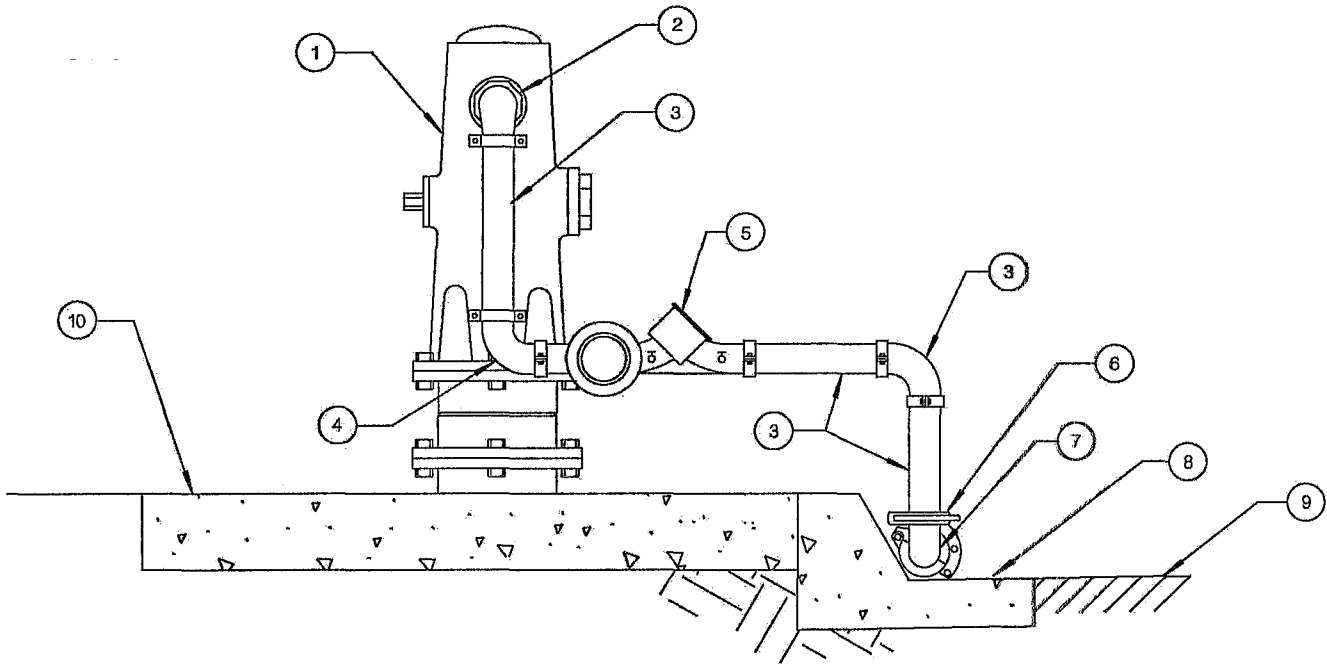
CITY OF SAN DIEGO - STANDARD DRAWING

**4" & 6" AUTOMATIC COMBINATION
AIR RELEASE & AIR/VACUUM VALVE
INSTALLATIONS**

RECOMMENDED BY THE CITY OF SAN DIEGO
STANDARDS COMMITTEE

H. Anali 12/17/2012
COORDINATOR R.C.E. 65271 DATE

DRAWING NUMBER **SDW-160** 245 | Page



- 1 EXISTING 2-PORT FIRE HYDRANT
- 2 2 1/2" PORT TO 2" ADAPTER ELBOW W/THREADED FITTING
- 3 2" PIPE (GROOVED)
- 4 2" 90° ELBOW W/THREADED JOINT FITTINGS
- 5 2" BACKFLOW PREVENTER (ONE WAY CHECK VALVE) W/THREADED JOINT FITTINGS
- 6 SNAP-JOINT COUPLING (2-GROOVE)
- 7 2" TEE/90° ELBOW W/ SNAP-JOINT COUPLING(S) (2-GROOVE) W/DIRECTIONAL SHUT OFF VALVE(S) (NOT SHOWN)
- 8 EXISTING CURB & GUTTER
- 9 EXISTING ROADWAY
- 10 EXISTING CONCRETE PAD/SIDEWALK

REVISION	BY	APPROVED	DATE
ORIGINAL	KA	J. NAGELVOORT	01/12
UPDATED	KA	J. NAGELVOORT	12/12

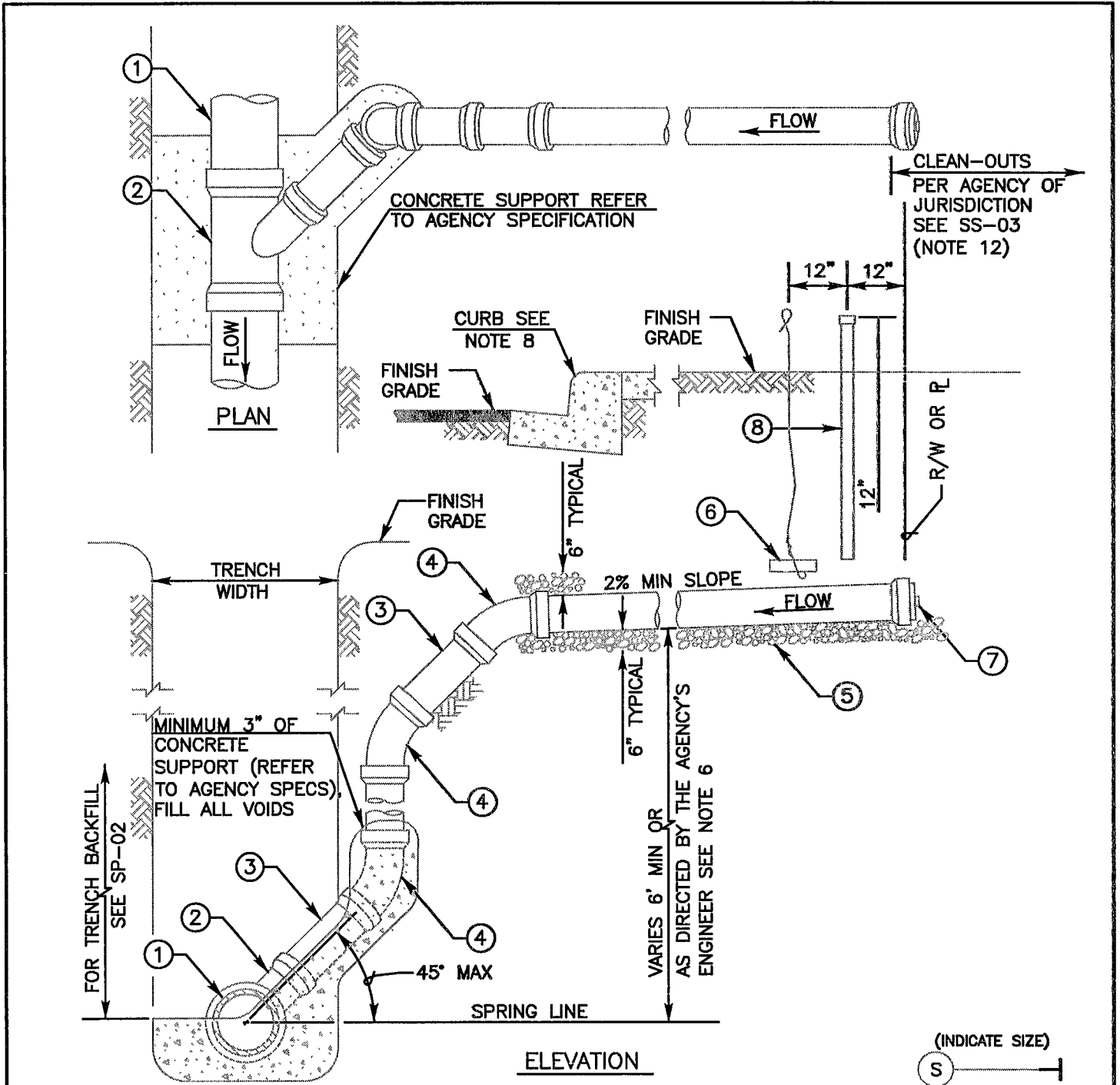
CITY OF SAN DIEGO – STANDARD DRAWING

2" FIRE HYDRANT HIGHLINING CONNECTION

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

Ed. Anali 12/17/2012
COORDINATOR R.C.E. 65271 DATE

DRAWING NUMBER **SDW-170** 246 | Page



FOR SEWER LATERAL NOTES SEE DETAIL SS-03

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	SEWER MAIN	⑤	3/4" MAXIMUM CRUSHED ROCK
②	45° WYE	⑥	#9 WIRE ATTACHED TO A BRICK
③	PIPE	⑦	PLUG OR CAP
④	45° ELBOW	⑧	4" PVC PIPE WITH GLUED CAP

Revision	By	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		
Add Metric		T. Stanton	03/03		
Replaced S-14		J. Tomasulo	03/05		
Delete Metric	MR	B. KNOLL	03/11		
				DRAWING NUMBER	SS-02

ATTACHMENT F
INTENTIONALLY LEFT BLANK

ATTACHMENT G

CONTRACT AGREEMENT

CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Ortiz Corporation, herein called "Contractor" for construction of **Sewer & Water Group 701**; Bid No.**K-16-1362-DBB-3**; in the amount of FOUR MILLION THREE HUNDRED FORTY-TWO THOUSAND TWO HUNDRED ONE DOLLAR AND 65/100 (\$4,342,201.65), which is comprised of the Base Bid plus Alternate A & B.

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.
 - (e) That certain documents entitled **Sewer & Water Group 701**, on file in the office of the Public Works Department as Document No. **B-00452 (S) / B-00039 (W)** 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 **Sewer & Water Group 701**, Bid Number **K-16-1362-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.

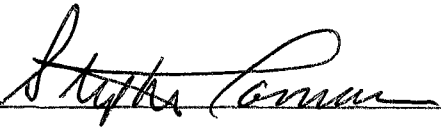
CONTRACT AGREEMENT (continued)

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code §22.3102 authorizing such execution.

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

Jan I. Goldsmith, City Attorney

By 

By 

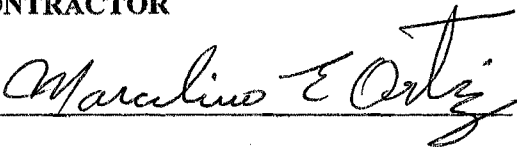
Print Name: Stephen Samara
Principal Contract Specialist
Public Works Department

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

Date: 8-31-16

Date: 8/31/16

CONTRACTOR

By 

Print Name: Marcelino E. Ortiz

Title: President

Date: 05/27/2016

City of San Diego License No.: B1996008117

State Contractor's License No.: 602454

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000001045

CERTIFICATIONS AND FORMS

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

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

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:

(Name of Project or Task)

as particularly described in said contract and identified as Bid No. _____ ; SAP No. (WBS/IO/CC) _____; 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

SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE (USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)

***** 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 SDVOSB [ⓐ]	WHERE CERTIFIED [ⓑ]	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.

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**

**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 Ortiz Corporation as Principal, and
International Fidelity 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
Sewer and Water Group 701 / K-16-1362-DBB-3

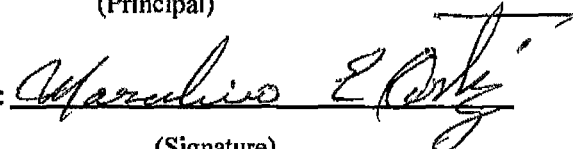
NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes 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.

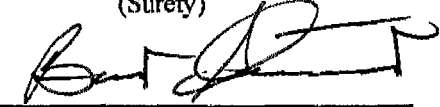
SIGNED AND SEALED, this April day of 18th, 20 16

Ortiz Corporation (SEAL) International Fidelity Insurance Company (SEAL)

(Principal)

(Surety)

By: 
(Signature)

By: 
Bart Stewart, Attorney-in-Fact
(Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

POWER OF ATTORNEY

INTERNATIONAL FIDELITY INSURANCE COMPANY ALLEGHENY CASUALTY COMPANY

ONE NEWARK CENTER, 20TH FLOOR NEWARK, NEW JERSEY 07102-5207

KNOW ALL MEN BY THESE PRESENTS: That INTERNATIONAL FIDELITY INSURANCE COMPANY, a corporation organized and existing under the laws of the State of New Jersey, and ALLEGHENY CASUALTY COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having their principal office in the City of Newark, New Jersey, do hereby constitute and appoint

MOLLY CASHMAN, BART STEWART

Enclitas, CA.

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY as fully and amply to all intents and purposes as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed and may be revoked pursuant to and by authority of the By-Laws of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY and is granted under and by authority of the following resolution adopted by the Board of Directors of INTERNATIONAL FIDELITY INSURANCE COMPANY at a meeting duly held on the 20th day of July, 2010 and by the Board of Directors of ALLEGHENY CASUALTY COMPANY at a meeting duly held on the 15th day of August, 2000:

"RESOLVED, that (1) the President, Vice-President, Chief Executive Officer or Secretary of the Corporation shall have the power to appoint and to revoke the appointments of Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney; and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents, on behalf of the Corporation; and, (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto; such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY, have each executed and attested these presents on this 31st day of December, 2015.



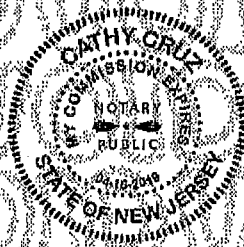
STATE OF NEW JERSEY
County of Essex

ROBERT W. MINSTER
Chief Executive Officer (International Fidelity Insurance Company) and President (Allegheny Casualty Company)



On this 31st day of December, 2015, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey, the day and year first above written.



A NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 16, 2019

CERTIFICATION

I, the undersigned officer of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY, do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 18th day of April 2016

MARIA BRANCO, Assistant Secretary

ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

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.

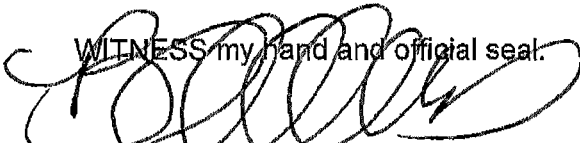
State of California }

County of San Diego }

On 04/18/2016 before me, Brittany Aceves, Notary Public
(Here insert name and title of the officer)

personally appeared Bart Stewart
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) (s) 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.

Notary Public Signature



(Notary Public Seal)

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

(Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they-, is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

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: Ortiz Corporation

Certified By Marcelino Ortiz Title President

Name

 Signature

Date May 3, 2016

USE ADDITIONAL FORMS AS NECESSARY

**EQUAL BENEFITS ORDINANCE
CERTIFICATION OF COMPLIANCE**



For additional information, contact:
CITY OF SAN DIEGO

EQUAL BENEFITS PROGRAM

202 C Street, MS 9A, San Diego, CA 92101

COMPANY INFORMATION

Company Name: Ortiz Corporation	Contact Name: Jose Ortiz
Company Address: 2000 McKinley Ave	Contact Phone: (619) 434 - 7925
National City, CA 91950	Contact Email: Jose Ortiz

CONTRACT INFORMATION

Contract Title: Sewer & Water Group 701	Start Date:
Contract Number (if no number, state location): K-16-1362-DBB-3	End Date:

SUMMARY OF EQUAL BENEFITS ORDINANCE REQUIREMENTS

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:

- Contractor shall offer equal benefits to employees with spouses and employees with domestic partners.
 - 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.
 - Any benefit not offer an employee with a spouse, is not required to be offered to an employee with a domestic partner.
- 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.
- Contractor shall allow City access to records, when requested, to confirm compliance with EBO requirements.
- Contractor shall submit *EBO Certification of Compliance*, signed under penalty of perjury, prior to award of contract.

NOTE: This summary is provided for convenience. Full text of the EBO and Rules Implementing the EBO are available at www.sandiego.gov/administration.

CONTRACTOR EQUAL BENEFITS ORDINANCE CERTIFICATION

Please indicate your firm's compliance status with the EBO. The City may request supporting documentation.

- I affirm **compliance** with the EBO because my firm (*contractor must select one reason*):
- Provides equal benefits to spouses and domestic partners.
 - Provides no benefits to spouses or domestic partners.
 - Has no employees.
 - Has collective bargaining agreement(s) in place prior to January 1, 2011, that has not been renewed or expired.
- 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.

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)]

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.

Marcelino Ortiz/President _____ *Marcelino E. Ortiz* _____ **May 3, 2016**
 Name/Title of Signatory Signature Date

FOR OFFICIAL CITY USE ONLY

Receipt Date:	EBO Analyst:	<input type="checkbox"/> Approved	<input type="checkbox"/> Not Approved – Reason:
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(Rev 02/15/2011)

Bid Results for Project Sewer & Water Group 701 (K-16-1362-DBB-3)
 Issued on 03/23/2016
 Bid Due on May 3, 2016 2:00 PM (Pacific)
 Exported on 05/03/2016

VendorID	Company Name	Address	City	ZipCode	Country	Contact	Phone	Fax	Email
288594	ORTIZ CORPORATION	2000 McKinley Av	National City	91950	United States	Jose Ortiz	619-434-7925	619-434-7931	Jose@ortizcorporation.com

Responsee	Responsee Title	Responsee Phone	Responsee Email
Brian Jurina	Estimator	619-669-5750	brian@ortizcorporation.com

Bid Format	Submitted Date	Delivery Method	Responsive	Status	Confirmation #	Ranking
Electronic	May 3, 2016 1:54:40 PM (Pacific)			Submitted	79289	0

Attachments		
File Title	File Name	File Type
Certification of Pending Actions	Certification of Pending Actions.pdf	General Attachments
Equal Benefits Ordinance	Equal Benefits Ordinance.pdf	General Attachments
Subcontractors Additive/Deductive	K-16-1362-DBB-3 Sewer & Water Group 701 Subcontractor Additive Deductive Alternate.pdf	General Attachments
Bid Bond	Bid Bond.pdf	Bid Bond

Line Items							
Item Num	Section	Item Code	Description	Unit of Measure	Quantity	Unit Price	Line Total
1	Main Bid	524126	Bonds (Payment and Performance)	LS	1	\$48,000.00	\$48,000.00
2	Main Bid	297910	Traffic Control	LS	1	\$25,000.00	\$25,000.00
3	Main Bid	541820	Exclusive Community Liaison Services	LS	1	\$91,000.00	\$91,000.00
4	Main Bid	288990	Video Recording of Existing Conditions	LS	1	\$2,000.00	\$2,000.00
5	Main Bid	297110	Mobilization	LS	1	\$90,000.00	\$90,000.00
6	Main Bid		Field Orders - Type II	AL	1	\$90,000.00	\$90,000.00
7	Main Bid	297910	Additional Pavement Removal and Disposal	CY	162	\$10.00	\$1,620.00
8	Main Bid	297910	Adjusting Existing Gate Valve Cover to Grade	EA	19	\$400.00	\$7,600.00
9	Main Bid	297910	Adjusting Existing Manhole Frame and Cover to Grade	EA	2	\$550.00	\$1,100.00
10	Main Bid	297910	Cold Mill AC Pavement (0 - 1 1/2 Inch)	SF	18432	\$0.70	\$12,902.40
11	Main Bid	297910	Asphalt Pavement Repair	TON	50	\$382.00	\$19,100.00
12	Main Bid	297910	Rubber Polymer Modified Slurry Type I Over Type III and Striping	SF	136971	\$0.75	\$102,278.25
13	Main Bid	297910	Pavement Restoration Adjacent to Trench	SF	1310	\$9.00	\$11,790.00
14	Main Bid	297910	1-1/2-Inch Asphalt Concrete Overlay and Striping	TON	600	\$105.00	\$63,000.00
15	Main Bid	298910	Concrete Pavement	CY	577	\$400.00	\$230,800.00
16	Main Bid	297910	Pavement Fabric	SY	7038	\$3.00	\$21,114.00
17	Main Bid	297910	Crack Seal	LB	200	\$30.50	\$6,100.00
18	Main Bid	297910	Contractor Date Stamp and Impressions (Relocate)	EA	14	\$300.00	\$4,200.00
19	Main Bid	297910	PCC Sidewalk (Continuous)	SF	130	\$12.00	\$1,560.00
20	Main Bid	297910	Curb and Gutter (6-Inch Curb, Type Combined)	LF	30	\$15.00	\$450.00
21	Main Bid	297910	Additional Curb and Gutter Removal and Replacement	LF	210	\$30.00	\$6,300.00
22	Main Bid	297910	Additional Sidewalk Removal and Replacement	SF	840	\$12.00	\$10,080.00
23	Main Bid	297910	Curb Ramp Type A with Detectable Warning Tiles	EA	18	\$2,800.00	\$50,400.00
24	Main Bid	297910	Curb Ramp Type B with Detectable Warning Tiles	EA	4	\$2,800.00	\$11,200.00
25	Main Bid	297910	Curb Ramp Type C1 with Detectable Warning Tiles	EA	9	\$2,800.00	\$25,200.00
26	Main Bid	297910	Curb Ramp Type C2 with Detectable Warning Tiles	EA	3	\$2,800.00	\$8,400.00
27	Main Bid	297910	Curb Ramp Type D with Detectable Warning Tiles	EA	3	\$2,800.00	\$8,400.00
28	Main Bid	297910	Curb Ramp Type Case B with Detectable Warning Tiles	EA	3	\$2,800.00	\$8,400.00
29	Main Bid	297910	Street Sign Relocation	EA	3	\$425.00	\$1,275.00
30	Main Bid	297910	Pull Box Relocation	EA	1	\$2,000.00	\$2,000.00
31	Main Bid	297910	ADA Compliant Storm Drain Inlet Grate Replacement	EA	2	\$2,250.00	\$4,500.00
32	Main Bid	297110	Trench Shoring	LS	1	\$18,000.00	\$18,000.00
33	Main Bid	297110	Additional Bedding	CY	236	\$45.00	\$10,620.00
34	Main Bid	297910	Temporary Resurfacing	TON	655	\$125.00	\$81,875.00
35	Main Bid	297110	Imported Backfill	TON	3000	\$35.00	\$105,000.00
36	Main Bid	297110	8-Inch Water Main	LF	382	\$110.00	\$42,020.00
37	Main Bid	297110	12-Inch Water Main	LF	1466	\$115.00	\$168,590.00
38	Main Bid	297110	12-Inch Water Main (Trenchless)	LF	82	\$300.00	\$24,600.00
39	Main Bid	297110	6-Inch Fire Hydrant Assembly and Marker	EA	4	\$7,500.00	\$30,000.00
40	Main Bid	297110	8-Inch Gate Valve	EA	5	\$1,500.00	\$7,500.00
41	Main Bid	297110	12-Inch Gate Valve	EA	9	\$2,400.00	\$21,600.00
42	Main Bid	297110	8-Inch Sewer Main Cleanout	EA	6	\$1,575.00	\$9,450.00

Line Items								
43	Main Bid	237110	6-Inch Sewer Main	LF	11	\$230.00	\$2,530.00	
44	Main Bid	237110	8-Inch Sewer Main	LF	1889	\$95.00	\$178,455.00	
45	Main Bid	237110	8-Inch Sewer Main, Special Strength	LF	6569	\$95.00	\$624,055.00	
46	Main Bid	237110	Manholes (4 feet x 3 feet)	EA	50	\$4,900.00	\$245,000.00	
47	Main Bid	237110	Connection to Existing Manhole and Rechanneling	EA	4	\$2,100.00	\$8,400.00	
48	Main Bid	237110	4-Inch Sewer Lateral and Cleanout (Street)	EA	129	\$1,850.00	\$238,650.00	
49	Main Bid	237110	4-Inch Sewer Lateral and Cleanout (Alley)	EA	7	\$990.00	\$6,930.00	
50	Main Bid	237110	6-Inch Sewer Lateral and Cleanout (Street)	EA	2	\$2,950.00	\$5,900.00	
51	Main Bid	237110	Service Lateral Connection	EA	11	\$850.00	\$9,350.00	
52	Main Bid	237110	Service Lateral Connection for Pipe Bursting	EA	12	\$950.00	\$11,400.00	
53	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 2785 N Arroyo Dr, San Diego, Ca 92103	EA	1	\$8,500.00	\$8,500.00	
54	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 2801 N Arroyo Dr, San Diego, Ca 92103	EA	1	\$7,100.00	\$7,100.00	
55	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 2811 N Arroyo Dr, San Diego, Ca 92103	EA	1	\$6,600.00	\$6,600.00	
56	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 2821 N Arroyo Dr, San Diego, Ca 92103	EA	1	\$8,500.00	\$8,500.00	
57	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 3065 Eagle St, San Diego, Ca 92103-5425 C008	EA	1	\$20,700.00	\$20,700.00	
58	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2855 State St, San Diego, Ca 92103-6044	EA	1	\$12,000.00	\$12,000.00	
59	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2863-2865 State St, San Diego, Ca 92103-6044	EA	1	\$21,750.00	\$21,750.00	
60	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 2919-2921 State St, San Diego, Ca 92103-6045	EA	1	\$24,000.00	\$24,000.00	
61	Main Bid	237110	4-Inch Sewer Lateral with Private Replumbing for 2854 Union St, San Diego, Ca 92103-6032	EA	1	\$9,850.00	\$9,850.00	
62	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 3066 Dove St, San Diego, Ca 92103-5545 C008	EA	1	\$15,500.00	\$15,500.00	
63	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 921 W Palm St, San Diego, Ca 92103-6015	EA	1	\$22,800.00	\$22,800.00	
64	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 931-933 W Palm St, San Diego, Ca 92103	EA	1	\$12,300.00	\$12,300.00	
65	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 615 W Redwood St, San Diego, Ca 92103-5428	EA	1	\$15,700.00	\$15,700.00	
66	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2811 State St, San Diego, Ca 92103-6044	EA	1	\$8,200.00	\$8,200.00	
67	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2819-2825 State St, San Diego, Ca 92103-6044	EA	1	\$22,000.00	\$22,000.00	
68	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2829 State St, San Diego, Ca 92103	EA	1	\$80,700.00	\$80,700.00	
69	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2839 State St, San Diego, Ca 92103-6044	EA	1	\$24,700.00	\$24,700.00	
70	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2850 State St, San Diego, Ca 92103	EA	1	\$23,800.00	\$23,800.00	
71	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2846 Union St, San Diego, Ca 92103-6032	EA	1	\$15,300.00	\$15,300.00	
72	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2866 Union St, San Diego, Ca 92103-6032	EA	1	\$13,600.00	\$13,600.00	
73	Main Bid	237110	4-Inch Trenchless Method for Private Replumbing for 2874 Union St, San Diego, Ca 92103-6032	EA	1	\$16,200.00	\$16,200.00	
74	Main Bid	237110	6-Inch Sewer Lateral with Private Replumbing for 2903-2920 Columbia St, San Diego, Ca 92103	EA	1	\$15,400.00	\$15,400.00	

Line Items							
75	Main Bid	237110	6-Inch Sewer Lateral with Private Replumbing for 1002-1022 W Palm St, San Diego, Ca 92103-6042	EA	1	\$24,500.00	\$24,500.00
76	Main Bid	237110	6-Inch Sewer Lateral with Private Replumbing for Building 1 2960 Union St, San Diego, Ca 92103	EA	1	\$20,000.00	\$20,000.00
77	Main Bid	237110	6-Inch Sewer Lateral with Private Replumbing for Building 2 2960 Union St, San Diego, Ca 92103	EA	1	\$21,200.00	\$21,200.00
78	Main Bid	237110	6-Inch Trenchless Method for Private Replumbing for 2955-2961 Columbia St, San Diego, Ca 92103	EA	1	\$67,900.00	\$67,900.00
79	Main Bid	237110	6-Inch Trenchless Method for Private Replumbing for 1107-1111 W Quince St, San Diego, Ca 92103	EA	1	\$18,000.00	\$18,000.00
80	Main Bid	237110	6-Inch Trenchless Method for Private Replumbing for 2860-2862 State St, San Diego, Ca 92103	EA	1	\$39,100.00	\$39,100.00
81	Main Bid	237110	6-Inch Trenchless Method for Private Replumbing for 2920 Union St, San Diego, Ca 92103	EA	1	\$36,000.00	\$36,000.00
82	Main Bid	237110	Private Pump System for 2742 Brant St, San Diego, Ca 92103	EA	1	\$45,800.00	\$45,800.00
83	Main Bid	237110	Private Pump System for 2820 Brant St, San Diego, Ca 92103	EA	1	\$54,000.00	\$54,000.00
84	Main Bid	237110	Private Pump System for 2829 Brant St, San Diego, Ca 92103	EA	1	\$39,800.00	\$39,800.00
85	Main Bid	237110	Private Pump System for 1105 W Quince St, San Diego, Ca 92103	EA	1	\$46,000.00	\$46,000.00
86	Main Bid	237110	Private Pump System for 3102-3108 1st Ave, San Diego, Ca 92103	EA	1	\$56,000.00	\$56,000.00
87	Main Bid	237110	Private Pump System for 3130 1st Ave, San Diego, Ca 921023	EA	1	\$52,000.00	\$52,000.00
88	Main Bid	237110	Private Pump System for 3138-3146 1st Ave, San Diego, Ca 92103	EA	1	\$47,000.00	\$47,000.00
89	Main Bid	237110	Pump Compensation	EA	7	\$7,200.00	\$50,400.00
90	Main Bid	237110	Private Pump Extended Warranty (3 years)	EA	7	\$1,250.00	\$8,750.00
91	Main Bid	237110	Abandon Existing Manhole Outside of Trench	EA	16	\$2,500.00	\$40,000.00
92	Main Bid	237110	Abandon and Fill Existing 6-Inch Sewer Main Outside of Trench Limit	LF	4533	\$6.00	\$27,198.00
93	Main Bid	237110	Abandon and Fill Existing 8-Inch Sewer Main Outside of Trench Limit	LF	687	\$8.00	\$5,496.00
94	Main Bid	237110	Abandon and Fill Existing 6-Inch Water Main Outside of Trench Limit	LF	79	\$6.00	\$474.00
95	Main Bid	237110	Abandon and Fill Existing 10-Inch Water Main Outside of Trench Limit	LF	360	\$8.00	\$2,880.00
96	Main Bid	237110	Video Inspecting Pipelines and Culverts for Acceptance	LF	9700	\$0.80	\$7,760.00
97	Main Bid	237110	Cleaning and Video Inspecting Pipelines and Culverts	LF	313	\$6.00	\$1,878.00
98	Main Bid	237110	1-Inch Water Service	EA	32	\$1,800.00	\$57,600.00
99	Main Bid	237110	2-Inch Water Service	EA	7	\$3,850.00	\$26,950.00
100	Main Bid	237110	1-Inch Water Service Transfer	EA	5	\$1,850.00	\$9,250.00
101	Main Bid	237110	2-Inch Blowoff Valve Assembly	EA	1	\$4,100.00	\$4,100.00
102	Main Bid	237110	1-Inch Air and Vacuum Valve, Class 150	EA	1	\$4,400.00	\$4,400.00
103	Main Bid	237110	8-Inch Sewer Main (Trenchless)	LF	93	\$325.00	\$30,225.00
104	Main Bid	237110	8-Inch Sewer Main Pipe Bursting	LF	1096	\$99.00	\$108,504.00
105	Main Bid	238210	Pedestrian Barricade per SDE-103	EA	8	\$550.00	\$4,400.00
106	Main Bid	541370	Survey Monuments	EA	1	\$650.00	\$650.00
107	Main Bid	237310	Painted Traffic Stripes and Painted Curb Markings	LF	250	\$6.00	\$1,500.00
108	Main Bid	237310	Continental Crosswalk	SF	200	\$6.00	\$1,200.00
109	Main Bid	237310	Thermoplastic Pavement Markings	SF	20	\$6.00	\$120.00
110	Main Bid	237110	Rehabilitate 8-Inch Sewer Main	LF	313	\$88.00	\$27,544.00
111	Main Bid	237110	Rehabilitate Existing Manhole	EA	1	\$3,500.00	\$3,500.00
112	Main Bid	237110	Service Lateral Connection Sealing	EA	7	\$1,400.00	\$9,800.00
113	Main Bid	237110	High-Inch Removed by Contractor	LS	1	\$4,000.00	\$4,000.00
114	Main Bid	237110	Pavement Restoration for City Forces Final Connection	SF	1000	\$15.00	\$15,000.00
115	Main Bid	237310	Construction Fencing and Access Route	LS	1	\$6,500.00	\$6,500.00
116	Main Bid	238910	Clearing and Grubbing	LS	1	\$12,000.00	\$12,000.00
117	Main Bid	561730	Revegetation and Erosion Control	LS	1	\$18,500.00	\$18,500.00
118	Main Bid	541330	Revegetation Maintenance and Monitoring Program	LS	1	\$12,000.00	\$12,000.00
119	Main Bid	541330	Water Pollution Control Program Development	LS	1	\$650.00	\$650.00
120	Main Bid	237110	Water Pollution Control Program Implementation	LS	1	\$6,500.00	\$6,500.00
121	Main Bid	237110	Sewage Bypass and Pumping Plan (Diversion Plan)	LS	1	\$7,000.00	\$7,000.00
122	Main Bid	541690	Suspension of Work - Resources	DAYS	5	\$800.00	\$4,000.00

Line Items							
123	Main Bid	541690	Archeological and Native American Monitoring Program	LF	8135	\$5.60	\$45,556.00
124	Main Bid	541690	Paleontological Monitoring Program	LF	5834	\$3.00	\$17,502.00
125	Main Bid	541690	Archeological and Native American Mitigation and Curation - Type I	AL	1	\$5,000.00	\$5,000.00
126	Main Bid	541690	Paleontological Mitigation and Excavation - Type I	AL	1	\$5,000.00	\$5,000.00
127	Main Bid	237110	Handling and Disposal of Non-friable Asbestos Material	LF	780	\$9.00	\$7,020.00
						Subtotal	\$4,214,001.65

ALTERNATE A							
128	ALTERNATE A (HIGHLINING BY CONTRACTOR)	237110	High-lining Removed by Contractor ((Deductive) Enter unit price as negative (-))	LS	1	(\$4,000.00)	(\$4,000.00)
129	ALTERNATE A (HIGHLINING BY CONTRACTOR)	237110	High-lining by the Contractor	LS	1	\$40,000.00	\$40,000.00
						Subtotal	\$36,000.00

ALTERNATE B							
130	ALTERNATE B (CUT AND PLUG BY CONTRACTOR)	237110	8-inch through 12-inch Connections to the Existing System by Contractor	EA	6	\$3,900.00	\$23,400.00
131	ALTERNATE B (CUT AND PLUG BY CONTRACTOR)	237110	8-inch through 12-inch Cut-in Tee by Contractor	EA	4	\$9,500.00	\$38,000.00
132	ALTERNATE B (CUT AND PLUG BY CONTRACTOR)	237110	8-inch through 12-inch Cross by Contractor	EA	2	\$11,500.00	\$23,000.00
133	ALTERNATE B (CUT AND PLUG BY CONTRACTOR)	237110	Cut and Plug of the Existing System by Contractor	EA	6	\$3,800.00	\$22,800.00
134	ALTERNATE B (CUT AND PLUG BY CONTRACTOR)	237110	Pavement Restoration for City Forces Final Connection ((Deductive) Enter unit price as negative (-))	SF	1000	(\$15.00)	(\$15,000.00)
						Subtotal	\$92,200.00
						Total	\$4,342,201.65

Subcontractors									
Name	Description	License Num	Amount	Type	Address	Address 2	City	ZipCode	Country
Red Tail Monitoring & Research, Inc.	Archeo/Paleo	0	\$58,951.00	MALE,NAT,SLBE	P.O. Box 507 (mailing)	25 Epile Hill Road (physical)	Santa Ysabel	92070	United States
G. Scott Asphalt, Inc.	Slurry Seal	751836	\$84,900.00	CAU,DVBE,MALE,PQUAL,SDVSB,SLBE	358 Trousdale Drive		Chula Vista	91910	United States
RAP Engineering, Inc.	Asphalt	880956	\$380,000.00	LAT,MALE,ELBE,PQUAL,DBE,MBE,CADIR	503 E. Mission Road		San Marcos	92069	United States
pw unlimited inc	Concrete Flatwork	866560	\$258,000.00		8862 greenridge ave		spring valley	92114	United States
D&D Wildlife Habitat Restoration, Inc.	Landscape Restoration	440492	\$52,000.00	ELBE,CADIR	9143 Harness Street		Spring Valley	91977	United States
Bonita Pipeline, Inc.	Asbestos Abatement /pipeline abandonment	817325	\$82,000.00		2209 Highland Ave.		National City	91950	United States
Douglas Matheson & Co	Community liaison	0	\$25,350.00	NAT,MALE,ELBE,DBE,MBE	PO Box 4567		Oceanside	92052	United States
Nu-Line Technologies, LLC	Pipe Line Rehabilitation	997520	\$27,800.00	FEM,MBE,CADIR,WBE	102 Second Street, Suite B		Encinitas	92024	United States

Prime Self Performance
77.01%

City of San Diego

CITY CONTACT: Rosa Riego Contract Specialist, Email: RRiego@sandiego.gov

Phone No. (619) 533-3426, Fax No. (619) 533-3633

ADDENDUM "A"

e - Bidding FOR



Sewer & Water Group 701

BID NO.: K-16-1362-DBB-3
SAP NO. (WBS/IO/CC): B-00452 (S) / B-00039 (W)
CLIENT DEPARTMENT: 2012 / 2013
COUNCIL DISTRICT: 3
PROJECT TYPE: KB / JA

BID DUE DATE:

2:00 PM

MAY 3, 2016

CITY OF SAN DIEGO

PUBLIC WORKS CONTRACTS

1010 SECOND AVENUE, 14th FLOOR, MS 614C

SAN DIEGO, CA 92101

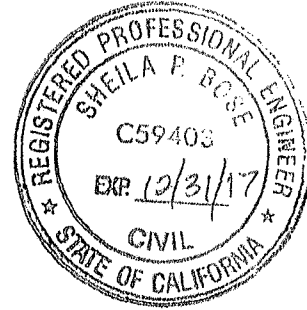
ENGINEER OF WORK

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

SPose
For City Engineer

4/19/16
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.

B. ADDITIONAL CHANGES

For clarity where applicable, **ADDITIONS**, if any, have been **Underlined** and **DELETIONS**, if any, have been **~~Stricken-out~~**.

The following changes have been made in the Line Items Tab in PlanetBids:

ItemDesc Item Description	Quantity	UnitOfMeasure Unit of Measure	Reference	ItemCode NAICS	Unit Price
Paleontological Mitigation and Excavation <u>Paleontological Mitigation and Excavation – Type 1</u>	1	AL		541690	\$5,000.00

James Nagelvoort, Director
Public Works Department

Dated: *April 19, 2016*
San Diego, California

JN/AMJ/egz